SUSTAINABILITY REPORTING PRACTICES: A STUDY OF INDIAN BANKING SECTOR

Thesis Submitted for the Award of the Degree of

DOCTOR OF PHILOSOPHY

in

Commerce

By

Ankit Kumari

Registration Number:12109046

Under the Supervision of

Dr.Razia Nagina

Mittal School of Business

Professor

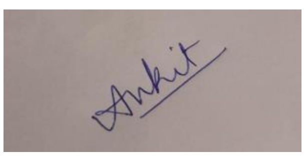
LOVELY PROFESSIONAL UNIVERSITY, PUNJAB

2025

DECLARATION

UNDERTAKING FROM PHD SCHOLAR

I, hereby declared that the presented work in the thesis entitled "Sustainability Reporting Practices: A Study of Indian Banking Sector" in fulfillment of degree of **Doctor of Philosophy (Ph.D.)** is outcome of research work carried out by me under the supervision of Dr. Razia Nagina, working as Associate Professor, in the Mittal School of Business of Lovely Professional University, Punjab, India. In keeping with general practice of reporting scientific observations, due acknowledgments have been made whenever work described here has been based on findings of another investigator. This work has not been submitted in part or full to any other University or Institute for the award of any degree.

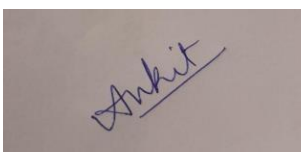


(Signature of Scholar)

Name of the scholar: Ankit Kumari
Registration No.:12109046
Department: Mittal School of Business
University: Lovely Professional University, Punjab.

DECLARATION CERTIFICATE

I, Ankit Kumari D/O Mr. Balwan Singh and Mrs. Bimla Devi certify that research work in this Ph.D thesis is my own bonafide work carried out under the supervision of Dr. Razia Nagina, Associate Professor, Lovely Professional University Punjab or a period of August 2021 to September, 2024 at Lovely Professional University, Punjab. The work embodied in this Ph.D thesis has not been submitted not for the award of degree/diploma except where due acknowledgement has been made in the text. I, hereby declare that I have faithfully acknowledgement, given credit to and referred to the research workers wherever their works have been cited in the text and body of thesis.



Name: Ankit Kumari

Registration No: 12109046

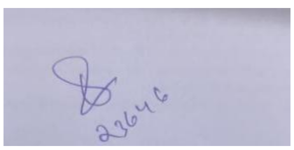
Department: Mittal School of Business

University: Lovely Professional University, Punjab.

CERTIFICATE FROM THE GUIDE

CERTIFICATE

This is to certify that the work reported in the Ph.D. thesis entitled "Sustainability Reporting Practices: A Study of Indian Banking Sector" submitted in fulfillment of the requirement for the award of degree of **Doctor of Philosophy (Ph.D.)** in the Mittal School of Business, is a research work carried out by Ankit Kumari, Registration No.12109046, is bonafide record of his/her original work carried out under my supervision and that no part of thesis has been submitted for any other degree, diploma or equivalent course.



(Signature of Supervisor)

Name of Supervisor: Dr. Razia Nagina

Designation: Professor

Department: Mittal school of Business

University: Lovely Professional University, Punjab.

ACKNOWLEDGEMENT

First and foremost, l would like to thank ALMIGHTY for the wisdom bestowed upon me, the strength and peace of mind in order to finish this research work. I want to express my sincere gratitude to my respectable PhD supervisor Dr. Razia Nagina.

Your continuous support, motivation, vast knowledge, and enormous expertise and help in my PhD study has made my research work productive. You set a role model for me to become more confident and independent research scholar. I would not have completed this PhD research work without their support, their motivation, and their continuous believe in me. My heartfelt thanks also go to Dr. Rajesh Verma, Head of the School, and the entire family at the Mittal School of Business for the facilities, resources, and constant support made available to me during this process. I would also like to thanks for continuous motivation to Dr. Puneet Sikhand. This journey would not have been started without the inspiration provided by my father,Sub.Maj.(Honorary Lieutenant) Balwan Singh. Words would fail to describe the greatness of my father, who stood behind me like a wall and provided me with best of the facilities that any child can have. My mother, Bimla Devi (Aww), Brothers, Adv. Ashwani Duhan and Rajesh, my sister Sumit Sura (Govt.Teacher) and my friends, Mohit Hooda, Pooja Chabbra, Bandna, Ilias, Pardeep Sandhu, Rizwana, have always stood by my side and provided me with best of the support whenever required. At last, I want to express my deepest and special gratitude to my colleagues in the Mittal School of Business for their endless mental support during the entire research process.

Ankit Kumari

Registration No: 12109046

ABSTRACT

The banking sector in India have a pivotal role in promoting the socio-economic development and have a vital responsibility in promoting sustainability, which benefits both banks and the economy. Although sustainable banking in India is still in its developing stage, but several major banks have reached significant milestones in the sustainability transformation journey. State Bank of India (SBI) is recognized as a pioneer in this area, having issued two green bonds under the Green Bond Framework. The awareness of sustainability is growing within the Indian banking sector as institutions acknowledge their role in future well-being. The framework for sustainability reporting in India is shaped by evolving regulatory requirements. In developing economies, research on sustainability reporting and adoption of frameworks like the Financial Sector Sustainability Standards (FSSS) remains limited. In the Indian context, there is a scarcity of studies examining sustainability reporting practices in the banking sector, along with inadequate compliance by Indian banks with internationally established disclosures and protocols. To address this gap, the present study explores the sustainability disclosure practices adopted by Indian banks. Secondly, the study aims to examine the core elements of national voluntary disclosures and how transparency in disclosing such information impacts the performance and market valuation of Indian banks. With these gaps, this study carried out on four objectives which contribute to the existing literature, with a specific focus on the Indian context. The first objective explored how Indian banks are examining sustainability disclosure practices. The second objective was to assess how voluntary disclosures influence firm performance. The third objective examined how sustainability reporting affects a firm's valuation. Finally, the fourth objective compared the sustainability disclosures of selected Indian banks using the GRI framework. The study employed descriptive analysis methods to examine the required sustainability disclosures adopted by banks and conducted a causal research to assess the influence of voluntary disclosures on financial variables. This research investigates the effect of sustainability disclosure practices among Indian banks. A sample of twenty banks selected for this study, based on data from the Moneycontrol Index, which is a leading financial and business portal in India. Secondary data was collected from two sources, the Capitaline database, which provides both recent and historical data, and from the published annual reports of banks

available on their respective websites. To quantify sustainability disclosures, the study constructed a self- designed disclosure index. Additionally, content analysis was applied to the annual reports of the selected Indian banks. For the first objective, the study identified a total of 48 core elements aligned with the nine principles of the National Voluntary Guidelines (NVG), 2011. These elements were analyzed across respective banks sustainability reports. Using content analysis, a manual disclosure index was developed to evaluate the stated objective based on the core elements and principles. Data for the ratings of core elements was extracted from sustainability reports covering the financial years 2017– 2021. The study provides sustainability reporting of the top Indian public and private banks on the basis of national voluntary guidelines (NVG) framework. According to the scoring, study revealed that out of selected banks, SBI works better in sustainability reporting practices in public sector, and in private sector, HDFC bank works better in sustainability reporting practices in private sector. Principle 6 is the highest reported principle by banks and Principle 7 of NVG was the least reported principle by banks as large number of banks not disclosed information about public policy. The higher participation by the banking sector could transform the landscape of sustainability practices. The study has a several implications for bankers and policy makers as it provides a broad picture of sustainability practices of the Indian banking sector. Then the study examined the impact of sustainability disclosure practices on the valuation and performance of selected Indian banks. Tobin's-Q variable measure the firm value, while ROE and PBIDT were used to measure performance. To address the research objectives, the study utilized various methodologies, including descriptive statistics and multiple regression analysis, with the final model being the random effects model. The study highlighted that selected bank reported higher on the social indicators and lower on environmental indicators. The results reveal that between 2017 and 2021, Indian banks gradually increased their degree of sustainability disclosure. In light of recent developments in the Indian environment, such as the introduction of Business Responsibility and Sustainability Reporting (BRSR), it is anticipated that the sustainability disclosure practices would be improved further. Study adds to the existing body of knowledge by providing empirical evidence on India's sustainability disclosure practices. The study also compares the sustainability reporting practices of selected banks before and after the Business Responsibility and Sustainability Reporting (BRSR) compliance. The Business Responsibility and Sustainability Reporting (BRSR) framework became mandatory with effect from financial year 2022-2023. This mandate significantly impacted sustainability reporting practices under the earlier National Voluntary Guidelines (NVG). The BRSR incorporated the same nine principles of the NVG but provided a more structured and detailed reporting format, emphasizing measurable disclosures and comparability. The detailed and standardized disclosure requirements of BRSR encouraged banks to address sustainability aspects more comprehensively, leading to increased reporting on core elements and principles. For comparison the study divided into two parts, 2017–2021 (before BRSR compliance) and 2022–2024 (after BRSR compliance). Using the content analysis technique, a manual disclosure index was prepared to facilitate a comparison based on the core elements and nine principles. The paired t-test results demonstrate that there is a statistically significant improvement in scores during the mandatory compliance period compared to the voluntary compliance period. This suggests that the shift from voluntary to mandatory compliance had a positive impact on performance. So, the results show that there is significant difference in compliance of sustainability reporting practices by banks before and after it mandated. This research sheds light on the current state of sustainability disclosure practices in India, where voluntary reporting is still in its early stages. It contributes to the limited literature on the Indian banking sectors approach to sustainability and provides valuable insights for stakeholders, policymakers,” and regulatory bodies. Overall, the study highlights the growing importance of sustainability reporting in enhancing the valuation and performance of Indian banks.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

Sr. No	Description	Abbreviation
01	ESG	Environmental, Social, and Governance
02	GRI	Global Reporting Initiative
03	NVG	National Voluntary Guidelines
04	MCA	Ministry of Corporate Affairs
05	IICA	Indian Institute of Corporate Affairs
06	GDC	Guidelines Drafting Committee
07	IBA	Indian Banking Association
08	NGO	Non-Governmental Organization (NGO)
09	SDG	Sustainable Development Goals
10	GDP	Gross Domestic Product
11	TBL	Triple Bottom Line
12	CSR	Corporate Social Responsibility
13	SR	Sustainability Reporting
14	SME	Small Medium Enterprises
15	CPSE	Central Public Sector Enterprises
16	E-Views	Econometric Views
17	ROE	Return on Equity
18	PBIDT	Profit Before Interest Depreciation and Tax
19	KPI	Key Performance Indicators
20	ICAI	Institute of Chartered Accountants of India
21	FSSS	Financial Service Sector Supplements
22	KPMG	Klynveld Peat Marwick Goerdeler

CHAPTER-1

INTRODUCTION

1. INTRODUCTION

1.1 THE EVOLVING SUSTAINABILITY

Sustainability, as a concept, has transitioned from being a niche consideration to a central pillar in corporate strategy across industries, including banking. Initially driven by environmental concerns, sustainability now encompasses broader dimensions such as social responsibility, economic equity, and governance. Organizations have traditionally existed for wealth creation, with profit maximization as their primary motive. Success was measured largely by economic expansion. Over the past two decades, organizational operations have undergone a paradigm shift driven by factors such as competition and performance orientation. These changes have compelled organizations to move away from traditional methods and adopt sustainability as a means of ensuring survival and growth. Through sustainability reporting practices, banks can safeguard the interests of all stakeholders in the banking system. Annual reports of banks serve as a primary medium for disclosing sustainability-related information. Sustainability reporting remains a developing concept in India, gradually gaining traction as businesses recognize its significance.

1.2 CONCEPT OF SUSTAINABILITY REPORTING

Organizations in developed countries are advancing in sustainable reporting practices, while developing countries lag behind in this area. To bridge this gap, developing countries have begun shifting their focus to non-financial reporting. Financial statements traditionally include financial data but lack non-financial information. To address this limitation, the concept of sustainability reporting emerged, to report non- financial information. The concept of sustainability appeared for the first time in the “Brundtland Report” and sustainability reporting was first time used in 1992 in Rio de Janeiro. Sustainability reporting conveys information about the disclosures based on sustainability aspects. The term sustainability most commonly associated with ecology and refers to the idea of being resilient and sustainability reporting shows how a company is accountable towards stakeholders. Later, the concept was adapted to a variety of sectors, and it is now more widely used in banking sector. Sustainability is not just about reducing carbon emissions, giving health and other benefits to employees, or contributing to society, it is a guiding concept for organizations and society.

1.3. DEFINITION OF SUSTAINABILITY

The word sustainability came from a Latin word “sus-tenere” which means to hold, maintain or strengthen. The term "sustainability" is made-up with two words: "sustain" and "ability." Sustain means the quality of being able to cause or allow something whereas ability relates to the quality of being able to perform (Cambridge, 1995). Sustainable development is the best way to describe the term sustainability. Sustainability is the capacity to grow, develop, and maintain using the available resources without compromising the future prospects.

1.4 SUSTAINABILITY REPORTING

Sustainability reporting is the practice of disclosing Environmental, Social, and Governance (ESG) information and demonstrating a commitment to sustainable practices. This involves providing detailed insights into an organization environmental impact, social initiatives, and governance structures. The key components of sustainability reporting include identifying material issues, setting goals and targets, collecting data, analyzing and reporting on performance, and engaging with stakeholders. Sustainability reporting has gained significant recognition in the Indian banking sector due to various factors, including increased awareness of environmental and social issues, regulatory requirements, and investor demand for greater transparency.

1.5 SUSTAINABILITY – THE EVOLUTION

The origin of the word sustainability dates back to 400 B.C. where, Aristotle discussed about the concept of household, it was distinguished by the capacity to production and reproduction necessary for survival (Muller-Christ, 2001; Nagle 2006). Sustainability is very popular in the early 1700’s in Europe especially in Germany, when they realized the scarcity of the wood. Wood was primarily used for the construction those days and thus have witnessed lot of deforestation. Germans soon realized the scarcity of wood and started reforestation keeping in mind the future generations, which they called as

Nacchaltigkeit or Sustainability. From Europe, the concept moved to North America, where it was applied in various industries (Hulsmann, 2003). In 1970, sustainability was more looked from an ecological and environmental concept (Meadows, et al., 1972). Since 1980, the concept picked up the pace and it was more looked as a strategy especially for the business organizations (Barney, 1991; Grant, 1991; Porter, 1980). Later the concept was seen from a societal context, focusing on the future generations (WCED, 1987). After the Brundtland commission, sustainability has gained much more significance and the commission defined what sustainable development is meant for the larger society. Sustainability was seen more as a corporate concept, thereby organizations trying to strike a balance between the three pillars: Economic, Ecological and Societal pillars (Elkington 1997). In the early 1990, the concept of sustainability was seen more a corporate concept and slowly the concept has taken a new shape in the business fraternity, where sustainability was seen more from an ethical and moral standpoint of view, thus giving birth to corporate social responsibility (Boudreau & Ramstad 2005; Kira, 2003).

1.6 SUSTAINABILITY- THE INDIAN SCENARIO

India has the oldest and most renowned civilizations, with a rich cultural heritage. Despite this, the country lags behind in addressing several sustainability issues. Organizations of developed countries are moving ahead in sustainable reporting practices, but the developing countries are lagging in sustainability reporting. In 2007, the Reserve Bank of India (RBI) issued a notification encouraging banks to work towards sustainability. Then in order to develop the sustainability reporting, Government of India has taken various steps to ensure sustainable conduct and to address sustainability issues. Government of India given authority to Indian Institute of corporate affairs (IICA) to work towards sustainability conducts. The Indian Institute of corporate affairs (IICA) appointed the guidelines drafting committee (GDC) in 2009 and this committee developed the national voluntary guidelines (NVG), 2011. These guidelines for responsible business conduct in India are applicable to all businesses, regardless of size, sector, or location. So, the national voluntary guidelines (NVG) is a set of nine principles framework that brought out by the ministry of corporate affairs (MCA) which help the

Indian businesses sectors towards inclusive development. Subsequently, in 2012, the Securities and Exchange Board of India (SEBI) made it mandatory for the top 100 listed companies to prepare Business Responsibility Reports (BRRs). In 2015, this requirement was extended to the top 500 listed companies, and from the financial year 2019–2020, it was further extended to the top 1,000 companies. And then the Business Responsibility and Sustainability Reporting (BRSR) framework became mandatory with effect from financial year 2022-2023. Following this, the Government of India initiated various measures to promote sustainable practices and address sustainability concerns. In the academic domain, India is aligning closely with global trends. Several organizations actively promote sustainability and environmental protection through practical initiatives and education. Institutions such as the centre of excellence for sustainable development, the Indian Institute of sustainable enterprise, the Indian Institute of ecology and environment and the centre for environmental education offer certificate courses and training on sustainability practices.

1.7 SUSTAINABILITY REPORTING IN BANKING SECTOR

The role of banks in society is currently undergoing a transformation that presents significant opportunities. Sustainability is increasingly recognized as a central component of growth in emerging markets. Banks play a vital role in the financial system and the economy. In the banking sector, new standards and codes of conduct are promoting corporate accountability, transparency and a focus on the environmental and social impacts of their operations. Today, a key priority for banks is to report on sustainability and integrate it into their practices.

1.8 HISTORY OF REPORTING FRAMEWORK

Sustainability reporting gained huge popularity in 1987. It was the time when organization started giving attention towards sustainability reporting for societal matters. Till that time only hundred companies had been compliant to sustainability reporting but the compliant arena for such reporting is becoming widened from the year financial year 2015 and 2020 which cover up five hundred and thousand’s companies respectively. Then various kinds of reporting frameworks have been originated with respect to time and global reporting initiative (GRI) is one of the most widely used reporting framework which indulges other frameworks also and which came in 1997. Sustainability reporting are based on some standards which are handled by a reporting committee and that reporting committee having a crucial role in providing information about sustainability performance. Reporting framework made a sustainable global economy were banks report transparently towards societal aspects. Sustainability reporting elaborates disclosure of sustainable information in a credible way. By implementing sustainability reporting, banks can demonstrate their commitment to social responsibility and environmental stewardship, which can help them attract and retain customers, as well as improve their reputation in the community.

1.9 SUSTAINABILITY REPORTING FRAMEWORK

1.9.1 NATIONAL VOLUNTARY GUIDELINES (NVG)

Banking sector is grappling with a new role-meeting the current generation's needs without sacrificing the ability of the next generation. In response, the Voluntary Guidelines on Corporate Social Responsibility were released by the Ministry of Corporate Affairs in 2009. The guidelines aim is to bring business responsibilities into the mainstream. Keeping in view stakeholders ‘feedback and comments, it gets revised and adds a more comprehensive set of guidelines consistent with the business's economic, social, and environmental responsibility. The standards take into consideration lessons learned from various national and international best practices, frameworks, and norms that provide a unique 'Indian' perspective; however, it enables businesses to balance and operate with various specific requirements. These guidelines will emphasize companies' responsibility and assist India in achieving an ambitious objective of inclusive and long term development goals. National voluntary guidelines (NVG) guidelines on and economic responsibilities of business social, environmental are released by the ministry of corporate affairs (MCA) in 2011. The National Voluntary Guidelines on socio- economic and environmental responsibilities of business brought out by the Ministry of Corporate Affairs will help the Indian businesses sectors in their efforts towards inclusive development. The Indian Institute of corporate affairs (IICA) appointed guidelines drafting committee (GDC. National voluntary guidelines (NVG) develop by the guidelines drafting committee (GDC).

These guidelines are applicable to all the business irrespective of size, sector, location etc. The guidelines contain the nine principles and all these nine principles are equally important for all entities and the entities have to adopt each of the nine principles rather than selecting.

1.9.2 PRINCIPLES OF NATIONAL VOLUNTARY GUIDELINES (NVG) FRAMEWORK

There are nine principles as part of the National Voluntary Guidelines (NVGs). They are:

Principle-1: Ethics, transparency, and accountability should operate in businesses.

The principle mandates that moral and ethical behavior should be conducted in all businesses, which is very important for responsible businesses. Their decisions and activities, including the necessary guidelines, should be visible to relevant stakeholders. Firms should create good governance structures, policies, and procedures to promote the acceptance of the idea throughout their value chain and to ensure ethical behavior at all levels.

Principle 2: Throughout the life cycle, businesses should deliver safe products and services and contribute to long-term sustainability.

This states that businesses in order to be productive and profitable, they must enhance their employees' and customers' quality of life. It also recognizes that the design, manufacturing, distribution, use, and disposal of products affect people and the planet. Therefore, ethical businesses should consider these considerations while designing new products and services.

Principle 3: All employees' well-being

This principle covers policies relating to workers well-being. This idea applies to all workers who contribute to a business's success, whether inside or outside the company. This includes sub-contractors and people who work from home. Businesses should ensure that all employees improve their skills and competence by offering equal and non - discriminatory access to appropriate learning opportunities. They should use intelligent human resource initiatives to improve employee morale and career growth. It should set up rules and policies to ensure that no one is harassed at work and that workers feel safe and comfortable doing their jobs.

Principle 4: Businesses should respect all stakeholders' interests, especially poor, vulnerable, or marginalized groups.

The principle acknowledges that firms identify and understand stakeholders problems and acknowledge and accept responsibility. Moreover, the firms are more transparent regarding the impact of their policies, decisions, products, services, and other relevant operations on the stakeholders.

Principle 5: Human rights should be respected and promoted by businesses.

The principle highlights that human rights are the codification and agreement that others should be treated with dignity and respect. This comprehensive view of human rights provides a practical and legal foundation for business leaders aiming to manage risks, explore business opportunities, and compete responsibly.

Principle 6: Businesses should respect the environment concerning protecting it and work to restore it.

According “to the principle, environmental responsibility is necessary for long-term economic progress and societal well-being. It also highlights the interconnection of environmental challenges at the national and international levels, underlining the significance for corporations to address global warming, environmental preservation, and climate change systematically and comprehensively. In addition, the principle encourages businesses to take steps to improve those implications.

Principle 7: Businesses should act in a responsible manner when it comes to influencing public and regulatory policy.

This suggests that a company functions inside the mandatory legislative and regulatory framework that the government sets up. This framework directs the company's growth while providing some beneficial constraints and boundaries. When companies engage in policy advocacy, they have a responsibility to ensure that public policy issues are consistent with indicated in these guidelines.

Principle 8: It is important for businesses to encourage growth that is both inclusive and equitable.

The principle acknowledges the difficulties associated with India's social and economic growth and builds on the development plan defined in the policies and priorities of the Indian government. Its emphasis on the significance of the energy and initiative of enterprises encourages such businesses to innovate and contribute to the general progress of the nation, particularly for those who are disadvantaged.

Principle 9: Businesses have a responsibility to participate in ethical interactions with the clients and consumers they serve and to provide them with value.

The main aim of the firms to deliver goods and services to its clients and create a value for both and customers freedom of choice is important to select the product that uses the goods and services. The National Voluntary Guidelines (NVG) framework for banks in India provides guidance to banks on integrating social and environmental concerns into their business strategies and operations. These guidelines were developed by the Ministry of Corporate Affairs (MCA) in collaboration with the Indian Banks' Association (IBA) and other stakeholders. The NVG framework encourages banks to go beyond compliance with legal and regulatory requirements and adopt a proactive approach towards sustainable development. It outlines principles and best practices that banks can follow to effectively manage environmental, social, and governance (ESG) risks and opportunities.

1.9.3 CORE ELEMENTS OF NATIONAL VOLUNTARY GUIDELINES (NVG) FRAMEWORK

Table. 1.1 Core elements of (NVG)

P-1	**P-2**	**P-3**	**P-4**	**P-5**	**P-6**	**P-7**	**P-8**	**P-9**
Governance structures	Optimum Resources Use	Grievances redressal mechanism	Identify stakeholders engagement	Understand human rights	Utilization of resources Prevent pollution and assess the environmental damage	Policy advocacy Prevent pollution and environmental damage	Minimize social economic impacts	Overall well- being of customers and society
Stakeholders Information	Consumer's Awareness	Employme nt equality	Impact of Policies	Human rights impacts	Prevent pollution and environmental damage	Utilize policy advocacy platforms	Well-being investment	No restriction on products
Anti-competitive or Corrupt	Product Designing	Avoid Involuntary labour	Stakeholders underdeveloped areas	Respect all human rights	Resources benefits		Resettlement and rehabilitation communities	Information disclosure
Disclosures	Technology Development	Work-life balance	Resolving issues	Promote human Right	Improve environmental performance		Underdeveloped operating regions	Promoting products without violation

Reporting status	Respects Rights	Employees Facilities	Identify stakeholders engagement	Unlawful human rights	Mitigating environmental damages		Minimize social economic impacts	Caution over exploitation
Avoid Violating Actions	Resources Recycling	Workplace Environment		Understand human rights	Environment performance report		Well-being investment	Grievance handling mechanisms
		Learning opportunities			Support value chain			
		Harassment free workplace						

1.9.4 SUSTAINABILITY REPORTING - GLOBAL REPORTING INITIATIVE (GRI)

Global Reporting Initiative (GRI) is international organization which is world most acceptable standards for sustainability reporting. It was founded in 1997, Headquartered in Amsterdam, Netherlands, this NGO with a diverse set of partners, help the companies achieve sustainable development by increasing transparency and accountability around the world. Also, it helps to provide global common language to communicate with their business impact and responsibility. The GRI Standards are the most widely utilized sustainability reporting standards in the world. The GRI Standards have been developing since 1997 to represent the best practices used globally for reporting on economic, environmental, and social consequences. Along with developing the GRI Standards, and also promotes their adoption and implementation by a variety of business actors, civil society organizations, and politicians (www.globalreporting.org). In the year 2000, the first GRI Guidelines version was launched. In mid-2002, the GRI second version (G2) has emerged. Subsequently, the G3 version came in 2006, with details of its instructions, standards of sustainability reporting. The GRI guidelines have become more popular across the sectors and standard guidelines for sustainability reporting. The next version, G3.1 launched in 2011; after three years, the latest version, G4, was launched. The GRI framework's latest version consisted 91 items. Among them, nine items were from economic indicators, thirty-four items related to environmental indicators and forty-eight items from social indicators. The GRI is a widely acclaimed approach for reporting on sustainability with particular reference to these three aspects; economic, environmental and social problems of organizations report from the (KPMG, 2008, 2013; Carrots & Sticks 2013). This framework and standard will help the organization's decision-making for sustainability activity (Guenther et al., 2006). Sustainability reporting has started in India from 2011 onwards, and only one company has published the report following the GRI guidelines. In 2011 the reporting number increased to 46 companies with 15 different sectors having published the reports. GRI aims to support the dissemination of knowledge and improvement of the quality of sustainability reporting. In addition, GRI has begun to establish itself as more of a worldwide established standardsetter/benchmark for sustainability reporting. The GRI comprehensive guidelines are encouraging the organization to report their activities.

1.9.5 THE ELEMENTS INCLUDED IN THE GRI G4 SUSTAINABILITY REPORTING

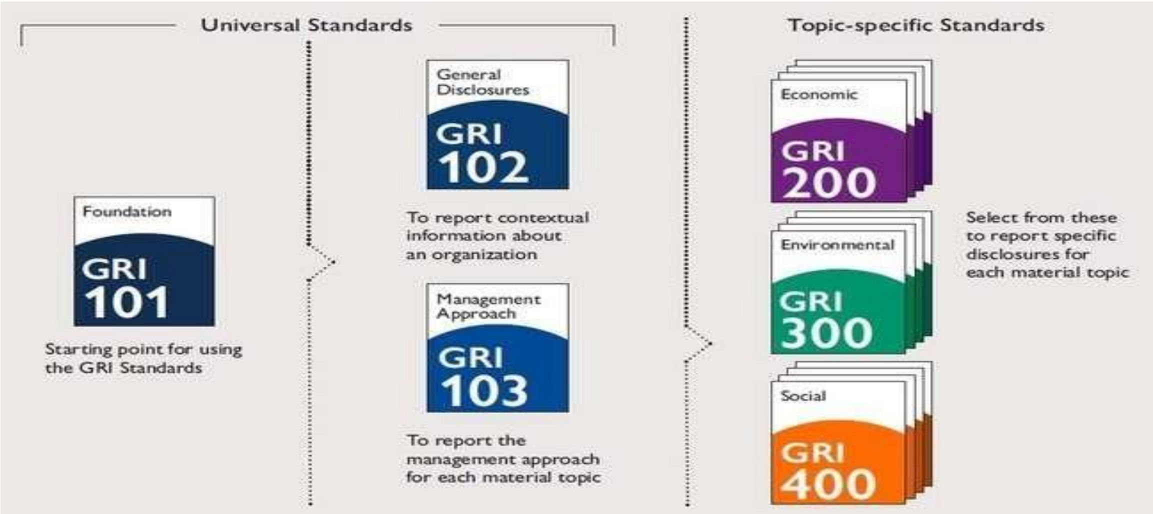


Figure.1.1 GRI Ele**ments**

1.9.6 THE EMERGENCE OF GRI GUIDELINES IN SUSTAINABILITY REPORTING

The GRI standards enable consistent reporting, which helps organizations meet the needs of their stakeholders for comparable data. The structure of the GRI standards enables organizations to create a comprehensive report regarding their effects on sustainability.

1.10 THE FUTURE OF SUSTAINABILITY REPORTING

As sustainability becomes an increasingly important concern for consumers and investors, the demand for transparent and comprehensive sustainability reporting is expected to grow. Investors believe organization with strong sustainability practices are better long-term investments compared to those without such practices. In the future, sustainability reporting expected to become even more sophisticated, with organizations using advanced data analytics and artificial intelligence to measure and report on their environmental, social, and governance (ESG) performance. Additionally, the adoption of more standardized frameworks and guidelines for sustainability reporting is expected, making it easier for organizations to compare their performance against industry benchmarks. These advancements will not only enhance business reputations and attract investment but also benefit society by promoting greater transparency and accountability.

1.11 DIMENSIONS OF SUSTAINABILITY REPORTING

Several dimensions of sustainability have been proposed, with three key components consistently highlighted i.e. environmental, economic, and societal performance (*Ehnert et al., 2015; Pagell & Gobeli, 2009*). This research highlighted some of the most widely referenced dimensions of sustainability found in corporate sustainability reporting literature. The Triple Bottom Line (TBL) framework incorporates "people, planet, and profit" as core elements of sustainability (*Kleindorfer et al., 2005*). Strong interpersonal relationships among employees foster a positive working culture that balances social value (*Sarkis et al., 2010*). Additionally, *Hassini et al. (2012)* argue that companies should aim for long-term goals that preserve the economy, the environment, and the well- being of society.Corporate sustainability reporting often addresses environmental and social issues in business practices to engage with stakeholders (*Van Marrewijk, 2003*). The TBL concept, developed by *Elkington (1997)*, provides a framework to rationalize sustainability. According to *Pagell & Gobeli (2009)*, sustainability requires organizations to excel not only in traditional financial metrics but also in social and environmental indicators. Vital dimensions of sustainability reporting are as follows:

1.11.1 Economic Sustainability

In earlier times, humanity faced a significant challenge: balancing environmental degradation with achieving sustainable economic growth (*Sadriddinov et al., 2020*). According to (*Azapagic et al., 2004)*, economic sustainability refers to an organization's economic impact on external and internal stakeholders and economic systems at local, national, and global levels.For a company to be economically viable, it must perform effectively at the micro level by reducing expenses, increasing earnings, and providing consistent returns to shareholders (*Closs et al., 2011*). Thus, economic sustainability extends beyond profit generation to include adequate cash flow for sustaining liquidity and delivering above-average returns to shareholders (*Dyllick & Hockerts, 2002*). Industries such as mining and minerals face some of the most challenging long-term sustainability issues. Economic sustainability, particularly in such industries, should align with the Triple Bottom Line (TBL) framework, focusing on earnings, shareholder returns, stock market performance, and financial stability.

1.11.2 Social Sustainability

Social sustainability considers how organizations affect people and society. Social sustainability is a critical pillar of sustainable development, emphasizing the importance of fostering inclusive, equitable, and resilient communities. It focuses on the well-being of people, social equity and the ability of communities to thrive over time. Unlike economic or environmental sustainability, social sustainability is concerned with creating and maintaining quality of life, ensuring fairness and addressing societal challenges.

1.11.3 Environmental Sustainability

Environmental sustainability refers to the responsible interaction with the environment to avoid depletion or degradation of natural resources and allow for long-term environmental health. It emphasizes the need for practices that do not exhaust the resources upon which future generations depend and seeks to balance human development with the preservation of ecosystems.

1.11.4 Corporate Sustainability Reporting-India

Corporate “sustainability reporting refers to the disclosure by companies of their environmental, social, and governance (ESG) performance, often within the context of their overall sustainability practices. This practice has become increasingly important in India as businesses and organizations recognize the need for transparency and accountability in addressing global sustainability challenges. The growing emphasis on corporate sustainability reporting reflects a broader shift towards responsible business practices that align economic success with societal and environmental well-being.

1.12 ADVANTAGES OF SUSTAINABILITY REPORTING

Sustainability reporting is not just a moral obligation; it also makes good business sense. By implementing sustainability reporting, banks can improve their risk management by identifying and addressing potential environmental and social risks that could impact their operations and reputation. This not only helps to mitigate these risks but also improves the long-term resilience of the bank. In addition, sustainability reporting can increase stakeholder trust in the bank. By providing transparent and comprehensive information about the bank's environmental and social impacts, stakeholders can make informed decisions about their investments and support for the bank. Sustainability reporting is not just about ticking boxes and meeting regulations. It can also bring a range of benefits to companies, including improved reputation, increased transparency, and better risk management. By integrating sustainability into its business strategy, a company has not only reduced costs and increased efficiency, but also strengthened relationships with customers and investors. This demonstrates that sustainability reporting is not just a nice-to-have, but a must-have for companies that want to succeed in the long run and companies with strong sustainability practices enjoy higher stock prices and better financial performance than their less sustainable peers. Sustainability reporting is imperative not only for economic stability but also in accelerating the organization's performance. Sustainability reporting displays your organization commitments to transparency which helps in establishing trust between organization and its stakeholders. Sustainability reporting also helpful in attracting investments because by disclosing full sustainability information, investor know the risk the associated with their investments. It also helps in providing a competitive advantage by distinguishing an organization from competitors through reducing costs, attracting skilled employees. Customer loyalty increased long term shareholder value etc. It also benefits organizations in measuring its current impacts which helps organization in improving its performance., In conclusion, sustainability reporting is a crucial aspect of the banking sector that cannot be overlooked. By implementing sustainability reporting frameworks, banks can improve their risk management, increase stakeholder trust, and ultimately create long-term value for their business. Furthermore, sustainability reporting allows banks to align their operations with global environmental and social goals, making them key players in the fight against climate change and social inequality.

1.13 CONCLUSION

The topic of sustainability reporting practices is broken down into its component parts in this section's introduction. The concept of sustainability reporting, evolution of sustainability, the definition of sustainability, National voluntary guidelines and Global reporting framework on which the study carried out, as well as the various benefits associated with sustainability disclosure, are all introduced to the reader in this section. The chapter describes different disclosure and their respective disclosure practices. The practices of sustainability disclosure that are now in use are discussed in this chapter, in respect to banking sector of India.

Chapter-2

Literature Review

2. Literature Review

2.1 To examine the sustainability reporting practices undertaken by the select Indian banks in accordance.

Sustainability reporting has become an essential tool for businesses to demonstrate their commitment to environmental, social, and governance (ESG) practices. Indian banks, being a significant part of the country's economy, have also started embracing sustainability reporting. Indian banks have improved their sustainability reporting practices over time, but still lag global standards. Sustainability reporting is positively correlated with financial performance. Stakeholder engagement needs improvement in Indian banks' sustainability reporting. Standardized guidelines are needed to improve reporting quality. Sustainability reporting has become an essential tool for businesses to demonstrate their commitment to environmental, social, and governance (ESG) practices. Indian banks, being a significant part of the country's economy, have also started embracing sustainability reporting. Indian banks' sustainability reporting practices were found to be low in quality. Sustainability reporting was found to be positively correlated with financial performance. Variability in reporting practices was found, highlighting the need for standardized guidelines. Sustainability reporting practices in Indian banks need improvement. Indian banks need to focus on improving reporting quality, adopting standardized guidelines, and enhancing stakeholder engagement. The study analyzed the sustainability reports of Indian banks and found that most banks focused on environmental and social aspects, but neglected economic sustainability (Kumar et al., 2019). This examined the sustainability reporting practices of Indian banks using the Global Reporting Initiative (GRI) framework and found that reporting quality improved over time, but still lagged global standards (Singh et al., 2020). It investigated the relationship between sustainability reporting and financial performance in Indian banks and found a positive correlation, indicating that sustainable practices lead to better financial outcomes (Jain et al., 2018). This explored stakeholder engagement in Indian banks' sustainability reporting and found room for improvement in transparency and responsiveness to stakeholder concerns (Sharma et al., 2019). It analyzed the content and quality of sustainability reports and found variability in reporting practices, highlighting the need for standardized guidelines (Agarwal et al., 2018). Sustainability reporting practices in Indian banks have shown improvement, but there is still scope for enhancement. Indian banks need to focus on economic sustainability, improve stakeholder engagement, and adopt standardized guidelines to improve reporting quality.

Sustainability reporting has emerged as a critical tool for organizations to communicate their environmental, social, and governance (ESG) performance to stakeholders. This literature review aims to examine the sustainability reporting practices adopted by select Indian banks, contextualizing them within existing research findings. By analyzing various studies, this review identifies common practices, challenges, and the overall landscape of sustainability reporting in the Indian banking sector. Furthermore, it highlights significant knowledge gaps and proposes future research directions. Sustainability reporting, particularly in the banking sector, is influenced by global frameworks such as the Global Reporting Initiative (GRI). A study by Khan et al. (2011) highlights that bank in Bangladesh have adopted GRI guidelines, which serve as a benchmark for understanding sustainability reporting practices in neighboring countries like India. This foundational work indicates that while banks are increasingly aligning with international standards, the level of adoption and the quality of reporting can vary significantly (Khan et al., 2011). Kumar and Prakash (2019) conducted a comprehensive examination of sustainability reporting in the Indian banking sector, revealing a growing trend among banks to disclose sustainability-related information. Their research indicates that sustainability reports are increasingly being integrated into the annual reports of banks, reflecting a shift towards transparency and accountability. This integration is essential for stakeholders to gauge the commitment of banks towards sustainable practices (Kumar & Prakash, 2019). Aggarwal and Singh (2019) provided an in-depth content analysis of CSR and sustainability reporting practices among top-listed companies in India, including banks. Their findings suggest that while many banks are engaged in sustainability reporting, the depth and quality of the reports often lack consistency. This inconsistency raises questions about the authenticity of the reported measures, a theme echoed by Khan et al. (2020), who explored the dichotomy between "green-washing" and genuine sustainability efforts in banking. Their study underscores the importance of evaluating the reliability of sustainability disclosures, as stakeholders are increasingly concerned about the transparency of banks' environmental claims (Khan et al., 2020). Moreover, Bhatia and Tuli (2017) identified various corporate attributes affecting sustainability reporting in India, such as organizational size, ownership structure, and regulatory compliance. These findings suggest that larger banks, or those with a more robust governance framework, tend to exhibit more comprehensive sustainability reporting practices. This trend aligns with the findings of Almaqtari et al. (2018), who examined the determinants of profitability in Indian commercial banks and noted that better sustainability practices could enhance financial performance (Almaqtari et al., 2018). Despite the progress in sustainability reporting practices, several challenges remain. One significant barrier is the lack of a standardized framework for sustainability reporting specific to the Indian banking sector. As highlighted by Kumar and Prakash (2018), the absence of a tailored framework can lead to varying interpretations of sustainability reporting, making it difficult for stakeholders to compare performance across banks. Additionally, the reliance on voluntary reporting practices may result in selective disclosure, where banks highlight positive impacts while downplaying negative aspects. The study by Amidjaya and Widagdo (2019) on sustainability reporting in Indonesian banks further illustrates the common challenges faced in the region. The authors noted that many banks struggle with data collection and the integration of sustainability metrics into their core business strategies, which is a critical aspect for Indian banks as well (Amidjaya & Widagdo, 2019). While existing research provides valuable insights into sustainability reporting practices, several knowledge gaps remain. Firstly, there is limited empirical research specifically focused on the sustainability reporting behaviors of Indian banks compared to their counterparts in other countries. Future studies could explore the motivations behind sustainability reporting among Indian banks and how these motivations impact the quality of disclosures. Additionally, research could examine the role of regulatory frameworks in shaping sustainability reporting practices in India. Understanding how regulation influences reporting quality can provide insights into potential areas for policy development that encourage more robust reporting standards. Lastly, longitudinal studies tracking the evolution of sustainability reporting practices in Indian banks over time could provide a more comprehensive understanding of trends, challenges, and improvements, allowing for a better assessment of the impact of sustainability initiatives on banks' performance and stakeholder perceptions.

The landscape of sustainability reporting in Indian banks is evolving, influenced by both international standards and local practices. While there have been notable advancements in reporting practices, significant challenges persist, particularly concerning the authenticity and comparability of reports. This literature review underscores the need for further research to fill existing knowledge gaps and to develop frameworks that enhance the quality and consistency of sustainability reporting in the Indian banking sector. Through continued exploration and innovation, Indian banks can better align their practices with global sustainability goals, ultimately contributing to a more sustainable financial ecosystem.

Sustainability reporting (SR) has gained significant traction in recent years, particularly within the banking sector. As part of global efforts to enhance transparency and accountability, many countries, including India, have mandated sustainability reporting practices. This literature review examines the sustainability reporting practices undertaken by select Indian banks, focusing on compliance with international standards, the impact of regulatory frameworks, and the quality of reported information. Kumar and Prakash (2019) conducted a comprehensive examination of sustainability reporting practices within the Indian banking sector, revealing a growing trend among banks to disclose sustainability-related information. Their study highlights the influence of the mandatory Business Responsibility Reporting (BRR) requirement, which has propelled banks to adopt more structured SR practices. The research employed a multidimensional index to assess both the quantitative and qualitative aspects of sustainability disclosures, thereby providing a nuanced understanding of current practices. Aggarwal and Singh (2019) further corroborate this trend, noting that top-listed companies in India, including banks, have increased their efforts in sustainability reporting. Their content analysis underscores the importance of corporate social responsibility (CSR) as a precursor to effective sustainability reporting, suggesting that banks are integrating sustainability into their core operational strategies. Additionally, Laskar and Maji (2016) found that the average level of sustainability disclosure among Indian banks is approximately 88%, with a quality rating of nearly 80%. This emphasizes that while there is a high volume of reporting, the depth and authenticity of the reported information warrant further scrutiny. The adoption of international sustainability standards, such as the Global Reporting Initiative (GRI), has been a cornerstone for many organizations striving for transparency. Vigneau et al. (2015) explore how firms comply with these international standards, providing a framework that could be applicable to Indian banks. Their findings suggest that compliance processes are often complex and vary significantly based on organizational size and resources. Kumar and Prakash (2019) also highlight this compliance aspect by noting that Indian banks are increasingly aligning their reporting practices with GRI standards. However, the gap between compliance and actual sustainability performance remains a concern, as highlighted by Khan et al. (2020). Their empirical investigation into the quality of sustainability reporting among banks indicates that while some institutions may engage in “greenwashing,” others demonstrate authentic efforts toward sustainable practices.

The introduction of mandatory reporting requirements, such as the BRR, has had a profound impact on the sustainability practices of Indian banks. Kumar and Prakash (2019) assert that this regulatory framework has catalyzed banks' reporting initiatives, prompting them to adopt more rigorous methodologies for disclosing sustainability information. However, the effectiveness of these regulations is still under examination. Dissanayake et al. (2019) emphasize that while regulations can drive transparency, the actual impact on sustainability performance varies. They argue that regulatory frameworks need to be complemented by strong governance structures to ensure that the reported information is not only compliant but also meaningful. One of the critical aspects of sustainability reporting is the quality of the disclosed information. Khan et al. (2020) provide insights into the varying quality of sustainability reports among banks, raising concerns about the practice of “greenwashing.” Their findings indicate that while some banks excel in transparency and authenticity, others may prioritize compliance over substantive disclosures. Furthermore, the role of stakeholder engagement in improving reporting quality cannot be overlooked. Pham et al. (2021) highlight the importance of stakeholder inclusivity in sustainability practices, suggesting that banks that actively engage with their stakeholders tend to produce higher-quality reports. This aligns with the findings of Kumar and Prakash (2019), who stress the need for banks to consider stakeholder perspectives in their sustainability reporting efforts. Despite the advancements in sustainability reporting practices among Indian banks, several knowledge gaps persist. Firstly, there is a need for longitudinal studies to assess the evolution of sustainability reporting practices over time. Most existing studies provide a snapshot view, lacking insights into the long-term trends and impacts of sustainability initiatives. Secondly, more research is required to explore the relationship between sustainability reporting and financial performance specifically within the Indian banking context. While some studies have examined this link in other regions, the unique challenges and opportunities within the Indian banking sector warrant focused attention. Lastly, exploring the role of technology in enhancing sustainability reporting practices represents a promising avenue for future research. As digital platforms gain prominence, understanding how banks can leverage technology to improve transparency and stakeholder engagement may yield valuable insights. Sustainability reporting practices among Indian banks have evolved significantly, driven by regulatory mandates and a growing recognition of the importance of transparency. While current research highlights positive trends in compliance and disclosure quality, ongoing challenges, including potential greenwashing and the need for meaningful stakeholder engagement, remain. Future research should address these knowledge gaps to further enhance the effectiveness of sustainability reporting in the Indian banking sector. Sinha and Bhattacharya (2023) highlighted that several Indian banks now explicitly link their environmental and social initiatives to specific SDGs, demonstrating an improved global outlook towards sustainability alignment. Nevertheless, they found that disclosures related to critical areas such as climate risk management, human rights policies, and diversity initiatives remain inconsistent across banks. The BRSR framework has significantly improved the structure and comparability of sustainability disclosures. Chatterjee and Patel (2022) highlighted that the BRSR framework enforces a standardized reporting format, enabling stakeholders to assess ESG performance more systematically across the sector. The introduction of the Business Responsibility and Sustainability Reporting (BRSR) framework by the Securities and Exchange Board of India (SEBI) in 2021 marked a critical shift from voluntary to mandatory sustainability disclosures for listed entities, including banks. Their findings suggested that the transition to BRSR compliance has pushed Indian banks to formalize sustainability governance mechanisms, such as establishing dedicated ESG committees and risk management frameworks. Despite these positive developments, concerns persist regarding the authenticity and strategic depth of sustainability reporting. Deshmukh (2023) cautioned that many banks continue to adopt a "tick-box" approach, prioritizing regulatory compliance over genuine integration of sustainability principles into core business operations. The study stressed that while disclosure rates have improved quantitatively, qualitative insights such as materiality assessments, impact evaluations, and forward-looking sustainability strategies are often lacking. Roy and Das (2023) further emphasized the role of digital technologies in improving sustainability reporting practices. They found that banks leveraging integrated reporting platforms and digital dashboards not only improved the timeliness of their ESG disclosures but also enhanced stakeholder engagement through more dynamic and interactive reporting tools. Sustainability reporting practices among Indian banks have matured significantly driven largely by regulatory pressures and international influences several challenges persist. Key areas requiring further improvement include the depth and authenticity of disclosures, greater focus on environmental and climate-related risks, and the strategic embedding of sustainability goals into core banking operations rather than treating them as peripheral compliance requirements.

2.2 To analyse the impact of sustainable reporting practices on the performance of select Indian banks.

The increasing emphasis on sustainability and environmental, social, and governance (ESG) factors has prompted institutions, particularly banks, to adopt sustainable reporting practices. This literature review aims to analyze the impact of these practices on the performance of select Indian banks, drawing on various research findings that explore the relationship between sustainability initiatives and financial performance. Sustainable reporting practices provide stakeholders with critical information regarding a bank's commitment to sustainability. These practices are often grounded in theories such as Stakeholder Theory, which posits that organizations should consider the interests of all stakeholders in their decision-making processes. As banks increasingly navigate the expectations of socially conscious investors and regulators, understanding the implications of these practices on financial performance becomes essential. Research indicates a significant positive correlation between sustainability reporting and performance. For instance, Buallay (2019) found that sustainability reporting in the European banking sector is positively associated with performance, suggesting that banks that embrace ESG reporting tend to perform better financially. This finding aligns with the meta-analysis conducted by Golicic and Smith (2013), which indicates that environmentally sustainable supply chain management practices significantly enhance firm performance. Although this study is not specific to banking, it underscores the broader implications of sustainability practices across industries. In the context of Indian banks, Mondal and Ghosh (2012) explored the relationship between intellectual capital and financial performance, suggesting that intangible assets like reputation and stakeholder trust—often bolstered by sustainable practices—can enhance overall performance. This highlights a potential linkage between sustainability and performance, although the explicit role of sustainability reporting in this relationship remains underexplored. Furthermore, Karaman et al. (2020) examined the effects of corporate social responsibility (CSR) on performance, concluding that CSR initiatives, including sustainability reporting, positively influence business performance. Their findings suggest that as banks adopt more comprehensive sustainability practices, they may experience improved performance outcomes. Similarly, Li et al. (2022) reiterated that the adoption of ESG reporting provides economic benefits to shareholders, indicating that sustainable practices can lead to enhanced financial returns. Kılıç et al. (2015) investigated the impact of ownership and board structure on CSR reporting in the Turkish banking industry, revealing that governance structures significantly influence the quality and extent of sustainability reporting. This insight could be particularly relevant for Indian banks, where corporate governance frameworks are evolving, and the influence of ownership structures on sustainability practices warrants further investigation. Moreover, the research by Waheed and Zhang (2020) emphasizes the role of ethical practices alongside CSR in achieving sustainable competitive performance in emerging markets, including the banking sector. This intersection of ethics, CSR, and sustainability reporting suggests that banks that prioritize ethical considerations in their reporting may achieve better performance outcomes. Despite the substantial evidence indicating a positive relationship between sustainability practices and performance, several knowledge gaps remain. First, there is a lack of focused studies specifically examining the Indian banking sector's unique context concerning sustainability reporting. Most existing research predominantly focuses on European or Turkish banks, which may not directly translate to the Indian context due to cultural and regulatory differences. Additionally, while studies have explored the relationship between CSR and performance, the specific mechanisms through which sustainability reporting influences financial outcomes in Indian banks warrant deeper exploration. This includes understanding how factors such as governance structures, ownership types, and market conditions interact with sustainability practices to affect performance.

The integration of sustainable reporting practices in Indian banks is poised to enhance their performance by aligning financial objectives with broader social and environmental goals. While existing literature supports the positive impact of sustainability reporting on performance, further research is essential to more thoroughly understand the specific dynamics at play within the Indian banking context. Addressing these knowledge gaps will not only contribute to academic discourse but also provide practical insights for banking institutions aiming to improve their sustainability practices and overall performance.000

In recent years, the importance of sustainable practices and reporting has garnered significant attention from both researchers and practitioners, particularly in the banking sector. Sustainable reporting practices, often encapsulated in Environmental, Social, and Governance (ESG) criteria, are crucial for assessing the overall performance of banks. This literature review synthesizes existing research findings regarding the impact of sustainable reporting practices on the performance of select Indian banks, identifies knowledge gaps, and suggests future research directions. Several studies have established a framework that links sustainable reporting practices to enhanced organizational performance. Buallay (2019) emphasized the association between sustainability reporting and performance in the European banking sector, finding a significant positive correlation between ESG compliance and financial performance. This suggests that banks that actively engage in sustainable reporting are likely to improve their overall performance, which may be applicable to the Indian context as well. Moreover, Arvidsson and Dumay (2021) highlighted the importance of both the quantity and quality of corporate ESG reporting. Their findings indicate that not only the presence of sustainable practices but also the depth and rigor of reporting significantly influences organizational performance. This is critical for Indian banks as the quality of reporting could directly affect stakeholder perception and trust, leading to better performance outcomes. The positive impacts of ESG practices are evidenced in various empirical studies. For instance, Avrampou et al. (2019) provided evidence from leading European banks that demonstrated tangible economic benefits to shareholders resulting from robust ESG reporting. Their findings imply that sustainable practices not only fulfill regulatory requirements but also enhance shareholder value, which could resonate with trends observed in the Indian banking landscape.

In a broader context, Kamble et al. (2019) explored the intersection of Industry 4.0 and lean manufacturing practices, emphasizing their role in sustainable organizational performance. Although primarily focused on manufacturing, the principles can be extrapolated to banking, suggesting that integrating advanced technologies with sustainable practices can yield improved performance metrics. This insight is particularly relevant for Indian banks looking to modernize their operations while adhering to sustainability standards. While the banking sector in India has made strides towards sustainable practices, gaps remain in the empirical understanding of how these practices specifically impact performance metrics. For instance, Gopal and Thakkar (2016) conducted an investigation into sustainable supply chain practices within the Indian automobile industry, shedding light on the importance of sustainability in operational practices. However, similar comprehensive empirical studies focused specifically on Indian banks are limited. Furthermore, M.P. et al. (2017) examined lean manufacturing practices in Indian SMEs, revealing that these practices significantly affect sustainability performance. This raises questions about the applicability of lean principles within the banking sector and their potential impact on sustainability reporting and performance.

Despite the growing body of literature, several knowledge gaps persist. First, there is a lack of comprehensive studies focusing on the Indian banking sector specifically, which limits the ability to generalize findings from other sectors or regions. Future research could investigate the unique challenges and opportunities faced by Indian banks in adopting sustainable reporting practices. Additionally, while existing studies have demonstrated a positive correlation between ESG practices and performance, the mechanisms through which these practices influence performance remain under explored. Future research should aim to uncover the causal relationships and identify specific indicators that most significantly impact performance in the context of Indian banks. Lastly, there is an emerging need to evaluate the role of regulatory frameworks in shaping sustainable reporting practices in India. Understanding how government policies affect banks' sustainability practices could provide valuable insights for both policymakers and practitioners. The integration of sustainable reporting practices within the banking sector presents a promising avenue for enhancing performance. Existing research provides a foundation for understanding the positive impacts of ESG reporting; however, the specific context of Indian banks requires further exploration. By addressing the identified knowledge gaps and focusing on sector-specific studies, future research can contribute to a more nuanced understanding of how sustainable practices can drive performance in the banking sector. As the emphasis on sustainability continues to grow, the need for empirical evidence and strategic insights will be paramount for stakeholders within the Indian banking landscape. Gupta and Kaur (2022) conducted an empirical analysis of NSE-listed banks and found that those with better sustainability disclosures tend to show higher return on assets (ROA) and stronger market valuation. Roy and Mukherjee (2024) confirmed that sustainability reporting improves investor confidence, customer loyalty, and operational efficiency, ultimately influencing banks' financial outcomes. Joshi and Mehta (2023) analyzed stakeholder engagement practices in sustainability reports of top Indian banks and found that while most banks disclose stakeholder consultation processes, very few effectively integrate stakeholder feedback into their sustainability strategies. Their findings suggest a need for more genuine and dynamic stakeholder engagement. Das and Singh (2022) analysed that although banks identify material ESG issues, the prioritization often remains skewed towards regulatory compliance, with limited attention to sector-specific risks like climate change-related credit risks. Deshmukh (2023) cautions that compliance-driven reporting often leads to a "tick-box" approach, where banks prioritize fulfilling disclosure requirements over genuinely embedding sustainability into their core strategies.Gupta and Kaur, (2022) conducted an empirical analysis of NSE-listed banks and found that those with better sustainability disclosures tend to show higher return on assets (ROA) and stronger market valuation. They argued that transparent ESG reporting enhances stakeholder trust, which positively impacts long-term profitability. Roy and Mukherjee, (2024) highlighted that sustainability reporting improves investor confidence, customer loyalty, and operational efficiency, ultimately influencing banks financial outcomes. Joshi and Mehta, (2023) analyzed stakeholder engagement practices in sustainability reports of top Indian banks and found that while most banks disclose stakeholder consultation processes, very few effectively integrate stakeholder feedback into their sustainability strategies. The study findings suggest a need for more genuine and dynamic stakeholder engagement. Das and Singh, (2022) revealed that although banks identify material ESG issues, the prioritization often remains skewed towards regulatory compliance, with limited attention to sector-specific risks like climate change-related credit risks. The Indian banking sector has increasingly focused on analyzing the sustainability reporting (SR) affects financial performance indicators such as Return on Equity (ROE) and Profit Before Interest, Depreciation, and Tax (PBIDT). With the introduction of frameworks like the Business Responsibility and Sustainability Report (BRSR) by SEBI, Indian banks are under greater scrutiny for not just disclosure but also for translating these disclosures into tangible financial outcomes. Patil and Sharma (2022) conducted an empirical study of 30 leading Indian banks showed a positive and significant relationship between the sustainability disclosure index (SDI) and ROE. Banks with more comprehensive sustainability reports had better profitability and operational efficiency, driven by stakeholder confidence and risk mitigation practices. Deshmukh (2023) compared public and private sector banks and concluded that private sector banks, which embraced sustainability practices more strategically, witnessed a stronger improvement in ROE and PBIDT compared to their public counterparts, where reporting was often compliance-driven. Results of the study revealed that private banks improved ROE by 1.2% year-on-year linked to SR practices, while public banks showed only a 0.5% increase. Kumar and Tiwari (2024) studied differentiated between high-quality and low-quality sustainability reporters among Indian banks. Using ROE as the key measure, they established that high-quality reporters had statistically significant better performance over the 2021–2023 period. The study shows that high-quality sustainability reporters had 7% higher ROE, adjusted for bank size and age. Sustainability reporting enhances both ROE and PBIDT by improving banks' reputation, customer loyalty, regulatory relationships, and operational efficiencies.

2.2 To examine the effects of sustainability reporting practices on firm value of select Indian banks.

Sustainability reporting has gained significant traction in recent years as firms strive to align their operations with environmental, social, and governance (ESG) criteria. This literature review aims to explore the effects of sustainability reporting practices on the firm value of selected Indian banks, drawing on findings from various studies conducted across different contexts. Numerous studies indicate a positive correlation between sustainability reporting and firm value. For instance, Buallay (2019) found that sustainability reporting, particularly in the context of ESG, is positively associated with

firm performance within the European banking sector. This suggests that transparency in sustainability practices can lead to improved market perceptions and ultimately enhance firm value. Similarly, Yoon et al. (2018) corroborated these findings in their research on Korean firms, establishing that sustainability reporting is positively related to market value. This relationship underscores the importance of ESG disclosures in shaping investor perceptions and decision-making. In the context of Turkey, Kuzey and Uyar (2017) demonstrated that both sustainability disclosure and board gender diversity positively impact firm value, further underscoring the multifaceted benefits of comprehensive sustainability practices. Loh et al. (2017) also contributed to this body of knowledge by providing evidence from Singapore-listed companies, reinforcing the notion that robust sustainability reporting can lead to economic benefits and enhanced firm value. The economic advantages associated with ESG disclosures are evident, as firms that engage in transparent reporting are often perceived as lower-risk investments, which can positively influence their market valuation. Contrarily, some findings reveal a negative association between the quality of sustainability reporting and the cost of equity capital. Abdi et al. (2021) highlighted that firms within the ASX 200 experience a significant negative relationship between quality sustainability reporting and their cost of equity, indicating that better reporting practices can lead to lower capital costs. This suggests that firms with effective sustainability reporting may enjoy reduced risks and better financing conditions, further enhancing their overall value proposition. Another notable finding is the significant positive association between the quality of sustainability reporting and expected future performance. Bachoo et al. (2013) indicated that firms with high-quality sustainability reports are often viewed favorably concerning their future performance prospects. This perception can enhance investor confidence and lead to increased firm value.

Despite the growing body of literature, there remain critical knowledge gaps regarding the specific mechanisms through which sustainability reporting affects firm value in the context of Indian banks. Most existing studies predominantly focus on developed markets, leaving a gap in understanding how emerging markets like India respond to sustainability practices. The existing literature indicates a generally positive relationship between sustainability reporting and firm value, with significant implications for banks operating in India. However, further research is essential to bridge the identified gaps and enhance our understanding of this critical area. By addressing these gaps, future studies can provide valuable insights that inform both academic discourse and practical applications in the realm of sustainability reporting and its impact on firm value.

In recent years, the relationship between sustainability reporting practices and firm value has garnered significant attention, particularly in the banking sector. This literature review examines various research findings that highlight the effects of sustainability disclosures on the valuation of firms, with a specific focus on Indian banks. The analysis reveals a consistent positive correlation between sustainability reporting and firm value, measured primarily through Tobin’s Q and market valuation metrics. Ioannou and Serafeim (2017) demonstrate that mandatory corporate sustainability reporting regulations lead to increased sustainability disclosures, which, in turn, are associated with higher firm valuations. They specifically note that this effect is observable through Tobin’s Q, a ratio that compares a firm's market value to its asset replacement cost. This finding emphasizes the importance of regulatory frameworks in enhancing transparency and driving firm performance. Similarly, Buallay (2019) highlights the significant positive impact of Environmental, Social, and Governance (ESG) factors on firm performance, particularly emphasizing that environmental disclosures also correlate positively with Tobin’s Q. The study, conducted within the European banking sector, suggests that effective sustainability practices not only enhance corporate reputation but also lead to better financial outcomes, reinforcing the argument that sustainability reporting is a critical component of firm value. Further supporting the positive relationship between sustainability practices and firm value, Kuzey and Uyar (2017) provide evidence from Turkey, indicating that sustainability reporting is positively related to a firm's market value. This finding aligns with Loh, Thomas, and Wang (2017), who report similar results in their study of Singapore-listed companies, reinforcing the notion that sustainability reporting is a vital factor influencing market perceptions and valuations.

2.4. To compare the sustainability disclosure of GRI framework between Indian Private and Public sector banks.

Sustainability disclosure has emerged as a critical component of corporate governance, particularly in the banking sector, where environmental, social, and governance (ESG) factors play a significant role in operational practices and stakeholder engagement. This literature review aims to compare the sustainability disclosures of the Global Reporting Initiative (GRI) framework between Indian private and public sector banks, synthesizing existing research findings and highlighting knowledge gaps. Kumar and Prakash (2019) conducted a comprehensive examination of sustainability reporting practices within the Indian banking sector, revealing that the integration of sustainability into core banking functions is gradually taking hold. Their findings suggest that while both private and public banks are adopting sustainability reporting frameworks, the extent and quality of disclosures vary significantly. Specifically, the authors noted that private banks tend to perform better in terms of disclosing their ESG indicators compared to their public counterparts. In contrast, Dash (2017) highlighted that public sector banks demonstrate a more substantial commitment to sustainability disclosure practices than public sector mining companies, suggesting that the sector's specific dynamics may influence reporting behaviors. However, the findings from Herd et al. (2011) indicated a more favorable outlook for private banks, emphasizing their superior performance in ESG disclosures relative to public banks. This discrepancy calls for further exploration into the contextual factors that may drive these differences in sustainability reporting practices.

Ownership structure plays a crucial role in shaping sustainability reporting practices. Amosh and Mansor (2020) explored how different ownership structures affect environmental disclosure, specifically in the context of Central Public Sector Enterprises (CPSEs) in India. Their analysis suggests that CPSEs, particularly those awarded Maharatna status, may have enhanced incentives to disclose sustainability performance due to their public accountability and the scrutiny they face from stakeholders. Moreover, Mishra and Sant (2023) examined the levels of ESG disclosure in sustainability reports across the Indian banking sector. Their findings indicate that while public sector banks engage in various CSR activities—primarily in education, community welfare, and rural development (Srivastava, 2016)—the depth and breadth of these disclosures do not always align with the global standards set forth by the GRI framework. A significant finding in the literature is the considerable variation in governance components of sustainability practices among Indian banks. This variance is critical because governance is a key indicator of a bank's commitment to sustainability. The lack of uniformity in governance practices potentially hinders the ability of stakeholders to make informed decisions based on sustainability disclosures. Moreover, the Sustainable Development Goals (SDGs) 10 and 11 have seen minimal disclosure among companies, indicating a need for improved reporting in these areas (source not provided). This lack of engagement with specific SDGs further complicates the comparative analysis between private and public banks, as it suggests a broader systemic issue in sustainability reporting rather than isolated institutional failures. Despite the valuable insights gained from existing literature, several knowledge gaps remain in understanding the comparative sustainability disclosures between Indian private and public sector banks. Notably, the influence of regulatory frameworks, the role of external audits in enhancing disclosure quality, and the impact of stakeholder engagement on reporting practices are underexplored. In conclusion, while existing literature provides a foundational understanding of sustainability disclosures in Indian banking, the comparative analysis between private and public sector banks reveals significant variations influenced by ownership structure, governance practices, and stakeholder engagement. Addressing the identified knowledge gaps through future research will enhance our understanding of sustainability reporting dynamics, ultimately contributing to more robust and transparent banking practices in India. Sustainability disclosure has gained significant importance in the banking sector as stakeholders demand transparency regarding environmental, social, and governance (ESG) issues. The Global Reporting Initiative (GRI) framework is a widely adopted system that facilitates comprehensive sustainability reporting. This literature review aims to synthesize existing research findings on the sustainability disclosures of Indian private and public sector banks, highlighting variations in practices, effectiveness, and areas needing further exploration. Kumar and Prakash (2019) examined sustainability reporting practices in the

Indian banking sector, noting a general trend towards adopting the GRI framework. Their research indicates that while banks are increasingly acknowledging the importance of sustainability, the degree of disclosure varies significantly between private and public sector banks. The findings suggest that private sector banks tend to outperform public sector counterparts in ESG disclosures, reflecting a more proactive approach towards sustainability (Kumar & Prakash, 2019). Furthermore, a comparative study by Mishra and Sant (2023) reinforces this observation, indicating that private banks engage more extensively in sustainability reporting. Their analysis highlights that public sector banks primarily focus on CSR activities related to education, community welfare, and rural development, which may limit their overall sustainability disclosures to specific areas (Festl-Pell, 2016). Kalia (2023) further elaborates on this trend, asserting that private banks are more actively involved in integrated reporting practices, a key component of comprehensive sustainability disclosure. This involvement reflects a strategic alignment of private banks with global sustainability goals, potentially driven by competitive pressures and stakeholder expectations. Ownership structure plays a critical role in shaping sustainability disclosure practices. Amosh and Mansor (2020) argue that companies with a more concentrated ownership structure often demonstrate enhanced environmental disclosure. While this study focuses on Jordan, similar dynamics can be observed in the Indian context, where private sector banks with diverse ownership structures may have more significant incentives to disclose sustainability information. Despite the insights provided by existing literature, several knowledge gaps remain. Firstly, while the differences in sustainability disclosure practices between private and public sector banks are documented, the underlying motivations for these differences require further exploration. Understanding the drivers behind the varying levels of commitment to sustainability can provide valuable insights for policymakers and practitioners. Secondly, there is a need for longitudinal studies that track sustainability reporting trends over time. This would help assess the impact of regulatory changes and evolving stakeholder expectations on disclosure practices. Moreover, more research is necessary to understand the implications of sustainability disclosures on financial performance, particularly in the context of Indian banks. Additionally, the limited focus on certain SDGs, as highlighted by Siregar and Haryono (2023), suggests that banks may not be fully engaging with the broader sustainability agenda. Future research could investigate the factors contributing to this selective engagement and propose strategies to enhance comprehensive sustainability reporting aligned with all SDGs. In summary, the literature reveals significant differences in sustainability disclosure practices between Indian private and public sector banks, with private banks generally leading in transparency and engagement with the GRI framework. While existing studies provide valuable insights into the current state of sustainability reporting, there are substantial areas that warrant further investigation. Addressing these knowledge gaps will be essential for fostering improved sustainability practices and disclosures across the banking sector, ultimately contributing to more sustainable financial systems in India. Introduction of the Business Responsibility and Sustainability Reporting (BRSR) framework by SEBI in 2021 has been a major turning point for Indian banks. According to (Chatterjee and Patel, 2022), BRSR has brought greater standardization to disclosures, compelling listed banks to report ESG performance more systematically. Their study highlighted that mandatory reporting under BRSR has significantly improved the structure and comparability of sustainability reports. The sustainability disclosure practices of Indian banks have evolved notably growing by focus on aligning with international frameworks like the Global Reporting Initiative (GRI). Patil and Sharma (2022) conducted a comparative analysis of GRI adoption across Indian banks and found that private sector banks exhibited a higher degree of alignment with the GRI standards compared to public sector banks. Private banks such as HDFC Bank, ICICI Bank, and Axis Bank were early adopters, demonstrating greater commitment to voluntary ESG disclosures even before regulatory mandates like the Business Responsibility and Sustainability Reporting (BRSR) framework came into effect. In contrast, public sector banks lagged in both the quantity and quality of sustainability disclosures, often providing limited environmental and social information. Chatterjee and Patel (2022) further observed that private sector banks tend to provide more quantitative ESG metrics, including detailed disclosures on carbon emissions, water usage, employee diversity, and community investments. Public sector banks, however, frequently reported on sustainability efforts in qualitative and narrative forms without sufficient performance data to meet comprehensive GRI standards. Their study also highlighted that private banks were more transparent in reporting negative impacts (financing of high-emission sectors), whereas public banks often focused only on positive achievements. Sinha and Bhattacharya (2023) emphasized that private banks have been quicker to adopt GRI Materiality Principle, conducting stakeholder engagement exercises and materiality assessments to determine relevant reporting topics. Public sector banks, while making progress post-BRSR, often relied on standardized disclosure templates with less customization based on materiality, thus missing the essence of the GRI framework's strategic disclosures. Jain and Srivastava (2024) found that private banks increasingly disclosed sector-specific standards under GRI 11 (Financial Services), reporting on sustainable financing, green bonds issuance, and responsible investment policies. Public sector banks, on the other hand, demonstrated a narrower approach, often restricted to community development activities and financial inclusion initiatives. Furthermore, Roy and Das (2023) explored the role of technology in enhancing GRI-based sustainability disclosures and noted that private banks are better positioned to leverage digital platforms for real-time sustainability tracking and reporting. Public sector banks, constrained by legacy systems, showed slower adoption of such tools, affecting the timeliness and dynamic nature of their ESG disclosures. Overall, the literature indicates that both private and public sector banks in India have made strides toward GRI aligned sustainability reporting especially post-BRSR. The private sector banks lead in terms of depth, data quality, transparency, and responsiveness to GRI principles. Public sector banks are gradually catching up but still face structural, cultural, and technological barriers that limit comprehensive GRI compliance.

Chapter-3

Research Methodology

RESEARCH METHODOLOGY

This section of the study highlights and describes the procedure adopted to carry out the present study. It commences with the explanation of need and scope of the study, followed by the research objectives. Explanation of disclosure index and content analysis are also mentioned. Sample size, data sources and the details of variables used in the study is also given. In conclusion, the chapter provides with the brief description of the research technique used.

3.1 NEED AND SCOPE OF THE STUDY

Sustainability reporting has seen increased adoption as more businesses are recognizing wider societal and environmental obligations. Sustainability Reporting has become pivotal as it discloses non-financial information addressing environmental impact, social responsibility, and corporate governance. Sustainability reporting, often called corporate or nationwide sustainability disclosure, has become a critical tool in today's world, where environmental and social challenges are increasingly intertwined with economic concerns. The increasing environmental and social concerns in recent years have brought sustainability to the forefront of global financial systems, making sustainability reporting a crucial aspect of responsible banking. In India, banks play a pivotal role in mobilizing financial resources and influencing economic activities. There is a growing need to evaluate how Indian banks are incorporating environmental, social, and governance (ESG) considerations into their operations and disclosures. The study focuses on assessing and comparing the sustainability reporting practices of selected public and private sector banks in India. It draws on frameworks like the National Voluntary Guidelines (NVGs) and Global Reporting Initiative (GRI) to evaluate sustainability disclosures. NVG reporting expended the zone of sustainability and offer Indian businesses an understanding for responsible business conduct. It explains the impacts of organization activities on economy, environment and people. The scope of the study includes a detailed analysis of sustainability reports and annual disclosures of select Indian banks over a defined time period, aiming to understand trends, strengths, and gaps in reporting practices.The study contributes to identifying best practices, improving policy compliance, and encouraging responsible finance in the Indian banking sector.

3.2 RESEARCH GAP

The field of sustainability reporting practices within the banking sector is under explored, especially in developing economies like India. While there is a growing body of research on sustainability reporting across industries, the banking sector remains inadequately studied. Existing research highlights the following gaps:

1. **Focus on Other Industries Over Banking:** Most studies on sustainability reporting have concentrated on industries such as manufacturing, energy, and mining rather than the banking sector. For instance:

a) **Kesari, B., & Rawat, N. (2023)** examined the impact of corporate social responsibility on financial performance, focusing primarily on the Indian Firms (*World Journal of Business and Management*, *9*(1), 1-21).

b) **Kolk, A. (2008)** reviewed global reporting practices across multiple sectors, with a strong focus on industries such as oil and gas, but offered limited insights into the financial services sector (*Journal of Business Ethics,* 79(1), 279–298)**.**

c) **Kowal, B., & Kustra, A. (2016)** examined sustainability reporting in the energy sector. *In E3S Web of Conferences (Vol. 10, p. 00129). EDP Sciences*.

d) **Ahmad, S., & Wong, K. Y. (2018)** analyze the sustainability assessment in the manufacturing industry. (*Benchmarking: An International Journal, 25(8), 3162-3179*).

e) **Steinhofel, E., Galeitzke, M., Kohl, H., & Orth, R. (2019)** investigates sustainability reporting in German manufacturing SMEs. (*Procedia Manufacturing, 33, 610-617).*

f) **Talbot, D., & Boiral, O. (2018)** analyze the quality of climate information disclosed by companies and impression management strategies, assessment of sustainability reports from the energy sector *(Journal of Business Ethics, 147, 367-383)*.

2. **Under representation of Banking in Developing Economies:** Sustainability reporting in the banking sector, particularly in developing economies like India, has not received adequate attention. Most existing studies focus on advanced economies or other sectors where reporting frameworks like the GRI are more mature.

3. **Neglect of the NVG Framework:** Despite its importance in the Indian context, core principles of the National Voluntary Guidelines (NVG) remain under explored in the banking sector. Existing studies have not extensively examined how Indian banks implement these guidelines in their sustainability reporting.
4. **Insufficient Focus on Modular GRI Standards in Banking:** Research often ignores the modular structure of GRI standards and the Financial Services Sector Supplement (FSSS) specific to banking, leaving a gap in understanding the sector- specific nuances of sustainability disclosures.
5. **Lack of Comparative Analysis:** Studies providing a comparative analysis of sustainability reporting practices between public and private sector banks in India are sparse, leaving a critical gap in understanding sectorial variations.

How the Present Study Fulfills the Research Gap

The present study bridges these gaps by:

1. **Shifting Focus to the Banking Sector:** It examines sustainability reporting practices specifically within the Indian banking sector, an area that has been overshadowed by research in other industries.
2. **Evaluating Compliance with NVG and GRI Frameworks:** The study critically assesses the alignment of Indian banks reporting practices with the NVG framework and the modular GRI standards, including the Financial Services Sector Supplement.
3. **Incorporating Comparative Analysis:** It compares sustainability reporting practices between private and public sector banks, offering insights into compliance levels and sector-specific challenges.
4. **Linking Reporting to Performance and Value:** The research investigates the impact of sustainability reporting practices on bank performance and firm value, providing empirical evidence of the benefits associated with sustainable practices in the banking sector.

By addressing these areas, this study contributes to the limited body of research on sustainability reporting in the banking sector and offers actionable recommendations for improving compliance and disclosure practices.

3.3 OBJECTIVES OF THE STUDY

The research has been carried out for achieving the following objectives in context of sustainability reporting**:**

1. To examine the sustainability reporting practices undertaken by the select Indian banks.
2. To analyze the impact of sustainable reporting practices on the performance of select Indian banks.
3. To examine the effects of sustainability reporting practices on firm value of select Indian banks.
4. To compare the sustainability disclosure of GRI framework between Indian Private and Public sector banks.

3.4 RESEARCH METHODOLOGY AND DESIGN

Research methodology has been well-defined as a systematic method and a framework of enquiring, planning and analyzing the information (Johnson, 2001). It is also the blueprint for collecting, measuring and analyzing the required information. It is also focus on the decision regarding where, what, how much, when and by what means for the respective research problem (Kothari, 2004; Malhotra and Dash, 2013). The current research has intensively focused on implementing the research design based on secondary data and is categorized as descriptive and causal research. The study has major focus on analyzing the sustainability reporting practices adopted by the select Indian banks, and the elements of sustainability disclosures which is a part of descriptive research and the influence of sustainability reporting on financial variables, classifying it as a part of causal research.

3.5.1 SAMPLE SIZE

The top twenty banks, which consists of top ten public banks and private banks based upon the market capitalization for five financial years from 2017-2021 is taken into consideration for this study. In order to keep sample size unbiased and to prevent both oversampling and under sampling, as well as to further determine the study's final sample size is of twenty banks with purpose of executing content analysis.

3.5.2. Data Sources

One of the foremost requirements of any research is the reliability of the information data and the source of that data. The current study has relied of the secondary data from two different sources, one is the information retrieved from Capitaline data base as this data base provides access to both current and historic data. The second source is the published annual reports and sustainability reports available on the website of the banks.

Table 3.1: Sources of Data

Banks	**Market Capitalization**	**Banks**	**Market Capitalization**
SBI Bank	496,520.78	HDFC Bank	1,134,656.68
BOB Bank	100,763.99	ICICI Bank	641,709.72
PNB Bank	76,471.50	Kotak Mahindra Bank	343,657.83
IOB Bank	73,568.19	Axis Bank	294,450.66
Union Bank Bank	70,492.38	Induslnd Bank	109,774.52
Canara Bank	64,138.58	IDBI Bank	69,030.42
Indian Bank	50,926.09	IDFC Bank	61,515.64
UCO Bank	43,818.59	YES Bank	46,071.25
Central Bank	37,579.79	BANDHAN Bank	35,222.43
Bank of India	36,685.88	FEDERAL Bank	34,311.69

Source: https://www.moneycontrol.com

3.5.3. Disclosure Index

The disclosure index was initially considered and presented by (Cerf, 1961). It is considered to be a type of research tool that measures the quantity and quality of the information divulged by an organization through various disclosure vehicles such as annual reports, integrated reports and other reports (Hassan and Marston, 2010). The disclosure index is also known as the list of items that an organization is required to disclose (Marston and Shrives, 1991). There are two types of disclosure index, one of which is published and the other of which is self-constructed (Ahmed and Courtis, 1999). On the other hand, self-constructed disclosure index is the type of index that has been constructed by the researcher based on some disclosure items. Published disclosure index is the type of index that has been developed by any professional body (Beattie et al., 2004). This study has primarily concentrated on developing a self-constructed disclosure index. The last step is to generate scores by using the disclosure index. Both a weighted and unweighted disclosure index are prepared to generate scores. The weighted index takes into account the weights assigned to each item on the basis of expert reviews and interviews and with other professionals. The unweighted disclosure index does not take these factors into consideration (Singhvi and Desai, 1971; Pivac et al., 2017). In this research, an un-weighted disclosure index was used, where 1 was assigned if the required item was disclosed, and the score of 0 was assigned if it was not disclosed.

3.5.4. Content Analysis

Using content analysis, researchers may draw insightful conclusions from any textual content (Krippendorff, 1980). It is one of the trustworthy approaches in the fields of accounting and finance study (Haniffa and Cooke, 2002). According to the available research, content analysis has been identified as the method that is most appropriate for quantifying disclosures. Out of the two principal methods of content analysis i.e., manual and automated, where by the first type which is manual content analysis, is a procedure where the researcher is involved in quantifying the object from the given source manually. The second one focused on application of some technology, machine, software. The study has incorporated manual content analysis to quantify sustainability reporting scores in order to get reliable results.

3.5.5. Study Variables

The study examines the effects of sustainability disclosure on the firm value of selected Indian banks over the course of five years (2017-2021). It also emphasizes the framework for gaining access to the link among sustainability disclosures and firm value along with details of dependent, independent and control variables. (Attah-Botchwey, E., Soku, M. G., & Awadzıe, D. M. (2022). Sustainability disclosure practices have been taken as one of the independent variable and variables such as firm age, firm size, and market cap have been included as control in the analysis (Maurya & Singh, 2022, Gutiérrez-Ponce & Wibowo, 2023). The firm value of selected Indian banks has been calculated through the most effective and efficient market-based measure, i.e., Tobin-Q. In prior risk disclosure studies, the use of Tobin's Q is popular and effective (Buallay et al., 2021).

3.6. RESEARCH TECHNIQUES

To examine the sustainability reporting practices undertaken by the select Indian banks, data has been collected by preparing a disclosure index using National Voluntary Guidelines (NVG) framework for the first objective. To quantify NVG disclosure, an automated content analysis method has been employed on the annual reports where the quantification of disclosures is done through taking into consideration the core elements that are mentioned in the disclosure requirements prescribed in national voluntary guidelines (NVG) guidelines. For the second research objective (To analyse the impact of sustainable reporting practices on the performance of select Indian banks) and third research objective (To examine the effects of sustainability reporting practices on firm value of select Indian banks), data was recorded in E-views 12 for the analysis. Further, Panel data data set has been prepared considering all dependent, independent and control variables considered for the study. A panel data set follows a predetermined group of units across time and hence contains several readings for each unit. The time and space aspects of panel data are equally present. Many valuable features of panel data sets have resulted in a significant growth in the number of research using panel data during the last decade (Hsiao and Hsiao, 2006). There are a number of benefits to using panel data sets instead of cross-sectional or time series data when doing economic research. This research uses a panel regression technique to first identify the factors that influence sustainability reporting practices and then to examine the dynamics of the connection between sustainability reporting practices and bank performance. After ensuring that the resulting models satisfy all of the panel data regression's assumptions, the data is imported into E-views 12 for analysis. In order to investigate the association between two variables through time series and cross sections, panel data regression is an invaluable tool. It helps in determining the shift in the dependent variable that may be attributed to the independent and other control variables. For reliable and consistent results, it is imperative that all assumptions of panel regression, such as normality, multicollinearity, auto correlation, and homoscedasticity are met. And for the forth research objective (To compare the sustainability disclosure of GRI framework between Indian Private and Public sector banks), Tableau 2023.2 has been used to visualize the disclosure practices through different types of charts, graphs and data tables, to identify the non-compliance.

3.7 CONCLUSION

This chapter provides a comprehensive explanation of the research technique that was used in order to accomplish the research objectives. In addition to this, it gave the reason for the methodological approach that was used in order to achieve the objectives that were outlined. In add to that, Finally, it includes a detailed explanation of the techniques of data collection that were used in this research.

Chapter-4

Analysis and Findings

CHAPTER-4

TO EXAMINE THE SUSTAINABILITY REPORTING PRACTICES UNDERTAKEN BY THE SELECT INDIAN BANKS IN ACCORDANCE.

SUSTAINABILITY REPORTING PRACTICES IN INDIA (NVG)

This section emphasized the details of the NVG and its core elements disclosure scores. Additionally, a sustainability disclosure index is calculated for each principles across all banks. This section of the research focuses on the national voluntary reporting procedures throughout a five-year period, from 2017 to 2021 by Indian banks. The chapter starts with introduction of first objective. It also emphasizes the framework for gaining access to the link between specified core elements and national voluntary reporting along with details of core elements of NVG.

4.10 INTRODUCTION

Organizations of "developed countries are moving ahead in sustainable reporting practices, but the developing countries are lagging in sustainability reporting. In order to develop the sustainability reporting, government of India has taken various steps to ensure sustainable conduct and to address sustainability issues. The Indian Institute of corporate affairs (IICA) appointed the guidelines drafting committee (GDC) and this committee developed the national voluntary guidelines (NVG). These guidelines for responsible business conduct in India are applicable to all businesses, regardless of size, sector, or location. So, the national voluntary guidelines (NVG) is a set of nine principles framework that brought out by the ministry of corporate affairs (MCA) which help the Indian businesses sectors towards inclusive development. The study consists of a total number of forty eight core elements which comes under the nine principles of national voluntary guidelines (NVG), 2011.The table 4.2 shows the nine principles with the core elements. Each principle contains specifically different core elements. Then by using the content analysis technique, manually disclosure index is prepared for the attainment of above stated objective on basis of the core elements and nine principles. In this study, an un-weighted disclosure index is used, where 0 is assigned if the required item not disclosed, and the score of 1 is assigned if it disclosed with little information, score of 2 if the items disclosed with vast information and scores of 3 if the items disclosed with examples. In this study, data for the ratings of core elements is extracted from sustainability reports particularly of separate financial year from- 2017-2021. After giving ratings to every element, the yearly progress of sustainability reporting practices of different banks highlighted in accordance with the indicators as mentioned in study.

4.11 THE SAMPLE

The research included top twenty banks from the moneycontrol financial portal which is the greatest resource for financial information about the business sector and the economy and the largest online financial platform in India, as its sample. Sample size is 20 Banks, 10 banks are from Public Sector and 10 banks are from Private Sector. These banks are as following-

Table 4.1: List of banks

Public Sector Banks	**Private Sector Banks**
SBI	HDFC Bank
BOB	ICICI Bank
PNB	Kotak Mahindra Bank
IOB	Axis Bank
Union	Induslnd Bank
Canera	IDBI Bank
Indian	IDFC Bank
UCO	Yes Bank
Central	Bandhan Bank
Bank of India	Federal Bank

4.12 PRINCIPLES OF NATIONAL VOLUNTARY GUIDELINES (NVG)

Table. 4.2 (NVG) Principles

Principle 1	Businesses should conduct and govern themselves with Ethics, Transparency and Accountability. **and Accountability.**
Principle 2	Businesses should provide goods and services that are safe and contribute to sustainability throughout their life cycle
Principle 3	Businesses should promote the well-being of all employees
Principle 4	Businesses should respect the interests of, and be responsive towards all stakeholders, especially those who are disadvantaged, vulnerable and marginalized
Principle 5	Businesses should respect and promote human rights
Principle 6	Business should respect, protect, and make efforts to restore the environment
Principle 7	Businesses, when engaged in influencing public and regulatory policy, should do so in a responsible manner
Principle 8	Businesses should support inclusive growth and equitable development
Principle 9	Businesses should engage with and provide value to their customers and consumers in a responsible manner

4.13 CORE ELEMENTS OF NATIONAL VOLUNTARY GUIDELINES (NVG)

Table.4.3 (NVG) Core-Elements

P-1	**P-2**	**P-3**	**P-4**	**P-5**	**P-6**	**P-7**	**P-8**	**P-9**
Governance structures	Optimum Resources Use	Grievances redressal mechanism	Identify stakeholders engagement	Understand human rights	Utilization of resources	Policy advocacy	Minimize social economic impacts	Overall well-being of customers and society
Stakeholders Information	Consumer's Awareness	Employment equality	Impact of Policies	Human Rights impacts	Prevent pollution and environment damage	Utilize policy Advocacy platforms	Well-being investment	No restriction on products
Anti-competitive or Corrupt	Product Designing	Avoid Involuntary labour	Stakeholders underdeveloped areas	Respect all Human rights	Resources benefits		Resettlement and rehabilitation communities	Information disclosure
Disclosures	Technology Development	Work-life balance	Resolving issues	Promote human Right	Improve environment performance		Underdeveloped operating regions	Promoting products without violation
Reporting status	Respects Rights	Employees Facilities		Unlawful human rights	Mitigating Environmental damages			Caution over exploitation
Avoid Violating Actions	Resources Recycling	Workplace Environment			Environmental performance report			Grievance handling mechanisms
		Learning opportunities			Support value chain			
		Harassment free workplace						

Source: Author's Creation

4.14 NATIONAL VOLUNTARY GUIDELINES (NVG) SCORING

The study consists of a total number of forty-eight core elements which comes under the nine principles of national voluntary guidelines (NVG), 2011.The table shows the nine principles with the core elements. Each principle contains specifically different core elements. Then by using the content analysis technique, manually disclosure index is prepared for the attainment of above stated objective on basis of the core elements and nine principles. In this study, an un-weighted disclosure index is used, where 0 is assigned if the required item not disclosed, and the score of 1 is assigned if it disclosed with little information, score of 2 if the items disclosed with vast information and scores of 3 if the items disclosed with examples. In this study, data for the ratings of core elements is extracted from sustainability reports particularly of separate financial year from- 2017-2021. After giving ratings to every element, the yearly progress of sustainability reporting practices of different banks highlighted in accordance with the indicators as mentioned in study.

4.15 DISCLOSURE INDEX

The disclosure indexes are the list of items that an organization is required to disclose. For the attainment of above objective, a disclosure index is prepared by taking into considerations national voluntary guidelines (NVG) disclosures. This index takes into consideration the core objects that are mentioned in the disclosure requirements prescribed in national voluntary guidelines (NVG) guidelines. This study has primarily concentrated on developing a self-constructed disclosure index with an un-weighted disclosure index, where scoring is assigned from 0 to 3.

Table 4.4: Scoring Descriptions For Content Analysis

Score	Descriptions
0	Core element not disclosed
1	Core element disclosed with little information
2	Core element disclosed with vast information
3	Core element disclosed with examples

4.16 BANK WISE DISCLOSURE

To examine the sustainability reporting practices undertaken by the select Indian banks in accordance.

Yes Bank: The Figure 4.1 shows the enhancement in the disclosure levels within each principles which have changed over time according to core elements.This figure presents data that is drawn vertical and yes bank discloses principle 3 with the highest reporting scoring level as depicted in the bar graph from the year 2017-2021.The horizontal axis, or x-axis, displays the principles while the vertical axis, or y-axis, outlines the scores.The figure shows the disclosure practices of nine principles over the last five years. The year's series are arranged chronologically on the x-axis, the graph can also be used to look for trends in sustainability reporting over time.

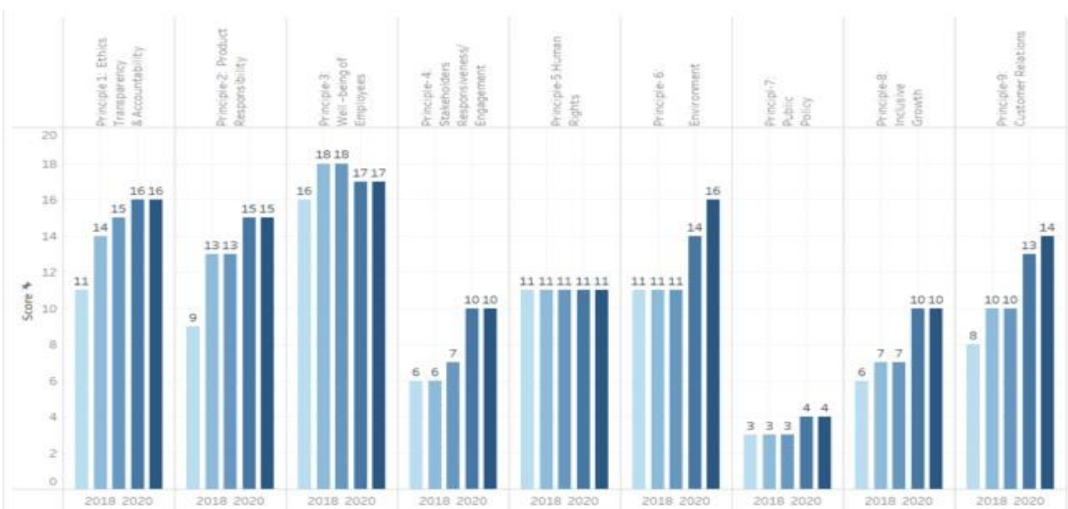


Fig.4.1: Yes Bank

Source: Researcher Calculations

Union Bank: The Figure 4.2 shows the disclosure pattern of nine principles of Union bank over the five years from 2017-2021. The x-axis, displays the principles while the y-axis, outlines the scores. A trend of growth for principle 3 shown by a set of bars that get taller over time, showing that the disclosure pattern is going up with respect to years. Conversely, stability is also seen in principle 9, when the bars stay the same size and don't change much over time.

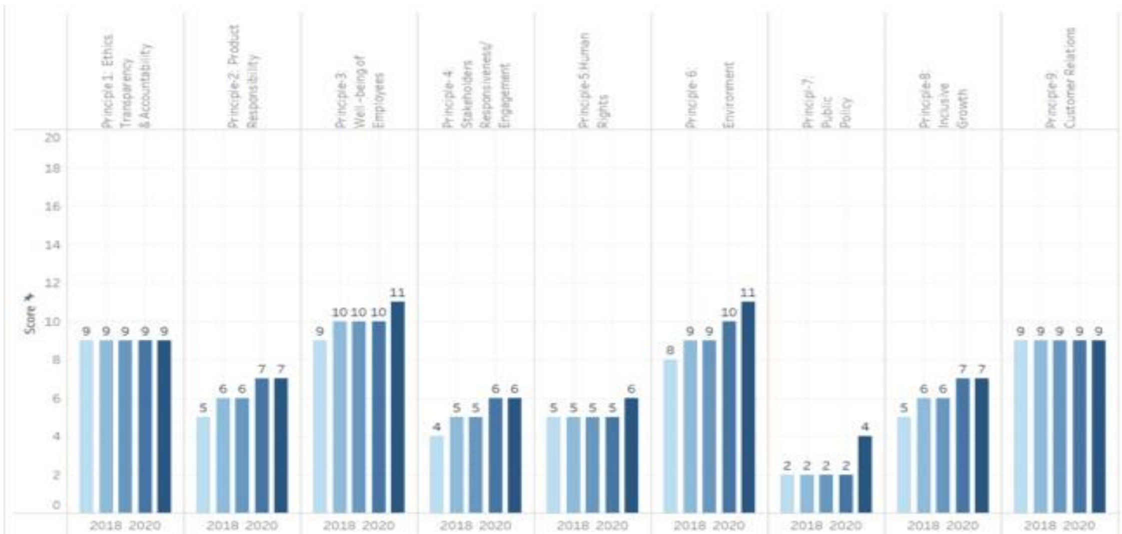


Fig.4.2: Union Bank

Source: Researcher Calculations

UCO Bank: Figure 4.3 depicts a enhancement in the disclosure levels within each principles which have changed over time. The disclosure levels of UCO bank is highest for principle-3 from the year 2017-2021.This shows the disclosure practices of principles with the core elements over the five years from 2017-2021. Principle 5 and principle 9 highlighted the stability which is similar at all the levels over the set years.

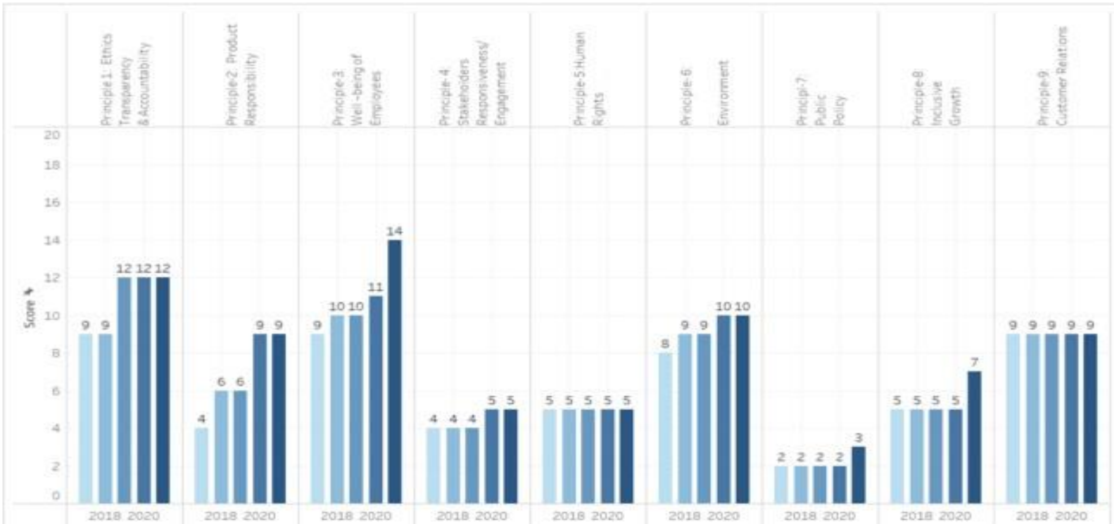


Fig.4.3: UCO Bank

Source: Researcher Calculations

SBI: Figure 4.4 depicts an enhancement in the disclosure levels within each principles which have changed over time. The disclosure levels of SBI bank is on peak for principle-3 from the year 2017-2021. The provided SBI bar graph provides an insightful glimpse of sustainability reporting scoring by NVG framework over five key years: 2017,2018,2019,2020 and 2021. There has been a stability in scoring for principle 7, principle 8 and principle 9.

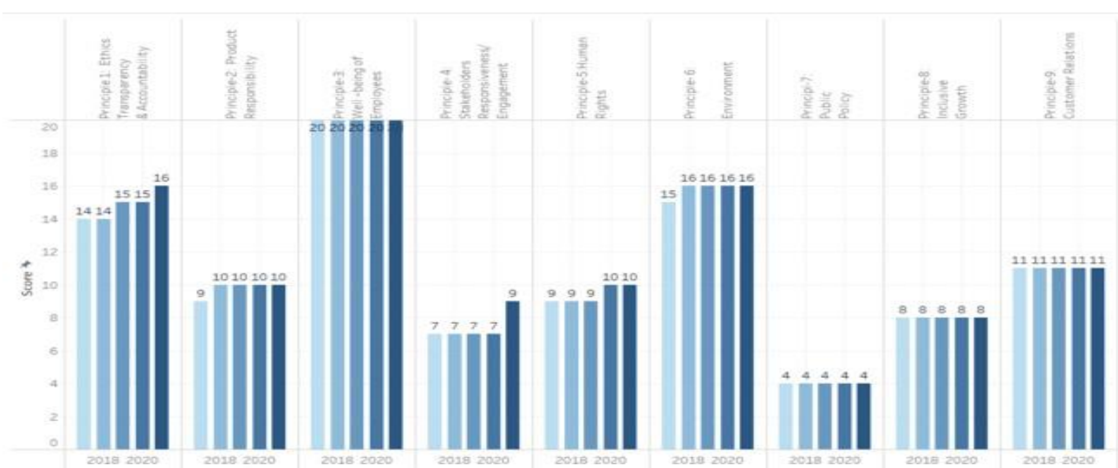


Fig.4.4: SBI Bank

Source: Researcher Calculations

PNB: The following figure 4.5 depicts a sustainability reporting practices disclosure levels within each principles which have changed over time by "Punjab National Bank". The disclosure levels of PNB bank is on peak for principle-3 from the year 2017- 2021.The figure shows the disclosure practices of nine principles over the last five years. Principle 7 highlighted the stability of scoring.

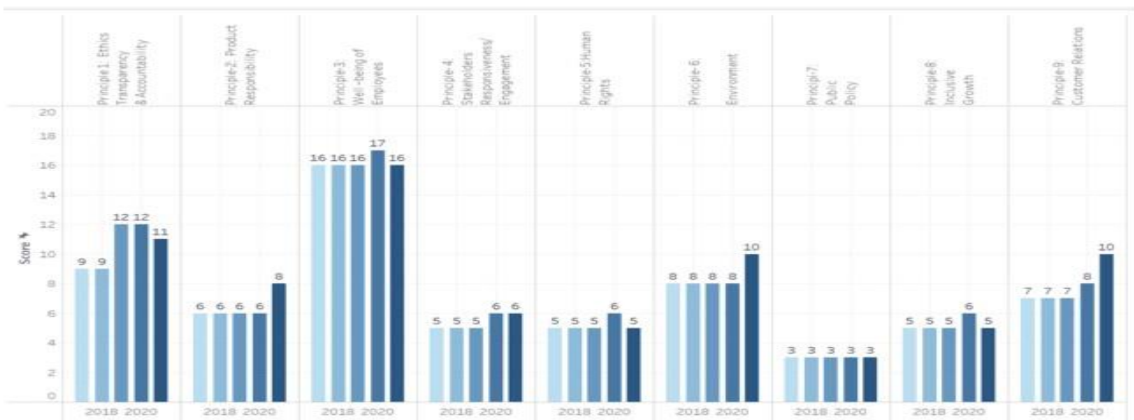


Fig.4.5: PNB Bank

Source: Researcher Calculation

Kotak Mahindra Bank: Figure 4.6 depicts an enhancement in the disclosure levels within each principles which have changed over time. The disclosure levels of bank are on peak for principle-3 from the year 2020.The figure shows the disclosure practices of nine principles over the set five years from 2017-2021.

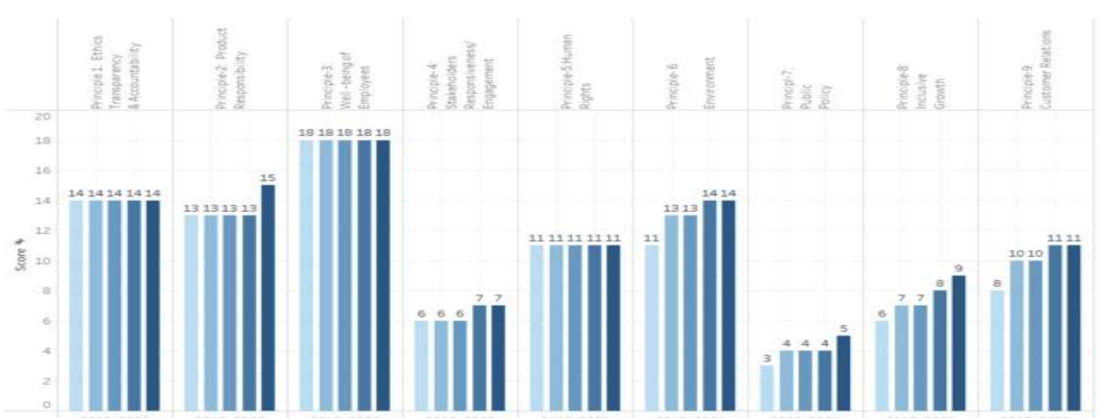


Fig.4.6: Kotak Mahindra Bank

Source: Researcher Calculations

Induslnd Bank: Figure 4.7 depicts an enhancement in the disclosure levels within each principles which have changed over time. The disclosure levels of bank is on peak for principle-3 from the year 2017-2021.The figure shows the disclosure practices of nine principles over the set five years. Principle 2, principle 3, principle 4 and principle 8 highlighted the stability in scoring for the respective years 2017-2021.

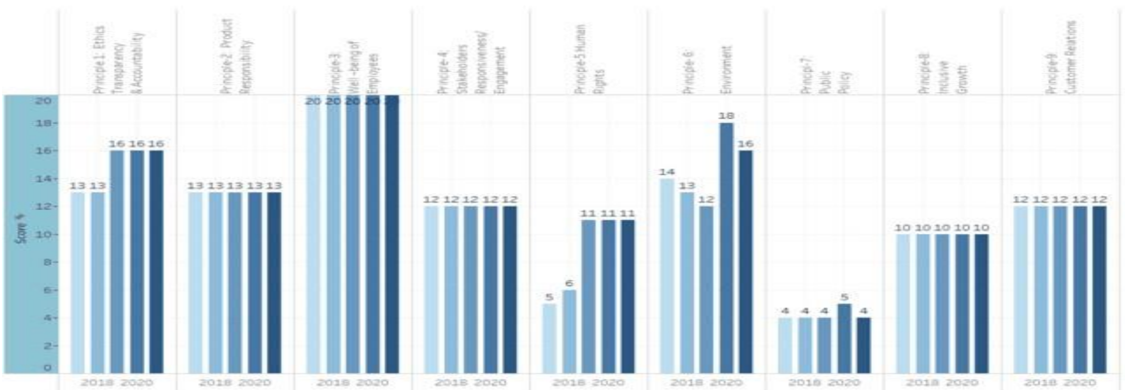


Fig.4.7: Induslnd Bank

Source: Researcher Calculations

Indian Bank: Figure 4.8 depicts an enhancement in the disclosure levels within each principles which have changed over time by Indian bank. The disclosure levels of bank are on peak for principle-3 for the year 2020-2021.The figure shows the disclosure practices of nine principles through content scoring over the set five years for the study.

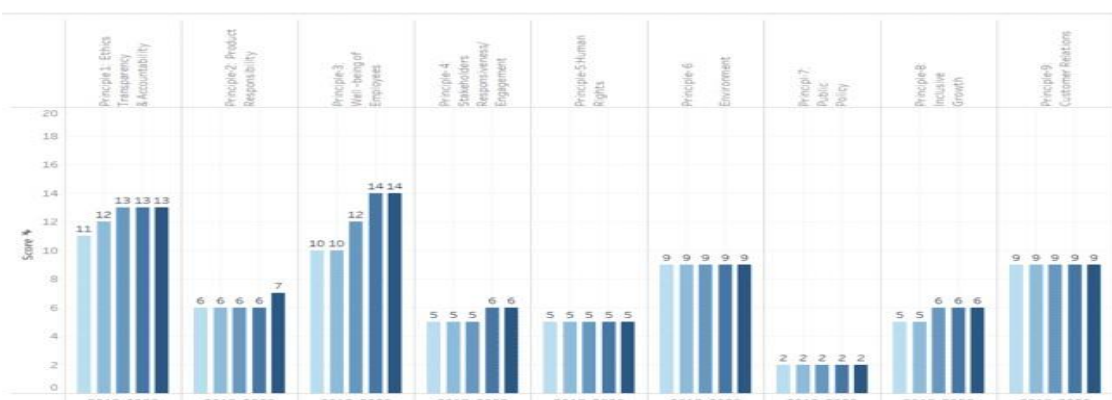


Fig.4.8: Indian Bank

Source: Researcher Calculations

Indian Overseas Bank: Figure 4.9 depicts a enhancement in the disclosure levels within each principles which have changed over time.The disclosure levels of bank is on peak for principle-3 from the year 2021.The figure shows the disclosure practices of nine principles over the set five years for study. Principle 7 highlighted the low reporting practices during the course of 2017-2021 in comparison to others principles.

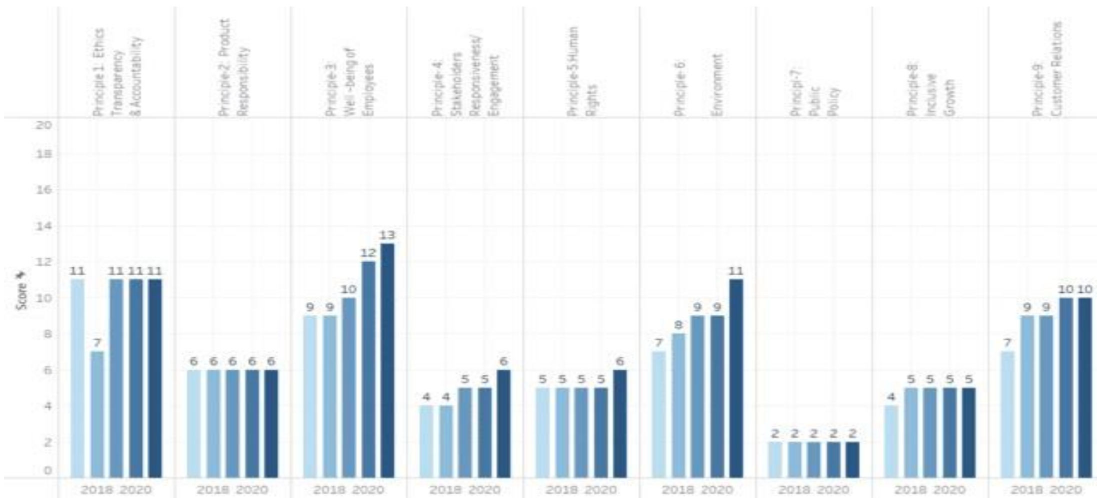


Fig.4.9: Indian Overseas Bank

Source: Researcher Calculations

IDFC Bank: Figure 4.10 depicts a enhancement in the disclosure levels within each principles which have changed over time by IDFC bank. The disclosure levels of bank are on peak for principle-3 from the year 2018 and 2019.The figure shows the disclosure practices of nine principles over the set five years.

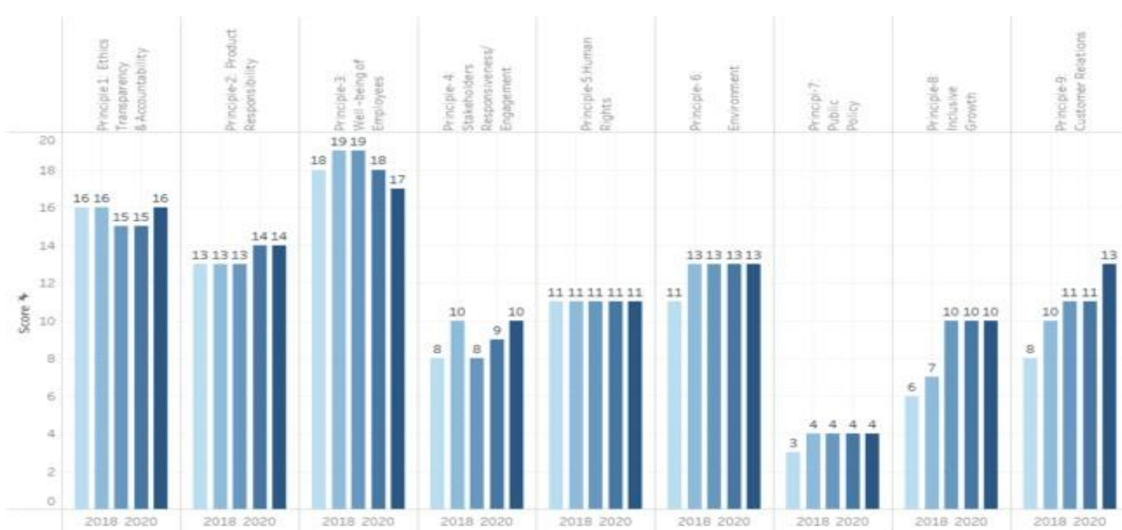


Fig.4.10: IDFC Bank

Source: Researcher Calculations

IDBI: Figure 4.11 depicts a sustainability reporting practices disclosure levels within each principles which have changed over time by IDBI bank. Higher amount of reporting has been done for principle 3. The figure shows the disclosure practices of nine principles over the set five years. IDBI bank report lessor on Principle 7.

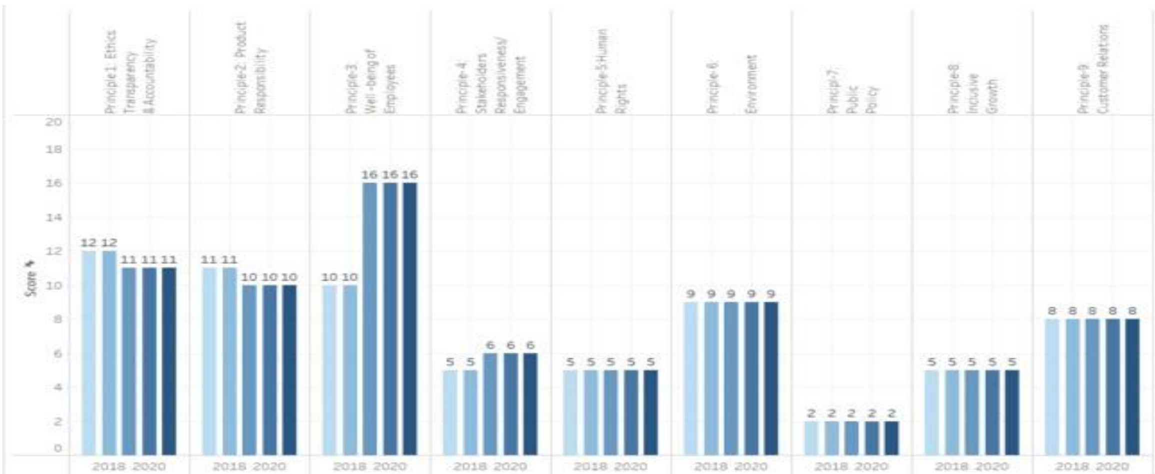


Fig.4.11: IDBI Bank

Source: Researcher Calculations

HDFC: Figure 4.12 depicts a enhancement in the disclosure levels within each principles which have changed over time. The disclosure levels of bank are on peak for principle-3 from the year 2017-2021.Principle 1, principle 2, principle 3, principle 4, principle 7 and principle 8 shows the stability in disclosure practices of nine principles over the five years from 2017-2021.

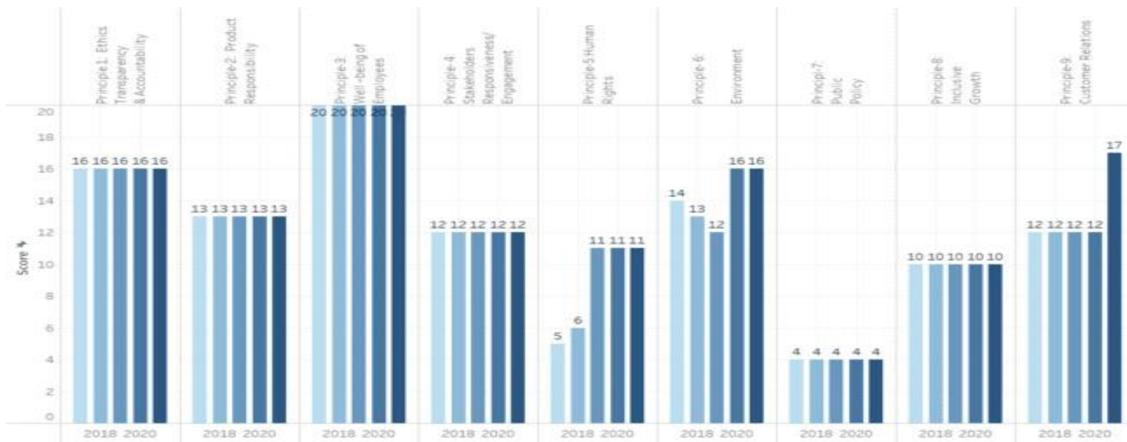


Fig.4.12: HDFC Bank

Source: Researcher Calculations

Federal Bank: Figure 4.13 depicts a reporting in the disclosure levels within each principles which have changed over time. The disclosure levels of federal bank is on peak for principle-3 for the year 2021.The figure shows the disclosure practices of nine principles over the set five years for study.

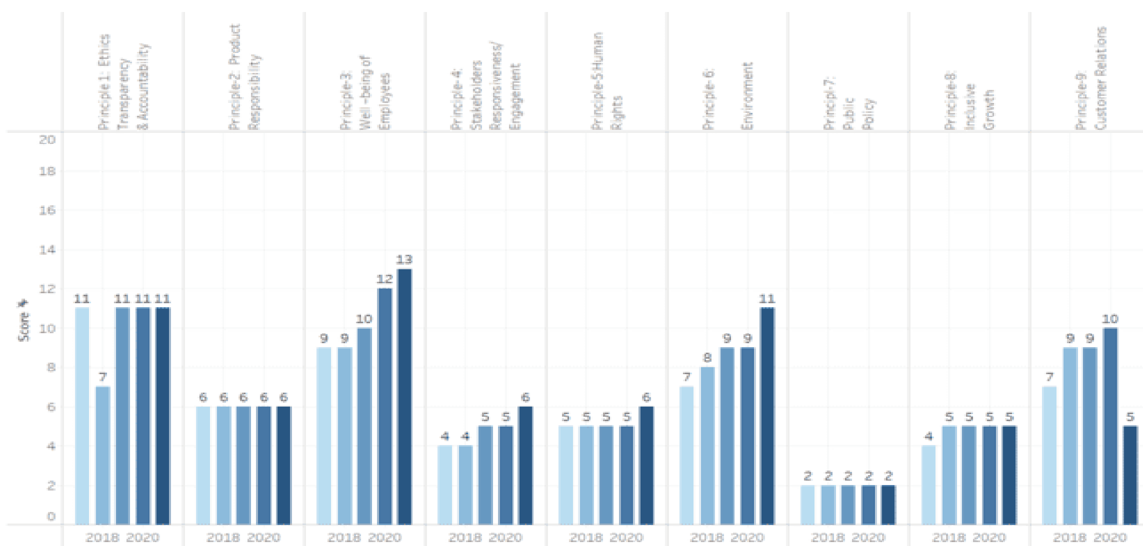


Fig.4.13: Federal Bank

Source: Researcher Calculations

ICICI Bank: Figure 4.14 depicts a enhancement in the disclosure levels within each principles by ICICI bank. The disclosure levels of bank are on peak for principle-3 from the year 2017-2021.ICICI bank report lessor on principle 7. The figure shows the disclosure practices of nine principles over the set five years for study.

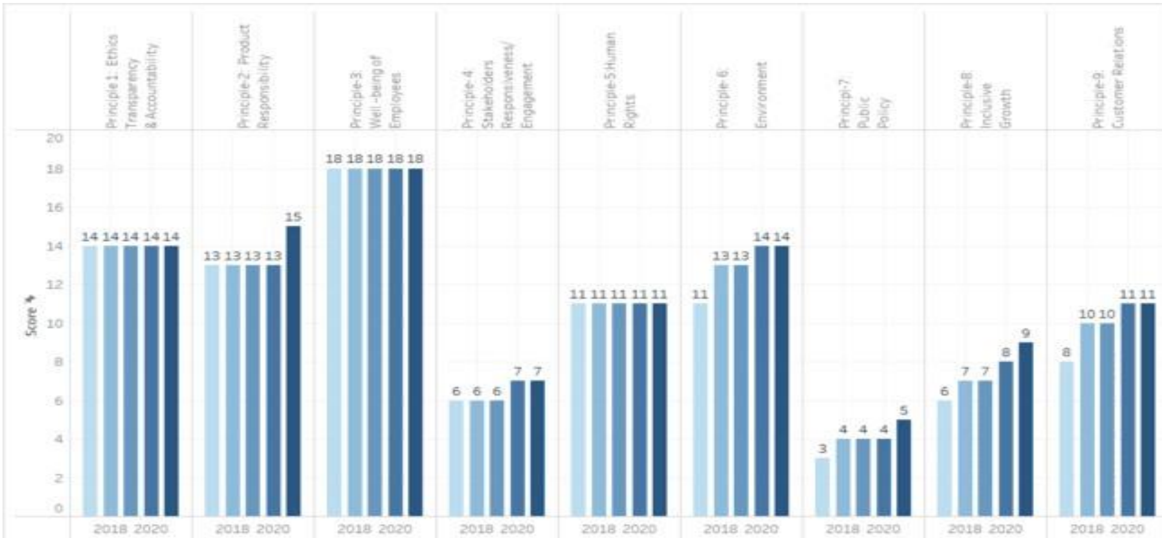


Fig.4.14: ICICI Bank

Source: Researcher Calculations

Canera Bank: Figure 4.15 depicts an enhancement in the disclosure levels within each principles which have varied over time by canera bank. The disclosure levels of bank are higher for principle 1 and principle 3 for the year 2021.The figure shows the disclosure practices of nine principles over the 2017-2021 years.

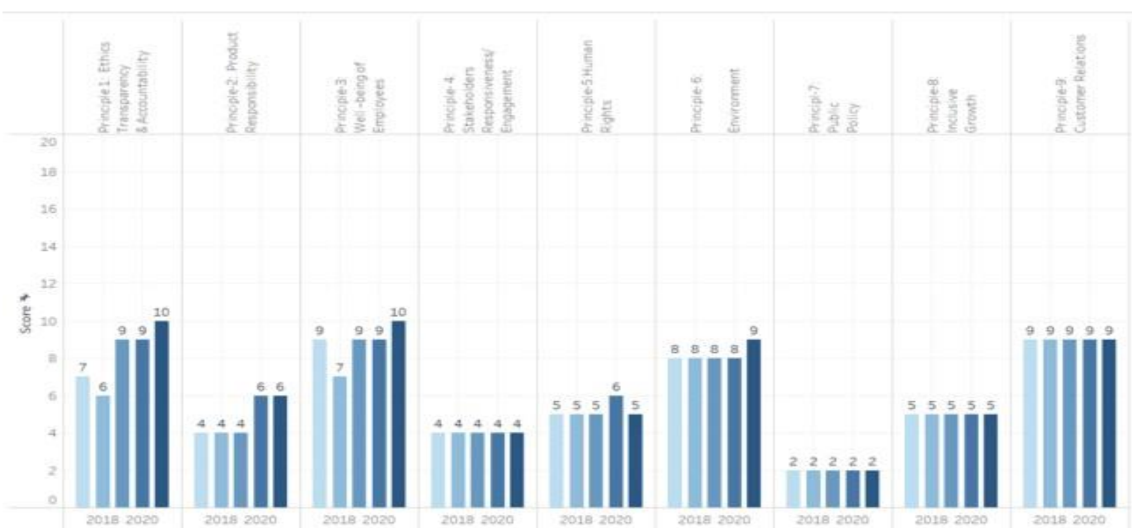


Fig.4.15: Canera Bank

Source: Researcher Calculations

Central Bank: Figure 4.16 depicts a reporting in the disclosure levels within each principles which have changed over time by central bank. The disclosure practices of bank are higher for principle-3 for the year 2021 and lessor for principle 7 during the 2017-2021.The figure shows the disclosure practices of nine principles on the set time frame for study.

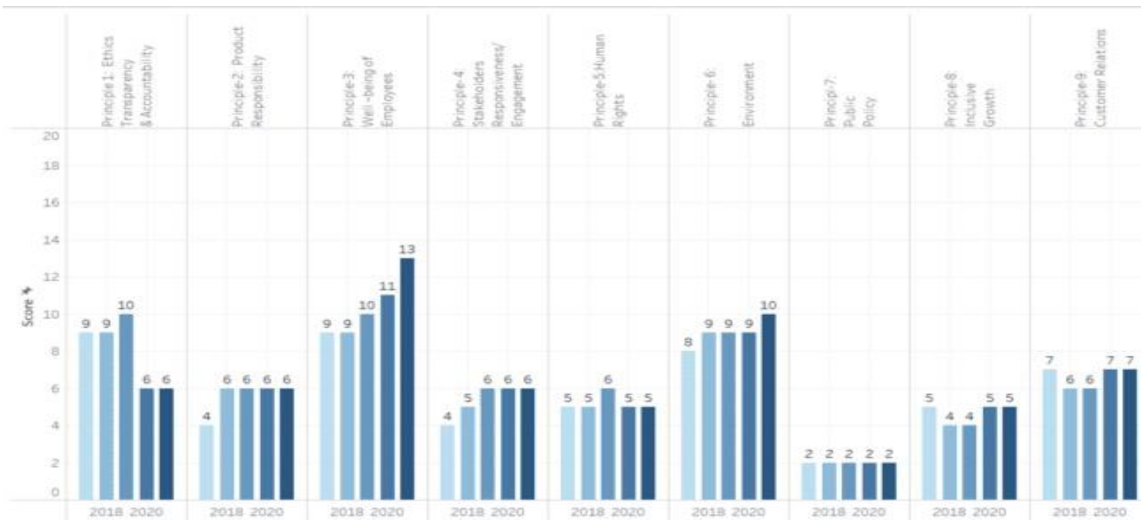


Fig.4.16: Central Bank

Source: Researcher Calculation

Bank of India: Figure 4.17 depicts a enhancement in the disclosure levels within each principles which have changed over time by bank of baroda. The disclosure levels of bank are higher for principle-3 for the year 2020.The figure shows the disclosure practices of nine principles over the set five years.

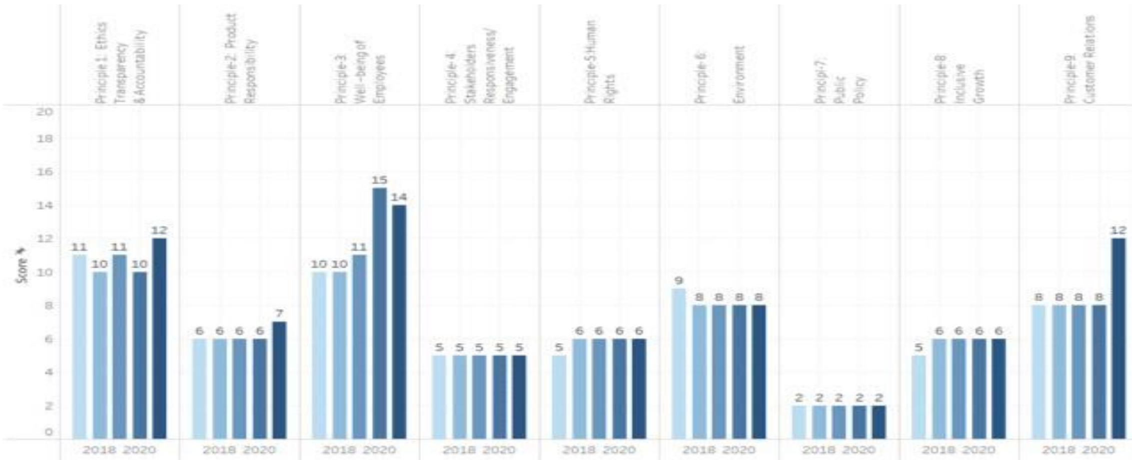


Fig.4.17: Bank of India

Source: Researcher Calculations

Bank of Baroda: Figure 4.18 depicts the reporting of the disclosure levels within each principles. The disclosure levels of bank are on peak for principle-3 from the year 2017-2021.The figure shows the disclosure practices of nine principles over the last five years."

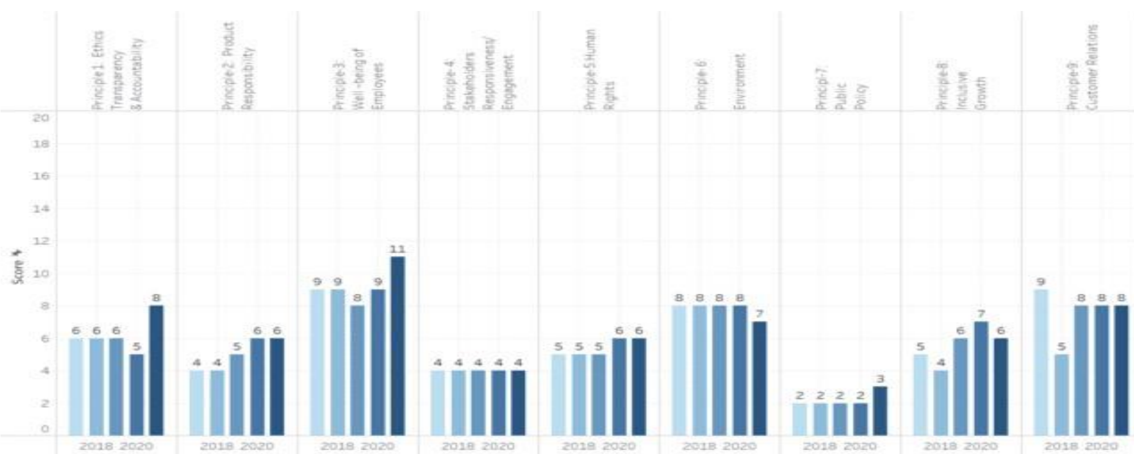


Fig.4.18: Bank of Baroda

Source: Researcher Calculations

Bandhan Bank: Figure 4.19 depicts an enhancement in the disclosure levels within each principles for the years 2017-2021. Principle 3 has highest reported score in the year 2021.The figure shows that principle 7 has the lower disclosure practices of nine principles over the 2017-2021.

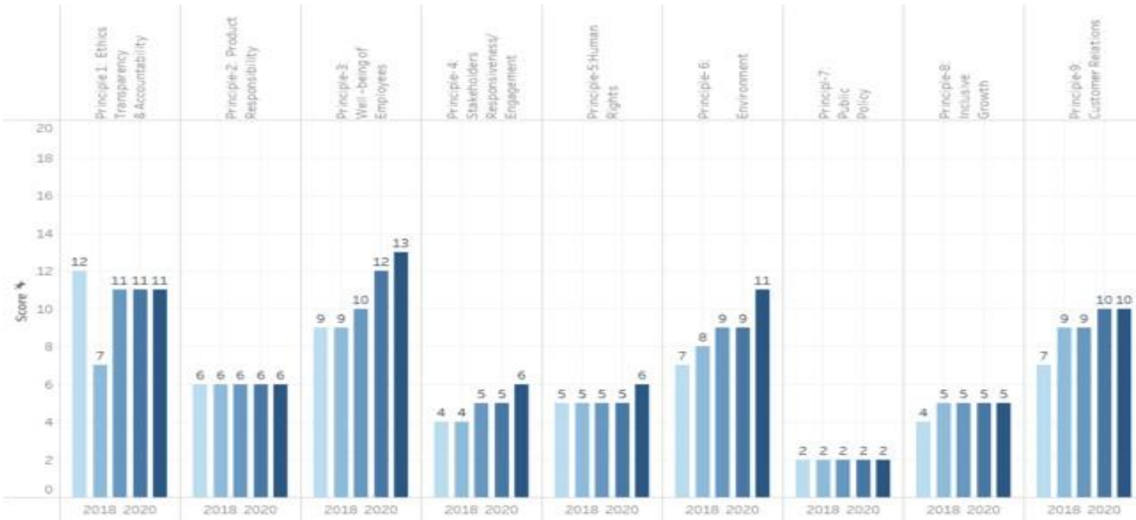


Fig.4.19: Bandhan Bank

Source: Researcher Calculations

Axis Bank: Figure 4.20 depicts disclosure levels within each principles which have reported over time. The disclosure levels of axis bank are on high for principle-3 from the year 2017-2021.The figure stated that for principle 3, principle 5, principle 8 and principle 9, Axis bank in every financial year 2017-2021 reported the stable disclosure practices.

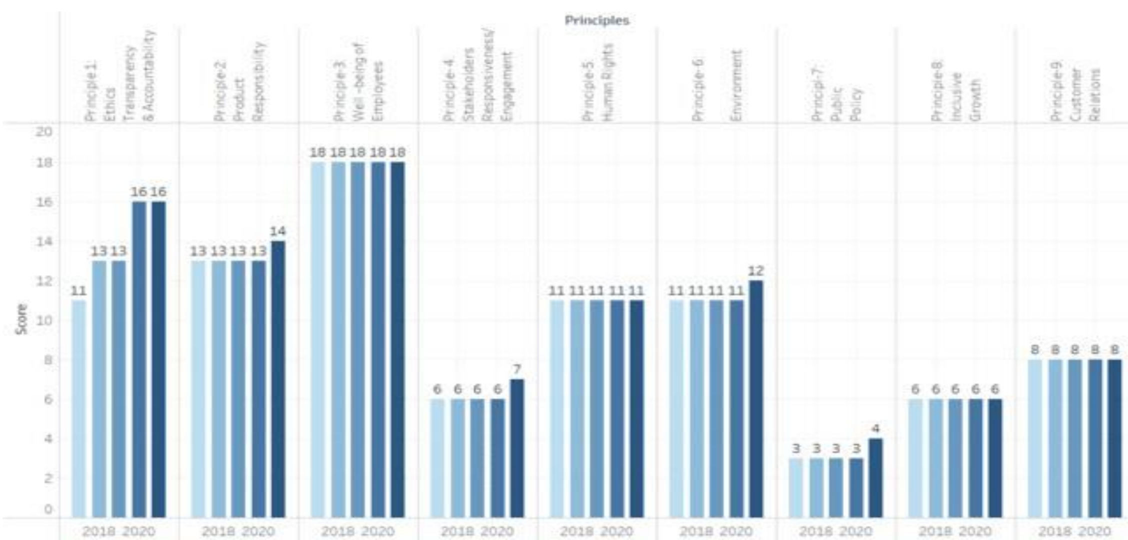


Fig.4.20: Axis Bank

Source: Researcher Calculations

4.8. CONCLUSION

The study provides sustainability reporting of the top Indian public and private banks on the basis of national voluntary guidelines (NVG) framework. The study has a several implications for bankers and policy makers as it provides a broad picture of sustainability practices of the Indian banking sector. The banks low on NVG reporting principles need to expend its strategies such as on Involuntary labor, operating regions etc. According to the scoring study revealed that out of selected banks, SBI works better in sustainability reporting practices in public sector, then Bank of baroda, Central bank, UCO bank, PNB, Indian bank, IOB,Union bank, Canera bank, and BOB respectively followed sustainability reporting practices. And in private sector - HDFC bank works better in sustainability reporting practices in private sector then Induslnd bank, Kotak Mahindra bank, Yes bank, IDFC bank, Axis bank, ICICI bank Federal Bank, Bandhan Bank, IDBI bank. Principle 6 is the highest reported principle by banks and Principle 7 of NVG was the least reported principle by banks as large number of banks not disclosed information about public policy. The higher participation by the banking sector could transform the landscape of sustainability practices.

4.9. VALIDATION OF NVG CRITERIA

The National Voluntary Guidelines (NVGs) on the social, environmental, and economic responsibilities of businesses, issued by the Ministry of Corporate Affairs, India, serve as a comprehensive framework for fostering sustainability-focused practices in the corporate sector. These guidelines provide businesses with actionable principles for integrating sustainability into their operational and reporting practices. This study employed content scoring criteria to evaluate adherence to NVG principles. The validation of this methodology was conducted through a rigorous analysis of existing studies and frameworks, bench-marking the NVG criteria against established practices. Notable studies that utilized similar content scoring methodologies include:

1. **Mani, M. (2022):** Conducted a comparative analysis of sustainability practices and reporting among the top ten Indian banks, highlighting the alignment of

reporting practices with sustainability frameworks (*Sustainability and Climate Change*, 15(1), 68-80).

2. **Kumar, K., & Prakash, A. (2019):** Examined sustainability reporting practices in the Indian banking sector, providing insights into the applicability of standardized scoring systems (*Asian Journal of Sustainability and Social Responsibility*, 4(2)).
3. **Mishra, P., & Sant, T. G. (2023):** Analyzed environmental, social, and governance disclosures in sustainability reports, focusing on the Indian banking sector (*International Journal of Innovation Science*, 16(2), 420-442).
4. **Munshi, D., & Dutta, S. (2016).** Examined sustainability reporting quality of Indian and American manufacturing firms. (*Serbian Journal of Management*, *11*(2), 245-260).

Field Expert Opinions:

The criteria adopted in the study were reviewed by:

- **Mr. Rohit Sharma,** IndusInd Bank (Model Town branch, Jalandhar)
- **Mr. Jagdish Paruthi,** a retired branch manager of Punjab National Bank (Amritsar)

Both experts, consulted telephonically, affirmed the robustness of the criteria. They opined that the content scoring scale is reliable and does not compromise the overall scoring outcomes. They further recommended referencing related studies that validate the approach, such as those cited above, ensuring alignment with established research standards. The convergence of empirical evidence from prior studies and expert opinions confirms that the adopted content scoring criteria are valid and effective for evaluating the implementation of NVG principles. This validation underscores the methodological rigor and reliability of the framework employed in this study.

CHAPTER-5

CHAPTER-5

TO ANALYZE THE IMPACT OF SUSTAINABLE REPORTING PRACTICES ON THE PERFORMANCE OF SELECT INDIAN BANKS.

SUSTAINABILITY REPORTING PRACTICES AND PERFORMANCE

Selected Indian banks sustainable reporting disclosure methods are examined in this chapter, along with their possible impact on the performance. The possible intention behind this chapter is to identify and access the change in the performance of the banks with respect to National Voluntary Guidelines disclosures. This segment delivers the detail framework for identifying the association among operational performance and sustainable reporting information. Further, this section of research also highlights the testing of hypothesis, results and conclusion.

5.3 INTRODUCTION

Several studies have highlighted the increasing trend of Indian banks adopting sustainable reporting practices in recent years. Banks in India are under regulatory pressure to disclose environmental, social, and governance (ESG) factors in their operations. Gupta and Sharma (2018) indicates that banks with robust sustainable reporting frameworks tend to exhibit better financial performance over time. These banks are perceived as less risky by investors and are better positioned to attract capital. A study by Dutta and Bose (2018) found that Indian banks have started integrating sustainability reporting into their annual reports, albeit to varying degrees. Research suggests a positive relationship between sustainable reporting and financial performance in the banking sector. Sharma and Bhagat (2019) indicates that banks that prioritize sustainability reporting tend to achieve better financial results over time. By integrating environmental, social, and governance factors into their reporting, banks can enhance their reputation, reduce risks, and attract socially responsible investors, thereby positively influencing financial performance. A study by Khan et al. (2020) found a positive impact of sustainable reporting on the financial performance of Indian banks. Sustainable reporting can enhance a bank's reputation, attract socially responsible investors, and mitigate risks associated with environmental and social issues, thereby positively impacting financial performance. Investors increasingly consider sustainability factors when making investment decisions. Research by Banerjee and Roy (2019) suggests that sustainable reporting positively influences investor perception and market response towards Indian banks. Banks that disclose comprehensive sustainability information are perceived as more transparent and trustworthy, leading to increased investor confidence and potentially higher market valuation. The regulatory framework in India mandates certain disclosures related to sustainability and CSR activities for banks. Compliance with these regulations can enhance the credibility of banks and contribute to their overall performance. Das et al., 2020) suggests that sustainable reporting positively influences investor sentiment and market valuation of Indian banks. Banks that demonstrate a commitment to environmental and social sustainability are perceived as more resilient and better positioned for long-term growth. The growing importance of sustainable reporting practices for Indian banks and highlights the positive impact of such practices on financial performance, investor perception, and regulatory compliance. (Sehgal,V., et al, 2022) The research paper focuses on analyzing the impact of environmental and social reporting on financial performance through disclosure mechanisms in the Indian context. It examines the sustainability reporting and performance of Indian firms and evaluates how environmental and social disclosure/performance influence financial performance metrics like ROA and ROE. The study reveals that environmental and social sustainability disclosure has a positive impact on ROA/ROE.

5.4 SUSTAINABLE REPORTING AND NVG FRAMEWORK

Several studies have observed an increasing trend in the adoption of sustainable reporting practices among Indian companies, driven by regulatory requirements, investor pressure, and stakeholder expectations (Shrivastava & Guha, 2017).The NVGs have provided a framework for companies to integrate sustainability principles into their reporting, fostering transparency and accountability (Kumar & Maran, 2019).Research on the relationship between sustainable reporting and financial performance has yielded mixed results. While some studies have found a positive correlation between sustainability disclosure and financial metrics such as profitability and market valuation (Banerjee & Roy, 2019), others suggest a more nuanced relationship (Dutta & Bose, 2018). Factors such as industry context, reporting quality, and stakeholder perceptions play a significant role in shaping the impact of sustainable reporting on financial performance (Gupta &

Sharma, 2020).Sustainable reporting under the NVGs has been associated with improvements in non-financial performance indicators, including environmental management, social responsibility, and corporate governance (Dey & Pandey, 2018).Companies that prioritize sustainability reporting are better positioned to mitigate risks, enhance reputation, and foster long-term value creation (Sharma & Sharma, 2019).Sustainable reporting facilitates stakeholder engagement by providing transparent information on ESG performance, building trust, and credibility among stakeholders (Sethy & Sahoo, 2020).Companies that demonstrate a commitment to sustainability through comprehensive reporting practices are more likely to attract socially responsible investors and enhance their reputation (Dwivedi & Jain, 2017).Challenges in implementing sustainable reporting include data availability, measurement methodologies, integration with business processes, and resource constraints (Kumar & Maran, 2019).However, sustainable reporting also presents opportunities for innovation, differentiation, and competitive advantage (Sharma & Sharma, 2019). Future research could explore longitudinal studies to assess the long-term impact of sustainable reporting under NVGs on organizational performance and stakeholder relationships (Banerjee & Roy, 2019).

5.7. INDEPENDENT AND CONTROL VARIABLES

Sustainability reporting has been further segregated to NVG core elements along with the scores obtained from content analysis to quantify sustainability reporting practices which taken as independent variables to find the association between NVG sustainability reporting and performance. Further the model has also been tested by measuring the impact of control variables, i.e., total assets, enterprise value and firm age.

5.8. DEPENDENT VARIABLE

The performance of selected Indian banks has been considered by taking three accounting measures, i.e., ROE and PBIDT (Profits before interest depreciation and tax).

5.9. HYPOTHESIS TESTING

The study highlights the influence of sustainability reporting scores on the performance of selected Indian banks. With ROE and PBIDT serving as the dependent variables, and the sustainability reporting disclosure (NVG) scores as the independent factors. In addition, in order to analyse the influence that sustainability reporting disclosure practices have on a bank's performance, a few controls variables, such as the total assets, enterprise value and firm age, are evaluated. These variables have been recognized based on earlier studies associated to sustainability reporting and firm performance. Multiple regression analysis is performed to test the theoretical framework and hypotheses. Panel data techniques have been applied due to the presence of time series and cross-sectional data to study the outcome of the proposed model (1) estimated as follows:

Performance = f(Sustainability reporting, Control Variables) (1)

ROEit = α + β1 + β2 Sustainability reporting + β3 Total assets it + β4 Enterprise value it + β5firm age it + μ it (1.1)

PBIDTit = α + β1 + β2 Sustainability reporting + β3 Total assets it + β4 Enterprise value it + β5firm age it + μ it (1.2)

Where, α = Constant

β = Coefficient of independent variable

μit = Error term of ith Bank related to th term

Where the i refer to firm and t refers to year

Table. 5.1 Description of Variables

Sustainability Reporting Score	Measured by percentage of disclosure scores by creating disclosure index
ROE	Return on equity is a measure of a company's financial performance. Measured by dividing net income by shareholders' equity.
PBIDT	Natural logarithm of earnings before interest, depreciation and tax
Firm size	Measured by the natural logarithm of total assets
Enterprise Value	Measure of the total value of a company.
Firm Age	Number of years of incorporation

5.9.1. Descriptive statistics for independent, dependent and control variables

Descriptive data are presented for 20 banks drawn from the market capitalization during a five-year period (2017-2021). Descriptive statistics for dependent, independent, and control variables are shown in Table 4.2. It reflects that the selected Indian banks are efficiently using their equity investments to generate profits as the average value of ROE is 29.91. Moreover, the mean value of earning generated by the selected banks is 30140.80 Crore, which represents a strong profitability position of the selected Indian banks. The mean value of firm’s size is 660450.0 which means that the bank is having a adequate amount of current assets. Indian banks are reported regarding sustainability in their annual reports which leads to transparency of information.

Table 5.2: Descriptive Statistics

Variables	Unit of Measurement	N	Mean	Standard Deviation
Sustainability Reporting Score	Disclosure Percentage	100	388.00	99.47
ROE	Ratio	100	29.91	39.93
PBIDT	Rupees	100	30140.80	36012.95
EPS	Ratio	100	9.06	16.59

Firm size/Total Assets	Rupees	100	660450.0	780138.9
Enterprise Value	Rupees	100	664956.4	755658.3
Firm Age	Years	100	66.30	16.59

Source: Data Collection from Capitaline Database, Prowess Database and Annual Reports, Calculation done by E-Views12

Select the variable →Group Statistics→ Descriptive Statistics→Common Sample

5.2.2. Multiple regression

Examining whether or not the regression assumption holds is the first step in the process when using panel data. To study the influence of sustainability reporting on performance panel data regression has been applied after testing the following assumptions: -

5.2.2.1 Stationarity test- panel unit root

Augmented dickey fuller test is applied to check for the assumption of unit root. The Unit Root Test provides you with a tool to test if a series is non-stationary. More specifically, it performs an Augmented Dickey-Fuller (ADF) test of the null hypothesis that a time series has a unit root. A p-value close to 1 indicates that there is likely a unit root. If there is a unit root, the series is not stationary. The results of panel unit root are reported in Table 5.3.

ADF test is conducted with the following assumptions:

Null Hypothesis (HO): Series is non-stationary, or series has a unit root.

Alternate Hypothesis(HA): Series is stationary, or series has no unit root.

Table 5.3: Result of Augmented Dicky Fuller Unit Root Test

Variables	**ADF (Augmented Dicky Fuller) Panel Unit Root Test**	
	Augmented Dicky Fuller Fisher Chi square**	
	Level Difference	
	t-Statistics	**p-value**
Sustainability Reporting Score	0.000	0.0000*
ROE	80.508	0.0002*
PBIDT	78.570	0.0003*
Firm size	83.643	0.0001*
Market cap	113.45	0.0000*
Firm Age	6.2	0.0000*

*Null Hypothesis: Unit Root, *Test values are significant at 0.01 level.*

*(**Source:** Researchers' calculations)*

Looking at the values of the table it can be inferred that the p-value for the variables sustainability reporting score, ROE, PBIDT, firm age, market cap, firm size is statistically significant. Considering that the p-value is less than 0.05, we accept the alternate hypothesis that there is no unit root in the variables and that the data is stationary. To further ensure the validity of the findings, a group unit root test was conducted, taking into account the values presented in Table 5.4 from the Levin, Lin, and Chu, Im, Pesaran, and Shin, ADF-Fisher, and PP-Fisher tests.

Table 5.4: Result of Group Unit Root Test

Group Unit Root Summary		
SERIES: FIRM_SIZE, FIRM_AGE, MARKET CAP, SUSTAINABILITY SCORE, ROE, PBIDT		
Method	**t-Statistic**	**p-value**
Levin, Lin and Chu t*	-4.29556	0.0000*
Im, Pesaran and Shin W-stat	-6.09147	0.0000*
ADF - Fisher Chi-square	72.5192	0.0000*
PP - Fisher Chi-square	77.9235	0.0000*

*Null Hypothesis:Unit Root, * Test values are significant at 0.01 level, ** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.*

(Source: Researchers' calculations)

The results of group unit root also accept alternative hypothesis, as the p- value for all the four methods mentioned in the Table 5.4 is statistically significant. It can be concluded that the data is stationary, because the results of both, individual unit and group unit root test confirms the non- existence of unit root. The group unit root test yielded a significant result for all variables (p-value 0.05). In other words, the null hypothesis is rejected at a 1% level of significance. Because both the individual and group unit root tests support the alternative hypothesis, it can be inferred that the generated series is stationary.

5.2.2.2 Multi –collinearity test

In this case, we examined the model to see whether there was any connection between the independent variable and the control variables. VIF and tolerance values have been calculated to test for multi-collinearity. Tabulated below is the collected data. There is no evidence of multi-collinearity in the data since the VIF values for the independent and control variables are less than 4. This is more evidence that there is no association between the variables since the tolerance values are also higher than the threshold value of 0.20.Multi–collinearity test is conducted with the following assumptions:

H0: There exist No-collinearity

H1: There exist collinearity

Table 5.5: Result of Multi-collinearity Test

Variables	Coefficient Variance	Centered VIF	Tolerance	Uncentered VIF
Total score	0.195225	1.9852	0.5098	605.3705
Firm Size	-0.000169	1.7541	0.4982	109.5801
Firm age	0.001017	1.4713	0.7513	2.784470
Firm Value	0.000229	1.3511	0.3453	153.8640

(***Source:*** *Researchers' calculations*)

5.2.2.3. Heteroscedasticity test

The next assumption is to check whether the data is homoscedastic or heteroscedastic. The error variance should be equal which means that the data should be homoscedastic. It has been checked by applying"Heteroscedasticity Breusch-Pagan test (Breusch and Pagan, 1979). The presence of heteroscedasticity means that the data is not suitable. It has been further checked by applying"Heteroscedasticity Breusch-Pagan test. The result of the same has been produced using E-views 12 in Table 5.6. Heteroscedasticity test is conducted with the following assumptions:

H0: The error variances are equal. H1:

The error variances are not equal.

Table 5.6: Result of Heteroscedasticity Test through Breusch Pagan

Heteroscedasticity Test: Breusch-Pagan			
F-statistic	2.32281	Prob. F(2.97)	0.1224
Obs*R-squared	2.29951	Prob. Chi-Square(2)	0.1218
Scaled explained SS	1.71670	Prob. Chi-Square(2)	0.1102

Source: Researchers' calculations

Table 5.6 shows that the (p-value = 0.1218) that corresponds to Chi-Square test statistics of Observed R-square is greater than 0.05, which depict data is "Heteroscedastic" that means the error variances are equal so, it leads to acceptance of null hypothesis.

5.2.2.4. Normality test

Jarque-Bera test applied to test the normality assumption and the results of the same are depicted through Figure 5.2. If, p-value is greater than 0.05, then the data considered as normally distributed and Normality"has been tested with the following"hypothesis:

H0: Data is Normally distributed

H1: Data is not normally distributed

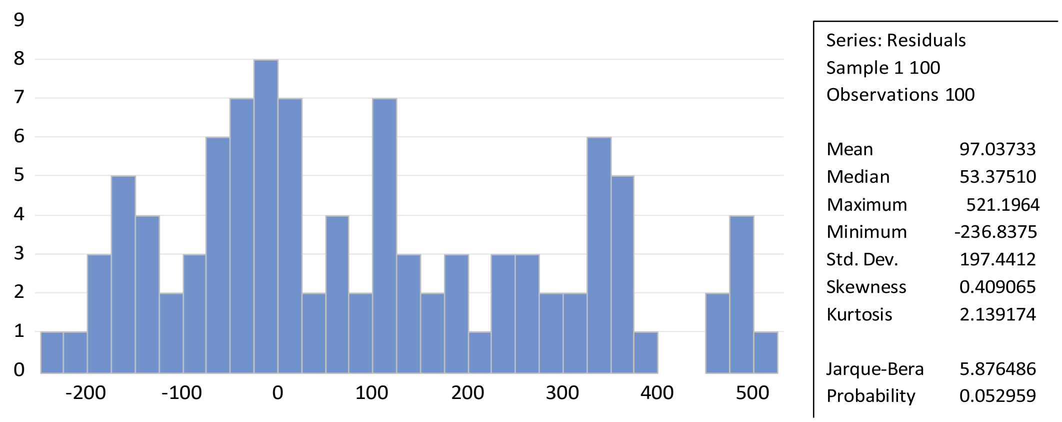


Figure 5.1: Histogram for Normality Test

***(Source**- Researcher's Calculations)*

The proposed model shows the p-value which is greater than 5%, it means data is normally distributed, hence the null hypothesis is accepted. Moreover, histogram also doesn't confirm the data forming normal distribution instead it reflected positively skewed, which can be confirmed from the skewness value (0.409065).

5.2.2.5. Autocorrelation test

Time series data always face the problem of auto-correlation. Thus, the model is tested for the final assumption i.e., the presence of auto-correlation. Breusch-Godfrey Serial Correlation LM Test has been initiated through E-views-12 to check the presence of auto-correlation where lag of 2 has been included for the same.

Table 5.7: Result of Autocorrelation Test through Breusch Godfrey

Breusch Godfrey Serial Correlation LM Test					
	ROE	**PBIDT**		**ROE**	**PBIDT**
F Statistics	3.775	2.477	Prob.F(2,164)	0.305	0.423
Obs*R-squared	7.153	7.153	Prob.Chi-Square2	0.410	0.436
R-squared	0.239	0.440	Mean dependant Var	1.70E	1.87E
Adjusted R-squared	0.234	0.436	S.D.dependent var	0.592	0.4563
S.E. of regression	10.622	12.645	Akaike info criterion	4.309	23.164
Sum squared resid	13133	2.56E+0	Schwarz info criterion	4.355	23.202
Log Liklihood	445.6	-1357.4	Hannan-Quinn criter	4.320	23.183
F statistics	45.822	114.38	Durbin-watson stat	1.998	2.041

Table 5.7 reflects the result generated where profitability measures by ROE and PBIDT is taken as dependent variable the p-value corresponding to observed R-square is (p-value = 0.3002 and 0.414) which is > 0.05 thus, null hypothesis acceptance. Further the values corresponding to Durbin Watson also close to 2 depicits that the model is free from the auto-correlation.

5.2.2.6. Panel data regression

All the assumption was found to be satisfactory for model (1), to be finally tested for the impact of independent variable on dependent variables. Regression analysis has been performed in two parts. The first part has consider testing the independent variables with ROE and the second one with dependent variable PBIDT. (Maurya & Singh, 2022, Sulbahri & Fuadah, 2022).

a) ROE dependent variable

Panel data with ROE as dependent variables is first tested through pooled OLS model then through fixed effect model and finally through random effect model. More specifically, the optimal model, between OLS and fixed effect, has been selected using the redundant fixed effects test by following hypothesis:

H0: Pooled OLS model is appropriate

H1: Fixed effect model is appropriate

Redundant Fixed Effect Test

Purpose of this is to choose the better model among the pooled OLS or fixed model, redundant fixed effect test was taken into “consideration. Null hypothesis will be rejected when the p-value of the chi-square statistic are < 5%(10%).”

To choose among fixed and pooled OLS model the following hypothesis was set.

H0: Pooled OLS model is appropriate

H1: Fixed effect model is appropriate

The findings of the redundant fixed effect test that are shown in Table 5.8 lend credence to the idea that the fixed effect model is the one that should be used. The acceptance of the alternative hypothesis may be reflected by looking at the cross-section F and Chi- square values, both are statistically significant (p-value = 0.000).

“Table 5.8: Result of Redundant Fixed Effect Test”

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	**Statistic**	**d.f.**	**Prob.**
Cross section F	9.88	19,79	0.0000
Cross-section Chi- square	146.370	19	0.0000

Source: *Researchers’ calculations*

Cross-section“F and the cross-section Chi-square values are statistically significant (p-value = 0.0000) so the alternative hypothesis is accepted. The fixed effect model is the more suitable between the fixed effect model and the pooled OLS model. Further to decide the final acceptable model to test the regression equation, fixed effect model has been compared with the random effect model. Hausman test has been applied to check the most appropriate model. The results of Hausman test have been presented in Table 5.9.”

Table 5.9: Result of Hausman Test

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross section Random	12.550	2	0.035

Source: *Researchers’ calculations*

The results of Hausman test have been tested for the following mentioned hypothesis:

“H0: Random effect model is appropriate

H1: Fixed effect model is appropriate”

“Hausman test results inferred that the null hypothesis is accepted, p-value >0.05 level (p-value = 1.0000). Considering the results of Hausman test, fixed effect fixed model has been considered as the final model which has been further applied to examine the effect of independent and control variables on dependent variable.”

Table 5.10: Result of Panel Data Regression (ROE)

Variables/ Items	**Pooled OLS**			**Random Effect**			**Fixed Effect**		
	Dependent Variable- ROE			**Dependent Variable -ROE**			**Dependent Variable - ROE**		
	Coefficient	t-Statistic	Prob	Coefficient	t-Statistic	Prob	Coefficient	t-Statistic	Prob
Constant	5.101259	-0.377634	0.0706**	22.04977	-0.768585	0.04443**	1.44031	0.584111	0.050**
SRS	0.011177	0.391778	0.0696**	0.070745	1.226023	0.02236**	0.01916	1.103718	0.0227**
Firm Age	0.011127	0.179605	0.0857**	0.011579	0.088195	0.09299**	0.00802	0.398737	0.6951**
Firm Size	8.21E-05	-5.101862	0.0000***	3.53E-05	-2.151503	0.0343**	0.003455	0.547218	0.0150**
Market cap	0.000136	7.732150	0.0000***	7.57E-05	4.170561	0.0001***	0.044126	6.322525	0.0360**
R-Square	0.876716			0.630585			0.976386		
AdjustedR-Square	0.870914			0.613201			0.974054		
F-statistic	151.1161			36.27339			418.6458		
Prob(F-statistic)	0.000000			0.000000			0.000000		
Panel Observations	**100**			**100**			**100**		
Note: Significant at * 0.10, ** 0.05, * 0.01 level (two-tailed)**									

(Source: *Researchers' calculations)*

“Considering the results of Hausman test, fixed effect model has been considered as the final model which has been further applied to examine the effect of independent and control variables on dependent variable. The overall significance of the model is supported by the fact that the p-value is less than 0.05 (p-value= 0.050), as shown by the findings of the random effect model. Looking at the value of adjusted R Square i.e., 0.97, it can be further concluded that 97% of variation in performance (ROE) is accounted for, by the model taking into account, the independent and control variables. It shows SRS have a significant relation with performance. The value of this suggest that the performance increases with the increase in the disclosures mandate by the regulatory bodies. At the 5% level of significance, the variable is found to indicate that disclosures in the annual reports of select Indian banks in terms of sustainability disclosures led to rise in the market value. With respect to the control variables, the coefficient value of firm size is (1.44031), which is positive and statistically significant at the 1% level (p- value =0.050**;<.0001). Thus, it indicates that the firm is experiencing growth and Investors perceive large firm to be wealth generators. On the other hand, the ROE proxy for Market Cap shows a positive (0.044126) and statistically significant (p-value 0.0360 ;

<0.001) relationship with market cap, indicating that Indian enterprises company is worth as positively determined. Further the association between the age of the firm and performance was found to be insignificant (p-value = 0.6951 > 0.05). This depict that performance of the firm is not impacted by the number of years of commencement of business. Sustainability reporting rewarded with enhanced performance valuation. Investors believe the firm to be more transparent whether disclosing sustainability practices as an opportunity or as a threat. Moreover, they also believe that the firm is adhering to the regulatory requirements and fosters customer loyalty by promoting transparency.”

b) PBIDT dependent variable

Further profitability in model 1.2 has been proxied using, earnings of the banks. Initially the confirmation regarding the appropriateness of model is done using redundant fixed effect test.

Redundant Fixed Effect Test

The purpose of this is to "choose the better model amongest the pooled OLS or fixed model, redundant fixed effect test was taken into consideration. If the p-value of the chi- square statistic are less than 5% (10%), then the null hypothesis is rejected. To choose among fixed and pooled OLS model the following hypothesis:"

H0: Pooled OLS model is appropriate

H1: Fixed effect model is appropriate

Table 5.11: Result of Redundant Fixed Effect Test

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	**Statistic**	**d.f.**	**Prob.**
Cross section F	11.88	19,79	0.000
Cross-section Chi-square	126.37	19	0.000

***(Source:** Researchers' calculations)*

Hausman Test

In this test fixed effect model has been compared with the random effect model. Hausman test has been applied to check the most suitable model. Examines the presence of endogeneity in the panel model. If p value is less than 0.05 we reject null hypothesis. The results of Hausman test have been tested for the following mentioned hypothesis:

H0: Random effect model is appropriate

H1: Fixed effect model is appropriate

Table 5.12: Result of Hausman Test

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross section Random	10.650976	2	0.0049

***(Source:** Researchers' calculations)*

From the results of the Hausman test, it can be inferred that the null hypothesis is accepted because p-value is less than 0.05 level (p-value = 0.0049). Considering the results of Hausman test, Fixed effect model has been considered as the final model which has been further applied to examine the effect of independent and control variables on dependent variable.

Table 5.13: Result of Panel Data Regression (PBIDT)

Variables/ Items	Pooled OLS			Random Effect			Fixed Effect		
	Dependent Variable- EBIDT			**Dependent Variable -EBIDT**			**Dependent Variable - EBIDT**		
	Coefficient	t-Statistic	Prob	Coefficient	t-Statistic	Prob	Coefficient	t-Statistic	Prob
Constant	24634.32	-1.826793	0.050*	1334.532	0.553019	0.5817*	19.4403	0.584111	0.050*
SRS	141.1730	4.191996	0.0001**	21.19922	1.391515	0.0167**	9.191664	1.103718	0.0127**
Firm Age	9.044047	0.330319	0.7420*	-21.81725	-0.928099	0.3560*	10.00802	0.398737	0.6951*
Firm Size	0.006311	0.887951	0.03771**	0.006619	0.892906	0.03748***	0.003455	0.547218	0.0150**
Market Cap	0.041154	5.308731	0.0000***	0.041610	5.275943	0.0001***	0.044126	6.322525	0.0001***
R-Square	0.970451			0.957871			0.976386		
AdjustedR-Square	0.969061			0.956401			0.974054		
F-statistic	697.8999			651.7816			418.6458		
Prob(F-statistic)	0.000000			0.000000			0.000000		
Panel Observations	100			100			100		
Note:Significant at * 0.10, ** 0.05, *** 0.01 level (two-tailed)									

Considering the results of Hausman test, fixed effect model has been considered as the final model which has been further applied to examine the effect of independent and control variables on dependent variable. The overall model significance is supported by the fact that the p-value is less than 0.05 (p-value= 0.050), as shown by the findings of the random effect model. Looking at the value of adjusted R Square i.e., 0.97, it can be further concluded that 97% of variation in performance (PBIDT) is accounted for, by the model taking into account, the independent and control variables. Moving on to the independent variable i.e., SRS, the coefficient and p value revels SRS (19.4403) and significant (p-value = 0.0127, < 0.05) relation with Tobin-Q. It shows SRS have a significant relations with performance. The value of this suggest that the performance increases with the increase in the disclosures mandate by regulatory bodies. At the 5% level of significance, the variable is found to indicate that disclosures in the annual reports of select Indian banks in terms of sustainability disclosures led to rise in the market value. With respect to the control variables, the coefficient value of firm size is (0.003455), which is positive and statistically significant at the 1% level (p-value =0.0150**;<.0001). Thus, it indicate that the firm is experiencing growth and Investors perceive large firm to be wealth generators. On the other hand, the PBIDT proxy for Market Cap shows a positive (0.044126) and statistically significant (p-value 0.0001 ; <0.001) relationship with market cap, indicating that Indian enterprises company is worth as positively determined. Further the association between the age of the firm and performance was found to be insignificant (p-value = 0.6951* > 0.05) This depict that performance of the firm is not impacted by the number of years of commencement of business. Sustainability reporting rewarded with enhanced performance valuation. Investors believe the firm to be more transparent whether disclosing sustainability practices as an opportunity or as a threat. Moreover, they also believe that the firm is adhering to the regulatory requirements and further it fosters customer loyalty by promoting transparency.

5.10. CONCLUSION

This section of the research, reports on the results related to the second objective. The research findings illustrate the impact of sustainability disclosures variables on performance. The chapter elucidates the variables of sustainability disclosure of Indian banks that are related to performance. This chapter focuses on how sustainability disclosures relate to two different accounting metrics for performance. Sustainability disclosures have an effect on the profitability metrics (ROE and PBIDT) of the selected Indian banks. So, Indian banks can increase their profitability by enhancement in sustainability disclosure in the disclosure vehicle.

Chapter-6

CHAPTER-6

TO EXAMINE THE EFFECTS OF SUSTAINABILITY REPORTING PRACTICES ON FIRM VALUE OF SELECT INDIAN BANKS.

SUSTAINABILITY REPORTING PRACTICES AND FIRM VALUE

The effects of sustainability disclosure on the market value of selected Indian firms over the course of five years (2017-2021) are the focus of this chapter. It also establishes the association between the variables of firm value and sustainability disclosures. The chapter starts with introduced of objective. It also emphasizes the framework for gaining access to the link among sustainability disclosures and firm value along with details of dependent, independent and control variables. The next section discusses hypothesis testing using a regression model, as well as findings and conclusion.

6.3. INTRODUCTION

The necessity for sustainability reporting has become increasingly evident in recent years, as the growing recognition among stakeholders of environmental and social issues, prompting heightened demands for transparency and accountability from corporations regarding their sustainability practices. This heightened awareness stems from concerns over environmental degradation, social inequality, and ethical business conduct, compelling stakeholders such as investors, consumers, employees, and regulatory bodies to seek greater disclosure of companies' environmental, social, and governance (ESG) performance (Adams, C. A., 2002). Sustainability reporting have the pivotal role in risk management and reputation preservation. Corporations are increasingly acknowledging the potential risks associated with unsustainable practices, including supply chain disruptions, regulatory penalties, and reputational harm. Through sustainability reporting, organizations can identify and mitigate these risks, thereby fortifying their long-term viability and upholding stakeholder confidence (Eccles and Krzus, 2010). Companies that neglect to report on their sustainability performance risk alienating investment opportunities from funds that prioritize socially responsible investing (Marquis and Qian, 2014). In summary, sustainability reporting has emerged as a crucial mechanism for organizations to address stakeholder expectations, manage risks, adhere to regulations, and attract investment. By transparently communicating their sustainability endeavors and impacts, corporations can enhance their reputation, cultivate stakeholder trust, and contribute to a more sustainable future.

6.4. FRAMEWORK REGARDING RISK REPORTING AND FIRM VALUE

Sustainability reporting practices have increasingly been recognized as significant drivers of firm value. Their study found that companies with strong sustainability performance, as indicated by comprehensive sustainability reporting practices, tend to exhibit higher market valuations and financial performance over time and have positive correlation between sustainability disclosure and firm value (Eccles et al., 2014). Sustainability reporting allows companies to communicate their environmental, social, and governance (ESG) performance to stakeholders. Companies with robust sustainability reporting practices tend to enjoy a better corporate reputation, which can lead to increased investor confidence, customer loyalty, and stakeholder trust and this enhanced reputation contributes to higher firm value (Dhaliwal et al., 2011). Companies that disclose their sustainability performance are better equipped to address environmental and social risks, resulting in reduced exposure to costly incidents and liabilities. By proactively managing risks, companies can safeguard their financial performance and enhance their attractiveness to investors, thereby increasing firm value (Clarkson et al., 2008). Sustainability reporting can enhance companies access to capital. Firms with transparent and credible sustainability reporting practices are more likely to attract investment from socially responsible investors. Access to capital from these sources not only improves liquidity but also reduces the cost of capital, leading to higher firm value (Flammer, C, 2015). and (Khan et al., 2013). Sustainability reporting allows companies to differentiate themselves in the marketplace by showcasing their sustainability initiatives and performance. Effectively communication of sustainability efforts can gain a competitive advantage, attract environmentally conscious consumers, and command premium prices for their products or services. This market differentiation contributes to increased market share and profitability, ultimately enhancing firm value (Ioannou and Serafeim, 2012). Sustainability reporting fosters long-term value creation by encouraging companies to adopt sustainable business practices which creates positive relationship between sustainability performance and long-term financial performance. Companies that integrate sustainability into their business strategies are better positioned to adapt to changing market dynamics, innovate, and capitalize on emerging opportunities, leading to sustained growth and higher firm value over time (Grewal et al., 2019).In conclusion, companies that prioritize transparency, accountability, and sustainability performance are likely to enjoy enhanced corporate reputation, improved risk management, access to capital, market differentiation, and long-term value creation, all of which contribute to higher firm value. (Maurya, & Singh, 2022).

6.7 INDEPENDENT AND CONTROL VARIABLES

Sustainability disclosures have been taken as one of the independent variables. It is vital to account for the influence of company-specific factors as seen in previous research when investigating the connection between sustainability disclosure and firm value. Variables such as firm age, firm risk, and company size have been included as controls in the analysis. Sustainability disclosure practices have been taken as one of the independent variables and variables such as firm age, firm size, and market cap have been included as controls in the analysis (Maurya & Singh, 2022, Gutiérrez-Ponce & Wibowo, 2023). The focal independent variable in the test is "Sustainability Report." Sustain-ability reports are manifestations of the TBL approach to sustainability (Wheeler & Elkington, 2001).

6.8 DEPENDENT VARIABLE

The firm value of selected Indian banks has been calculated through the most effective and efficient market-based measure, i.e., Tobin-Q. In prior risk disclosure studies, the use of Tobin's Q is popular and effective (Buallay et al., 2021).

6.9 HYPOTHESIS TESTING

As per literature review, it has been identified that there is dearth of studies focusing on sustainability reporting and firm value in Indian context. With respect to this, the study analysis's the influence of sustainability reporting disclosures, creating an impact on the valuation of the firm using multiple regressions. Consistent with the existing research, this research has concentrated on how a independent factor affect total value of the company (firm size, firm cap. and firm age). Panel data techniques have been applied due to the presence of time series and cross sectional data to study the outcome of the proposed model (3) estimated as follows

Firm Value = f (Sustainability Disclosure Reporting, Control Variables (3)

TOBINQit = α + β1 + β2Sustainability reporting+ β3Firm sizeit +β4Enterprise valueit + β5Firm ageit + μit (3)

Where, α = Constant

β = Coefficient of independent variable

μit = Error term ofith Company related to th term

Where the *i* refer to firm and *t* refers to year

Table.6.1 Description of Variables

Sustainability Reporting Score	Measured by percentage of disclosure scores by creating disclosure index
Tobin-Q	Market value of equity plus book value of total liabilities divided by total book value of assets.
Firm size	Measured by the natural logarithm of total assets
Market Cap.	Total value of a publicly traded company.
Firm Age	Number of years of incorporation

6.9.1. Descriptive statistics for independent, dependent and control variables

Descriptive data are presented for twenty selected Indian Banks from the moneycontrol, over the course of five fiscal years (2017-2021). For this purpose, mean value and standard deviation have been calculated. The variables' descriptive statistics are shown in below table. The data suggest that Tobin- Q has a mean value of 1.70, a minimum value of 0.137, a maximum value of 6.01, and a standard deviation of 1.555. So, it can conclude that the banks considered for the study has sound valuation as the market value of the Indian firms is higher than the book value.

Table 6.2: Descriptive Statistics of Selected Banks

Variables	**Unit of Measurement**	**N**	**Mean**	**Max**	**Minimum**	**Std. Dev**
Sustainability Reporting Score	Disclosure Percentage	100	388	555	265	99.47
Firm size	Rupees	100	66045	454383	30236	780139
Tobin-Q	Ratio	100	1.70	6.01	0.137	1.555
Market Cap.	Rupees	100	664956.4	4080704.	0.00000	755658.3
Firm Age	Number of Years	100	66.30	127	2.00	41.26

***(Source:** Data Collection from Capitaline Database and Annual Reports, Calculation done by E-Views)*

The results are also close to the mean value calculated by (Charunmathi and Ramesh, 2020). Tobin-Q ratio greater than 1 depicts high growth potential and better investment opportunities and also indicates that the management has performed well with the assets under its command (Tobin and Brainard, 1968). The average value of company size is Rs.66045 Crore, the highest value is Rs.454383 Crore, and the lowest value is Rs.30236 Crore for the control variables. Taking into consideration the next control variable i.e., the firm age, the selected firms have a maximum firm age of 127 years, a minimum age of 66.30 year, and a mean of 2.00 years with standard deviation value of 41.26 respectively.

6.9.2. Multiple regression

Multiple regression analysis has been used for the purpose of determining how much an organizations worth is affected by the sustainability disclosure that are followed by selected banks. The research use both cross-sectional and time-series methods to collect data, which ultimately results in the generation of panel data. Panel data regression has been utilized in order to assess the influence of sustainability disclosure on the value of the business. This was done after evaluating the following assumptions:

6.9.2.1 Stationarity test- panel unit root

It is necessary to carry out a panel unit root test in order to determine whether or not the variables are stationary in order to validate the presumption that the data are stationary. Stationarity test used in two ways to check the unit root in series first in individual and other is group unit root tests Augmented Dickey-Fuller (ADF) test is applied to check the assumptions of stationarity test- panel unit root.

ADF test is conducted with the following assumptions:

Null Hypothesis (HO): Series is non-stationary, or series has a unit root.

Alternate Hypothesis (HA): Series is stationary, or series has no unit root.

Augmented dickey fuller test is applied to check for the assumption of unit root. The Unit Root Test provides you with a tool to test if a series is non-stationary. More specifically, it performs an Augmented Dickey-Fuller (ADF) test of the null hypothesis that a time series has a unit root. A p-value close to 1 indicates that there is likely a unit root. If there is a unit root, the series is not stationary. A p-value closer to 0 means that we can likely accept the assumption that there is a no unit root and the series is stationary. So, the values under this table are closer to 0 so the results highlighted the series is stationary (Not having variations) and we accept alternative hypothesis. When p value is closer to 0 so the series is stationarity as data not have the variations so data have no unit root and p value is closer to 1 indicates the series is non -stationarity as data have the variations so data have unit root. If the p-value is small (below 0.05), we reject the null hypothesis, suggesting that the series is stationary. So, results highlighted that the series have no unit root as values are closer to 0 so, it accepts the alternative hypothesis.

Table: 6.3: Result of Augmented Dicky Fuller Unit Root Test

Variables	**ADF (Augmented Dicky Fuller) Panel Unit Root Test**	
	Augmented Dicky Fuller Fisher Chi square**	
	Level Difference	
	t-Statistics	**p-value**
Sustainability Reporting Score	0.000	0.0000*
Tobin-Q	6. 06	0.0002*
Firm size	15.63	0.0001*
Market Cap	123.4	0.0000*
Firm Age	6.2	0.0000*

*Null Hypothesis: Unit Root, *Test values are significant at 0.01 level.*

(Source: Researchers' calculations)

Panel unit root has been tested for the following hypothesis i.e.

H1: The variables are stationary.

From the Table 6.3 it can be inferred that the variables sustainability reporting score, firm size, firm value, firm age and Tobin-Q are stationary at the level difference as the p- value for all the variables are less than 0.05. This signifies that the alternative hypothesis is accepted and the null hypothesis is rejected at the 1% significance level for these variables. Therefore, it follows that the variables do not have a unit root, a finding that also validates the hypothesis test for panel regression. All of the variables in Table7.3 have been further examined for a group panel unit root, taking into account the values reported by Levin and Lin and Chu and Im and Pesaran and Shin and the ADF and PP for Fisher. The group unit root test yielded a significant result for all variables (p-value 0.05). In other words, the null hypothesis is rejected at a 1% level of significance. Because both the individual and group unit root tests support the alternative hypothesis, it can be inferred that the generated series is stationary.

Table: 6.4: Result of Group Unit Root Test

Group Unit Root Summary		
SERIES: FIRM_SIZE, FIRM_AGE, MARKET CAP, SUSTAINABILITY SCORE, TO BIN-Q		
Method	**t-Statistic**	**p-value**
Levin, Lin and Chu t*	-5.44285	0.0000*
Im, Pesaran and Shin W-stat	-6.63301	0.0000*
ADF - Fisher Chi-square	81.9888	0.0000*
PP - Fisher Chi-square	89.0026	0.0000*

*Null Hypothesis: Unit Root, * Test values are significant at 0.01 level, ** Probabilities for Fisher tests are computed using an asymptotic Chi -square distribution. All other tests assume asymptotic normality.*

Inferring from Table 6.4, it seems that the group unit root test yielded a significant result for all variables (p-value 0.05). In other words, the null hypothesis is rejected at a 1% level of significance. Because both the individual and group unit root tests support the alternative hypothesis, it can be inferred that the generated series is stationary. Further the test has been performed to check the existence of multicollinearity among the independent variables.

6.9.2.2 Multi –collinearity test

It determines the individual effects of predictor variable on outcome variable. The existence of this is a major concern in the regression analysis. Collineraity shows the association between two predictors variables. If it can found within model so its existence leads to unreliable estimates. It can be measure by VIF and tolerance value such that a variance inflation factor of 1 or 2 shows essentially no collinearity and a measure of 20 or higher shows extreme collinearity and tolerance value is more than.20 show no collinearity and vice versa. So therefore, the suggested regression model's do not suffer from multi-collinearity.

H0: There exist No-collinearity

H1: There exist collinearity

Next, before testing for regression, the variables have been tested to determine the existence relationship within the variable. VIF and tolerance values have been calculated to test for the presence of correlation between the variable. The values of VIF and tolerance are reported in Table 6.5. The result of Variance Inflation Factors Test was produced using E-views 12.

Table 6.5: Result of Multi-collinearity Test

Variables	Coefficient Variance	Centered VIF	Tolerance	Uncentered VIF
Total score	3.93E-07	1.2706	0.6098	4.979385
Firm Size	1.98E-12	1.7294	0.5982	170.9948
Firm age	8.33E-06	1.6713	0.6513	3.556118
Firm Value	3.49E-12	1.9504	0.6453	264.1851

The findings show that the VIF is less than 4 for all independent variables and that the tolerance value is more than 0.20 but has not yet exceeded the threshold value. Therefore, the suggested regression model's independent variables do not suffer from multi-collinearity. The findings show that the VIF is less than 4 for all variable and that the tolerance value is more than 0.20 but has not yet exceeded the threshold value. Therefore, the suggested regression model's do not suffer from multi-collinearity.

6.9.2.3 Heteroscedasticity test

The most widely used test for heteroscedasticity is the Breusch-Pagan test. The existence of heteroscedasticity is a major concern in panel data, if is present it means that the data is not suitable. The result of the same has been produced using E-views 12.

The existence of heteroscedasticity is a major concern in panel data, if is present it means that the data is not suitable. The results obtained through significant tests would be inaccurate if the presence of heteroscedasticity exist. Unequal variances (heteroscedasticity) can lead to false and lead to incorrect conclusions. Equal variances across samples is called homogeneity of variance. Heteroscedasticity test is used to see that how far an error term deviates from regression line. It has been checked by applying Heteroscedasticity Breusch-Pagan test (Breusch and Pagan, 1979). The result of the same has been produced using E-views 12 in following table:

Table 6.6: Result of Heteroscedasticity Test through Breusch Pagan

Heteroscedasticity Test: Breusch-Pagan			
F-statistic	0.35432	Prob. F(6,1166)	0.9068
Obs*R-squared	2.429	**Prob. Chi-Square(6)**	**0.8436**
Scaled explained SS	47.196	Prob. Chi-Square(6)	0.3135
R-squared	0.0316	Mean dependent var	1.1169
Adjusted R-squared	0.213	S.D. dependent var	2.5743
S.E. of regression	44.68	Akaike info criterion	4.426
Sum squared resid	377.29	Schwarz criterion	4.621
Log likelihood	-192.19	Hannan-Quinn criter.	4.505
F-statistic	0.0001	Durbin-Watson stat	0.8105
Prob(F-statistic)		0.9068	

(Source: Researchers' calculations)

Heteroscedasticity has been tested with the following hypothesis i.e.

H0: The error variances are equal (Heteroscedasticity is not present)

H1: The error variances are not equal (Heteroscedasticity is present)

The results presented in Table above shows that the (p-value = 0.8436) that corresponds to Chi-Square test statistics of Observed R-square is greater than 0.05, which means that it is not significant at 5% significance level. Therefore, the null hypothesis is accepted i.e., there is homoscedasticity meaning by that the error variances are equal.

6.5.3.4. Normality test

Jarque - Bera test has been applied to test the assumption of normality for the proposed model and the results of the same are depicted in Figure 6.1

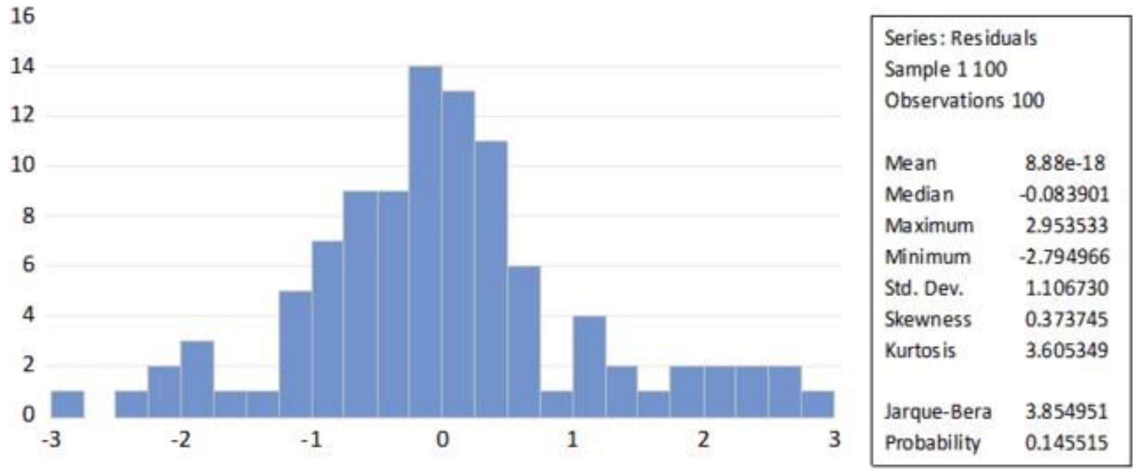
Normality has been tested with the following hypothesis i.e.

H0: Data is Normally distributed

H1: The data is not normally distributed

Jarque- Bera test has been applied to test the assumption of normality for the proposed model and the results of the same are depicted in Figure 6.1. Jarque- Bera test has been applied to test the assumption of normality for the proposed model and the results of the same are depicted in Figure.6.1

Figure 6.1: Histogram for Normality Test



(***Source:*** *Researchers' calculations*)

Normality has been tested with the following hypothesis i.e.

H0: Data is Normally distributed

H1: The data is not normally distributed

If the probability value $p \geq 0.05$, then the assumption of normality is fulfilled and if probability $p < 0,05$, then the assumption of normality is not fulfilled. The value of $p \geq 0.05$, null hypothesis accepted and data are called as normally distributed.

By considering the values on the ground that the sample has the skewness and kurtosis matching a normal distribution as p-value is less than 0.05. The null hypothesis regarding normality is accepted. (Hair et al. and Bryne, 2010) argued that data is considered to be normal if skewness is between -2 to +2 and kurtosis is between -7 to +7. The histogram also does confirm the data forming normal distribution as it reflected positively skewed, which can be confirmed from the skewness value which is 1.645310 and kurtosis value is 6.052211. So, P> 0.05, null hypothesis accepted and data are called as normally distributed.

6.5.3.5. Auto correlation test

Autocorrelation can also be referred to as lagged and serial correlation, as it measures the relationships between a variables current value and past value. It shows degree of correlation between same variables values in two successive time intervals. It measures how the lagged version of the value of a variable is related to the original version of it in a time series. Lastly, this study has also checked, whether there is auto correlation. Generally, the problem of auto correlation arises in case of time series data. It can be checked through Breush-Godfrey serial correlation LM test or Durbin Watson test.

Autocorrelation can also be referred to as lagged and serial correlation, as it measures the relationships between a variables current value and past value. It show degree of correlation between same variables values in two successive time intervals. It measures how the lagged version of the value of a variable is related to the original version of it in a time series. Lastly, this study has also checked, whether there is auto correlation. Generally, the problem of auto correlation arises in case of time series data. It can be checked through Breush-Godfrey serial correlation LM test or Durbin Watson test. The present study has applied Breush-Godfrey serial correlation LM test to check auto correlation. The results of the same have been presented through Table 6.7.

Table 6.7: Result of Auto correlation Test through Breusch Godfrey

Breusch-Godfrey Serial Correlation LM Test			
F-statistic	44.1871	Prob. F(2, 96)	0.0000
Obs*R-squared	47.9320	**Prob. Chi-Square(2)**	**0.0000**
R-squared	0.47932	Mean dependent var	5.33E-17
Adjusted R-squared	0.46304	S.D. dependent var	1.32496
S.E. of regression	0.97089	Akaike info criterion	2.81797
Sum squared resid	90.492	Schwarz criterion	2.92218
Log likelihood	-136.89	Hannan-Quinn criter.	2.86014
F-statistic	29.4580	Durbin-Watson stat	1.99328
Prob(F-statistic)		0.0000	

***Source**: Researchers' calculations*

Auto correlation has been tested with the following hypothesis i.e.

H0: There exist no auto-correlation

H1: There exist auto-correlation

Values of 2 or nearly 2 for the Durbin Watson statistic indicate no auto correlation, whereas values of 0 and 4 indicate positive and negative auto correlation, respectively (Durbin and Watson, 1971). The value is quite near to 2 in the preceding table. This suggests that the model does not include any auto correlation. In the above table, where firm value (Tobin-Q) is taken as dependent variable the p value corresponding to observed R-square is (p-value = 0.0000) which is lessor than 0.05. Thus, resulting into acceptance of null hypothesis i.e., there is no auto correlation in the given data. Moreover, to make results more reliable the value of Durbin Watson is also taken into consideration. Values of 2 or nearly 2 for the Durbin Watson statistic indicate no auto correlation, whereas values of 0 and 4 indicate positive and negative auto correlation, respectively (Durbin and Watson, 1971). The value is quite near to 2 in the preceding table. This suggests that the model does not include any auto correlation.

6.5.3.6. Panel data regression

After conducting various tests for checking the assumptions which includes, unit root, multicollinearity, heteroskedasticity, normality and auto-correlation and to further check the accuracy of regression, multiple regressions has been applied to check the effect of independent and control variables on the dependent variable. The results have been depicted through Table 6.10.

Table 6.8: Result of Redundant Fixed Effect Test

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	**Statistic**	**d.f.**	**Prob.**

Cross section F	17.270	4,492	0.030
Cross-section Chi- square	106.37	4	0.000

(Source: Researchers' calculations)

Panel data considering Tobin-Q as dependent variable has been tested first with pooled OLS model. After pooled OLS model, fixed effect model was applied where all the cross sections were assumed to have their own intercept value. Finally, the data was tested through random effect model whereby all the cross sections have a common mean value of the intercept. The outputs of pooled OLS, fixed effect and random effect model have been presented in Table 6.10. To choose the better model amongest the pooled OLS or fixed model, redundant fixed effect test was taken into consideration. To choose among fixed and pooled OLS model the following hypothesis was set.

To choose among fixed and pooled OLS model the following hypothesis was set.

H0: Pooled OLS model is appropriate

H1: Fixed effect model is appropriate

We reject the null hypothesis and accept the alternative hypothesis because both the cross-section F and the cross-section Chi-square have values that are statistically significant (p-value = 0.0001). In light of this comparison between the fixed effect model and the pooled OLS model, it is clear that the fixed effect model is the more suitable of the two. Further to decide the final acceptable model to test the regression equation, fixed effect model has been compared with the random effect model. Hausman test has been applied to check the most suitable model. The results of Hausman test have been presented in Table 6.9.

Table 6.9: Result of Hausman Test

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross section Random	1.108	4	1.0000

(Source: *Researchers' calculations)*

The results of Hausman test have been tested for the following mentioned hypothesis:

H0: Random effect model is appropriate

H1: Fixed effect model is appropriate

From the results of the Hausman test, it can be inferred that the null hypothesis is accepted because p-value is greater than 0.05 level (p-value = 1.0000). Considering the results of Hausman test, random effect model has been considered as the final model which has been further applied to examine the effect of independent and control variables on dependent variable.

Result of Panel Data Regression

Table 6.10: Result of Panel Data Regression

Variables/ Items	Pooled OLS			Random Effect			Fixed Effect		
	DependentVariable- Tobin-Q			Dependent Variable Tobin-Q			Dependent Variable - Tobin-Q		
	Coefficient	t-Statistic	Prob	Coefficient	t-Statistic	Prob	Coefficient	t-Statistic	Prob
Constant	4.520837	5.401116	0.000***	5.685044	19.79761	0.000***	-7.903917	-0.600660	0.000***
SRS	0.003888	2.187155	0.0312**	0.070745	1.226023	0.0236**	-0.004604	-1.167211	0.0243**
Firm Size	4.60E-07	2.972796	0.0037**	0.011579	0.088195	0.0343**	0.019316	-2.272035	0.0232***
Firm age	0.023956	-6.266789	0.0000**	3.530	-2.151503	0.09299*	0.027960	-3.148773	0.0017**
Market Cap	6.33E-06	6.748959	0.0000**	7.575	4.170561	0.0001**	4.59E-06	2.391008	0.0169**
R-Square	0.65			0.63			0.62		
Adjusted R-Square	0.64			0.61			0.61		
F-statistic	45.679			36.27			36.14		
Prob(F-statistic)	0.000			0.000000			0.000000		
Panel Observations	100			100			100		
Note: Significant at * 0.10, ** 0.05, *** 0.01 level (two-tailed)									

Source: Researchers’ calculations

6.10 CONCLUSION

Thus, highly levered companies source capital from the market at high cost leading to decrease in the operating performance. Further the association between the valuation and age of the firm was found to be insignificant. This depict that valuation of the firm is not impacted by the number of years the stock has been traded in the exchange. Further, the firm value does not get impacted by weather the company has listed recently or has listed in past, confirming to the findings of other firm valuation studies (Al-iMaghzom iet al., 2016; Adawia iet al., 2021; Bravo, 2017; Charumathi and Ramesh, 2020). Using panel data covering the period 2017-2021 for selected Indian banks, this study applied the pooled regression, fixed effects and random effects models in an attempt to examine the effects of sustainability reporting practices on firm value of select Indian banks. Study revealed that the fixed effects model was the most appropriate model and that it was not suffering from serial correlation and cross-sectional dependence. Considering the results of Hausman test, random effect model has been considered as the final model which has been further applied to examine the effect of independent and control variables on dependent variable.

The overall significance of the model is supported by the fact that the p-value is less than 0.001 (p-value= 0.000, 0.001), as shown by the findings of the random effect model. Looking at the value of adjusted R Square i.e., 0.61, it can be further concluded that 61% of variation in firm value (Tobin-Q) is accounted for, by the model taking into account, the independent and control variables. Moving on to the independent variable i.e., SRS, the coefficient and p value revels SRS(0.0707) and significant (p- value = 0.0236, < 0.05) relation with Tobin-q. It shows SRS have a significant relations with firm value. this suggest that the value of this suggest that the value of firm increases with the increase in the disclosures mandate by the regulatory bodies. At the 5% level of significance, the variable is found to indicate that disclosures in the annual reports of select Indian banks in terms of sustainability disclosures led to rise in the market value. With respect to the control variables, the coefficient value of firm size is (0.0115), which is positive and statistically significant at the 1% level (p-value =0.0343;<.0001). Thus, it indicate that the firm is experiencing growth and Investors perceive large firm to be wealth generators.

On the other hand, the Tobin-Q proxy for market cap shows a positive (7.575) and statistically significant (p-value 0.0001**; <0.001) relationship with market cap, indicating that Indian enterprises company is worth as positively determined. Further the association between the age of the firm and valuation was found to be insignificant (p-value = 0.09299*> 0.05). This depict that valuation of the firm is not impacted by the number of years of commencement of business. This depict that valuation of the firm is not impacted by the number of years the stock has been traded in the exchange. Further, the firm value does not get impacted by weather the company has listed recently or has listed in past. Sustainability reporting rewarded with enhanced market valuation. Investors believe the firm to be more transparent whether disclosing sustainability practices as an opportunity or as a threat. Moreover, they also believe that the firm is adhering to the regulatory requirements. Further it fosters customer loyalty by promoting transparency and maintain trust and good relations with investors and creditors that will invest in the company. The confidence feeling of investors and creditors in the corporate accountability will enhance the company's reputation or image.

CHAPTER-7

CHAPTER-7

SUSTAINABILITY DISCLOSURE GRI FRAMEWORK

The effects of GRI disclosures on the sustainability reporting practices of Indian banks over the course of five years (2017-2021) are the focus of this chapter. It compare the sustainability disclosure of GRI framework between Indian private and public sector banks. The chapter starts with introduced of fourth objective. It also emphasizes the GRI framework for gaining access to the link among sustainability disclosures.

7.1 INTRODUCTION

Organization are explaining sustainability goals in overall business strategy. Organizations are accountable to multiple stakeholders like investors, employees, regulatory organizations etc. GRI sustainability report can be made in two ways in reference to GRI or in accordance to GRI. Sustainability is not a box taking exercise instead its away of building sustainability strategy. GRI consists three phases, one is the fundamental phase where you gathering information about the requirements that needed for you to undergo the entire process and related to the document like how you gonna go about the reporting principles. Second phase is about the general disclosure which means noting down everything about the organizations following a list of requirements like name of organization, operating about people etc. Third phase is about the material topic phase. It inviting stakeholders all around your business to give their input into how they see your performance on different sustainability parameters that can be customers, suppliers employees, local community investors financial institutions etc. So their input on business performance like whats important to them and in that way a mapping out a full text context of different positive and negative sustainability impacts. After gathering data when we fully understand business impact across social, environmental and economic topics smarts set can be sets. GRI standards is an global efforts to contribute to sustainable development.

7.2 GRI REPORTING PRINCIPLES

GRI adheres the ten reporting principles as depicted in the table 7.1:

Table 7.1: GRI Principles

Reporting Principles for defining report content	Reporting Principles for defining report quality
• Stakeholder Inclusiveness	• Accuracy
• Sustainability Context	• Balance
• Materiality	• Clarity
• Completeness	• Comparability
	• Reliability
	• Timeliness

7.3 ELEMENTS OF GLOBAL REPORTING INITIATIVE (GRI) FRAMEWORK

GRI is a modular system of inter connected standards which includes the universal standards, sector specific and topic-specific standards. GRI is a independent and freely accessible sustainability open and transparent framework. GRI has emerged as the preferred international framework for sustainable reporting framework which categorizes into three categories which are universal standards, sector specific standards and topic specific standards. First is the foundation phase which explains the starting point for using the GRI standards. It contains information about the reporting principles and documents by which an organization undergo its entire process. The study revealed those banks which reported on GRI. The study used the content analysis technique, manually disclosure index is prepared for the attainment of above stated objective on basis of the standards and sub categories. For the attainment of above objective a disclosure index is prepared by taking into considerations the GRI standards. This index takes into consideration the universal and topic specific standards that are mentioned in the disclosure requirements prescribed in GRI framework. This study has primarily concentrated on developing a self-constructed disclosure index with an un-weighted disclosure index, where scoring is assigned from 0 to 2 for general standards of GRI where 1 score is given to aspects disclosed with little information and 2 score is given to aspects disclosed with vast information. In this study, data for the ratings of sub categories is extracted from sustainability reports particularly of separate financial year from- 2017-2021. After giving ratings to every aspects, the yearly growth of banks highlighted in accordance with the indicators as mentioned in study.

7.4 GRI MODULAR SYSTEM OF PERFORMANCE INDICATORS

GRI modular system includes Universal standards, Sector specific standards and Topic specific standards which shown in table 7.2:

Table 7.2: GRI Modular System

Universal Standards	**Sector Specific Standards**	**Topic Specific Standards**
GRI 101-Foundation GRI 102-General Disclosure GRI 103-Management Approach	GRI Covers up 40 Sectors	Economic (GRI 200) Environment (GRI 300) Social (GRI 400):- Labor Practice Human Right Society Product Responsibility

7.5 GRI 101-FOUNDATION DISCLOSURE INDEX

Table 7.3: Foundation Disclosure Index

0	Core element not disclosed
1	Core element disclosed with little information
2	Core element disclosed with vast information

7.5.1 GRI-101(Foundation): The universal standards includes those important principles which are used while preparing a report.

Axis Bank: The following figure show the reporting principles of Axis bank as outlined in the GRI-101 standards from the 2017-2021.Axis bank performing better in reporting of balance, clarity, completeness, materiality and in stakeholder inclusiveness while the other principles are less reported.

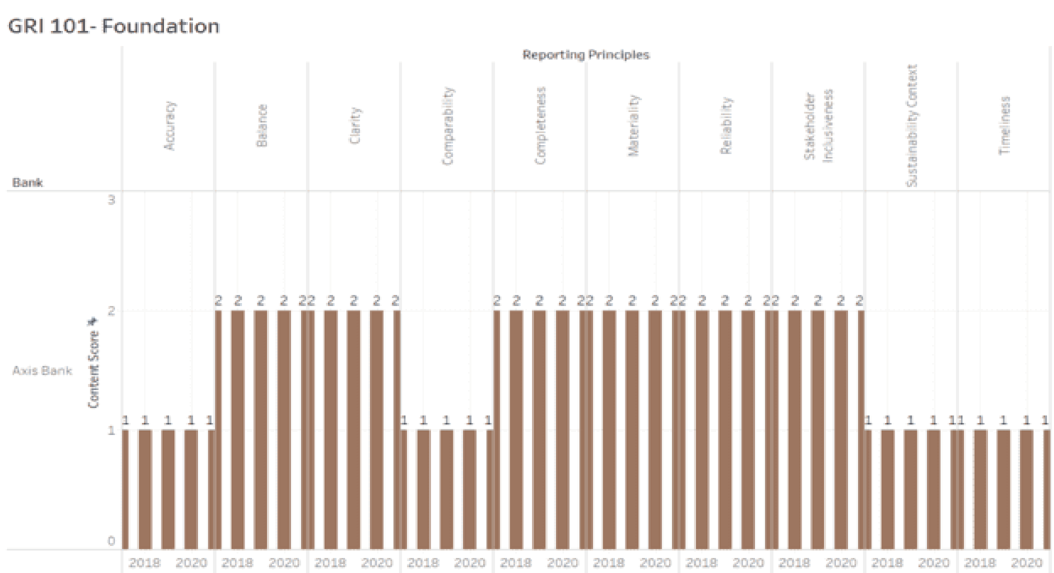


Figure 7.1: Axis Bank

Source*: *Researcher Calculations

HDFC Bank: The following figure show the reporting principles of HDFC bank as outlined in the GRI-101 standards from the 2017-2021.HDFC bank performing better in reporting of balance, materiality, reliability, stakeholder context and in stakeholder inclusiveness while the other principles are less reported.

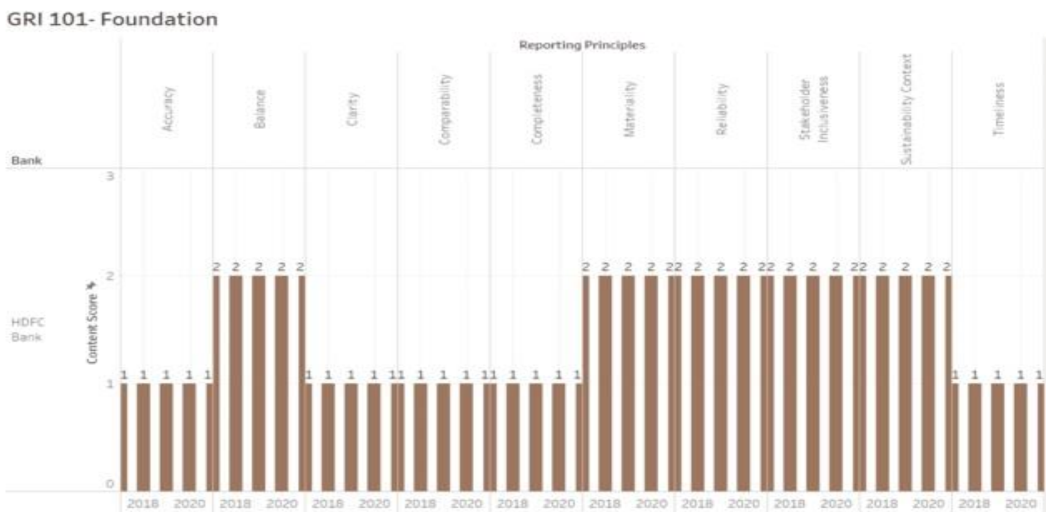


Figure 7.2: HDFC Bank ***Source:***

Researcher Calculations

YES Bank: The following figure show the reporting principles of Yes bank as outlined in the GRI-101 standards from the 2017-2021.Yes bank performing better in reporting of stakeholder context and stakeholder inclusiveness while the other principles are less reported.

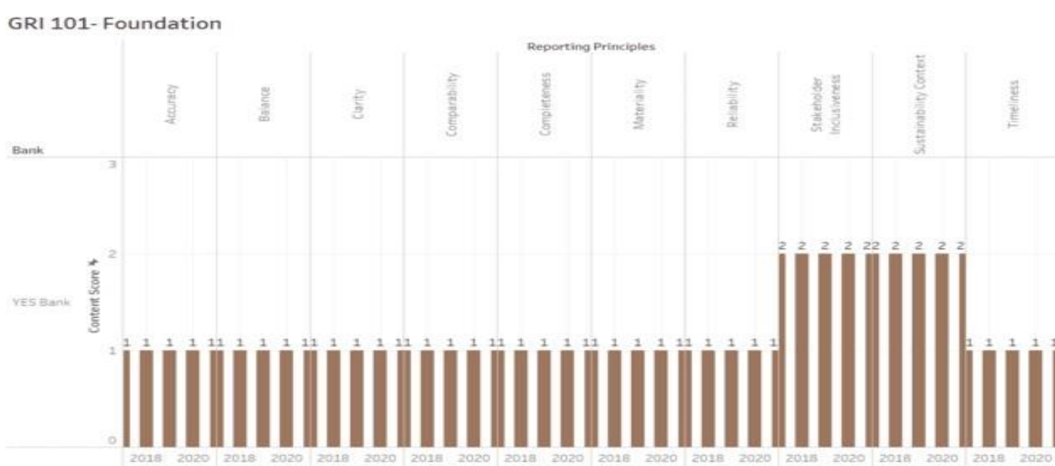


Figure 7.3: Yes Bank

Source: Researcher Calculations

Induslnd Bank: The following figure show the reporting principles of Induslnd bank as outlined in the GRI-101 standards from the 2017-2021.Induslnd bank performing better in reporting of balance, clarity, completeness, materiality, stakeholder inclusiveness and stakeholder context while the other principles are less reported.

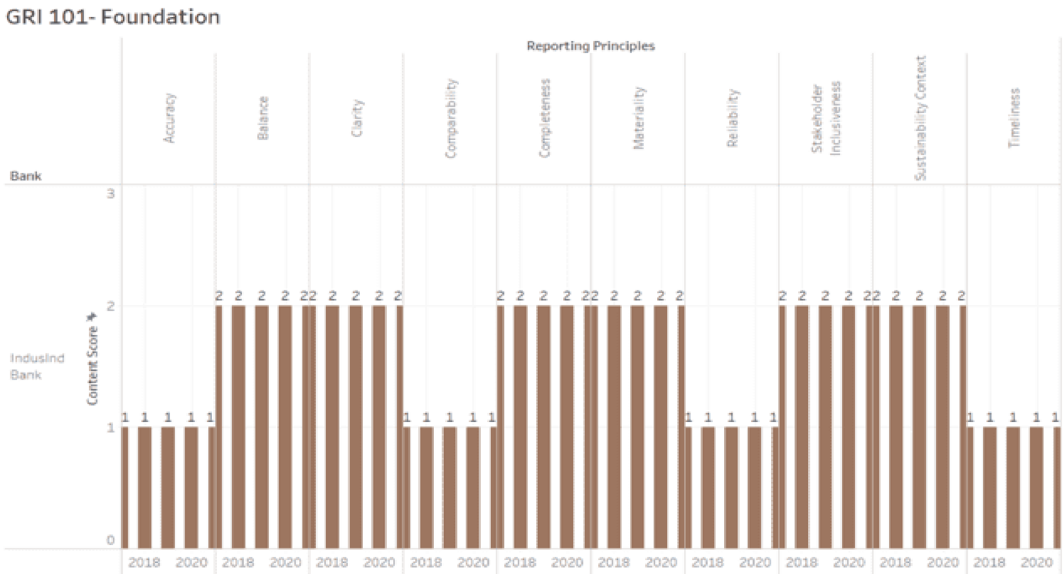


Figure 7.4: Induslnd Bank

Source: Researcher Calculations

State Bank of India: The following figure show the reporting principles of State bank of India as outlined in the GRI-101 standards from the 2017-2021.SBI performing better in reporting of balance, materiality, reliability, stakeholder inclusiveness and stakeholder context while the other principles are less reported.

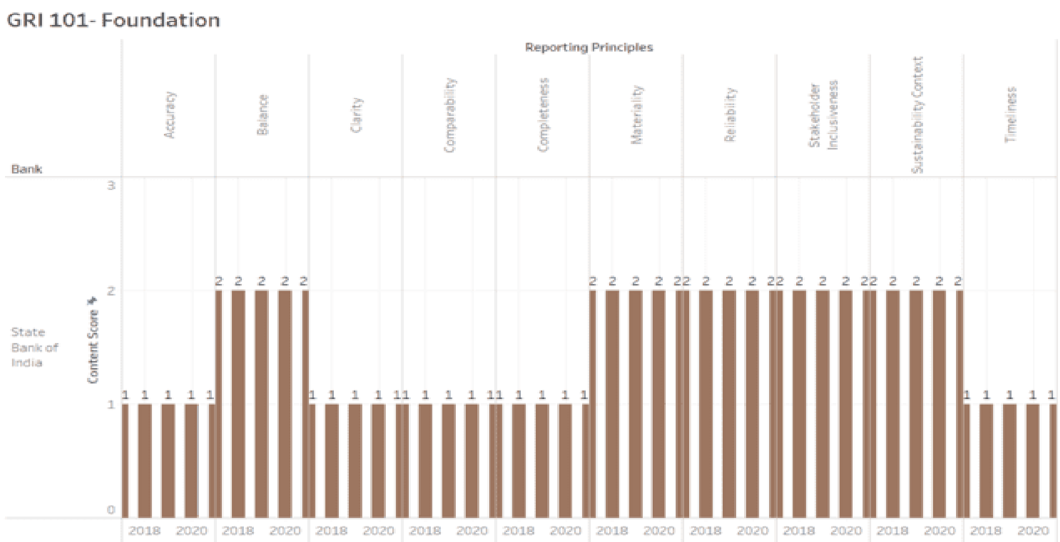


Figure 7.5: State Bank of India

Source: Researcher Calculations

ICICI Bank: The following figure show the reporting principles of ICICI bank as outlined in the GRI-101 standards from the 2017-2021.ICICI bank performing better in reporting of balance, clarity, completeness, materiality, stakeholder inclusiveness and stakeholder context while the other principles are less reported.

Figure 7.6: ICICI Bank

Source: Researcher Calculations

Results revealed that the GRI-101 contains a total of ten reporting principles as outlined in the GRI standards which are bifurcated into two categories one is reporting principles for defining report content and other is reporting principles for defining report quality and out of selected banks only six banks are actively engaged in addressing dimensions of sustainability. These six bank publishes an annual Business Responsibility & Sustainability Report, which aligns with GRI Standards and SEBI's BRSR framework for the time frame 2017-2021.

7.5.2 GRI-102(General Disclosure): This second phase is about the general disclosure which means noting down everything about the organizations following a list of requirements like name of organization, operating about people etc. It includes contextual information about an organization. The study revealed those banks which reported on GRI. The study used the content analysis technique, manually disclosure index is prepared for the attainment of above stated objective on basis of the standards and sub categories. For the attainment of above objective, a disclosure index is prepared by taking into considerations the GRI Financial sector disclosures. This index takes into consideration the general standards disclosures that are mentioned in the disclosure requirements prescribed in G4 sector disclosure. This study has primarily concentrated on developing a self-constructed disclosure index with an un-weighted disclosure index, where scoring is assigned from 0 to 2 for general standards of GRI where 1 score is given to aspects disclosed with little information and 2 score is given to aspects disclosed with vast information. In this study, data for the ratings of sub categories is extracted from sustainability reports particularly of separate financial year from 2017-2021.The following figures and table represented GRI 102--general standard disclosure:

GRI 102-GENERAL STANDARD DISCLOSURE

Table:7.4 General standard disclosure

General Standard Disclosure	SBI Bank (2017-2021)	Axis Bank (2017-2021)	HDFC Bank (2017-2021)	IndusInd Bank (2017-2021)	YES Bank (2017-2021)	ICICI Bank (2021)
Strategy and Analysis	Followed	Followed	Followed	Followed	Followed	Followed
Organizational Profile	Followed	Followed	Followed	Followed	Followed	Followed
Identified material Aspects and Boundaries	Followed	Followed	Followed	Followed	Followed	Followed
Stakeholder Engagement	Followed	Followed	Followed	Followed	Followed	Followed
Report Profile	Followed	Followed	Followed	Followed	Followed	Followed
Governance	Followed	Followed	Followed	Followed	Followed	Followed
Ethics and Integrity	Followed	Followed	Followed	Followed	Followed	Followed

TOTAL SCORING OF GRI 102-GENERAL STANDARD DISCLOSURES ACCORDING TO GRI-G4 REPORTING FRAMEWORK

Table:7.5 Scoring of General Standard Disclosure

General Standard Disclosure	State Bank of India	HDFC Bank	Axis Bank	IndusInd Bank	Yes Bank	ICICI Bank
Strategy And Analysis	58	70	50	65	53	13
Organizational Profile	58	70	50	65	53	13
Identified Material Aspect and boundaries	58	70	50	65	53	13
Stakeholder Engagement	58	70	50	65	53	13
Report Profile	58	70	50	65	53	13
Governance	58	70	50	65	53	13
Ethics And Integrity	58	70	50	65	53	13

GRI-102-GENERAL STANDARD DISCLOSURE- The figure below represented the contextual information about an organization.

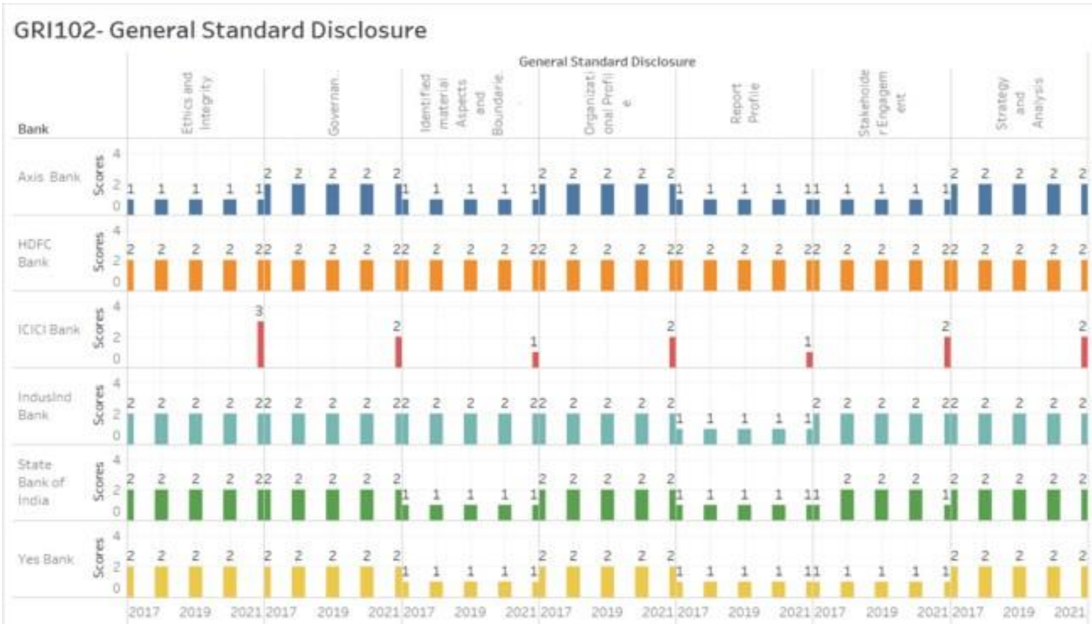


Figure:7.7 General Standard Disclosure

Source: Researcher Calculations

It is found from the results of the study that six out of twenty banks were publishing sustainability reports based on the GRI framework so more than fifty percent of the sample banks do not follow GRI guidelines. Only thirty percent of sample banks were found to have published externally assured sustainability reports. As it is evident from figure:7.7 that IndusInd bank, SBI, HDFC Bank, ICICI Bank, Yes Bank and Axis Bank reported as per GRI framework. It is interesting to note that the State Bank of India is the only government or state-owned bank which prepared its sustainability report in line with global reporting initiatives standards externally assured by an independent agency, a business responsibility report (Maurya, S., & Singh, R., 2023). The GRI standards for sustainability reporting are adopted by only six banks in India out of forty-two PSBs and private sector banks in India. These six banks have emerged as the role model for the other banks to lead the path towards adopting best sustainable reporting practices (Kumar, K., Prakash, A., 2019).It is found that HDFC and Induslnd bank work better in sustainability reporting in private sector and SBI is the only bank working in public sector on G4.

7.5.3 GRI-103(Management Approach): Third phase is about the material topic phase. Material topics of GRI-103 categorized in three parts which are depicted in table 7.6:

Table:7.6 GRI-103 Report on Material Topics

GRI 103- Material topics	State Bank of India	HDFC Bank	Axis Bank	IndusInd Bank	Yes Bank	ICICI Bank
Evaluation of The Management Approach	Followed	Followed	Followed	Followed	Followed	Followed
Explanation of Material topic and its boundaries	Followed	Followed	Followed	Followed	Followed	Followed
The management Approach and its components	Followed	Followed	Followed	Followed	Followed	Followed

7.6. Topic-Specific GRI Standards

The topic-specific GRI Standards are organized into three series: 200 (Economic topics), 300 (Environmental topics), and 400 (Social topics).

7.6.1 GRI-200 Economic: It included the three dimensions which are depicted in table 7.6.1:

Table:7.7 GRI-200 Economic

GRI 200-Economic	State Bank of India	HDFC Bank	Axis Bank	IndusInd Bank	Yes Bank	ICICI Bank
Market Presence	Followed	Followed	Followed	Followed	Followed	Followed
Indirect Economic Impacts	Followed	Followed	Followed	Followed	Followed	Followed
Procurement Practices	Followed	Followed	Followed	Followed	Followed	Followed

7.6.2 GRI-300 Environment: It included wide dimensions related to environment which are depicted in table 7.6.2:

Table:7.8 GRI-300 Environment

GRI 300-Environment	State Bank of India	HDFC Bank	Axis Bank	IndusInd Bank	Yes Bank	ICICI Bank
Materials	Followed	Followed	Followed	Followed	Followed	Followed
Energy	Followed	Followed	Followed	Followed	Followed	Followed
Water	Followed	Followed	Followed	Followed	Followed	Followed
Biodiversity	Unfollowed	Unfollowed	Unfollowed	Unfollowed	Unfollowed	Unfollowed
Emissions	Followed	Followed	Followed	Followed	Followed	Followed
Effluents and Waste	Followed	Followed	Followed	Followed	Followed	Followed
Products and Services	Followed	Followed	Followed	Followed	Followed	Followed
Compliance	Followed	Followed	Followed	Followed	Followed	Followed
Transport	Unfollowed	Unfollowed	Unfollowed	Unfollowed	Unfollowed	Unfollowed
Supplier Environment Assessment	Followed	Followed	Followed	Followed	Followed	Followed
Environmental Grievance Mechanisms	Followed	Followed	Followed	Followed	Followed	Followed

7.6.3 GRI 400 Social: It included the social dimension of sustainability concerns as depicts in table 7.9:

Table:7.9 GRI 400 Social:

GRI 400-Social	State Bank of India	HDFC Bank	Axis Bank	IndusInd Bank	Yes Bank	ICICI Bank
Labor Practices and Decent Work	Followed	Followed	Followed	Followed	Followed	Followed
Human Rights	Followed	Followed	Followed	Followed	Followed	Followed
Society	Followed	Followed	Followed	Followed	Followed	Followed
Product Responsibility	Followed	Followed	Followed	Followed	Followed	Followed

7.7 GRI Sector Specific Standards

7.7.1 Financial Sector Disclosure: The sector standards provide information on the topics that constitute a sector's most significant impacts from a sustainable development perspective.

Table:7.10 Disclosure of GRI Financial Service Sector Supplement by Banks in India

Sector Aspects	Sector Aspects	FSSS	Financial Service Sector Disclosures	Public	Private
Management Approach	Product Portfolio	FS1	Policies with specific environmental and social components applied to business lines.	10	10
Management Approach	Product Portfolio	FS2	Procedures for assessing and screening environmental and social risks in business lines	1	6
Management Approach	Product Portfolio	FS3	Processes for monitoring clients implementation and compliance with,environmental and social requirements included in agreements or transactions	1	3
Management Approach	Product Portfolio	FS4	Process for improving staff competency to implement the social, environmental policies and procedures as applied to business lines.	1	2
Management Approach	Product Portfolio	FS5	Interactions with clients/investees/business partners regarding e nvironmental social risks and opportunities.	10	2
Performance Indicator	Product Portfolio	FS6	Percentage of the portfolio for business lines by specific region, size (e.g. micro/SME/large) and by sector.	0	7
Performance Indicator	Product Portfolio	FS7	Monetary value of products and services designed to deliver a specific social benefit for each business line broken down by purpose.	1	6
Performance Indicator	Product Portfolio	FS8	Monetary value of products and services designed to deliver a s pecific environmental benefit for each business line broken down by purpose.	1	8

Performance Indicator	Audit	FS9	Coverage and frequency of audits to assess implementation of environmental and social policies and risk assessment procedures.	1	2
Performance Indicator	Active Ownership	FS10	Percentage and number of companies held in the institution's portfolio with which the reporting organization has interacted on environmental or social issues.	0	6
Performance Indicator	Active Ownership	FS11	Percentage of assets subject to positive and negative environmental or social screening	1	6
Performance Indicator	Active Ownership	FS12	Voting policies applied to environmental or social issues for sha res over which the reporting organization holds the right to vote shares or advises on voting	0	2
Society Performance Indicator	Community	FS13	Access points in low-populated or economically disadvantaged areas by type.	0	6
Society Performance Indicator	Community	FS14	Initiatives to improve access to financial services for disadvantaged people.	10	10
Product Responsibility Performance Indicator	Product and Service Labelling	FS15	Policies for the fair design and sale of financial products and service	7	6
Product Responsibility Performance Indicator	Product and Service Labelling	FS16	Initiatives to enhance financial literacy by type of beneficiary.	10	10

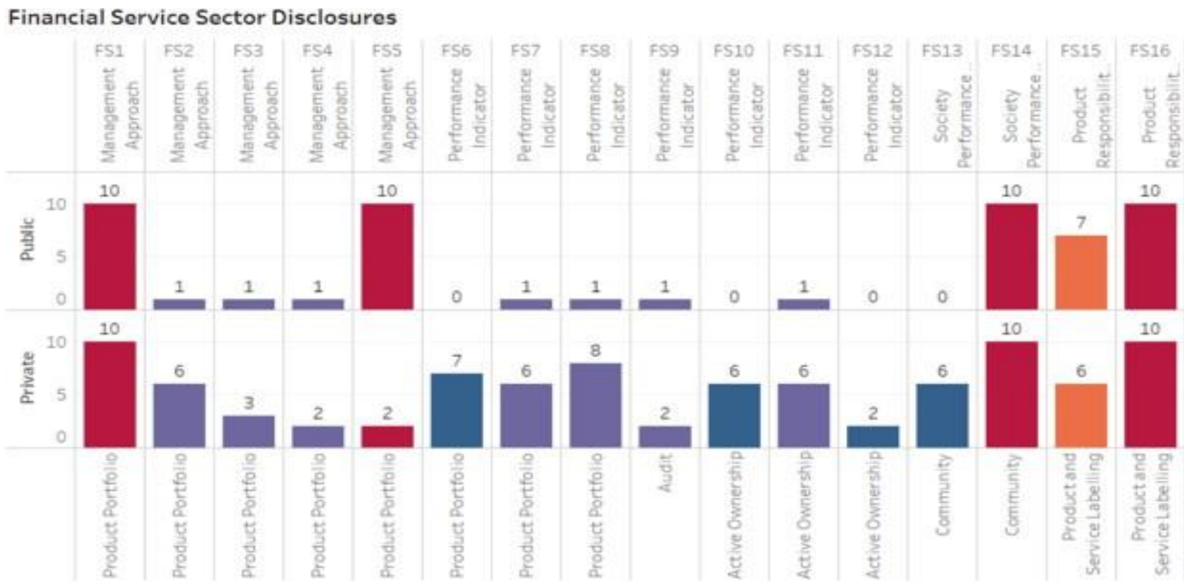


Figure:7.8 Financial Service Sector Supplements

Source: Researcher Calculations

CONCLUSION

Financial Services Sector Sustainability disclosures aimed at enhancing transparency in the operations of financial institutions, particularly in terms of their environmental, social, and governance (ESG) performance. GRI FSSS 2, FSSS 3, FSSS 4, FSSS 7, FSSS 8, FSSS 9, FSSS 11 indicators was disclosed by only SBI among PSBs and none of the PSB made disclosure on FSSS 6, FSSS 10, FSSS 13 (Kumar, K., Prakash, A.,2019). Policies with specific environment and social components applied to business units (FSSS 1) followed by every selected banks entirely.The FSSS-2: social and environmental risk management frameworks is influenced by government regulations and policy mandates. SBI is the only public banks and six private sector banks in India, such as HDFC Bank, ICICI Bank, Axis Bank, yes bank, IDFC bank and Kotak Mahindra Bank, already have established Social and Environmental Risk Management (SERM) frameworks. SBI in public sector and several private sector banks HDFC bank, ICICI bank, Axis bank in India have implemented processes for monitoring client compliance with social and environmental requirements(FSSS 3). These banks have adopted various frameworks, such as the Equator Principles, GRI Standards, to assess, monitor, and enforce compliance with social and environmental guidelines for projects they finance. The FSSS 4, a set of guidelines for integrating environmental and social sustainability into financial services, had not been universally adopted or explicitly reported by all private sector banks in India before 2021.FSSS 5 emphasizes the importance of client, investees, and business partner interactions on environmental and social risks and opportunities. Several private and public sector banks in India have actively implemented processes for due diligence, risk assessment, and engagement on sustainability with clients and partners. FSSS 12 which relates to voting rights to social issues are the non compliance disclosures by public banks. FSSS16 is the only disclosures where both the banks have worked towards the enhancement of financial literacy. Private sector banks are working in better align with comparison to public sector banks on FSSS. The present study provides valuable insights into sustainable reporting practices of PSBs and private sector banks operating in India.

7.7.2 Independent-Sample T-test

The independent-samples t-test, is used to determine whether there is a statistically significant mean difference or whether there is a difference between two unrelated groups. On the basis of mean value we have drawn a comparison between implementation of FSSS, GRI framework between public and private banks. Form the table it was observed that the mean values of private sector banks are higher then the mean values of public sector sector.

Table:7.11 Group Statistics

Group Statistics

	Sector (Public/ Private)	N	Mean	Std. Deviation	Std. Error Mean
FSSS 1	public	50	1.90	.839	.119
	private	50	2.10	.953	.135
FSSS 2	public	50	.30	.909	.129
	private	50	1.70	1.432	.203
FSSS 3	public	50	.30	.909	.129
	private	50	.70	1.111	.157
FSSS 4	public	50	.30	.909	.129
	private	50	.40	.808	.114
FSSS 5	public	50	1.30	.463	.065
	private	50	.40	.808	.114
FSSS 6	public	50	.00	.000	.000
	private	50	1.40	.926	.131
FSSS 7	public	50	.10	.303	.043
	private	50	.60	.495	.070
FSSS 8	public	50	.10	.303	.043
	private	50	.80	.404	.057
FSSS 9	public	50	.30	.909	.129
	private	50	.60	1.212	.171
FSSS 10	public	50	.00	.000	.000
	private	50	.60	.495	.070
FSSS 11	public	50	.30	.909	.129
	private	50	.60	.495	.070
FSSS 12	public	50	.00	.000	.000
	private	50	.20	.404	.057
FSSS 13	public	50	.10	.303	.043

	private	50	1.80	1.485	.210
FSSS 14	public	50	2.70	.909	.129
	private	50	2.10	.953	.135
FSSS 15	public	50	1.40	.926	.131
	private	50	1.82	1.466	.207
FSSS 16	public	50	1.30	.463	.065
	private	50	2.10	.953	.135

The independent-samples t-test, is used to determine whether there was a statistically significant mean difference or whether there is a difference between two unrelated groups. On the basis of mean value we have drawn a comparison between implementation of GRI framework between public and private banks. Form the table it was observed that the mean values of private sector banks are higher then the mean values of public sector sector. Private sector banks are more effectively opting GRI practices.

Table:7.12 Independent-samples t-test

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	**Sig.**	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
FSSS 1	Equal variances assumed	6.310	**.014**	-1.114	98	.268	-.200	.180	-.556	.156
	Equal variances not assumed			-1.114	96.455	.268	-.200	.180	-.556	.156
FSSS 2	Equal variances assumed	48.538	**.000**	-5.836	98	.000	-1.400	.240	-1.876	-.924
	Equal variances not assumed			-5.836	82.975	.000	-1.400	.240	-1.877	-.923
FSSS 3	Equal variances assumed	12.352	**.001**	-1.970	98	.052	-.400	.203	-.803	.003
	Equal variances not ass			-1.970	94.30	.052	-.400	.203	-.803	.003

	umed				2					
FSSS 4	Equal variances assumed	.654	**.421**	-.581	98	.562	-.100	.172	-.441	.241
	Equal variances not assumed			-.581	96.671	.562	-.100	.172	-.441	.241
FSSS 5	Equal variances assumed	8.983	**.003**	6.833	98	.000	.900	.132	.639	1.161
	Equal variances not assumed			6.833	78.031	.000	.900	.132	.638	1.162
FSSS 6	Equal variances assumed	257.250	**.000**	-10.693	98	.000	-1.400	.131	-1.660	-1.140
	Equal variances not assumed			-10.693	49.000	.000	-1.400	.131	-1.663	-1.137
FSSS 7	Equal variances assumed	65.625	**.000**	-6.093	98	.000	-.500	.082	-.663	-.337
	Equal variances not assumed			-6.093	81.219	.000	-.500	.082	-.663	-.337
FSSS 8	Equal variances assumed	8.337	**.005**	-9.800	98	.000	-.700	.071	-.842	-.558
	Equal variances not assumed			-9.800	90.875	.000	-.700	.071	-.842	-.558

FSSS 9	Equal variances assumed	8.337	**.005**	-1.400	98	.165	-.300	.214	-.725	.125
	Equal variances not assumed			-1.400	90.875	.165	-.300	.214	-.726	.126
FSSS 10	Equal variances assumed	1176.000	**.000**	-8.573	98	.000	-.600	.070	-.739	-.461
	Equal variances not assumed			-8.573	49.000	.000	-.600	.070	-.741	-.459
FSSS 11	Equal variances assumed	.334	**.565**	-2.049	98	.043	-.300	.146	-.590	-.010
	Equal variances not assumed			-2.049	75.694	.044	-.300	.146	-.592	-.008
FSSS 12	Equal variances assumed	87.111	**.000**	-3.500	98	.001	-.200	.057	-.313	-.087
	Equal variances not assumed			-3.500	49.000	.001	-.200	.057	-.315	-.085
FSSS 13	Equal variances assumed	540.225	**.000**	-7.933	98	.000	-1.700	.214	-2.125	-1.275
	Equal variances not assumed			-7.933	53.076	.000	-1.700	.214	-2.130	-1.270
FSSS 14	Equal variances assumed	10.612	**.002**	3.221	98	.002	.600	.186	.230	.970

	Equal variances not assumed			3.221	97.783	.002	.600	.186	.230	.970
FSSS 15	Equal variances assumed	68.611	**.000**	-1.712	98	.090	-.420	.245	-.907	.067
	Equal variances not assumed			-1.712	82.705	.091	-.420	.245	-.908	.068
FSSS 16	Equal variances assumed	99.380	**.000**	-5.339	98	.000	-.800	.150	-1.097	-.503
	Equal variances not assumed			-5.339	70.904	.000	-.800	.150	-1.099	-.501

The t-statistic is a ratio, used in a t-test to determine whether to support or reject the null hypothesis. On the basis of Levene's test for equality of variances it was observed that the values for every FSSS is found to be significant less then (0.05) except for Process for improving staff competency to implement the social and environmental policies (FSSS-4) and procedures as applied to business lines and Percentage of assets subject to positive and negative environmental or social screening(FSSS-11) which means FSSS-4 and FSSS-11 are the factors which are least disclosed by banks.

CONCLUSION

The study provides sustainability reporting of the ten Indian public and private banks focusing on stakeholder inclusiveness, credibility, materiality, sustainability etc. on the basis of Financial Services Sector Disclosures framework. The study has an several implications for bankers and policy makers as it provides a broad picture of sustainability practices of the Indian banking sector. Financial Services Sector Disclosures' document streamlined and contains the G4 Guidelines. The banks low on FSSS reporting principles need to expend its strategies. According to the scoring study revealed that out of selected banks, SBI works better in FSSS reporting in public sector, then Bank of Baroda, Central bank, UCO bank, PNB, Indian bank, IOB, Union bank, Canera bank, and BOB respectively followed sustainability reporting practices. And in private sector - HDFC bank works better in sustainability reporting practices in private sector then Induslnd bank, Kotak Mahindra bank, Yes bank, IDFC bank, Axis bank, ICICI bank Federal Bank, Bandhan Bank, IDBI bank. FSSS-2 and FSSS-16 is the highest reported principle by banks and FSSS 4 and FSSS-11 of GRI was the least reported principle by banks as large number of banks not disclosed information. The higher participation by the banking sector could transform the landscape of sustainability practices.

7.8 GRI DATA SOURCES

Banks	Data Source
SBI Bank	https://sbi.co.in/web/sbi-green/esg/sustainability
BOB Bank	https://www.bankofbaroda.in/shareholders-corner/sustainability- disclosures

PNB Bank	https://www.pnbindia.in/Business-responsibility-report.html
IOB Bank	https://www.iob.in/Annual_Reports
Union Bank Bank	https://www.unionbankofindia.co.in/pdf/unionbank_annualreport.pdf
Canara Bank	https://canarabank.com/pages/Annual%20Reports
Indian Bank	https://www.indianbank.in/departments/annual-reports/
UCO Bank	https://www.ucobank.com/annual-reports
Central Bank	https://centralbankofindia.co.in/en/Annual-Reports
Bank of India	https://bankofindia.co.in/financial-result
HDFC Bank	https://v.hdfcbank.com/content/dam/hdfc-aem-microsites/Annual_Report_/pdfs/Business-Responsibility-Sustainability-Report.pdf
ICICI Bank	https://www.icicibank.com/about-us/esg
Kotak Mahindra Bank	https://www.kotak.com/en/investor-relations/financial-results/annual-reports.html
Axis Bank	https://www.axisbank.com/sustainability-reports//index.html
Induslnd Bank	https://sustainabilityreports.com/reports/indusind-bank-limited-business-responsibility-and-sustainability-report-pdf
IDBI Bank	https://www.moneycontrol.com/annual-report/idbibank/directors-report
IDFC Bank	https://www.idfcfirstbank.com/investors/annual-report
YES Bank	https://www.yesbank.in/about-us/sustainability-at-yes-bank/esg-disclosures/sustainability-reports
Bandhan Bank	https://bandhanbank.com/annual-reports
Federal Bank	https://www.federalbank.co.in/annual-report/esg-strategy.html

Source: Bank's website

7.9 COMPARISON OF SUSTAINABILITY REPORTING PRACTICES COMPLIANCE BY SELECTED BANKS BEFORE AND AFTER IT MANDATED

The study compares the sustainability reporting practices of selected banks before and after the Business Responsibility and Sustainability Reporting (BRSR) compliance. The

Business Responsibility and Sustainability Reporting (BRSR) framework became mandatory with effect from financial year 2022-2023. This mandate significantly impacted sustainability reporting practices under the earlier National Voluntary Guidelines (NVG). The BRSR incorporated the same nine principles of the NVG but provided a more structured and detailed reporting format, emphasizing measurable disclosures and comparability. The detailed and standardized disclosure requirements of BRSR encouraged banks to address sustainability aspects more comprehensively, leading to increased reporting on core elements and principles. For comparison the study divided into two parts, 2017–2021 (before BRSR compliance) and 2022–2024 (after BRSR compliance). Using the content analysis technique, a manual disclosure index was prepared to facilitate a comparison based on the core elements and nine principles. An unweighted disclosure index was employed in this study, where score 0 was assigned if the required item was not disclosed, a score of 1 was given if the item was disclosed with minimal information, a score of 2 was assigned if the item was disclosed with detailed information, a score of 3 was awarded if the item was disclosed with detailed information and accompanied by examples. Data for the ratings of core elements were extracted from sustainability reports for each financial year from 2017 to 2024. After assigning ratings to each element, the yearly progress of sustainability reporting practices among different banks highlighted in Table 7.13.

Table 7.13 BANK WISE TOTAL SCORING OF NVG PRINCIPLE (2017-2023)

Banks	2017	2018	2019	2020	2021	2022	2023
SBI Bank	97	99	100	101	104	109	138
BOB Bank	61	68	78	87	84	92	122
PNB Bank	64	64	67	70	74	88	115
IOB Bank	53	60	62	64	73	86	112
Canara Bank	53	50	55	65	78	84	102
Union Bank	56	61	61	65	70	76	113
Indian Bank	62	63	70	74	76	80	112

UCO bank	55	59	62	67	69	76	110
Central Bank	53	50	55	57	69	78	98
Bank of India	61	61	63	66	69	76	103
HDFC Bank	107	107	100	114	114	124	142
ICICI Bank	90	96	96	100	104	109	139
Kotak Mahindra Bank	90	96	96	100	104	112	132
Axis Bank	87	90	90	92	97	106	125
IDBI Bank	67	67	72	77	89	93	120
Induslnd Bank	104	104	107	107	110	110	118
YES Bank	80	93	97	104	107	118	115
Federal Bank	76	81	81	89	92	103	114
IDFC Bank	94	97	101	103	103	109	107
Bandhan Bank	61	63	66	69	72	89	106

Source: Researchers Calculations

Table 7.14: AVERAGE SCORING OF NVG PRINCIPLE (2017-2023)

Banks	**Average Score of Voluntary Compliance (2017-2021)**	**Average Score of Mandatory Compliance (2022-2024)**
SBI Bank	100.2	123.5
BOB Bank	75.6	107
PNB Bank	67.8	101.5
IOB Bank	62.4	99
Canara Bank	60.2	93

Union Bank	62.6	94.5
Indian Bank	69	96
UCO bank	62.4	93
Central Bank	56.8	88
Bank of India	64	89.5
HDFC Bank	108.4	133
ICICI Bank	97.2	124
Kotak Mahindra Bank	97.2	122
Axis Bank	91.2	115.5
IDBI Bank	74.4	106.5
Induslnd Bank	106.4	114
YES Bank	96.2	116.5
Federal Bank	83.8	108.5
IDFC Bank	99.6	108
Bandhan Bank	66.2	97.5

Source: Researchers Calculations

Table 7.15: Paired Samples statistics

Paired“samples statistics refers to the statistical analysis used for comparing two related groups. It is used to determine if there is a statistically significant difference between the means of two related groups. The paired sample t-test assumes that the data consists of paired observations, where each pair represents two related measurements, such as the before and after an intervention. The study specifically compares the sustainability reporting compliance for selected private and public banks before and after it mandated. This test helps evaluate whether the reporting pattern of bank has significantly changed after the mandatory requirement. The following assumptions of the paired sample t-test ensure the validity of the test results:

- The data must consist of paired observations where each pair represents two related measurements (banks reporting before and after compliance).
- The differences between the paired observations should be approximately normally distributed.
- There should be no significant outliers in the differences between paired observations.
- Each pair of observations should be independent of every other pair.

7.15.1 Paired samples t- test

H0: There is no significant difference in compliance of sustainability reporting practices by banks before and after it mandated

H1: There is significant difference in compliance of sustainability reporting practices by banks before and after it mandated

After fulfilling the required assumptions of applying paired sample t test, the paired sample t test is applied as follows:

7.15 Paired Sample Statistics

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Average Score of Voluntary Compliance (2017-2021)	80.080	20	17.6354	3.9434
Average Score of Mandatory Compliance (2022-2024)	106.525	20	12.9650	2.8991

The table 7.15 provides descriptive statistics for two related sets of data. The table compares two periods, the voluntary compliance period (2017–2021) and the mandatory compliance period (2022–2024). It summarize the means and variability of the scores in both groups. The average score of voluntary compliance is 80.080 and mandatory compliance is 106.525, which states that the mandatory compliance period has a significantly higher average score, indicating better performance during this period. Voluntary compliance having a standard deviation of 17.6354, indicating greater variability in scores and for mandatory compliance standard deviation is 12.9650, indicating more consistent scores. The mandatory compliance period demonstrates more consistent performance across observations. The mandatory compliance period has a lower standard error, reflecting higher precision in estimating the mean score. So results evaluates that the mandatory compliance measures appear to have had a more positive impact on performance.

Table 7.16: Paired Samples Correlations

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Average Score of Voluntary Compliance (2017-2021) & Average Score of Mandatory Compliance (2022-2024)	20	.922	.000

The table 7.16 examines the relationship between two sets of related data, the average scores from the voluntary compliance period (2017–2021) and the mandatory compliance period (2022–2024). The high correlation (.922) suggests that the scores from the two periods are strongly related. Banks that performed well in the voluntary compliance period tended to also perform well in the mandatory compliance period. The p-value (.000) confirms that the correlation is statistically significant. This correlation shows continuity in performance trends across the two periods. While mandatory compliance scores are higher on average, this indicates the strong positive correlation among banks with high voluntary compliance scores retained strong performance during mandatory compliance.

Table 7. 17: Paired Samples Test

Paired Samples Test

	Paired Differences					t	df	Sig. (2 -tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Average Score of Voluntary Compliance (2017 -2021) - Average Score of Mandatory Compliance (2022-2024)	-26.4450	7.5720	1.6932	-29.9888	-22.9012	-15.619	19	.000

The table 7. 17 shows the results of a paired t-test, which compares the means of two related groups, the average scores from the voluntary compliance period (2017–2021) and the mandatory compliance period (2022–2024). This test helps determine whether the difference between the two means is statistically significant. The mean difference of -26.4450 confirms that the scores during the mandatory compliance period (2022–2024) are significantly higher than those during the voluntary compliance period (2017–2021). The t-value (-15.619) and the p-value (.000) indicate that this difference is highly statistically significant. The probability that this difference occurred by chance is virtually zero. The confidence interval (-29.9888 to -22.9012) further supports the conclusion that the mandatory compliance scores are consistently higher. The paired t-test results demonstrate that there is a statistically significant improvement in scores during the mandatory compliance period compared to the voluntary compliance period. This suggests that the shift from voluntary to mandatory compliance had a positive impact on performance. So, the results of the test highlighted in table 7.17, lead to the rejection of null hypothesis as the results are significant at 5% level which show that there is significant difference in compliance of sustainability reporting practices by banks before and after it mandated.

CHAPTER-8

CHAPTER-8

FINDINGS, SUGGESTIONS AND CONCLUSION

This chapter summaries the most significant results from the research. It discusses the findings of the study as well as its addition to the existing body of research. In addition to this, it emphasizes the suggestions that were derived from the results. In addition to this, it emphasizes the implications, the limitations of the study, and the potential for more research.

8.1 INTRODUCTION

The main goal of the study is to identify and analyse the sustainability reporting practices adopted by selected Indian banks. The prime goal of this study is to get information on the degree and kind of sustainability reporting disclosure used by Indian banks in their annual reports. This study aims to discover the variables of sustainability reporting as well as the connection between sustainability reporting disclosure and bank performance. The information was gathered from several secondary sources. Appropriate statistical methods were used. The important findings and conclusions related to sustainability disclosure procedures have been recapitulated and presented based on the results and discussions. It also discusses the study contribution and makes recommendations for further research.

8.2 RESEARCH FINDINGS

8.2.1. Sustainability reporting practices among Selected Indian Banks

The study provides sustainability reporting practices of selected Indian banks on the basis of national voluntary guidelines (NVG) and the GRI framework. Sustainability reporting practices among selected Indian banks have evolved significantly, driven by frameworks like the National Voluntary Guidelines (NVG) and the Global Reporting Initiative (GRI). The Indian banking sector made progress in sustainability reporting between 2017 and 2021, particularly through adopting the GRI and NVG frameworks. The NVG framework has played a pivotal role in increasing transparency and accountability, which leads to the development of standardized frameworks like the

Business Responsibility Reporting (BRR) framework. Between 2017 and 2021, a number of banks began disclosing their engagement with stakeholders, including employees, customers, communities, and regulators, in alignment with GRI standards. The National Voluntary Guidelines (NVG), followed by the National Guidelines on Responsible Business Conduct (NGRBC), offered banks a localized, India-specific framework for sustainability, emphasizing ethics, sustainability, human rights, stakeholder engagement, and community development.

The banks reported low on NVG reporting principles need to expand their strategies on elements such as involuntary labor, operating regions, etc. The study revealed through scoring that, among the selected banks, SBI performs better in sustainability reporting practices in the public sector than Bank of Baroda, Central Bank, UCO Bank, PNB, Indian Bank, IOB, Union Bank, Canara Bank, and BOB, respectively, in terms of their sustainability reporting practices. In the private sector, HDFC Bank performs better in sustainability reporting practices than IndusInd Bank, Kotak Mahindra Bank, Yes Bank, IDFC Bank, Axis Bank, ICICI Bank, Federal Bank, Bandhan Bank, and IDBI Bank. HDFC Bank has made consistent efforts to disclose its sustainability performance through the GRI framework and NVG compliance, emphasizing its efforts in rural development and community engagement. SBI has been a pioneer in sustainability reporting, aligning its reports with GRI standards and voluntarily reporting NVG guidelines. ICICI Bank has also actively embraced GRI guidelines, disclosing detailed sustainability metrics and highlighting initiatives in areas such as environmental sustainability, financial inclusion, and digital banking. Principle 6 is the highest-reported principle by banks, and Principle 7 of NVG was the least-reported principle by banks, as a large number of banks did not disclose information about public policy. These practices aim to enhance transparency and accountability concerning environmental, social, and governance (ESG) impacts. From 2017 to 2021, sustainability reporting in the Indian banking sector evolved as banks increasingly adopted the GRI and NVG frameworks to improve transparency and accountability. Several Indian banks implemented the GRI framework in alignment with internationally recognized reporting standards, covering environmental impact, social responsibility, and governance. The study carried out on twenty banks and out of these selected banks only six banks entirely followed the GRI framework. The study analyzed the sustainability reporting practices among selected Indian banks by using the NVG framework and content scoring methods. Between 2017 and 2021, there was a significant increase in banks voluntarily reporting with adherence to the NVG framework, particularly in areas such as community engagement and ethical business practices. Indian banks placed a growing emphasis on sustainability reporting, driven by both global standards and national policies. Some banks highlighted efforts to address climate risks and adopt green banking practices. The study finds the inconsistency in sustainability reporting practices across banks, particularly between public and private sector banks. While larger private sector banks like HDFC Bank and ICICI Bank showed a clear positive correlation between sustainability reporting and financial performance, smaller banks struggled with inconsistent reporting and lower adherence to established frameworks like NVG and GRI. This disparity in reporting quality led to variations in the financial performance metrics, including ROE and PBIDT, as well as the firm’s market value (Tobin's Q). Regulatory bodies such as the Securities and Exchange Board of India (SEBI) have issued compliance for more rigorous sustainability reporting, including mandatory Business Responsibility Reporting (BRR) aligned with the NVG. Several banks have begun adopting Integrated Reporting (IR), which combines financial performance with sustainability disclosures. Banks have also incorporated climate-related financial disclosures into their sustainability reports, aligning with global frameworks. However, there remain areas for improvement, such as greater consistency, better quantitative metrics, and enhanced focus on emerging ESG trends like climate risk and sustainability-linked finance. The study found a positive relationship between sustainability reporting practices and performance metrics like Return on Equity (ROE) and Profit Before Interest, Depreciation, and Taxes (PBIDT). Banks with stronger adherence to sustainability reporting frameworks such as NVG and GRI showed higher ROE, suggesting that sustainability efforts, particularly in areas like energy efficiency, ethical practices, and social responsibility, contribute to better financial performance. Similarly, banks that adopted comprehensive sustainability reporting exhibited higher PBIDT, indicating that sustainability practices were correlated with improved operational efficiency and cost management. The findings revealed that banks with more emphasis on sustainability reporting demonstrated higher market valuations, as reflected in their Tobin’s Q ratio. The study suggested that transparency in environmental, social, and governance (ESG) factors enhances investor confidence, leading to higher market valuations. Investors increasingly favor banks that report sustainability efforts aligned with global frameworks such as NVG and GRI. The study found that banks that adopted sustainability reporting frameworks experienced better operational efficiency, which contributed to higher PBIDT. Larger banks with more resources were able to more effectively implement and report on sustainability practices, leading to more significant improvements in profitability and firm value. In contrast, smaller banks faced challenges in fully implementing sustainability frameworks due to limited resources. The study highlighted that banks with higher sustainability reporting scores tended to have lower perceived risks, as measured by their Tobin's Q ratios. Banks that adhered to the Global Reporting Initiative (GRI) and National Voluntary Guidelines (NVG) frameworks were found to have more transparent financial and non-financial disclosures. This transparency in sustainability practices was linked to improved financial performance metrics like ROE and PBIDT, as investors and other stakeholders gained more insight into the bank’s strategies and operational efficiencies. Improved transparency also contributed to higher firm value, as reflected in the higher Tobin's Q for these banks. The study also found that the regulatory compliance for sustainability reporting practices, particularly through frameworks like NVG and GRI, had a positive effect on the financial performance and market value of banks. Government initiatives, such as mandatory disclosures and incentives for sustainability reporting, helped align banking practices with global standards, thereby enhancing both profitability (ROE, PBIDT) and firm value (Tobin’s Q). After the mandatory compliance for sustainability reporting, there has been a noticeable growth in the adoption of sustainability disclosures among banks. This shift can be attributed to the enforcement of regulatory requirements, such as the Securities and Exchange Board of India (SEBI) guidelines and the Business Responsibility Reporting (BRR) framework, which are aligned with the National Voluntary Guidelines (NVG). Increased focus on sustainability practices due to mandatory compliance, banks have seen positive effects on their financial performance. Improved sustainability practices have been linked to higher profitability, better risk management, and an enhanced reputation, which can contribute to stronger market valuations and financial metrics like ROE, PBIDT, and Tobin's Q. Mandatory compliance has significantly accelerated the growth of sustainability reporting among banks, fostering transparency, accountability, and long-term value creation. Mandatory reporting has also encouraged banks to engage more actively with stakeholders, including employees, customers, regulators, and communities. The higher participation by the banking sector could transform the landscape of sustainability practices.

8.2.2. Association between sustainability reporting practices and firm performance

Analysis to understand the association of risk reporting practices with operating performance and market performance of non- financial Indian listed entities suggested that:

i.) Sustainability reporting are positively linked with Tobin-Q. It reveals that divulgation of sustainability reporting by Indian banks led to growth in the market value. Firms are straight forward in putting a clear picture to the stakeholders about the sustainable practices surrounding them, so that stakeholders understand the actual position of the banks resulting in making better decisions regarding their investments in firm. The finding supports the theoretical underpinning by signaling, agency and legitimacy theory. The results lend support to the viewpoint that risk disclosure assists in value creation. The findings are consistent with the works of (Popova et al., 2013: Bravo, 2017; Latif et al., 2022) and contrary to the works of (Saggar and Singh 2019; Haj-Salem et al., 2020).

ii.) Considering accounting-based performance of the firm, ROE and PBIDT both have a positive significant association with sustainability disclosure. This suggest that the disclosing more sustainable information improves the performance of firms. The banks disclosing sustainability information leads to increase in the efficiency of production, build investors' confidence. The finding is in line with signaling theory and consistent with the works of (Jiao, 2011; Dawd and Charfeddine, 2019; Qizam, 2021).

iii.) The study also observed positive significant impact of ROE and PBIDT. The results unfold the positive impact on the performance of Indian banks. This concludes that sustainability disclosure is also considered to be very sensitive disclosure which has created positive perception in the minds of the stakeholders.

iv.) Sustainability disclosures mandated by regulatory bodies have significant association with ROE and PBIDT. This concludes that the performance is being impacted by the sustainability disclosures. The banks which are not fully complying with the sustainability disclosures are not providing the clear picture to stakeholders.

v.) Indian banks with higher sustainability reporting have high market valuation and performance as compared to the banks with non-compliance of sustainability reporting. Further the relationship between the performance and firm value found significant.

vi.) Significant positive association have been observed between firm size and firm performance. It means that firms opting sustainable practices receive a better response from the market which enhances the market-based performance. Investors perceive sustainable firm to be wealth generators which also enhances the accounting-based performance.

8.3 SUGGESTIONS

Following are the suggestions bases on the findings and observations of the researcher**:**

i. The low level of compliance in sustainability reporting disclosures according to NVG and GRI is a significant issue, highlighting the urgent need for monitoring non-compliance by the Ministry of Corporate Affairs (MCA).
ii. It is necessary to strengthen the enforcement of administrative and legal sanctions for violations of sustainability disclosure obligations. The government, along with Indian banks, must take the initiative to introduce sustainable disclosure practices in India and improve the country performance in the Global Reporting Initiative (GRI) index.
iii. The government should establish strong regulations for banks to follow sustainability reporting practices, with penalties imposed on any bank that fails to comply.
iv. The government should offer incentives such as tax exemptions, rebates, or tax holidays to banks that properly disclose sustainability practices.

v. Banks should be guided in initiating and implementing sustainable disclosure practices, with voluntary reporting standards developed by the Institute of Chartered Accountants of India (ICAI).

vi. There should be regular monitoring by Indian banks regarding the use of sustainability reporting. Banks that have some level of sustainable practices should step forward and contribute more to sustainable disclosure.

vii. Customers prioritize banks that follow sustainable disclosure reporting practices. Raising awareness among investors and customers about sustainable reporting can play a vital role in spreading knowledge about sustainable disclosure.

viii. The MCA, along with the ICAI, should provide clear guidelines and interpretations to assist prepares of annual reports in complying with disclosure requirements. This will enable Indian banks to improve their performance by making more sustainable disclosures.

ix. Indian banks should uniformly adopt the GRI standards to bring consistency to sustainability reporting. This will ensure that all banks disclose similar types of data and metrics, making reports more comparable across the sector.

x. Banks could create industry-specific sustainability benchmarks by aligning key performance indicators (KPIs) with both GRI and NVG standards. Many banks, due to a lack of expertise, struggle to implement sophisticated sustainability reporting frameworks effectively. To address this, banks should invest in capacity building by training employees on GRI and NVG guidelines, as well as on how to efficiently collect and report data.

xi. Indian banks should prioritize quantifiable metrics to assess environmental and social impacts. For example, they should report on indicators such as carbon footprint reduction, energy consumption, and financing for renewable energy projects. Additionally, banks should adopt integrated reporting, combining financial data with sustainability performance. This approach would provide stakeholders with a more holistic view of a bank’s overall performance, reflecting both financial success and its impact on the environment and society.

xii. xii. Banks should strengthen their engagement with stakeholders and provide more detailed reports on the feedback received from customers, employees, regulators, and communities. This can be aligned with GRI's principles on stakeholder engagement.

xiii. Banks can leverage digital platforms and dashboards to present real-time data and track progress on sustainability goals. This would improve transparency and make the information more accessible to stakeholders.

xiv. Banks should encourage alignment with international frameworks beyond GRI and NVG, such as the United Nations Sustainable Development Goals (SDGs), which offer a broader perspective on sustainability and responsible business practices.

xv. By enhancing standardization, transparency, and a data-driven approach to sustainability reporting, Indian banks can better align with global practices and frameworks such as GRI and NVG. This will not only improve their accountability but also allow them to play a more proactive role in addressing climate change, social equity, and sustainable development.

xvi. While the NVGs have facilitated the development of standardized reporting frameworks like the Business Responsibility Reporting (BRR) framework, they are generic and lack sector-specific guidance, which can make it difficult for organizations in different sectors to report on their unique sustainability challenges. Therefore, RBI and SEBI could provide sector-specific reporting templates for banks.

xvii. The NVGs do not offer clear guidance on materiality, which can lead to inconsistent reporting. To improve, banks should focus on better assessing and reporting on sustainability issues that are material and relevant to their specific sectors.

xviii. Banks should align their sustainability reporting with international frameworks in addition to NVG and GRI. By demonstrating their commitment to global sustainability standards, firms can attracts broader pool of investors and partners, which can have a positive impact on their financial performance and market position.

xix. Banks should emphasize the long-term benefits of sustainable business practices in their reporting, rather than focusing on short term financial gains.Banks should communicate how their sustainability efforts contribute to long-term value creation this will help attract long term investors and improve firm value.

xx. Banks should invest in training and capacity building efforts to ensure that employees understand and can effectively implement the NVG and GRI guidelines. With better knowledge of these frameworks, banks can enhance the quality and consistency of their sustainability reports, which can improve investor confidence and lead to better financial performance.

xxi. Banks should use digital platforms and dashboards to present real-time sustainability data. This can improve transparency and allow stakeholders to track progress on sustainability goals more easily. By enhancing the accessibility of sustainability information, can enhance their market valuation.

xxii. The study assess sustainability reporting, linkage with firm value through NVG and GRI frameworks as measured by Tobin's Q. The study could focus on how investors perceive firms that engage in detailed sustainability reporting and whether these firms are valued higher in the market.

xxiii. The study could suggest policies or regulatory improvements to further encourage sustainability reporting among Indian firms. For instance, regulators like the Securities and Exchange Board of India (SEBI) could introduce incentives for sustainability reporting. This could foster greater consistency across firms and industries, potentially boosting their financial performance (ROE, PBIDT) and market value (Tobin's Q).

8.4 CONCLUSION

In India, the formal disclosure of sustainability reporting began with the introduction of the National Voluntary Guidelines (NVG) in 2011. Since then, sustainability reporting practices have gradually evolved and expanded. This study finds that although Indian banks have increasingly reported on sustainability practices under both the NVG (2011) and the GRI G4 frameworks, there remains a significant variation in the extent and quality of disclosures. Among the NVG principles studied, Principle 3 (employee well-being) received the highest priority for disclosure, aligning with recent findings by (Yadava and Sinha, 2022), which highlighted that Indian firms prioritize social and employee-related disclosures to build internal trust and workforce stability. In contrast, disclosures related to Principle 7 (public and regulatory advocacy) were notably lower, confirming observations by (Mukherjee and Ghosh, 2021) that advocacy and governance issues often receive limited attention in sustainability reports of Indian banks. Banks which disclosed the well being of employees provide very detailed disclosures for the sustainability disclosures. The study contributes to the existing literature of sustainability reporting by providing empirical evidence of the voluntary reporting of sustainability in Indian banking context. Banks that provided disclosures concerning employee welfare tended to offer detailed and comprehensive sustainability information (Narula and Reddy, 2023). The findings of this research provide further understanding of the pattern in sustainability disclosures. Perhaps banks are more concerned about well-being of employees because employees are specific internal resources and backbone of the banking sector. On the other hand public advocacy thus, given last priority. The research suggest that domestic banks need to improve their sustainability disclosure to keep up with the global practice. The primary purpose of the research was to investigate and evaluate the sustainability reporting strategies that were put into place by selected Indian banks on the NVG and GRI. The present study contributes to the growing body of literature by offering empirical evidence on the voluntary nature of sustainability reporting within the Indian banking sector. It highlights distinct patterns in disclosure behavior such as internal stakeholder issues such as employee welfare which are prioritized over external factors such as public advocacy (Saluja and Kapoor,2021). Even after investigation it is possible to draw the conclusion that selected Indian banks are not completely complying with the obligations of sustainability disclosure outlined in NVG and GRI. However, an improvement can be witnessed in the number of banks disclosing the sustainability information from 2017- 2021 along with the disclosure levels also. Banks must now cater to the diverse needs of society, as they are the most powerful group responsible for a banks survival.The evolution of banking responsibilities from providing high-quality financial services to addressing diverse societal needs, mirrors global shifts in corporate responsibility, as discussed by (Pizzi, Caputo, and Corvino, 2022), revelead that the sustainability has become central to the long-term strategic positioning of banks worldwide. Further, the study examines the association between sustainability reporting and firm performance. Performance was assessed using market-based measures such as market valuation and accounting-based measures such as profitability. The results show that sustainability disclosure variables significantly impact firm performance, with both Return on Equity (ROE) and Profit Before Interest, Depreciation, and Taxes (PBIDT) being positively influenced by voluntary disclosures. These findings are consistent with recent research by Kansal, Joshi, and Babu (2020) and Fatemi, Fooladi, and Tehranian (2018), which found that sustainability transparency enhances financial performance, especially in emerging markets. The current study also highlights the association between sustainability reporting practices and firm performance. Firm performance has been classified as market-based performance which deals with market valuation and the accounting-based performance focusing on the operating performance of the business. The research findings illustrate the impact of sustainability disclosures variables on performance. ROE and PBIDT both are being impacted by voluntary disclosures. Overall, the findings highlight that in emerging economies like India, sustainability reporting not only fulfills regulatory and ethical imperatives but also offers tangible financial benefits, including improved market valuation and operational performance. Thus, Indian banks are gradually recognizing that sustainability is integral to their long-term survival and growth in an increasingly conscious global market.

8.5 IMPLICATIONS

The adoption of sustainability reporting in the Indian banking sector, based on the Global Reporting Initiative (GRI) and National Voluntary Guidelines (NVG), has brought significant implications for the sector. These implications cover a range of areas, including transparency, corporate governance, regulatory compliance, financial performance, and societal impact. By aligning with the GRI and NVG frameworks, banks have become more transparent in disclosing their environmental, social, and governance (ESG) performance. This has increased accountability, making banks more answerable to regulators, investors, and the public. Sustainability reporting has led to greater trust among stakeholders, including customers, employees, investors, and communities, as they can assess the bank's commitment to sustainability and responsible business practices.Adoption of the GRI framework has allowed Indian banks to benchmark their sustainability performance against global peers. This helps them remain competitive in international markets and attract global investors who prioritize ESG factors.The evolution of sustainability reporting frameworks and their alignment with regulatory initiatives, such as SEBI- Business Responsibility and

Sustainability Reporting (BRSR), has compelled banks to enhance their reporting practices to remain compliant with local and international regulations.Banks that adopt these frameworks early have gained recognition as leaders in sustainable finance, enhancing their market reputation.

The study revels theoretical, methodological and practical implications which may be useful to academicians, researchers, regulatory bodies and various other users of sustainability reporting information. The study has strong implications for the banking industry in specific and society in general. It is apparent that the Indian banks believe that by embracing the spirit of being socially responsible and focusing on sustainability reporting practices, will not only boost the goodwill of banks but will provide added benefits in terms of increased customer satisfaction, investors loyalty and growing financial worth. Consequently, banks would built strong brand image and have edge over other banks through increasing patronage of their services. It is gratifying for the society in general to witness that banks are not only acting as profit makers but also thinking terms of community welfare.

The study highlighted that selected banks reported higher on the social indicators and lower on environmental indicators. The results reveal that between 2017 and 2021, Indian banks gradually increased their degree of sustainability disclosure. In light of recent developments in the Indian environment, such as the introduction of Business Responsibility and Sustainability Reporting (BRSR), it is anticipated that the sustainability disclosure practices would be improved further. study adds to the existing body of knowledge by providing empirical evidence on India's sustainability disclosure practices. Academicians and researchers will benefit from sustainability disclosure analysis because it will provide new empirical evidence.The findings of this study, as well as the disclosure index that was created, could be useful for improving disclosure practices of banks in India for policymakers who develop corporate governance codes.”

This study could be useful for existing, potential investors, as well as regulatory bodies, in terms of understanding the consequences of sustainability disclosures. Considering the potential effect of existing levels of sustainability disclosure on business valuation, the research might be informative for regulators. The study's results will educate businesses on what variables may associate with and affect sustainability disclosure. It is clear from the results of this research that banks which reported on sustainability exposures are secured higher firm value and in turn it enhances the financial performance.

SEBI should ensure that sustainability reporting norms are reinforced at the firm level in order to improve the dissemination of sustainability information in annual reports. This study will be beneficial to policymakers at the nationwide and at global levels. As a result of these findings, investors are informed that sustainability disclosures have a significant influence on the market value of enterprises. The sustainability reporting practices in the Indian banking sector between 2017 and 2021, under the GRI and NVG frameworks, have led to greater transparency, improved stakeholder engagement, and enhanced alignment with international standards.

8.6 LIMITATIONS OF THE STUDY AND SCOPE FOR FUTURE RESEARCH

The findings, suggestions, contribution and implication of the current study should be considered with the following limitations and its scope for future research:

i. The present study has focused on the top twenty banks from moneycontrol and has not considered the complete banking sector. This present study based on a limited sample of twenty banks mainly uses secondary data for analysis.

ii. The studies focused on analyzing the sustainability reporting practices by considering, National Voluntary Guidelines (NVG) and Global Reporting Initiative (GRI) framework, whereas future research can focus on disclosure practices adopted by the banks in disclosing non-financial reporting i.e., Banks Integrated Reporting Dictionary (BIRD) etc. The current study undertook to analyze sustainability disclosure in the Indian banking context on voluntary implementation.

iii. Future studies can be channelized to analyze sustainability reporting disclosure on business responsibility and sustainability report (BRSR).

iv. A comparative study of the sustainability reporting practices may also be carried across various sectors. Therefore, future research may explore the banks which are not covered along with selected banks and Securities and Exchange Board in India (SEBI) mandate organizations to report on sustainability-related factors, this would result into identifying the sustainability disclosures practices adopted by banks.

v. The present study focuses only on top ten Indian private and public banks. The future researcher may explore sustainability disclosure in other categories of banks as customer nowadays are also focusing on generating returns.

vi. Study has considered quantifying the mandatory and voluntary sustainability disclosures by only considering annual reports as a medium of disclosing the information. Therefore, a step can be initiated for future research where the quantification of sustainability can be done from annual reports, company websites and integrated reports to have better understanding of sustainability reporting practices.

vii. This study focuses on the quantity of sustainability disclosure from annual reports by using a disclosure index method to analyze sustainability disclosure, whereas future research can focus on both quantity and quality of sustainability disclosure to provide useful insights.

viii. The current study undertook to analyze voluntarily sustainability disclosure in the Indian context. As a result, there is enormous potential for research in the area of sustainability reporting, and relentless efforts must be directed in this direction.

ix. While frameworks like the Global Reporting Initiative (GRI) and National Voluntary Guidelines (NVG), their voluntary nature has led to inconsistent adoption across banks. Some banks fully embrace the frameworks, while others only partially comply, resulting in a lack of uniformity in sustainability reports.

x. There is significant variation in the depth of reporting between large and small banks. Larger banks, with more resources, tend to provide comprehensive reports, while smaller banks may struggle to produce detailed disclosures, leading to an uneven landscape of sustainability reporting.

xi. One of the major limitations of sustainability reporting in the Indian banking sector is the lack of quantifiable data. While qualitative disclosures on social and environmental initiatives are common, banks often fail to provide measurable outcomes related to emissions reductions, resource consumption, or financial inclusion impacts.

xii. The GRI and NVG frameworks are comprehensive but can be complex for banks to implement, especially for smaller institutions. The reporting process can be resource-intensive, requiring significant time, expertise, and financial commitment, which some banks may find challenging. While some banks fully adhere to the GRI and NVG frameworks, others only provide limited or superficial disclosures. This inconsistency in compliance levels hampers efforts to create a cohesive understanding of the sector's overall sustainability performance.

xiii. Before the BRSR was enforced, sustainability reporting in India was voluntary for banks. Without mandatory regulations, some banks may not have reported on sustainability issues at all but the shift from voluntary to mandatory sustainability reporting helps in integrating sustainability into the core operations of banks, improving long-term business viability, and increasing stakeholder trust.

CHAPTER-9

References

Abbas, J., Hussain, I., Hussain, S., Akram, S., Shaheen, I., & Niu, B. (2019). The impact of knowledge sharing and innovation upon sustainable performance in Islamic banks: A mediation analysis through an SEM approach. *Sustainability*. https://doi.org/10.3390/su11154049.

Abdi, Y., Li, X., & Càmara-Turull, X. (2021). Exploring the impact of sustainability (ESG) disclosure on firm value and financial performance (FP) in the airline industry: The moderating role of size and age. *Environment, Development and Sustainability*, 24, 5052-5079.

Abdi, Yaghoub., Li, Xiaoni., & Càmara-Turull, X.. (2021). Exploring the impact of sustainability (ESG) disclosure on firm value and financial performance (FP) in airline industry: the moderating role of size and age. Environment, Development and Sustainability, 24, 5052 - 5079.

Aboud, A., & Diab, A. (2018). The impact of social, environmental and corporate governance disclosures on firm value: Evidence from Egypt. *Journal of Accounting in Emerging Economies*, 8(4), 442-458. https://doi.org/10.1108/JAEE-08-2017-0079.

Adams, C. A. (2002). Internal organizational factors influencing corporate social and ethical reporting: Beyond current theorising. *Accounting, Auditing & Accountability Journal*, 15(2), 223-250.

Agarwal, A., Aggarwal, S. P., & Gupta, S. (2019). Sustainable earnings: A new eye for emerging finance. *Journal of Sustainable Finance & Investment*, 9(4), 325–348.

Aggarwal, P., & Singh, A. K. (2019). CSR and sustainability reporting practices in India: An in-depth content analysis of top-listed companies. *Social Responsibility Journal*. https://doi.org/10.1108/SRJ-03-2018-0078.

Alataş, S., & Çakır, M. (2016). The effect of human capital on economic growth: A panel data analysis. *Yönetim Bilimleri Dergisi*, 14(27), 539-555.

Alatawi, M. S., & Daud, Z. B. M. (2022). Integrated reporting practices and firm performance: A review study. *Corporate and Business Strategy Review*, 3(2), 96–111.

Almaqtari, F. A., Al-Homaidi, E. A., Tabash, M., & Farhan, N. H. S. (2018). The determinants of profitability of Indian commercial banks: A panel data approach. *International Journal of Finance & Economics*. https://doi.org/10.1002/ijfe.1655.

Alraja, M., Imran, R., Khashab, B., & Shah, M. (2022). Technological innovation, sustainable green practices and SMEs sustainable performance in times of crisis (COVID-19 pandemic). *Information Systems Frontiers,* 24, 1081-1105.

Alshehhi, A., Nobanee, H., & Khare, N. (2018). The impact of sustainability practices on corporate financial performance: Literature trends and future research potential. *Sustainability,* 10(2), 494.

Amidjaya, P. G., & Widagdo, A. (2019). Sustainability reporting in Indonesian listed banks. *Journal of Applied Accounting Research*. https://doi.org/10.1108/jaar-09-2018-0149.

Amosh, H. A., & Mansor, N. (2020). The implications of ownership structure on the environmental disclosure in Jordan. *International Journal of Academic Research in Business and Social Sciences*. https://doi.org/10.6007/ijarbss/v10-i3/7054.

Anderson, E. W., Fornell, C., & Mazvancheryl, S. K. (2004). Customer satisfaction and shareholder value. *Journal of Marketing*, 68(4), 172-185.

Arora, A., & Sharma, D. (2022). Do environmental, social and governance (ESG) performance scores reduce the cost of debt? Evidence from Indian firms. *Australasian Business, Accounting and Finance Journal*, 16(5), 4–18.

Arora, H., Anwer, N., & Narula, S. (2023). A study of corporate sustainability reporting practices in the Indian energy sector. *Strategic Planning for Energy and the Environment*. https://doi.org/10.13052/spee1048-5236.4235.

Arvidsson, S., & Dumay, J. (2021). Corporate ESG reporting quantity, quality and performance: Where to now for environmental policy and practice? *Business Strategy and the Environment*. https://doi.org/10.1002/bse.2937.

Attah-Botchwey, E., Soku, M. G., & Awadzıe, D. M. (2022). Sustainability reporting and the financial performance of banks in Africa. *Journal of Business Economics and Finance*, 11(1), 43-57.

Avrampou, A., Skouloudis, A., Iliopoulos, G., & Khan, N. (2019). Advancing the sustainable development goals: Evidence from leading European banks. *Sustainable Development*. https://doi.org/10.1002/sd.1938.

Bachoo, K., Tan, R., & Wilson, M. (2013). Firm value and the quality of sustainability reporting in Australia. *Australian Accounting Review*, 23, 67-87.

Bahuguna, P. C., Srivastava, R., & Tiwari, S. (2023). Two-decade journey of green human resource management research: A bibliometric analysis. *Benchmarking: An International Journal*, 30(2), 585-602.

Bansal, M., Samad, T. A., & Bashir, H. A. (2021). The sustainability reporting-firm performance nexus: Evidence from a threshold model. *Journal of Global Responsibility*, *12*(4), 491–512.

Buallay, Amina. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. Management of Environmental Quality: An International Journal. http://doi.org/10.1108/MEQ-12-2017-0149.

Bhargava, A., & Ligade, P. (2023). Corporate social responsibility (CSR) and sustainability – A scientometric analysis of the interrelationship. *Journal of Indian Business Research*, *15*(1), 110–124.

Bhatia, A., & Tuli, S. (2015). Sustainability disclosure practices: a study of selected Chinese companies. Management and Labour Studies, 40(3-4), 268-283.

Bhatia, A., & Tuli, S. (2018). Sustainability reporting practices in US and UK: An empirical comparison. *International Journal of Law and Management*, *60*(4), 1034–1056.

Bhatia, A., & Tuli, S. (2018). Sustainability reporting: An empirical evaluation of emerging and developed economies. *Journal of Global Responsibility*, *9*(2), 207–234.

Bhatia, A.., & Tuli, S.. (2017). Corporate attributes affecting sustainability reporting: An Indian perspective. International Journal of Law and Management, 59, 322-340. http://doi.org/10.1108/IJLMA-11-2015-0057.

Bhattacharya, S., & Sharma, D. (2019). Do environment, social and governance performance impact credit ratings: A study from India. *International Journal of Ethics and Systems*, *35*(3), 466–484.

Bhimavarapu, V. M., Rastogi, S., Gupte, R., Pinto, G., & Shingade, S. (2022). Does the impact of transparency and disclosure on the Firm's valuation depend on the ESG? *Journal of Risk and Financial Management*, *15*(9), 410.

Bhimavarapu, V. M., Rastogi, S., & Kanoujiya, J. (2023). Ownership concentration and its influence on transparency and disclosures of banks in India. *Corporate Governance*, *23*(1), 18–42.

Bhuvaneskumar, A., Sivakumar, V. J., & Pushparaj, N. (2023). Performance assessment and ranking of socially responsible companies in India using FAHP, TOPSIS and Altman Z-score. *Benchmarking: An International Journal*, *30*(3), 736–765.

Biswas, S., Bhattacharya, M., Sadarangani, P. H., & Jin, J. Y. (2022). Corporate governance and earnings management in banks: An empirical evidence from India. *Cogent Economics and Finance*, *10*(1), 1.

Bodhanwala, S., & Bodhanwala, R. (2018). Does corporate sustainability impact firm profitability? Evidence from India. *Management Decision*, *56*(8), 1734–1747.

Bodhanwala, S., & Bodhanwala, R. (2019). Relationship between sustainable and responsible investing and returns: A global evidence. *Social Responsibility Journal*, *16*(4), 579–594.

Bodhanwala, S., & Bodhanwala, R. (2022). Exploring relationship between sustainability and firm performance in travel and tourism industry: A global evidence. *Social Responsibility Journal*, *18*(7), 1251–1269.

Brainard, W.C. and Tobin, J., 1968. Pitfalls in financial model building. The American Economic Review, 58(2), pp.99-122.

Buallay, A., Fadel, S. M., Alajmi, J., & Saudagaran, S. (2021). Sustainability reporting and bank performance after financial crisis: evidence from developed and developing countries. Competitiveness Review: An International Business Journal, 31(4), 747-770.

Buallay, Amina. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. Management of Environmental Quality: An International Journal. http://doi.org/10.1108/MEQ-12-2017-0149.

Buallay, Amina. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. Management of Environmental Quality: An International Journal. http://doi.org/10.1108/MEQ-12-2017-0149.

Buallay, Amina. (2019). Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector. Management of Environmental Quality: An International Journal. http://doi.org/10.1108/MEQ-12-2017-0149.

Çankaya, S.., & Sezen, B.. (2019). Effects of green supply chain management practices on sustainability performance. Journal of Manufacturing Technology Management. http://doi.org/10.1108/JMTM-03-2018-0099.

Cantele, S. (2014). The trend of sustainability reporting in Italy: Some evidence from the last decade. International Journal of Sustainable Economy 4, 6(4), 381-405.

Chalissery, N., Tabash, M. I., Nishad T, M., & Saleh Al-Faryan, M. A. (2023). A bibliometric analysis of socially responsible investment based on thematic clustering. *Cogent Business and Management*, *10*(1), 1.

Charumathi, B. and Ramesh, L., 2020. Impact of voluntary disclosure on valuation of firms: Evidence from Indian companies. Vision, 24(2), pp.194-203.

Charumathi, B., & Ramesh, L. (2020). Impact of voluntary disclosure on valuation of firms: Evidence from Indian companies. *Vision*, *24*(2), 194–203.

Chatterjee, S., Chaudhuri, R., & Vrontis, D. (2023). Investigating the impacts of microlevel CSR activities on firm sustainability: Mediating role of CSR performance and moderating role of top management support. *Cross Cultural and Strategic Management*, *30*(1), 123–141.

Clarkson, P. M., Li, Y., Richardson, G. D., & Vasvari, F. P. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, organizations and society*, *33*(4-5), 303-327.

Daizy, Daizy., & Das, N. (2015). Sustainability Reporting Practices In Indian Mining Companies. Current World Environment, 10, 641-655. http://doi.org/10.12944/CWE.10.2.30

Das Gupta, R., & Roy, A. (2023). Firm environmental, social, governance and financial performance relationship contradictions: Insights from institutional environment mediation. *Technological Forecasting and Social Change*, *189*, ISSN 0040-1625.

Das, M., & Rangarajan, K. (2020). Impact of policy initiatives and collaborative synergy on sustainability and business growth of Indian SMEs. *Indian Growth and Development Review*, *13*(3), 607–627.

Dash, M.. (2017). A Model for Bank Performance Measurement Integrating Multivariate Factor Structure with Multi-Criteria PROMETHEE Methodology. Asian Journal of Finance and Accounting, 9, 310-332. http://doi.org/10.5296/AJFA.V9I1.11073.

Dash, M.. (2017). A Model for Bank Performance Measurement Integrating Multivariate Factor Structure with Multi-Criteria PROMETHEE Methodology. Asian Journal of Finance and Accounting, 9, 310-332. http://doi.org/10.5296/AJFA.V9I1.11073.

Deb, D., Gillet, P., Bernard, P., & De, A. (2022). Examining the impact of corporate social responsibility on the financial performance of Indian companies. *FIIB Business Review*, *0*(0).

Dhaliwal, D. S., Li, O. Z., Tsang, A., & Yang, Y. G. (2011). Voluntary non-financial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The accounting review*, *86*(1), 59-100.

Dhar, S., & Chowdhury, M. A. F. (2021). Impact of environmental accounting reporting practices on financial performance: evidence from banking sector of Bangladesh. *International Journal of Asian Business and Information Management (IJABIM)*, *12*(1), 24-42.

Dissanayake, D.., Tilt, C.., & Qian, W.. (2019). Factors influencing sustainability reporting by Sri Lankan companies. Pacific Accounting Review. http://doi.org/10.1108/PAR-10-2017-0085.

Eccles, R. G., & Krzus, M. P. (2010). *One report: Integrated reporting for a sustainable strategy*. John Wiley & Sons.

Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management science*, *60*(11), 2835-2857.

Ehnert, I.., Parsa, Sepideh., Roper, I.., Wagner, M.., & Muller-Camen, Michael. (2016). Reporting on sustainability and HRM: a comparative study of sustainability reporting practices by the world's largest companies. The International Journal of Human Resource Management, 27, 108 - 88. http://doi.org/10.1080/09585192.2015.1024157.

Festl-Pell, Diana. (2016). Essays on banking, governance and sustainability. http://doi.org/10.5167/UZH-131320.

Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. *Management science*, *61*(11), 2549-2568.

Gangwar, H., Mishra, R., & Kamble, S. (2023). Adoption of big data analytics practices for sustainability development in the e-commerce supply chain: A mixed-method study. *International Journal of Quality and Reliability Management*, *40*(4), 965–989.

Ghosh, D., Dutta, A., & Dutta, M. (2022). Impact of financial performance on environmental sustainability in the presence of credit constraints: Evidence from Indian manufacturing firms. *Journal of Sustainable Finance and Investment*, 1–17.

Gill, S., Kohli, M., & Satija, P. (2022). Materiality in sustainability disclosures and investment portfolio performance in the Indian context. *Journal of Sustainable Finance and Investment*, 1–23.

Goel, P. (2021). Rising standards of sustainability reporting in India: A study of impact of reforms in disclosure norms on corporate performance. *Journal of Indian Business Research*, *13*(1), 92–109.

Goel, P., & Misra, R. (2017). Sustainability reporting in India: Exploring sectoral differences and linkages with financial performance. *Vision*, *21*(2), 214–224.

Golicic, S.., & Smith, Carlo D.. (2013). A Meta-Analysis of Environmentally Sustainable Supply Chain Management Practices and Firm Performance. Journal of Supply Chain Management, 49, 78-95. http://doi.org/10.1111/JSCM.12006.

Gopal, P.., & Thakkar, J.. (2016). Sustainable supply chain practices: an empirical investigation on Indian automobile industry. Production Planning & Control, 27, 49 - 64. http://doi.org/10.1080/09537287.2015.1060368.

Grewal, J., Riedl, E. J., & Serafeim, G. (2019). Market reaction to mandatory nonfinancial disclosure. *Management Science*, *65*(7), 3061-3084.

Gupta, H., Lawal, J. N., Orji, I. J., & Kusi-Sarpong, S. (2023). Closing the gap: The role of distributed manufacturing systems for overcoming the barriers to manufacturing sustainability. *IEEE Transactions on Engineering Management*, *70*(5), 1754–1773.

Gutiérrez-Ponce, H., & Wibowo, S. A. (2023). Do sustainability activities affect the financial performance of banks? The case of Indonesian Banks. Sustainability, 15(8), 6892.

Hardi, E., & Chairina, C. (2019). The effect of sustainability reporting disclosure and its impact on companies financial performance. Journal of Wetlands Environmental Management, 7(1), 67-75.

Herd, Richard., Koen, Vincent., Patnaik, I.., & Shah, Ajay. (2011). Financial Sector

Reform in India: Time for a Second Wave. http://doi.org/10.1787/5KG8GHVZR2JK-EN. https://www.semanticscholar.org/paper/5d13807ddc2032b46bb42087f75989d77d27fd05

Ioannou, I., & Serafeim, G. (2012). What drives corporate social performance. The role of nation-level institutions. *Journal of international business studies*, *43*, 834-864.

Ioannou, I.., & Serafeim, George. (2017). The Consequences of Mandatory Corporate Sustainability Reporting. The Oxford Handbook of Corporate Social Responsibility. http://doi.org/10.2139/SSRN.1799589 .

J. , S., K.r., S., & Prasad, K. (2023) Does GRI compliance moderate the impact of sustainability disclosure on firm value. *Society and Business Review*, *18*(1), 152–174.

Jain, K., & Tripathi, P. S. (2023). Mapping the environmental, social and governance literature: A bibliometric and content analysis. *Journal of Strategy and Management.*

Jain, N. K., Choudhary, P., Panda, A., Jain, S., & Dey, P. K. (2022). Impact of institutional pressures and dynamic capabilities on sustainability performance of oil and as sector. *International Journal of Energy Sector Management.*

Jain, P., et al. (2018). Sustainability reporting and financial performance: Evidence from Indian banks. Journal of Financial Reporting and Accounting, 16(1), 34-53.

Jain, S., & Raithatha, M. (2022). Risk disclosures and firm value: The role of governance in an emerging market. *International Journal of Productivity and Performance Management*, *71*(8), 3205–3227.

Jaisinghani, D., & Sekhon, A. K. (2022). CSR disclosures and profit persistence: Evidence from India. *International Journal of Emerging Markets*, *17*(3), 705–724.

K, Dhanya B., & Velmurugan, V.. (2023). Customer Awareness Towards e-Banking Management for Maintaining a Sustainable Environment.

Kalia, D., & Aggarwal, D. (2023). Examining impact of ESG score on financial performance of healthcare companies. *Journal of Global Responsibility*, *14*(1), 155–176.

Kalia, Yatisha. (2023). Sustainability Practices In Indian Commercial Banks:A

Comparision of SBI and HDFC.*Migration Letters.*

Kamble, Sachin S.., Gunasekaran, A.., & Dhone, Neelkanth C.. (2019). Industry 4.0 and lean manufacturing practices for sustainable organisational performance in Indian manufacturing companies. International Journal of Production Research, 58 , 1319 – 1337 . http://doi.org/10.1080/00207543.2019.1630772.

Karaman, Abdullah S.., Kılıç, Merve., & Uyar, Ali. (2020). Green logistics performance and sustainability reporting practices of the logistics sector: The moderating effect of corporate governance.*Journal of Cleaner Production*,258,120718. http://doi.org/10.1016/j.jclepro.2020.120718.

Kepes, S.., McDaniel, Michael A.., Brannick, M.., & Banks, G.. (2013). Meta-analytic Reviews in the Organizational Sciences: Two Meta-analytic Schools on the Way to MARS (the Meta-analytic Reporting Standards). Journal of Business and Psychology, 28, 123-143. http://doi.org/10.1007/S10869-013-9300-2.

Khan, A., Muttakin, M. B., & Siddiqui, J. (2013). Corporate governance and corporate social responsibility disclosures: Evidence from an emerging economy. *Journal of business ethics*, *114*, 207-223.

Khan, H.., Bose, S.., Mollik, A.., & Harun, Harun. (2020). “Green washing” or “authentic effort”. An empirical investigation of the quality of sustainability reporting by banks. Accounting, Auditing & Accountability Journal, 1-32. http://doi.org/10.1108/aaaj-01-2018-3330.

Khan, H.., Bose, S.., Mollik, A.., & Harun, Harun. (2020). “Green washing” or “authentic effort”? An empirical investigation of the quality of sustainability reporting by banks. Accounting, Auditing & Accountability Journal, 1-32 . http://doi.org/10.1108/aaaj-01-2018-3330.

Khan, H.., Islam, Muhammad Azizul., Fatima, J.., & Ahmed, Khadem. (2011). Corporate sustainability reporting of major commercial banks in line with GRI: Bangladesh evidence. Social Responsibility Journal, 7, 347-362. http://doi.org/10.1108/17471111111154509.

Khan, M.S.. (2014). A study of environmental constraints faced by Public Private Partnership (PPP) in India and the road to a framework for successful implementation of PPP project. Business Review. http://doi.org/10.54784/1990-6587.1225.

Khan, P. A., Johl, S. K., & Akhtar, S. (2022). Vinculum of sustainable development goal practices and firms' financial performance: A moderation role of green innovation. *Journal of Risk and Financial Management*, *15*(3), 96.

Khan, P.., Johl, S. K.., & Johl, Shireenjit K.. (2021). Does adoption of ISO 56002-2019 and green innovation reporting enhance the firm sustainable development goal performance? An emerging paradigm. Business Strategy and the Environment. http://doi.org/10.1002/BSE.2779.

Khan, S.., Zhang, Yu., Kumar, Anil., Zavadskas, E.., & Štreimikienė, D.. (2020). Measuring the impact of renewable energy, public health expenditure, logistics, and environmental performance on sustainable economic growth. Sustainable Development. http://doi.org/10.1002/sd.2034.

Kılıç, Merve., Kuzey, C.., & Uyar, Ali. (2015). The impact of ownership and board structure on Corporate Social Responsibility (CSR) reporting in the Turkish banking industry. Corporate Governance, 15, 357-374. http://doi.org/10.1108/CG-02-2014-0022.

Kumar, D. (2022). Economic and political uncertainties and sustainability disclosures in the tourism sector firms. *Tourism Economics*, *0*(0).

Kumar, K., & Prakash, A. (2019). Developing a framework for assessing sustainable banking performance of the Indian banking sector. *Social Responsibility Journal*, *15*(5), 689–709.

Kumar, K., Kumari, R., Poonia, A., & Kumar, R. (2023). Factors influencing corporate sustainability disclosure practices: Empirical evidence from Indian National Stock Exchange. *Journal of Financial Reporting and Accounting*, *21*(2), 300–321.

Kumar, Kishore., & Prakash, A.. (2018). Developing a framework for assessing sustainable banking performance of the Indian banking sector. Social Responsibility Journal. http://doi.org/10.1108/SRJ-07-2018-0162.

Kumar, Kishore., & Prakash, A.. (2019). Examination of sustainability reporting practices in Indian banking sector. Asian Journal of Sustainability and Social Responsibility, 4, 1-16. http://doi.org/10.1186/S41180-018-0022-2.

Kumar, Kishore., & Prakash, A.. (2019). Examination of sustainability reporting practices in Indian banking sector. Asian Journal of Sustainability and Social Responsibility, 4, 1-16. http://doi.org/10.1186/S41180-018-0022-2.

Kumar, Kishore., & Prakash, A.. (2019). Examination of sustainability reporting practices in Indian banking sector. Asian Journal of Sustainability and Social Responsibility, 4, 1-16. http://doi.org/10.1186/S41180-018-0022-2.

Kumar, Kishore., & Prakash, A.. (2019). Managing sustainability in banking: extent of sustainable banking adaptations of banking sector in India. Environment, Development and Sustainability, 22, 5199-5217. http://doi.org/10.1007/s10668-019-00421-5.

Kumar, Kishore., & Prakash, A.. (2019). Managing sustainability in banking: extent of sustainable banking adaptations of banking sector in India. Environment, Development and Sustainability, 22, 5199-5217. http://doi.org/10.1007/s10668-019-00421-5.

Kumar, S., & Dua, P. (2022). Environmental management practices and financial performance: Evidence from large listed Indian enterprises. *Journal of Environmental Planning and Management*, *65*(1), 37–61.

Kumar, S., Sharma, A., Mishra, P., & Kaushik, N. (2023). Corporate social responsibility disclosures and earnings management: A bibliometric analysis. *International Journal of Disclosure and Governance*, *20*(1), 27–51.

Kumar, S., Pandey, N., & Kaur, J. (2023). Fifteen years of the Social Responsibility Journal: A retrospective using bibliometric analysis. *Social Responsibility Journal*, *19*(2), 377–397.

Kumar, V., et al. (2019). Sustainability reporting practices of Indian banks: An empirical study. Journal of Cleaner Production, 235, 1220-1228.

Iskandar, Y., et al (2023). The Effect of Technology Adaptation and Government Financial

Support on Sustainable Performance of MSMEs during the COVID-19 Pandemic. Cogent Business & Management, 10. http://doi.org/10.1080/23311975.2023.2177400.

Kuzey, C.., & Uyar, Ali. (2017). Determinants of sustainability reporting and its impact on firm value: Evidence from the emerging market of Turkey. Journal of Cleaner Production, 143, 27-39. http://doi.org/10.1016/J.JCLEPRO.2016.12.153.

Laskar, N. (2019). Does sustainability reporting enhance firms profitability. A study on select companies from India and South Korea. *Indian Journal of Corporate Governance*, *12*(1), 2–20.

Laskar, N. (2018). Impact of corporate sustainability reporting on firm performance: An empirical examination in Asia. *Journal of Asia Business Studies*, *12*(4), 571–593.

Laskar, N., Chakraborty, T. K., & Maji, S. G. (2017). Corporate sustainability performance and financial performance: Empirical evidence from Japan and India. *Management and Labour Studies*, *42*(2), 88–106.

Laskar, N., & Maji, S. G. (2016). Corporate sustainability reporting practices in India: Myth or reality? *Social Responsibility Journal*, *12*(4), 625–641.

Laskar, Najul., & Maji, S. G.. (2016). Corporate sustainability reporting practices in India: myth or reality. Social Responsibility Journal, 12, 625-641. http://doi.org/10.1108/SRJ-05-2015-0065

Lenz, I., Wetzel, H. A., & Hammerschmidt, M. (2017). Can doinggood lead to doing poorly? Firm value implications of CSR inthe face of CSI. Journal of the Academy of Marketing Science,45(5), 677–697.

Li, Y.., Al-Sulaiti, K.., Dongling, Wang., Abbas, Jaffar., & Al-Sulaiti, Ibrahim. (2022). Tax Avoidance Culture and Employees' Behavior Affect Sustainable Business Performance: The Moderating Role of Corporate Social Responsibility., 10. http://doi.org/10.3389/fenvs.2022.964410.

Loh, Lawrence., Thomas, Thomas., & Wang, Yu. (2017). Sustainability Reporting and Firm Value: Evidence from Singapore-Listed Companies. Sustainability, 9, 2112.

http://doi.org/10.3390/SU9112112.

Loh, Lawrence., Thomas, Thomas., & Wang, Yu. (2017). Sustainability Reporting and Firm Value: Evidence from Singapore-Listed Companies. Sustainability, 9, 2112. http://doi.org/10.3390/SU9112112.

Kuzey, C.., & Uyar, Ali. (2017). Determinants of sustainability reporting and its impact on firm value: Evidence from the emerging market of Turkey. Journal of Cleaner Production, 143, 27-39. http://doi.org/10.1016/J.JCLEPRO.2016.12.153.

M. R., F. K. (2021) Socially Responsible Investing and Sustainable Indices: A Sustainability Agenda. *Indian Journal of Corporate Governance*, *14*(2), 209–225.

M.P., Sajan., P.R., Shalij., A., R.., & P., Biju Augustine. (2017). Lean manufacturing practices in Indian manufacturing SMEs and their effect on sustainability performance. Journal of Manufacturing Technology Management, 28, 772-793. http://doi.org/10.1108/JMTM-12-2016-0188.

Maji, S. G., & Kalita, N. (2022). Climate change financial disclosure and firm performance: Empirical evidence from Indian energy sector based on TCFD recommendations. *Society and Business Review*, *17*(4), 594–612.

Maji, S. G., & Lohia, P. (2023). Environmental, social and governance (ESG) performance and firm performance in India. *Society and Business Review*, *18*(1), 175– 194.

Marquis, C., & Qian, C. (2014). Corporate social responsibility reporting in China: Symbol or substance?. *Organization science*, *25*(1), 127-148.

Maurya, S., & Singh, R. S. (2022). Impact of Corporate Attributes on Sustainability (ESG) Reporting: Evidence from Listed Banks in India. *Journal of Business Thought*, 71-83.

Maurya, S., & Singh, R. S. (2022). Impact of Corporate Attributes on Sustainability (ESG) Reporting: Evidence from Listed Banks in India. Journal of Business Thought, 71- 83.

Maurya, S., & Singh, R. S. (2022). Impact of Corporate Attributes on Sustainability (ESG) Reporting: Evidence from Listed Banks in India. Journal of Business Thought, 71- 83.

Maurya, S., & Singh, R. (2023). Evaluation of Sustainability Reporting Practices in Indian Banks–A Content Analysis Approach. *Journal of Business Thought*, 65-77.

Mishra, Pooja., & Sant, T. G.. (2023). Examine the level of environmental, social and governance disclosure in sustainability report – a study of the Indian banking sector. International Journal of Innovation Science. http://doi.org/10.1108/ijis-08-2022-0136.

Mishra, Pooja., & Sant, T. G.. (2023). Examine the level of environmental, social and governance disclosure in sustainability report – a study of the Indian banking sector. International Journal of Innovation Science. http://doi.org/10.1108/ijis-08-2022-0136.

Mondal, Amitava., & Ghosh, S.. (2012). Intellectual capital and financial performance of Indian banks. Journal of Intellectual Capital, 13, 257-288. http://doi.org/10.1108/14691931211276115.

Munjal, P., & Sharma, D. (2023). Determining the managerial perception on triple bottom line performance. *Journal of Financial Reporting and Accounting*, *21*(2), 322– 343.

Nekhili, M., Nagati, H., Chtioui, T., & Rebolledo, C. (2017). Corporatesocial responsibility disclosure and market value: Family versusnonfamily firms. Journal of Business Research, 77, 41–52.

Oware, K. M., & Mallikarjunappa, T. (2023). Financial performance and gender diversity: The moderating and mediating effect of CSR disclosure and expenditure of listed firms in India. *Vision*, *27*(2), 243–255.

Oware, K. M., & David Kweku Botchway, K. (2023). Exchange and moral capital of CSR disclosure and financial distress likelihood of family management firms: Evidence from India. *Management Research Review*, *46*(4), 625–646.

Oware, K. M., & Iddrisu, A.-A. (2022). Moral capital of CSR and firm performance: Does a shift from voluntary to mandatory policy matter in an Indian context. *Society and Business Review*, *17*(1), 3–21.

Oware, K. M., Valacherry, A. K., & Mallikarjunappa, T. (2022). Do third-party assurance and mandatory CSR reporting matter to philanthropic and financial performance nexus? Evidence from India. *Social Responsibility Journal*, *18*(5), 897–917.

P., F., & Busru, S. A. (2021) CSR disclosure and firm performance: Evidence from an emerging market. *Corporate Governance*, *21*(4), 553–568.

Pham, Duc Cuong., Do, Thi-Bich-Ngoc., Doan, T.., Nguyen, T.., & Pham, Thi Kim Cuong. (2021). The impact of sustainability practices on financial performance: empirical evidence from Sweden. Cogent Business & Management, 8. http://doi.org/10.1080/23311975.2021.1912526

Popli, M., & Raithatha, M. (2022). Implications of overwhelmed leadership: How executive job demands hinder corporate sustainability performance. *Business and Society*, *0*(0).

Prashar, A. (2023). Moderating effects on sustainability reporting and firm performance relationships: A meta-analytical review. *International Journal of Productivity and Performance Management*, *72*(4), 1154–1181.

Pratihari, S. K., & Uzma, S. H. (2018). Corporate social identity: An analysis of the Indian banking sector. *International Journal of Bank Marketing*, *36*(7), 1248– 1284. https://doi.org/10.1108/IJBM-03-2017-0046.

Qureshi, M.., Kirkerud, Sina., Theresa, Kim., & Ahsan, Tanveer. (2020). The impact of sustainability (environmental, social, and governance) disclosure and board diversity on firm value: The moderating role of industry sensitivity. Business Strategy and The Environment, 29, 1199-1214. http://doi.org/10.1002/bse.2427.

Rastogi, S., & Singh, K. (2023). The impact of ESG on the bank valuation: Evidence of moderation by ICT. *Journal of Global Responsibility*, *14*(2), 273–288.

Roxas, Banjo., Ashill, Nicholas J.., & Chadee, D.. (2017). Effects of Entrepreneurial and Environmental Sustainability Orientations on Firm Performance: A Study of Small Businesses in the Philippines. Journal of Small Business Management, 55, 163 - 178. http://doi.org/10.1111/jsbm.12259

S., L., K. R. A., Balaji, R., Ganesh Kumar, Bhat, P. K., & A., S. N. (2023). Corporate social responsibility and sustainable development goals: Evidence from responsible business leaders. *Journal of Global Responsibility*. http://doi.org/10.1108/jgr-06-2023- 0109

Saha, R. (2023). Corporate governance, voluntary disclosure and firm valuation relationship: Evidence from top listed Indian firms. *Journal of Accounting in Emerging Economies, Vol. ahead-of-print* No. ahead-of-print.

Saha, R., & Kabra, K. C. (2020). Corporate governance and voluntary disclosure: A synthesis of empirical studies. *Business Perspectives and Research, 8*(2), 117–138.

Saha, R., & Kabra, K. C. (2022). Corporate governance and voluntary disclosure: Evidence from India. *Journal of Financial Reporting and Accounting, 20*(1), 127–160.

Sehgal, V., Garg, N., & Singh, J. (2022). Impact of environmental and social reporting and performance on financial performance of a firm: An Indian study. *Paradigm, 26*(2), 99–118. https://doi.org/10.1177/09718907221126429.

Sehgal, V., Garg, N., & Singh, J. (2023). Impact of sustainability performance and reporting on a firm's reputation. *International Journal of System Assurance Engineering and Management*, *14*(1), 228–240.

Sekhon, A. K., & Kathuria, L. M. (2019). Analyzing the impact of corporate social responsibility on corporate financial performance: Evidence from top Indian firms. *Corporate Governance, 20*(1), 86–105.

Sharma, V., & Wang, H. (2021). The effect of sustainability reporting on firm performance in emerging economies: Evidence from India. *Journal of International Business Studies, 52*(7), 1122–1144.

Singh, J., & Kumar, S. (2023). Corporate governance, sustainability reporting and firm performance: Evidence from Indian firms. *Management Decision, 61*(4), 892–906. http://doi.org/10.1108/MD-09-2022-1231.

Sharma, A., Kaushik, K., Awasthy, P., & Gawande, A. (2022). Leveraging text mining for trend analysis and comparison of sustainability reports: Evidence from Fortune 500 companies. *American Business Review*, *25*(2).

Sharma, G. D., Talan, G., Bansal, S., & Jain, M. (2021). Is there a cost for sustainable investments: Evidence from dynamic conditional correlation. *Journal of Sustainable Finance and Investment*, 1–21.

Sharma, R., et al. (2019). Stakeholder engagement in sustainability reporting practices of Indian banks. Journal of Sustainable Finance & Investment, 9(2), 147-162. Agarwal, V., et al. (2018). Content and quality analysis of sustainability reports: A study of Indian banks. Journal of Business Ethics, 151(2), 349-363.

Shoeb, M., Aslam, A., & Aslam, A. (2022). Environmental accounting disclosure practices: A bibliometric and systematic review. *International Journal of Energy Economics and Policy*, *12*(4), 226–239.

Shoeb, M., Aslam, A., & Aslam, A. (2022). Environmental accounting disclosure practices: A bibliometric and systematic review. International Journal of Energy Economics and Policy, 12(4), 226–239.

Singh, A. K., Zhang, Y., & Anu, . (2023). Understanding the evolution of environment, social and governance research: Novel implications from bibliometric and network analysis. *Evaluation Review*, *47*(2), 350–386.

Singh, P., et al. (2020). Sustainability reporting practices of Indian banks: A GRI-based analysis. Journal of Business Ethics, 165(2), 257-271.

Sinha, N., Sachdeva, T., & Yadav, M. P. (2018). Investigating relationship between corporate social responsibility and financial performance using structural equation modelling. *Management and Labour Studies*, *43*(3), 175–191.

Siregar, Ihsan Mulia., & Haryono, Slamet. (2023). Green Banking: Operating Costs on Operating Income, Capital Adequacy Ratio, Financial Slack, Sustainability Officer, and Sustainability Committee. Jurnal Ekonomi Syariah Teori dan Terapan. http://doi.org/10.20473/vol10iss20235pp427-442.

Soriya, S., & Rastogi, P. (2022). A systematic literature review on integrated reporting from 2011 to 2020. *Journal of Financial Reporting and Accounting*, *20*(3/4), 558–579.

Soriya, S., & Rastogi, P. (2022). A systematic literature review on integrated reporting from 2011 to 2020. Journal of Financial Reporting and Accounting, 20(3/4), 558–579.

Soriya, S., & Rastogi, P. (2023). The impact of integrated reporting on financial performance in India: A panel data analysis. *Journal of Applied Accounting Research*, *24*(1), 199–216.

Srivastava, Ritu. (2016). The Investment Model of Crowdfunding for MSME (Micro, Small and Medium Enterprises) in India. . http://doi.org/10.1108/978-1-78560-315-020151010.

Srivastava, Ritu. (2016). The Investment Model of Crowdfunding for MSME (Micro, Small and Medium Enterprises) in India. . http://doi.org/10.1108/978-1-78560-315-020151010.

Srivastava, Vikas. (2015). Restructuring Project Finance Bank Debt in India: Information Asymmetry and Agency Costs. The Journal of Structured Finance, 21 , 106 - 114 . http://doi.org/10.3905/jsf.2015.21.3.106.

Sulbahri, R. A., & Fuadah, L. L. (2022, March). Effect of Sustainable Report (CSR) on Return on Asset (ROA), Return on Equity (ROE) and Good Corporate Governance (GCG)(Empirical Study on Banking Companies for the 2016-2019 Period). In 7th Sriwijaya Economics, Accounting, and Business Conference (SEABC 2021) (pp. 34-41). Atlantis Press.

Suresha, B., Srinidhi, V. R., Verma, D., Krishna, T. A., & T. A. (2022). The impact of ESG inclusion on price, liquidity and financial performance of Indian stocks: Evidence from stocks listed in BSE and NSE ESG indices. *Investment Management and Financial Innovations*, *19*(4), 40–50.

Suresha, B., Srinidhi, V. R., Verma, D., Krishna, T. A., & T. A. (2022). The impact of ESG inclusion on price, liquidity and financial performance of Indian stocks: Evidence from stocks listed in BSE and NSE ESG indices. Investment Management and Financial Innovations, 19(4), 40–50.

Tripathi, V., & Kaur, A. (2020). Socially responsible investing: Performance evaluation of BRICS nations. *Journal of Advances in Management Research*, *17*(4), 525–547.

Trinh, H. D., & Huynh, M. C. (2023). Corporate social responsibility and financial performance: An investigation of Vietnamese firms. *Journal of Business Research, 154,* 215–227. http://doi.org/10.1016/j.jbusres.2022.09.040

Uddin, M. M., & Huque, S. M. (2023). Corporate social responsibility and financial performance: Evidence from listed companies in Bangladesh. *Social Responsibility Journal*. http://doi.org/10.1108/SRJ-08-2021-0312.

Vig, S. (2023). Environmental disclosures by Indian companies: Role of board characteristics and board effectiveness. *International Journal of Disclosure and Governance.*

Vig, S., & Datta, M. (2021). The impact of corporate governance on sustainable value creation: A case of selected Indian firms. *Journal of Sustainable Finance and Investment*, 1–19.

Vigneau, L.., Humphreys, Michael L.., & Moon, J.. (2015). How Do Firms Comply with International Sustainability Standards? Processes and Consequences of Adopting the Global Reporting Initiative. Journal of Business Ethics, 131, 469-486. http://doi.org/10.1007/S10551-014-2278-5.

Vinod, M. S. S., Umesh, P., & Sivakumar, N. (2023). Impact of COVID-19 on corporate social responsibility in India – A mixed methods approach. *International Journal of*

Organizational Analysis, *31*(1), 168–195.

Vinod, M. S. S., Umesh, P., & Sivakumar, N. (2023). Impact of COVID-19 on corporate social responsibility in India – A mixed methods approach. International Journal of Organizational Analysis, 31(1), 168–195.

Wang, X., & Shad, S. (2023). Corporate social responsibility and corporate financial performance: Evidence from China and India. *Corporate Governance, 23*(1), 11–30.

Waheed, A.., & Zhang, Qingyu. (2020). Effect of CSR and Ethical Practices on Sustainable Competitive Performance: A Case of Emerging Markets from Stakeholder Theory Perspective. Journal of Business Ethics, 175, 837-855.

Wheeler, D., & Elkington, J. (2001). The end of the corporate environmental report. Or the advent of cybernetic sustainability reporting and communication. *Business strategy and the environment*, *10*(1), 1-14.

Yoon, Bohyun., Lee, J.., & Byun, Ryan. (2018). Does ESG Performance Enhance Firm Value. Evidence from Korea. Sustainability. http://doi.org/10.3390/SU10103635

Youssef, Ahmed Hassen and Mohamed, Engy Saeed and Latif, Shereen Hamdy Abdel, Handling Multi-Collinearity Using Principal Component Analysis with the Panel Data Model (January 19, 2023). EUREKA: Physics and Engineering, (1), 177-188, 2023; doi.10.21303/2461-4262.2023.002582.

Youssef, Ahmed Hassen and Mohamed, Engy Saeed and Latif, Shereen Hamdy Abdel, Handling Multi-Collinearity Using Principal Component Analysis with the Panel Data Model (January 19, 2023). EUREKA: Physics and Engineering, (1), 177-188, 2023; doi.10.21303/2461-4262.2023.002582.