

ADVANCING SUSTAINABLE BANKING AND FINANCIAL INCLUSION IN INDIA THROUGH ESG INTEGRATION IN TECHNOLOGICAL DISRUPTIONS

Dr. Rashmi Akshay Yadav ¹, Dr. Premalatha K. P ² and Dr. Shrinivas Patil ³

^{1,2,3} Faculty of Management Studies, Finance Area, CMS B-School,
JAIN (Deemed-to-be University), Bangalore, India.

Email: ¹rashmiakshay_yadav@cms.ac.in, ²dr.premalatha_kp@cms.ac.in,
³dr.shrinivas_patil@cms.ac.in

DOI: [10.5281/zenodo.10686145](https://doi.org/10.5281/zenodo.10686145)

Abstract

Objective: This research delves into the incorporation of Environmental, Social, and Governance (ESG) principles in the context of technological disruptions in the Indian banking sector. It examines how the Reserve Bank of India (RBI) navigates this transformative path to promote sustainable banking practices and encourage financial inclusion while mitigating climate risks. **Methodology:** This study employs a comprehensive methodology that includes a literature review, an analysis of the regulatory efforts of the RBI, survey results, and Google Trend analysis. The framework accentuates the convergence of ESG principles and technology, illustrating their combined influence on banking operations and sustainability strategies. **Findings:** The research uncovers that banks are facing increasing pressure to address ESG concerns due to regulatory requirements, investor scrutiny, and consumer preferences for sustainability. Technological disruptions are pivotal in promoting the integration of ESG and fostering growth. Companies that merge ESG innovation with technology exhibit rapid expansion and attract investment. Notably, Mastercard's 2021 report highlights a significant surge in equity investments in ESG-oriented technological disruptions. Financial inclusion is advanced through technology-driven digital banking services, the promotion of gender equality, robust regulatory frameworks, and improved financial literacy. Multinational banks' sustainable practices drive financial inclusion, with FinTech contributing to Sustainable Development Goals (SDGs). The study introduces a framework that emphasizes the fusion of technology disruption and ESG integration, with a focus on automation, data analytics, and digital solutions to enhance ESG transparency and sustainability. The RBI's regulatory efforts encompass adopting responsible banking principles, aligning with global frameworks, and endorsing sustainable practices. Challenges persist for Indian banks in integrating ESG norms into lending practices, although certain banks are involved in ESG projects. The RBI's commitment to responsible banking is evident through its inclusion in CDP's leadership list and its corporate rating by ISS ESG. **Originality:** This research addresses a gap in the literature by examining how technological disruptions facilitate ESG integration in Indian banks, aligning sustainability with financial inclusion. It contributes to the literature on the transformative potential of the convergence of ESG and technology within the banking sector. **Research Limitations:** This study is limited in scope to the Indian banking sector and may not fully capture global intricacies. It primarily focuses on the efforts of the RBI, potentially missing insights from other stakeholders. **Practical Implications:** The findings offer guidance to Indian banks on enhancing ESG integration, harnessing technology for sustainable practices, and addressing climate risks. The framework assists banks in ingraining ESG values and achieving responsible banking. **Social Implications:** This research underscores the significance of ESG integration and technological disruptions in promoting societal well-being, enhancing financial inclusion, and advancing sustainable banking practices.

Keywords: ESG Integration, Technological Disruptions, Sustainable Banking, Financial Inclusion, Climate Risk, Responsible Banking.

INTRODUCTION

The integration of Environmental, Social, and Governance (ESG) principles within the banking sector has gained substantial momentum, propelled by global shifts towards sustainability and responsible practices. As banks grapple with the challenges and

opportunities presented by rapid technological advancements, the infusion of ESG considerations into their operations has emerged as a critical strategy for fostering both financial success and societal well-being. This paper delves into the dynamic intersection of ESG integration and technological disruptions, exploring how Reserve Bank of India is navigating this transformative journey and reshaping banking roles in a rapidly evolving financial landscape bringing in financial inclusion.

ESG integration in Banks: Banks are under increasing pressure to address evolving environmental, social, and governance (ESG) concerns, driven by regulatory demands, investor scrutiny, and consumer preferences for sustainability. To meet these expectations, banking IT systems need to be revamped to efficiently collect, integrate, and report on a wide range of ESG data, encompassing areas such as financed emissions, climate risk models, and ESG scorecards. This necessitates substantial changes to IT infrastructure, data architecture, and governance models. Investing wisely in these enhancements is crucial to swiftly develop robust ESG capabilities without accruing technical debt.

ESG integration and Technological Disruptions: Technology disruption plays a pivotal role in fostering ESG integration and growth. Firms focused on ESG innovation, powered by technology, exhibit a distinct capacity for swift expansion and effective attraction of investment capital, bolstering their endeavors to drive positive environmental and societal impact while ensuring substantial returns.

Investor enthusiasm for ESG-centric technology disruption has surged significantly over the past two years, as highlighted by Mastercard's report 2021. This report indicates that venture funds have substantially increased their equity investments in ESG-oriented technology disruption, with a growth of around 2.5 times from 2019 to 2020, signaling a rise from \$700 million to \$1.8 billion. This trend is projected to persist as emerging ESG-focused technology disruptors mature, requiring additional growth capital, and as the financial services industry continues to witness the entry of innovative technology disruptors that address unmet ESG demands.

Financial Inclusion: Financial inclusion encompasses four key pillars aimed at creating a more equitable and accessible financial landscape: leveraging technology to provide digital banking services to underserved areas, promoting gender equality by ensuring women's full participation in financial activities, establishing robust regulatory frameworks for transparency and security, and enhancing financial literacy to empower individuals with informed decision-making abilities.

REVIEW OF LITERATURE

The research conducted by Donovan (2012) provides strong empirical evidence that validates the role of sustainable practices by multinational banks (MNBs) in stimulating the expansion of mobile banking within developing countries. These findings bear importance, given that mobile banking serves as a potent tool for driving financial inclusion in economies that are still developing.

Singh and Naik (2017) conducted a survey in a rural area near Bangalore to assess the effects of recent initiatives by the Indian government, Reserve Bank of India (RBI), and National Bank for Agriculture and Rural Development (NABARD). The study indicated that 96% of farmers had bank accounts, and 25% accessed loans from banking systems, while 75% preferred money lenders for loans.

Singh (2017) highlighted in his research sponsored by the International Growth Centre, examining multiple dimensions of financial inclusion in India. The focus encompassed aspects like agricultural credit, SME financing, and health insurance for underserved populations. This study illustrated how financial inclusion has positively impacted the nation's banking sector.

Arner et al. (2020) assert that FinTech propels financial inclusion, a fundamental Sustainable Development Goals(SDG) objective. Infrastructure progress is crucial for complete FinTech-SDG synergy. Four pillars: digital ID, open payments, e-services through the first three, and the fourth pillar broadens finance access. This has remarkable potential to reshape economies and societies.

Pashang and Weber (2023) discuss AI's role in sustainable finance, addressing SDGs through institutional (ESG investing) and societal (financial inclusion) paths. Despite COVID-19 boosting adoption, fragmented governance and regulation impede SDG advancements. Pandemic disruptions postponed adoption, yielding uncertain results. Post-pandemic, policymakers target reinvigorated governance, risk management, and sustainability via cross-sector agreements.

Fernando Úbeda et al.'s (2023) research emphasizes the link between banking access and inequality in developing areas. Financial inclusion aligns with Sustainable Development Goals. Their study explores how sustainable practices of multinational banks (MNBs) affect financial inclusion. With data from 275 MNBs, 16 countries, and 16,618 individuals, the research solidly confirms that these practices enhance financial inclusion. Sustainable MNBs boost mobile banking use, vital for fostering financial inclusion in developing economies.

Research Gap

The present research emphasizes the importance of sustainability, technological upheaval, and financial inclusivity within the banking industry. Yet, there exists a distinct research gap regarding the investigation into how ESG incorporation is facilitated by technological upheaval in Indian banks, aligning sustainable initiatives with comprehensive financial advancement. This domain presents a prospect of substantial transformation at the intersection of ESG, technology, and financial inclusivity, necessitating deeper exploration.

objectives of study

This study aims to:

1. To explore ESG integration through technology in Indian banking
2. To assess the transformative potential of merging ESG and technology in banking.
3. To analyze the impact of technology on sustainable finance and inclusivity.
4. To examine RBI's regulatory efforts to address climate risks and collaborative avenues for climate-resilient banking practices.

ESG Integration through Technology in Indian Banking

(RBI Report-Climate Risk and Sustainable Finance,2022) RBI survey conducted in January 2022 targeted 34 major Indian banks, including public, private, and foreign banks, allowing them three weeks to respond. The survey's 30 questions covered

topics like risk management, governance, climate-related disclosures, green opportunities, HR and capacity building, and internal green initiatives. Most questions were multiple-choice, with 27 of 30 also requiring elaboration. The survey aimed to gain insights into banks' approaches, risk management, and readiness concerning climate risks and sustainable finance.

The findings from the RBI survey on climate risk and sustainable finance highlight the potential role of technology in addressing Environmental, Social, and Governance (ESG) concerns. By leveraging technology, various solutions can be harnessed to effectively tackle these challenges. The survey underscores that technological integration can play a pivotal role in achieving the following outcomes:

- 1. Enhanced Risk Management:** Technology-driven tools can aid in analyzing and quantifying climate-related risks, providing banks with a more comprehensive understanding of potential threats. This could lead to improved risk management strategies and preparedness.

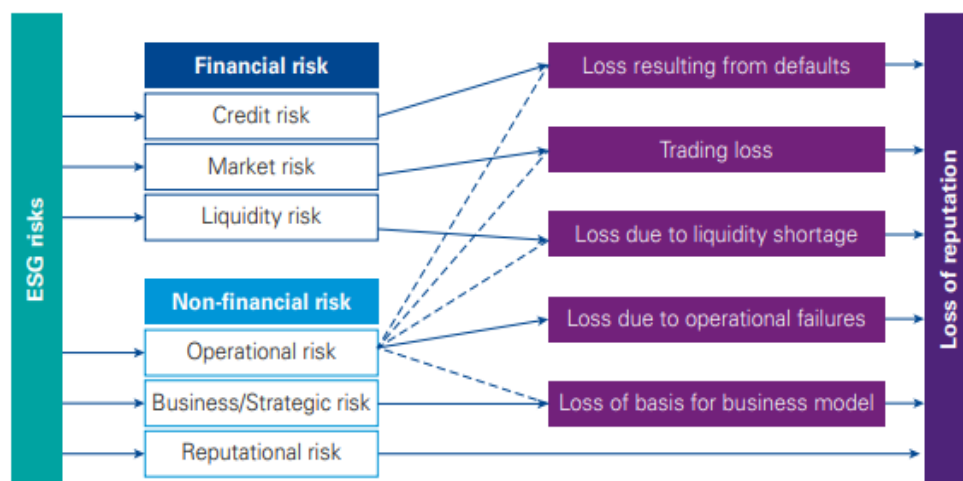


Figure 1: The Risk involved in ESG Practices at Banks

(Source: ESG risk in Banks, KPMG International, 2021)

- 2. Governance Enhancement:** Technology platforms can facilitate the dissemination of climate and sustainability information to the board of directors, promoting informed decision-making at the highest level of governance.
- 3. Transparent Financial Disclosures:** Leveraging technology, banks can align their climate-related financial disclosures with international frameworks, ensuring greater consistency and comparability for stakeholders globally.
- 4. Capitalizing on Green Opportunities:** Advanced data analytics and modeling tools can assist banks in identifying opportunities in the transition to a green future. This includes evaluating the green credentials of potential lending and investment decisions.
- 5. Capacity Building and Training:** Technology-enabled learning platforms can streamline the process of capacity building, allowing staff to efficiently grasp the financial implications of climate risk and sustainable finance.

- 6. Streamlined Internal Initiatives:** Technology-driven processes can facilitate the formulation and execution of ESG strategies, emission reduction plans, and other sustainable internal initiatives.
- 7. Measurable Performance Metrics:** Technology can assist in tracking and evaluating the progress of ESG-related initiatives, ensuring that banks meet their sustainability goals and adhere to performance metrics.
- 8. Innovative Green Products:** Technology can aid in the development of innovative green financial products, such as sustainable-linked loans and green deposits, expanding banks' offerings in response to changing market demands.
- 9. Engaging Borrowers on Emissions Reduction:** Technological platforms can facilitate dialogues between banks and corporate borrowers regarding emissions reduction, driving collaborative efforts towards achieving net-zero goals.

The survey findings highlight the transformative potential of technology in the realm of ESG and sustainable finance. By incorporating advanced tools and solutions, banks can not only navigate climate-related risks effectively but also seize opportunities in the transition to a more sustainable and environmentally-conscious financial landscape.

Unveiling the Synergy: ESG and Technology Converge in Banking

The convergence of ESG (Environmental, Social, and Governance) principles with cutting-edge technology presents a transformative potential within the banking sector. As ESG gains increasing prominence, banks are recalibrating their strategies to incorporate sustainable investments across a spectrum of functions, including customer onboarding, data management, fraud detection, and regulatory compliance. Collaborators and investors alike are seeking seamless integration of ESG principles into banking operations, underscoring the industry's commitment to environmental preservation, societal inclusivity, and robust governance.

The ascent of ESG's significance is reshaping the banking landscape, coinciding with the surge of technological disruptions. Amidst digital innovation, banks are tasked with striking a delicate balance between advancing their technological prowess and fulfilling their global sustainability obligations. The integration of ESG proficiency into banking operations elevates the sector's value proposition beyond the realm of innovation, extending its pivotal role in corporate social responsibility (CSR) and propelling the adoption of eco-friendly practices.

The multi-dimensional facets of ESG - Environmental, Social, and Governance - significantly impact various dimensions of banking functions, capturing the attention and interest of investors. The discernment of ESG's far-reaching importance not only augments the sustainability profile of banks but also enhances their allure to potential investors. Investments aligned with ESG principles not only signify a dedication to industry norms but also cultivate a foundation of trust and confidence with clients.

ESG considerations are now deeply embedded within the fabric of banking, influencing decision-making processes and operational frameworks. The integration of ESG principles within banking operations not only underscores an ethical commitment but also fosters an environment of transparent sustainability reporting. In the eyes of investors, banks that seamlessly embrace ESG principles emerge as preferred

candidates for sustainable investment opportunities, poised to navigate the complex and dynamic landscape of responsible finance.

As ESG takes center stage in banking, it encapsulates a profound sense of responsibility in addressing contemporary societal challenges. Its pervasive influence across various banking functions not only facilitates the creation of modern and progressive customer experiences but also nurtures a community built on respect and trust. In an era marked by customer-centric advancements, the spotlight is shifting towards operations that are not only efficient and customer-focused but also environmentally compliant and resilient, thereby reinforcing faith in the industry's commitment to judicious resource utilization. ESG emerges as a guiding force, empowering ethical data management, fostering transparent reporting practices, and steering banking towards a future defined by resilience, innovation, and a resolute dedication to climate-conscious business practices.

To analyze the impact of technology on sustainable finance and inclusivity the research paper made an attempt to use Google Trend Analysis. The Results are as below:



Figure 2: Google Trend Analysis (Financial Inclusion) Created by Authors

Based on the analysis of Google Trends for the term "Financial inclusion," a notable peak was observed in 2005, followed by a gradual decline in interest from 2022 onwards. This trend aligns with existing literature, suggesting that India has achieved a significant level of financial inclusion, surpassing 65%.

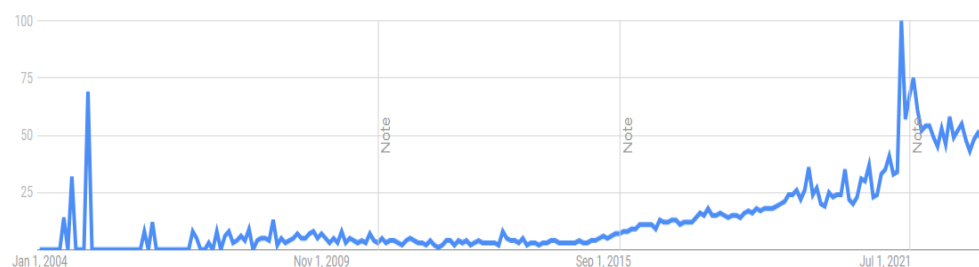


Figure 3: Google Trend Analysis (Technology Disruption/Fintech) Created by Authors

Observing the trend in the banking sector, we witness a surge in technology disruption during 2020-21, driven by events like demonetization and the pandemic. This accelerated the adoption of digital solutions and reshaped banking operations,

emphasizing remote services and advanced technologies. This shift enhanced efficiency, customer convenience, and transformed the banking landscape.



Figure 4: Google Trend Analysis (ESG)

Observing the trajectory of the ESG concept, it becomes evident that banks are progressively incorporating ESG factors into their operations, underscoring their dedication to sustainability, ethical conduct, and sound governance. This synchronization with ESG principles not only elevates banks' standing and attractiveness to investors but also plays a role in tackling larger societal and environmental issues within the nation. The peak in 2023 signals the heightened significance placed on ESG integration within the banking sector.

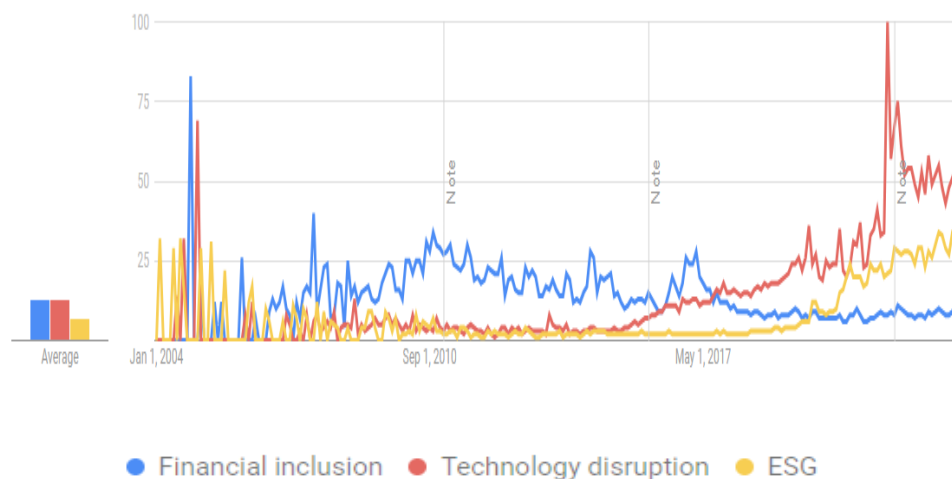


Figure 5: Google Trend Analysis (Financial Inclusion, Technology disruption, ESG) Created by Authors

Drawing insights from Google Trend Analytics, the significance of Technology disruption has surged during and after the pandemic, coinciding with an increasing interest in ESG practices within the banking sector. The trend for Financial inclusion, however, shows a downward trajectory, indicating positive progress in reaching underserved populations with financial services. The overarching perspective

underscores the noteworthy synergy between Technology disruption and ESG integration, facilitating financial inclusion objectives.

ESG and Central Bank of India Regulations

The Reserve Bank of India (RBI), vested with the regulatory authority over India's banking sector, has actively championed the advancement of Environmental, Social, and Governance (ESG) investing within the country. In the year 2020, RBI released a circular stipulating the obligation for banks to divulge their ESG-centric particulars within their annual reports. These particulars encompassed their strategies pertaining to climate risk management, sustainable financial practices, and societal obligations. Furthermore, the directive mandated banks to furnish accounts of their support extended to environmentally friendly and socially impactful initiatives.

By June of 2022, RBI went a step further by imposing a mandate upon Scheduled Commercial Banks (SCBs), Urban Cooperative Banks (UCBs), and Non-Banking Financial Companies (NBFCs) possessing assets exceeding Rs. 5,000 crores. This directive necessitated the adoption of the Task Force on Climate-related Financial Disclosures (TCFD) framework. This framework serves as a comprehensive guideline for effecting climate-related and sustainability-related disclosures.

Indian Banking Sector's ESG Endeavors

A recent survey by the Indian Banks' Association, released on February 28, 2023, in collaboration with the Reserve Bank of India (RBI), reveals that Indian banks are insufficiently prepared to integrate environmental, social, and governance (ESG) norms into their lending practices. Challenges include undefined ESG criteria, integrating norms into lending decisions, and a lack of technology for monitoring. The RBI plans to issue guidelines based on these findings for green finance promotion later this year. Global ESG-based lending reached \$322 billion in 2021, comprising over 12% of total lending. Although certain Indian banks like State Bank of India and HDFC Bank engage in ESG projects, monitoring and staff alignment remain hurdles. The transition to ESG is set to be gradual, led by larger banks followed by sector-wide implementation.

Prompted by the Reserve Bank of India's 2022 climate change report, Indian banks aim to accelerate climate risk and sustainable finance efforts. The RBI's survey of 34 commercial banks underscores the need for improved board engagement, risk management, financial disclosures, and capitalizing on green opportunities. Capacity building and low-carbon strategies are recommended for effective adoption. Swift action is crucial for successful climate risk and sustainable finance integration.

RBI Commitment towards Sustainability

The 2021 Conference of Parties on Climate Change convened in Glasgow, shedding light on global initiatives to combat climate change while emphasizing the importance of mitigation without compromising crucial aspects like employment, food security, and living standards. This spotlight on climate-related concerns is particularly relevant to India, given its susceptibility to events like floods and rising temperatures, magnifying the need for urgent adaptation and mitigation strategies. In alignment with these imperatives, India has pledged to achieve net zero emissions by 2070, a commitment that harmonizes with its forward-looking regulatory stance favoring decarbonization. This proactive approach is evidenced by the promotion of sustainable business

practices and the requirement for Environmental, Social, and Governance (ESG) disclosures, which marks a notable shift away from conventional financial paradigms.

The Reserve Bank of India (RBI) took a significant step in early 2021 by embracing the "Principles for Responsible Banking," thereby expressing its unwavering commitment to their implementation. These principles entail conducting an annual analysis of impact and establishing targets for pivotal impact areas. Having become part of the Science Based Targets initiative in 2018, the RBI further solidified its dedication by pledging to adopt science-based targets within two years of guideline publication, a commitment materialized by mid-2020. Furthermore, in January 2022, RBI AG aligned itself with the Partnership for Carbon Accounting Financials (PCAF), augmenting its ability to gauge and disclose emissions stemming from its financing activities.

The RBI's dedication extends into other realms as well, as it stands as a signatory to the UN Global Compact (UNGC), underscoring its steadfast adherence to the tenets of responsible business practices. This intricate web of commitment and responsibility is intricately woven, linking entities like the Financial Stability Board (FSB), Task Force on Climate-related Financial Disclosures (TCFD), RBI, and ESG considerations. This interconnectedness serves as the foundation for sustainable finance and responsible financial management. The FSB, a global entity, takes up the mantle of ensuring financial stability on a global scale, encompassing the identification of climate change-induced risks. Meanwhile, the TCFD, established under the aegis of the FSB, plays a crucial role in enhancing the disclosure of climate-related financial information, facilitating organizations in assessing and sharing insights into climate-related risks and opportunities. Within this framework, the RBI plays a pivotal role by integrating ESG factors into its regulatory framework, which not only aligns with TCFD recommendations but also contributes significantly to upholding financial stability and effectively addressing the multifaceted challenges of climate change and broader sustainability concerns.

RBI Rating for Sustainability

In December 2021, the Reserve Bank of India (RBI) achieved a notable accolade by securing its place on CDP's prestigious leadership list for the seventh consecutive time. Notably, among Austria's top seven companies and hailed as the foremost domestic enterprise within the financial sector, RBI's strategic alignment with climate-related concerns garnered recognition. Furthermore, RBI's commitment to environmental, social, and governance (ESG) matters was underscored by ISS ESG, which awarded the bank a notable "C+" level and prime status in its corporate rating, a distinction bestowed in September 2021.

Proposed Research Framework of the Study

The fusion of technology disruption and ESG integration in banking creates a robust framework. Utilizing automation, data analytics, and digital solutions, banks enhance ESG transparency, traceability, and reporting. This synergy promotes sustainable finance, supports eco-friendly projects, and widens financial access. Advanced technology also aids in vigilant ESG risk management, aligning with governance standards. This framework highlights how technology empowers banks to seamlessly embed ESG values, fostering sustainable practices and responsible banking.



Figure 6: Proposed Research Framework (Created by Authors)

The above framework incorporates technology and ESG principles in banking. This yields a powerful sustainable framework, amplifying transparency, efficiency, and responsible practices. Automation, analytics, and digital tools bolster ESG disclosure, eco-friendly initiatives, and financial inclusivity. Tech-driven risk management aligns with governance norms, showcasing how innovation enables ESG integration for lasting responsible banking.

FINDINGS OF THE STUDY

1. In the context of banks, there is a growing imperative to address ESG concerns driven by regulatory mandates, investor expectations, and consumer preferences for sustainability. This situation calls for significant revamps of IT systems to efficiently gather, integrate, and report ESG data, requiring overhauls of IT infrastructure, data architecture, and governance models.
2. Regarding technology disruptions, a key emphasis is placed on their pivotal role in fostering ESG integration and expansion. Companies that blend ESG innovation with technology demonstrate a notable capacity for rapid expansion and attracting investment capital. This trend is substantiated by Mastercard's report, highlighting a substantial surge in equity investments in technology disruptions aligned with ESG objectives.
3. Concerning financial inclusion, four fundamental pillars are identified: leveraging technology to offer digital banking services, advocating for gender equality, establishing robust regulatory frameworks, and enhancing financial literacy. It is evident that financial inclusion yields positive impacts across multiple dimensions of the banking sector.

4. Reflecting on existing research, the study underscores the significance of sustainable practices by multinational banks (MNBs) in driving financial inclusion. Additionally, the study delves into the impact of government initiatives on rural banking and examines the potential of FinTech to advance financial inclusion and contribute to Sustainable Development Goals (SDGs).
5. Presenting a framework, the study introduces a model showcasing the fusion of technology disruption and ESG integration within the banking sector. This framework prominently integrates automation, data analytics, and digital solutions to enhance ESG transparency, traceability, reporting, risk management, and sustainability practices.
6. Insights from an RBI survey reveal the potential role of technology in effectively addressing ESG concerns. The survey underscores how technology can enhance various aspects such as risk management, governance, transparent financial disclosures, identification of green opportunities, capacity building, and implementation of sustainable internal initiatives.
7. ESG and technology convergence are highlighted as transformational forces in the banking arena. This convergence drives operational changes and captures the interest of investors who prioritize sustainable practices.
8. Analyzing Google Trend data unveils trends related to financial inclusion, technology disruption, and ESG. Notably, the study highlights the synergy between technology disruption and integration of ESG principles to achieve financial inclusion objectives.
9. RBI's initiatives in advancing ESG principles are discussed, encompassing the adoption of responsible banking principles, alignment with global frameworks such as TCFD, and promotion of sustainable business practices.
10. Insights from a survey by the Indian Banks' Association underscore the need for Indian banks to enhance readiness in incorporating ESG norms into lending practices. While certain banks are engaged in ESG projects, challenges persist in terms of monitoring and staff alignment.
11. RBI's commitment to sustainability is highlighted through its dedication to responsible banking practices, science-based targets, and collaboration with global initiatives like the UN Global Compact and PCAF.
12. RBI's recognition on CDP's leadership list and its corporate rating by ISS ESG underscore its unwavering dedication to ESG considerations. This recognition reaffirms RBI's commitment to responsible banking and sustainability.

CONCLUSION

The integration of Environmental, Social, and Governance (ESG) principles within the banking sector, driven by global shifts towards sustainability, presents a transformative opportunity. Technology disruption plays a pivotal role in fostering this integration, enabling banks to address ESG concerns while expanding their reach and attracting investment. Financial inclusion, achieved through leveraging technology and promoting inclusive practices, is a key pillar of the banking landscape.

The Reserve Bank of India (RBI) plays a critical role in shaping ESG integration by championing responsible banking practices, aligning with global frameworks, and

promoting climate-related financial disclosures. The convergence of ESG and technology within the banking sector is reshaping operational paradigms, attracting investor interest, and reinforcing commitments to sustainability. Research gaps are identified in the study, notably the need to explore how ESG incorporation is facilitated by technological disruptions in Indian banks, aligning sustainable initiatives with comprehensive financial advancement. The study highlights the potential for technology to enhance risk management, governance, transparent disclosures, capacity building, and innovation in green finance. The significance of technology disruption is demonstrated through Google Trend analyses, showcasing its correlation with the integration of ESG principles and financial inclusion efforts. The study also underscores RBI's commitment to sustainability through proactive initiatives and recognition within the global community.

In essence, the dynamic interplay of ESG integration, technology disruption, and financial inclusion is reshaping the banking landscape, guiding institutions toward a future characterized by responsible practices, inclusive finance, and environmental stewardship.

References

- 1) A.V. Banerjee, A.F. Newman (1993) "Occupational choice and the process of development" .Journal of Political Economy, 101, pp. 274-298 <http://dx.doi.org/10.1086/261876>
- 2) Arner, D.W., Buckley, R.P., Zetsche, (2020) D.A. et al. Sustainability, FinTech and Financial Inclusion. Eur Bus Org Law Rev 21, 7–35. <https://doi.org/10.1007/s40804-020-00183-y>
- 3) Badar Alam Iqbal, Shaista Samia, (2017) "Role of banks in financial inclusion in India", Elsevier, Accounting and Administration, Vol 62. No. 2. Pages 299-714 DOI: 10.1016/j.cya.2017.01.007
- 4) Schuller, M., Brosens, T., & Kosonen, S. P. (2022). Bank Pulse: Perfecting ESG disclosures via the banking book taxonomy alignment ratio. ING Economic and Financial Analysis.
- 5) Donovan K (2012). Mobile money for financial inclusion. World Bank, (Ed. Information and Communicatons for Development 2012: Maximizing Mobile. The world Bank, Washington DC
- 6) Fernando Úbeda, Alvaro Mendez, Francisco Javier Forcadell, (2023) The sustainable practices of multinational banks as drivers of financial inclusion in developing countries, Finance Research letters, Volume 51, 103278, ISSN 1544-6123, <https://doi.org/10.1016/j.frl.2022.103278>. (<https://www.sciencedirect.com/science/article/pii/S1544612322004664>)
- 7) Pashang, S., Weber, O. (2023). AI for Sustainable Finance: Governance Mechanisms for Institutional and Societal Approaches. In: Mazzi, F., Floridi, L. (eds) The Ethics of Artificial Intelligence for the Sustainable Development Goals . Philosophical Studies Series, vol 152. Springer, Cham. https://doi.org/10.1007/978-3-031-21147-8_12
- 8) Singh, C. & Naik G., (2017), Financial Inclusion in India: A Case Study of Gubbi, IIM
- 9) Bangalore Research Paper.
- 10) Singh, N., (2017), Financial Inclusion: Concepts, Issues and Policies for India, University of California, <https://escholarship.org/content/qt98p5m37s/qt98p5m37s.pdf>.

Reports

- 1) RBI Report on Climate Risk and Sustainable Finance-2022
- 2) CRISIL. (2021). CRISIL ESG Compendium. Mumbai: CRISIL.
- 3) Task Force on Climate Related Financial Disclosures. (2021). Guidance on Metrics, Targets, and Transition Plans.
- 4) European Banking Authority. (2022). Final Report Draft Implementing Technical Standards On Prudential. Disclosures on ESG Risks.

News and Blogs

- 1) rbi.org.in
- 2) <https://www.vuram.com/blog/esg-in-banking-and-financial-sector/>
- 3) <https://www.elsevier.es/es-revista-contaduria-administracion-87-articulo-role-banks-in-financial-inclusion-S0186104217300104#bib0005>
- 4) <https://esgdata.worldbank.org/?lang=en>
- 5) The Hindu, Business Line report 28.02.2023 by Reuters
- 6) RBI Report-Report of the Survey on Climate Risk and Sustainable Finance dated 27.07.2022
- 7) Mongabay Series: Climate Connections, Environomy by Kundan Pandey on 19th August 2022