

GREEN FINANCE PRACTICES OF PUBLIC AND PRIVATE SECTOR BANKS IN INDIA

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ABSTRACT

This discussion suggests that green finance has become a crucial instrument supporting sustainable development, as well as dealing with climate change, and for the banking sector, the promotion of ecological accountability. The green finance practices of public and private sector banks contribute to India's sustainable growth and this study examines their contributions. The policies, strategies, and initiatives employed by these banks to finance ecofriendly projects, cut down on carbon footprint, are analysed, and they are aligned to global environmental targets. Drawing key differences between the two approaches of public and private banks, the analysis demonstrates their effects on renewable energy, energy efficiency and other green projects. Moreover, the study discovers the challenges facing the adoption of green finance, including regulatory constraints, awareness gaps and financial risks. However, the findings stress necessity of robust frameworks, innovative financial products and co-operative efforts to leverage Indian banks to promote a green economy. And this research provides insights to policymakers, bankers and stakeholders to help push sustainable finance practices forward.

Keywords: *Green Finance, Green Finance Practices, Green Finance Theories, Public Banks, Private Banks, Banks in India.*

1. Introduction

1.1 Background

This revolution is taking place in the global financial system in response to the pressure necessitated by the need to address climate change as well as realize the ambition of achieving sustainable development goals. Green finance, which consists of investment and funding initiatives offering financial and technical assistance for environmental conservation, resource efficiency and climate change mitigation, plays central part in this transformation. Green finance is recognised as a major issue for governments, financial institutions, and stakeholders worldwide because it is believed to be able to complement economic development with sustainability. It comprises securities like green bonds, the sustainable loan, and investments in an environmentally aware fund.

India, among the rapidly expanding economies globally, with a dual challenge: What that implies is the need to keep its economic growth while at the same time reducing environmental deterioration. As a member of the Paris Agreement and other international climate agreements, India has committed to ambitious sustainability targets of augmenting the share of non-fossil energy capacity and reducing carbon emissions intensity. Mobilizing such huge amounts of finance, this national vision necessitates the banking sector to take up the role of a crucial facilitator of green activities.

Public as well as private sector institutions of banking system have their simultaneous presence in India. Ideally, public sector banks have strong networks that facilitate effective implementation of

policies that find confluence with national interests on several planks. In contrast, innovation, agility, and competitiveness often push private sector banks, making them integral components in the advance of green finance. However, it is little examined how the methods and tactics of public and private sector banks to advance green finance are the same or different from each other, even though they are key elements to green finance.

1.2 Problem Statement

Green finance is spreading globally, but there is inadequate representation of the Indian banking sector within both green finance discourse and research. Much of the contemporary research focuses on green finance in the macroeconomic sense or global framework level and leaves a huge gap in their understanding of the dynamics of public and private banks in India. The evaluation of the effectiveness, scalability and sustainability of green finance approaches in the Indian context is crippled in the absence of focused research.

For public sector banks, often, there are government guidelines and regulatory frameworks with which the bank operates and that may prescribe whether the bank can participate in green financing initiatives. By contrast, private sector banks driven by market rivalry tend to reinvent their sustainability plans by using technology and involving stakeholders. However, the lack of comparative studies hampers our ability to draw meaningful conclusions about the strengths and limits as well as possible synergies of these two types of banking.

Green financing in the Indian banking sector even in theory is disjointed and enquiries persist, including:

- What is the impact of regulatory restraints on the adoption of green finance by public and private banks?
- What influence do stakeholder expectations and institutional resources exert on the formation of these practices?
- What are the distinct obstacles encountered by each sector in expanding green financing initiatives?

These enquiries demand a sound conceptual framework, in which findings from established theories are combined and ways for future work are outlined. This paper tries to address these deficiencies by studying practices of comparative green finance in public and private sector banks in India, and offering a model comprising of the drivers, enablers, constraints and results of green finance in India.

1.3 Significance of the Study

This study enhances academic research and informs practical policymaking in multiple significant ways:

1. Academic contributions: The theoretical framework for understanding green finance practices in emerging economies is presented through the integration of institutional theory, resource-based view (RBV) and stakeholder theory in this paper. The problems with current research are addressed by the suggested approach in particular, by providing comparative analysis of the public and private sector banks in India.
2. Relevance of Policy: These finding give policymaker direction on how to design targeted actions for promoting green finance in banking sectors. The sector specific obstacles and opportunities highlighted in this report provide an enabling environment for practical sustainable finance.
3. Practical Implications: For the banking organisations, the comparative insights can be used in order to direct the strategic development of their organizations by matching their

sustainability goals to the stakeholder expectations and regulators mandates. These insights may be used by public banks to enhance the effectiveness of government led programmes while private banks can use the insights to foster innovation and competition in green finance sector.

1.4 Structure of the Paper

1. Introduction: Establishes the context for the discourse by delineating the background, problem statement, aims, and importance of the study.
2. Literature Review: Examines existing research on green finance practices, highlighting theoretical frameworks, empirical investigations, and deficiencies in the current literature.
3. Conceptual Framework: Introduces an innovative model that addresses the stated deficiencies and offers a comparative perspective for comprehending green finance activities in public and private sector institutions.
4. Discussion: Evaluates the proposed framework in relation to current literature, emphasising theoretical and practical implications for stakeholders.
5. Conclusion: Summarises the principal findings, recognises limits, and proposes avenues for future research.

1.5 Summary

In India, sustainable development depends on green financing and the financial industry itself must get involved. However, the literature lags in understanding how public and private sector banks implement green financing policies and the resulting adoption of green financing practices. To address these deficits, this paper presents a conceptual framework that integrates theoretical insights and practice. This action enriches academic discourse, and also provides feedback into policymaking and practices in India's green finance initiative.

2. Literature Review

2.1 Introduction

The global sustainability issues of climate change and environmental degradation bring forward an important financial instrument as green finance. With greater adherence to these agreements, such as the Paris Agreement, financial institutions will play an important role in mobilising resources for the sustainability agenda. Given the need to harmonise economic advancement and environmental conservation in India, the banking industry has unique positioning whereby it can lead the green financing projects. As finance intermediaries, banks can provide funding to such ecologically advantageous activities as renewable energy, energy efficiency and climate resilience.

Despite its growing importance, green finance practices are still poorly understood in India, particularly for public and private sector banks. Public banks have their inclination to follow orders from government while private banks operate under market driven influences, hence have different methodologies. As such, this variance necessitates pressing enquiries as to their respective contributions, problems and opportunities to facilitate green finance. Furthermore, while the literature on green finance is vast and spread worldwide, the distinct issues of the Indian context require customised theoretical and empirical research. This literature review carefully appraises current research on this subject using theoretical frameworks, empirical findings, emerging trends, and gaps in understanding. The aim is to build on this with a solid foundation to formulate a conceptual framework that helps understand this field.

2.2 Theoretical Foundations

Different theoretical frameworks have been employed in order to understand the green financing uptake rates within the banking sector. External pressures, such as regulatory, societal and

normative pressures, provide institutional theory insightful regarding how they influence organisations' behaviour. Governments in India influence public sector banks through many policies and laws, demanding the involvement of these banks in green financing programs. The allotment of resources for renewable energy has been mandated by Regulatory entities like Reserve Bank of India (RBI) itself which imposes a thrust on public banks to lend to renewable energy through priority sector lending. On the other hand, private sector banks, which operate under competitive market situation, are more constrained by normative and societal constraints, i.e. investor expectations and corporate social responsibility standards. However, current research tends to ignore how these different forces end up creating different approaches to green finance between the two sectors.

The resource-based view (RBV) of the firm emphasizes the role of firm specific competencies and resources in achieving competitive advantage. Green finance projects have a smoother run with financial institutions that have more resources, better technical frameworks, and more skilled personnel. Private banks in India normally have more freedom and resources to get involved in some fresher green financing products, such as green bonds and fintech created solutions. Hobbled by bound-up bureaucracy and its own bureaucracy, public banks often struggle to master this agility. However, the RBV overlooks how a public bank is able to overcome resource constraints to extend their efforts and, therefore, elucidates why private banks may have an edge in innovation in green finance.

According to stakeholder theory, multiple stakeholders (like customers, investors, regulators, and environmental proponents) need to be met with expectations. Private banks in India face high pressure from shareholders and their customers to adapt to global sustainability trends, hence more integration of ESG principles. However, public banks serve typically the interests of the governmental and regulatory bodies at the cost of the others' concerns. Nevertheless, stakeholder theory has not been aptly explored to decipher the interwoven intricacies of demands on public and private banks in India. While these integrated viewpoints of theory provide a strong basis for scrutinising green finance methods, such integration is still limited in the literature.

2.3 Empirical Insights on Green Finance Practices

Empirical work on green financing uptake has suggested significant gaps in development between developed and emerging countries. In industrialised countries, banks have spearheaded the funding of ecologically sustainable initiatives as a result not only of strong regulatory frameworks and better-informed stakeholders but also of their leadership. Green bonds and sustainability linked loans have been driven by European banks due to explicit legislative incentives and robust investor demand. However, these techniques are often based on the continued existence of institutional stability and a mature market, neither of which are present in the case of emerging markets like India.

In India, green finance is catching on, with public and private sector banks beginning to finance renewable energy projects and more broadly sustainability related activities. State bank of India (SBI coupled with others) has financed large scale renewable energy, rural electrification and clean water initiatives. These initiatives are related to government involved sustainability objectives and legal requirements. However, public banks remain constrained by operational inefficiencies, resource constraints, and bureaucratic hurdles that make innovation and the extension of green financing difficult.

However, private sector banks have demonstrated greater readiness and the ability to come up with new initiatives when implementing the green financing strategies. Axis Bank and HDFC Bank

have issued green bonds, sponsored clean technology companies and have included ESG factors in lending frameworks. Market driven incentives and stakeholder expectations are used by these banks to highlight sustainability in the portfolios. Although they profess a proactive attitude, private banks often struggle to balance profitability with long term environmental goals due to a competitive environment and shareholder expectations that influence their decisions. Green finance practices of public and private banks in India have not been the subject of comparative analyses so far. Existing research mostly conflates successes of individuals or macro trends without paying attention to minute differences in their methods. Additionally, empirical research infrequently evaluates the long-term effects of these techniques on sustainability results, leaving as unresolved questions the long-term effectiveness of these techniques. This due to the gaps manifest the need for further research that investigates the contributions and limitations of both public and private sector institutions in encouraging green finance.

2.4 Emerging Trends in Green Finance

The space of green finance in India has been excising many growing developments, however green bonds take the primary spot among these developments. Green bonds can be a vital mechanism for funding renewable energy and energy efficiency programs and give banks a way to raise funds for ecologically sustainable projects. In this sector, public banks — such as the State Bank of India — have entered by issuing green bonds to fund solar and wind energy projects. It's not just listed firms that have tapped into the demand for green bonds — private banks such as Axis Bank used them to reach environmentally conscious investors. However, high issuance costs, low awareness among investors, and scarcity of standardised frameworks restrict the expansion of this market.

Environmental, Social and Governance (ESG) factors are significant trends for incorporation into banking procedures. Increased demands from stakeholders for better transparency and accountability have meant that ESG factors are becoming more important in our investment decisions. It might come as no surprise to find that private banks, particularly those with worldwide operations, have quickly caught on to ESG standards and global trends for sustainability. While public banks are beginning to adopt ESG principles, structural and resource challenges exist that prevent public banks effectively adopting ESG practices.

The green finance green space is being turned on its head thanks to fintech innovations that are using digital means to sustainably invest and evaluate environmental risk. Blockchain, artificial intelligence, and big data analytics technologies help banks increase efficiency, reduce transaction costs and enhance transparency in green finance efforts. Fintech innovations have been early adopters for private banks, while public banks are beginning to consider their possibilities. There is not a lot of research available on the role played by fintech in promoting green finance in India, despite that fact being transformational potential.

2.5 Gaps in Literature

An incisive analysis of the current literature finds serious deficiencies that need to be addressed. Comparative research regarding the distinctive practices and issues and the results of the nursing of environment finance by public and private part banks in India is scanty. While there are many studies that focus on particular banks or individual instruments, the analysis of sectoral dynamics remains fairly thin. Such barriers confine the understandings about how institutions impact green finance tactics in the banking sector.

Frequently, theoretical frameworks are disconnected in isolation, with little to no integration of views like, institutional theory, resource-based view (RBV) and stakeholder theory. Moreover, it

does not lead to a holistic picture of green finance processes, when in the Indian context. However, to capture the interaction among regulatory forces, resource capacities and stakeholder expectations that promotes the adoption of green finance an enhanced theoretical framework is required.

Third, while the rising trends, like ESG integration and fintech adoption, are slowly becoming more critical, a serious analysis of how they influence Indian banks is still missing. Nearly all of the studies focus on the emerging trends globally without due cognizance of the specific problems and opportunities that occur at the Indian banks, while implementing these advances. In addition, the long run sustainability consequences of such green financing programs in India are rarely explored with open questions of their effectiveness in achieving the environmental and social outcomes.

For scholarly development of and practical progress in this domain of green finance, it is therefore necessary to correct these deficiencies. The attempt is made to establish a comprehensive framework that includes these components and from which future research on these questions can produce insightful results for policymakers, financial institutions, and other stakeholders.

2.6 Implications for Framework Development

Inadequacies observed urge the need of a coherent conceptual framework to better understand the nuances of green finance practices within the Indian banking industry. In order to offer a comprehensive study of determinants that influence green finance adoption, this framework should embrace many theoretical views particularly institutional theory, resource-based view (RBV) and stakeholder theory. It must take into account the comparative dynamics of public and private banks with their different difficulties and merits of the latter over the former.

To broadly reflect the changing dynamics of green finance, it is essential that rising trends such as ESG incorporation and fintech use will be integrated in the framework. Not only does these factors affect bank operations, but also determines their capability of carrying out green finance project successfully. The framework should be able to evaluate the mid to long term sustainability impacts of green finance instruments and the contributions these methods make to achieving environmental and social objectives.

Through these dimensions, the proposed paradigm can direct future research on green financing practices in India. Policies and strategic decision-making can also be guided by it for banks to enhance their contributions to sustainable development; to address sector specific obstacles.

2.7 Summary

In this literature review, I examine the theoretical and empirical underpinnings of green finance paying attention to important trends and identifying key gaps in the current research. Both public and private banks in India provide a considerable share of green finance, but their methods are negatively impacted by different institutional and market characteristics. While public banks follow the lead of governments, with ambitious plans for the expansion of renewable energy, most private banks employ market-driven incentives to pursue green finance advances.

Green finance is experiencing emerging trends such as green bonds, ESG integration, and fintech innovations that are changing the landscape of green finance and presenting new choices for banks to support their sustainability agendas. However, research is fragmented, with little integration of

theoretical approaches, and an insufficient emphasis on sectorial specific difficulty and long-term consequences.

Therefore, the suggested conceptual framework tries to overcome these deficiencies by providing in depth investigation of green finance activities within Indian banking sector including its contributing determinants, facilitators obstacles and results. The framework is designed so as to integrate various theoretical perspectives and prove current trends thus building basis for future research and policy initiatives, enhancing academic knowledge and practical insights.

3. Conceptual Framework

3.1 Introduction

The proposed conceptual framework focuses on drivers, facilitators, barriers and results for the green finance practices in the Indian banking sector and expands the understanding about the adoption and implementation of green finance initiatives among the public and private banks. This framework seeks to remedy deficiencies identified in the literature, supplying theoretical models to steer subsequent research and policy development and providing a comparative perspective that looks at sectoral disparities. Finally, the suggested framework is built upon the theories of the institutional theory, resource-based view (RBV), and the stakeholder theory to how the external forces, internal resources, and stakeholder expectations affect the green finance practice.

3.2 Framework Design

The framework comprises four fundamental components: Finally, barriers, facilitators, drivers and results which subsequently delineate the dynamics of green finance adoption and implementation within both public and private sector institutions.

Drivers

External and internal drivers propel the banks to adopt the use of green finance strategies. Public sector banks are principally driven by regulatory obligations and government led sustainability initiatives. Institution in place like the Reserve Bank of India (RBI) are enforcing regulations with strong orientation on renewable energy and other environment friendly initiatives. On the other hand, the private sector banks do not get the push of driving policy mandates, are pushed by market competition, stakeholder demands, reputational considerations and as a result, are incentivized to innovate themselves and incorporate sustainability in their operations.

Enablers

Green finance initiative execution drivers (enablers) are elements fostering the execution of green finance initiatives. While technological improvements encompassing fintech solutions provide effective instruments for project evaluation, oversight and financing, in fact, these improvements only accentuate the existing challenges by fuelling greater scalability. There is no doubt that a bank's access to financial resources and knowledge enhances its ability to produce, as well as develop green finance solutions. While private banks are able to enlist enablers of their adaptability and innovation, their public counterparts enjoy the luxury of government support and massive networks using which they can reach remote areas.

Barriers

The obstacles for green financing are barriers. Bureaucratic inefficiencies, resource constraints and inflexible organisational frameworks are issues faced by public sector banks that limit their capacity to innovate. Although private banks are agile, they struggle to balance profitability with

sustainability and to meet stakeholder expectations. External impediments, erratic regulatory frameworks, absence of standardisation for green financing products, and lack of investor knowledge affect both industries.

Outcomes

However, the results of green financing are various like increased sustainability metrics, higher ESG scores and more complementing with national and international climate goals. Generally, public banks tend to follow the path that government desirable, and the private banks follow the path of market competitiveness and stake holder confidence. In both instances, the long term is one of greater financial stability, and support of India's transition to a low carbon economy.

Filling the Gaps

The suggested methodology corrects many deficiencies evident in the literature by providing a systematic and comparative assessment of green financing practices in both the public and private sectors.

3.3 Comparative Lens for Public and Private Sector Banks

It is clear how the unique motivations, enablers and obstacles confronting public and private sector banks are integrated into the framework. Explicit regulatory directives also guide public banks and often express that public banks must have a strong contribution to infrastructural initiatives that serve governmental aims. On the other hand, private banks adopt a market driven strategy emphasizing on novel goods and services that satisfy investor needs. This approach allows for a detailed understanding of sectoral differences in green finance uptake as these dynamics are distinguished.

3.4 Theoretical Constructs

Institutional theory, resource-based view (RBV) and stakeholder theory are amalgamated in order to provide a robust theoretical base on which the framework is based. From the view of the institutional theory perspective, external constraint focuses on understanding the ways in which legislative frameworks and the social norm shape green finance practice. The Resource Based View insists on the centrality of innovation through internal capabilities as it encompasses financial resources and experience. Stakeholder theory, instead, focuses on decision making under the impact of customer, investor, and regulatory pressures. They propose this as a multi-theoretical approach addressing the disjointed application of ideas in the current literature.

3.5 Addressing Overlooked Relationships

The framework links previously neglected essential constructs with each other. It, for example, considers how technology improvements, such as fintech, can both be enablers and constraints depending on the resources and competences of a bank. At the same time, interaction between short term profit demands and long-term sustainability objectives, that tend to frequently conflicted in private sector banks is also analysed.

3.6 Visualization

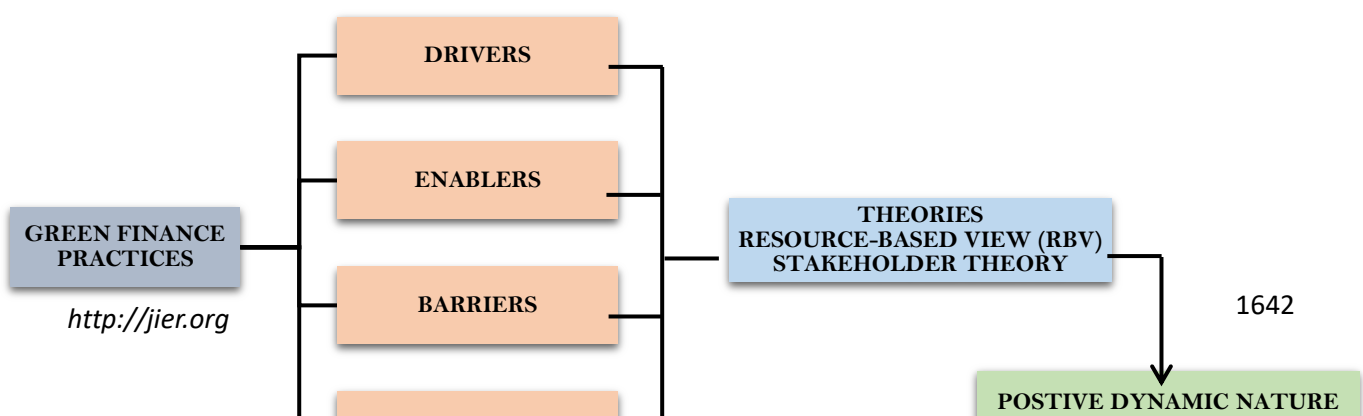


Figure: Conceptual Framework
(Source: created by the Researcher)

3.7 Justification

Selection of Concepts

Through the inclusion of Drivers, Enablers, Barriers, and Outcomes into the framework's core, the complexity of green financing is expressed. It isolates the external and internal incentives of green finance adoption while providing a backdrop to sector specific dynamics. Barriers refer to the obstructions that prevent progress while the Enablers describe the necessary circumstances for effectiveness of execution. Outcomes represent quantifiable effect that one or more practices have on the system, ensuring that the framework aligns with both theoretical as well as practical goals.

Rationale for Relationships

Structures make the interrelations among the components in a manner which reflects real world complexities. Recognise that external influences can both provide an incentive and include barriers to the adoption of green financing by Drivers and Barriers. Similarly, the use of feedback loops between Outcomes and other elements represents that nature of green finance techniques: after all, successful outcomes may themselves produce new Drivers and Enablers over time.

Sector-Specific Insights

First, the difference between public and private banks in the framework is essential to bridge the existing gaps in the literature. Sectoral disparities are elucidated through the framework which enables the provision of pragmatic insights for policymakers and banking institutions, steering them towards designing customised policies which address the specific problems and possibilities specific to each sector.

Emerging Trends

The framework is relevant and up to date in the changing green finance environment by integrating trends such as ESG incorporation and fintech utilisation. Not only do these trends enable, but redefine the barriers and drivers of green financing initiatives for the continued realignment. Since the framework permits such modifications, it turns out to be adaptable and a useful instrument for both scholarly research and practical implementation.

3.8 Summary

A thorough and comparative analysis of how to understand the green finance activities within the Indian banking sector is proposed in this suggested conceptual framework. Through synthesis of theoretical findings and filling in of literature gaps it offers a systematic framework for looking into determinants, facilitators, obstacles, and end results of green finance. It takes into account developing trends including strategies as well as industry dynamics for gaining pertinence in fulfilling current challenges and future possibilities. It offers a framework for future research, policy formulation and strategic decision making that may enable use and uptake of green finance in India.

4. Discussion

4.1 Comparison with Existing Literature

By addressing the disjointed comprehension of green activities of the Indian banking industry, the suggested model extends previous literature and provides a comparative analysis of public versus private sector banks. Research has tended to focus on individual components of green finance, for instance certain regulatory effects or on the aspects of financial instruments (for instance green bonds) or overarching institutional dynamics. While these studies provide a useful lens, they are missing a larger framework and often fail to explain disparities in the green finance adoption implied by public and private banks.

According to institutional theory research, external forces, including governmental legislation and public expectation impact the adoption of green financing. However, these studies often generalize their results, omitting the differences between public banks, regulated under direct government supervision, and private banks subject to market motivates. This gap is addressed by the proposed approach delineating how institutional factors produce variation in implementation of green financing practices in the two sectors considered differently.

Most of the RVV research has focused on private banks as resource rich organisations, capable of using their internal resources and achieving green finance innovation. While public banks, which also have their own distinctive advantages, such as wide networks, also tend to be omitted from this analysis because of their alignment with the national sustainability objectives. Building on the Resource Based View (RBV), the framework extends the arguments to the dependence of public banks to governmental funding as well as their inefficiency of bureaucracy.

In this thesis stakeholder theory is used to investigate the impact of investor and consumer expectations on the promotion of sustainability efforts, specifically amongst private banking institutions. But the focal point of public banks to satisfy the priorities of central government, and its minimal relationship with wider stakeholder needs, is not frequently looked at. This approach corrects this error by introducing stakeholder theory as part of a dual sector study, acknowledging the differences in stakeholder influences within public and private banks.

Moreover, the framework also addresses emergent areas, such as the integration of ESG and fintech acceptance, which are not adequately researched in the extant literature on Indian banking. While such patterns have been studied well in a global context, they do not translate well to the Indian context. These tendencies are included in the framework as facilitators and obstacles that are understood in detail in terms of how they impact the progression of green finance. This merges with existing progress and assures practical utility for the framework.

This proposed framework combines insight from institutional theory, resource-based view (RBV) and stakeholder theory, along with developing trends and sector dynamics in an integrated structure to address the important gaps in the literature. It enhances the comprehension of green finance practices in Indian banking sector and gives a basis for research related to the topic.

4.2 Theoretical Implications

After that, the suggested framework substantially improves the theoretical development through elaboration and improvement of the application of institutional theory, the resource-based view (RBV) and the stakeholder theory in the field of green finance. It shows how different ideas are merged to give a holistic picture of sustainability practices in the banks, making up for the shortcomings of the usage of each one separately.

The sector specific methodology contributes to the understanding of institutional theory which emphasised the role of external constraints on the behaviour of organisations. Varying institutional pressures—regulatory requirements for public banks and market-oriented standards for private banks—cause divergence in the green financing practices of these banks. Them on the one hand and the theoretical approach on the other distinguishes the purely conceptual contrast, with the emphasis put on the importance of taking sector specific peculiarities when institutional theorizing in emerging economies like India.

Integrating distinctive resource dynamics of public banks enhances the RBV. Typically, the Resource Based View (RBV) prioritises internal resources as the source of competitive advantage, but it does acknowledge that public banks are substantially dependent on external support, particularly subsidies and policy mandates from government to overcome resource constraints. This update extends the application of the RBV and broadens its scope to include those institutions that have limited autonomy and a flexibility in deploying resources.

The framework additionally complements stakeholder theory by focusing on differentiation of stakeholder influence in banking industries. Furthermore, it highlights the central role that customer and investor expectations play in the incorporation of ESG principles and construction of green financing inside private banks. It stresses the superior effect of political deregulation and regulatory bodies on public banks. The dual focus demonstrates how stakeholder theory is flexible to accommodate institutional variances resulting in a more nuanced understanding of sustainable strategies.

Moreover, the framework subsumes emergent themes which are of the order of fintech and the integration of ESG, which remains largely neglected in current theories. It illustrates the enabling and constraining aspects of technical progress and new market expectations for transforming the issues into sustainable landscape. This broadens the theoretical discourse in finance, risk management, technology and sustainability, and it provides new opportunities for research and debate along the frontiers of these disciplines.

Key to the theoretical contribution of the framework is its dynamic nature, with feedback loops between results and drivers that much amplify to the impact of results on drivers and *_vice versa_*. The results encapsulate the circularity of the practice of green finance implementation where successful results lead to higher demands and more opportunity for further innovation. This perspective fits well with the contemporary views of organisational behaviour as a continuous adaptive process and contributes to the theoretical understanding of sustainable measures in complex institutional settings.

Through synthesizing and amplifying existing theories, the framework not only offers a solution to gaps in the literature, but recommends solid futures research. It asks scholars to use a multi-theoretical lens to understand its intricate green finance nature and to design models that encapsulate the dynamic, progressive essence of sustainability activities.

4.3 Practical Implications

The suggested framework provides practical policy recommendations for banking institutions, politicians and regulators about how they can improve green finance uptake while overcoming sector specific barriers.

Then the emphasis is placed on the need for public sector banks to leverage their link with government's objectives for the promotion of green activities within green finance. These insights can then be used by policymakers to design incentives, such as subsidies to renewable energy

initiatives and capacity building programs, to strengthen the resource capacity of public banks. By either avoiding or alleviating bureaucratic bottlenecks and increasing operational flexibility, public banks can also be empowered to innovate and expand their green financing activities. However, regulators can also facilitate the public banks to connect more actively with diverse stakeholder groups, enhancing accountability and transparency in their sustainability operation.

The consequence on market driven catalyst and facilitators provides advantages to private sector banks. The results highlight that private banks should continue to leverage their agility and innovation capabilities to develop novel, green finance products, such as sustainability linked loans and financing solutions over the blockchain. Integrating ESG principles in their core activities increases their competitive advantage in the market place as well as increases their capacity to attract environmentally concerned investors. However, the framework stresses for private banks to balance short term profitability to sustain long term forex sustainability goals. To obtain this equilibrium, a complete sustainability policy that fit financial performance and environmental targets must be formulated.

Current trends such as fintech trends or ESG incorporation are integrated in the framework, which provides pragmatic advice to both public and private banking institutions. Cost effective and transparent innovations created by fintech can be adopted to enhance efficiency and transparency of green finance activities. Digital platforms may be introduced at banks for project assessment and oversight, which would work to decrease costs and enhance their ability to track environmental impacts. The demands of stakeholder and regulators for ESG integration mean the requirement for banks to set up comprehensive data gathering and reporting systems. Banks can find training initiatives and work with ESG consultants to build the needed skill sets to successfully implement such initiatives.

A basis for making comfortable regulatory regimes for green financing in banking sectors is provided for regulators and policy makers through the framework. Obstacles are overcome by standardising green financing instruments (such as green bonds), and clearly defining criteria for ESG reporting, which can, in turn, produce greater involvement from banks. Collaboration between public and private banks, and their shared recourse to co-financing for large scale renewable energy projects, can also drive their combined influence towards sustainability goals. It also provides actionable ways for banking institutions and regulators to encourage adoption of green finance, address bottlenecks and line up their practice with India's sustainability agenda. As an industry specific insight with focus on developing trends makes sure its relevance to contemporary issues and opportunities in the Indian Banking sector.

5. Addressing Criticism and Limitations

5.1 Anticipate Criticism

Despite being thorough and theoretically grounded, such a framework may spur particular critique, in particular when conceptual. One possible criticism is that the framework requires theoretical assumptions for which there is, at present, no direct empirical support. The paradigm draws on institutional theory, the resource-based approach, and stakeholder theory but detractors might argue that it begins with an untested presumption that they apply in a developing country context. This presumption may not be universal to other locations or regulatory contexts where the institutional forces will differentially affect public and private banks.

Second, some might criticise the framework's generalisability. The dual sector emphasis on public and private banks in India seeks to fill a recognised deficiency but may make its relevance to banking systems in other emerging countries with unique institutional and economic conditions

limited. Criticism may range from how the drivers, enablers and barriers can be generalised to other situations, or whether the framework requires a lot of change in order to be spread more widely.

ESG incorporation and fintech adoption could also become a part of the integration with rising trends. Although these developments are impressive, they are still evolving, and their ultimate outcome is uncertain. However, to others, including on this forum, this is a progressive inclusion, but it might come across as speculation. The relevant temporal and political nature of these practices may impact the long-term applicability of the framework due to ever changing legislative and market conditions.

Though this work responds critically to existing models of translation, the achievements presented in such models remain relevant, and these critiques highlight the need for ongoing improvement and empirical testing of the framework to ascertain its assumptions and adapt them to changing environments. While the conceptual approach is critical to the work as a good initial step in resolving the gaps in the literature highlighted here, it is still necessary to develop empirical research to validate the practical significance and the strength of the framework.

5.2 Limitations

The main weakness related to the proposed paradigm is that it is conceptual, and therefore cannot be directly empirically validated. Although based upon theoretical concepts and contemporary research, its practical application in Indian banking system is under question primarily because of the lack of empirical evidence on this. As a consequence, the framework's reliance on secondary data and on theoretical frameworks means that assumptions such as the differing impacts that institutional pressures have on public and private banks remain untested.

It additionally focuses on the Indian financial surroundings, which acts as a further drawback because it may reduce the chance of applying the mannequin in different nations or areas. First, the paradigm provides valuable insight into India's idiosyncratic institutional and market dynamics; however, its application to other emerging or developed economies requires significant adaptation to match the local regulatory contexts, stakeholder expectations and resource availability.

The second is the framework's poor ability to manage emergent trends, e.g. fintech acceptance and integration of ESG. Despite this, these developments are not yet fully developed and the effects that these will have on green finance practices in the longer term are not yet well understood. As a result, the assessment of their significance by the framework may be inaccurate, depending on the future evolution of these trends.

Second, the paradigm ignores the effect of broader macroeconomic and geopolitical variables upon the adoption of green financing, such as global economic recessions, international trade rules, and geopolitical wars. Although these are not within the immediate framework, they are capable of influencing green finance drivers, facilitators, barriers and outcomes in Indian banks quite significantly.

It is essential to recognize these constraints and seeing where the framework best fits in and the scope. These deficiencies can be rectified, through subsequent study and empirical investigations, so that the framework accommodates this complexity of green finance practices.

5.3 Future Research Directions

The framework proposed above needs to be evaluated empirically in the Indian banking sector in order to increase its robustness and applicability. This empirical validation might involve executing case studies or survey or interviewing important stakeholders from both the public and private banking institutions. With this methodology, the framework would be validated since assumptions such as the varying extent to which institutional constraints and internal resources enable green finance adoption would be tested.

Investigation of the generalisability of the framework requires comparative analyses across many locations or nations. With these dynamics in other emerging countries with similar, or possibly in developed market with robust financial systems, researchers can observe situations where the framework is pertinent and where it does not hold. A cross-context study would provide significant insights on the universality of the green finance practice and unique hurdles faced by other banking sectors.

Additional investigation on the importance of emergent developments, such as fintech and ESG integration is required. Such phenomena should be studied by researchers, who should focus on the temporal evolution of these phenomena and the lingering impacts on green financing adoption. Longitudinal research on this topic may furnish a more nuanced understanding of the interactions between these trends and institutional, resource and stakeholder dynamics and hence a more nuanced understanding of their effects.

Secondly, the effects of green finance practices in promoting environmental and social sustainability are likely to be an informed area for subsequent research. Empirical evidence of the efficacy of green finance projects (e.g. decreases in carbon emissions and enhancements in ESG indicators) can be drawn through assessment of long-term effects of the projects. With this, these findings may inform the policy formulation as well as strategic decision making so as to ensure green finance practices align with sustainability goals of the country at large.

The future course of study should be to empirically prove, refine and expand the suggested paradigm to better understand green finance practices of Indian banking sector and beyond.

6. Conclusion

6.1 Reiterating the Importance of Addressing Literature Gaps

Given that the banking sector in India plays a critical role in promoting ecologically sustainable investments and financing, green finance has become important for achieving sustainability goals. Despite its growing relevance, green finance methods remain disjointed in the current literature of India which is fragmented in terms of describing methods for public and private sector banks. However, it remains something of a new field and existing literature suffers from the absence of thorough research that compares and contrasts the methodologies and contributions from different sectors, as well as the difficulties encountered by each sector. The adoption of green finance, however, has been studied by utilising only theoretical frameworks like institutional theory, resource-based view (RBV) and stakeholder theory, thereby leaving gaps in understanding how external pressures, internal capabilities and stakeholder expectations influence the adoption. These deficiencies need to be addressed for both theoretical discussions and practical applications of green finance to progress.

6.2 Contribution of the Proposed Framework

In response to these gaps, this study presents a complete conceptual framework of green finance practices incorporating the drivers, enablers, constraints, and consequences of such practices. The complexity of adopting green finance is explained from multiple perspectives using institutional

framework, resource-based view (RBV) and stakeholder theory. It deeply differentiates the distinctions in dynamics of public and private sector banks, which aids the comparison of origin, differences, and benefits. Advantages for public sector banks come from their adherence to government directives, burdens such as resource limitation and bureaucratic inefficiency are also common. On the other hand, private sector banks rely on market driven facilitators like innovation and involvement of stakeholders but they must fit in short term profitability along with long term sustainability.

Rising ESG inclusion and fintech uptake are also integrated within the framework, which are both key trends changing the green finance landscape. Locating these inclinations as both an enabler and inhibitor serves to support the validity of the framework to the present and presents a groundwork from which to delve further into their effects. Additionally, the framework is dynamic in form and admits feedback among outcomes and other components, capturing the iterative nature of green finance methods on a strong foundation for eventual empirical validation and advancement.

6.3 Broader Implications for Theory and Practice

The paradigm proposed here has far reaching ramifications both for theoretical and practical applications. Theoretically speaking, it widens the application of institutional theory, resource-based view and stakeholder theory by blending them into a harmonized framework which acknowledges sectoral and context changes. It demonstrates that a multi theoretical framework can be used to tackle the complexities of green finance, providing a model that can be 'modular' and tested in many contexts and industries.

These findings offer practical insights to banking institutions, regulators and policymakers. The paper underscores the need for public sector banks to face the resource constraints and operational inefficiencies to develop the green finance programs successfully. It stresses on the need for private sector banks to reconcile innovation and profitability with overarching sustainability objectives, and using market opportunities to drive adoption of green finance. The framework can be used by regulators and policymakers to formulate specific actions, e.g., standardise green finance instruments, encourage ESG integration, for developing conducive environment for green financing.

The framework provides a foundation for future research, as it motivates scholars to empirically validate its components, and examine its applicability in different situations. The stated gaps and limitations within this work are an issue that can be addressed by the researchers to improve the understanding of green finance techniques and their role in achieving sustainability goals.

6.4 Conclusion

This study develops a comprehensive framework to address various gaps in recognizing green financing practices adopted by Indian banking sector. The framework combines theoretical insights and addresses sectoral dynamics to improve understanding in an academic and practical context. Emphasis on emerging trends and dynamic processes make this timely and relevant with current as well as future challenges and opportunities, and pave the way for further research and strategic work. This paradigm can be implemented to enable banking institutions, policymakers, and regulators to enhance their contributions to the sustainable development and bring the financial systems in sync with the basic requirement of the Environmental Conservation and Climate Resilience.

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