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Research Paper

Green Financing as a scope for Futuristic Banking Solution: A Systematic Review of 1968-2024 Co-Citation Analysis

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ARTICLE DETAILS

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ABSTRACT

Examining current green and sustainable finance practises is urgently needed given the increased attention that regulators, governments, and policymakers are giving to climate change and global warming. With the help of bibliometric research, this study aims to provide a thorough overview of the condition of green and sustainable finance today and its likely future developments. The study includes 1,511 peer-reviewed journal papers published between 1968 and 2024 and indexed in the SCOPUS database, which were used to conduct a full thematic analysis with the R software tool bibliophagy. According to the authors, over the chosen time period, experts have primarily concentrated on three important green and sustainable financial topics. The key areas include climate finance, green finance, and socially responsible investing. This is based on prior research as well as current commercial and corporate trends and practises. The study's findings give a valuable foundation for implementing sustainable strategies, trading profits and environmental risks, and profiting from green research and practise approaches. As a result, the findings are required by lawmakers, regulatory bodies, aspiring scholars, environmentalists, and investors.

An Overview of Sustainable Finance

The phrase "sustainable finance" refers to a broad range of financial activities that support social advancement, environmental preservation, and sustainable development. It includes a broad range of financial tools and methods intended to reconcile financial aims with social and environmental goals. Sustainable finance aims to encourage sustainable economic growth while minimising harmful environmental effects and tackling social issues. Green insurance, social impact bonds, sustainability-linked loans, and green bonds are just a few examples of the various shapes that sustainable finance can take. These financial tools are made to encourage investments in green projects including sustainable agriculture, renewable energy, and sustainable infrastructure. The term "green finance" refers to a broad range of financial products, such as green investments like green bonds and green loans. Particularly green bonds have seen remarkable growth in recent years, with record-breaking issuances expected in 2020. These bonds are used to fund initiatives that have a good impact on the environment, such as building energy-efficient structures, developing renewable energy infrastructure, and promoting sustainable mobility.

A variety of parties, including governments, financial institutions, and environmental organisations, promote green finance. States and international organisations are enforcing laws and rules that encourage sustainable investments and green finance. Financial institutions are increasingly providing green financial services and solutions as they realise how important it is to encourage sustainable investments and reduce the risks associated with climate change. Carbon emissions are decreased, environmental sustainability is promoted, and environmentally aware investors are drawn to green financing, among other advantages. Also, it can aid in lowering the risks linked to investments in high-carbon businesses, which include those related to climate change. In general, green finance is crucial for fostering long-term economic expansion and resolving environmental issues. Green finance is anticipated to have a bigger role in influencing

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the direction that financial markets take as awareness of these issues continues to rise. The financial industry must lead the transition to a greener economy. Green finance is defined as "any investment or loan that considers environmental ramifications and makes the environment more sustainable" (Volz et al. 2015: 2). Green finance refers to financial goods and services that support both economic development and ecologically responsible investment. Green finance seeks to reduce the risks associated with climate change while assisting When we make the switch to a low-carbon, sustainable economy. In addition to financial goods, services, and investments that promote these objectives, green finance also involves projects like the transition to a low-carbon economy and a reduction in greenhouse gas emissions. Green finance seeks to stimulate economic growth while having less of an adverse impact on the environment. There are numerous options for sustainable financing, including green bonds, loans, insurance, and other forms of green finance. These things can be used to raise money towards the development of eco-friendly buildings, eco-friendly transportation, sustainable agriculture, and other environmental initiatives.

The importance of green finance is increasing as the world attempts to reduce greenhouse gas emissions and transition to a low-carbon economy. Several nations and international organisations are pushing the spread of green finance by putting in place laws and regulations that encourage sustainable investments. The green finance sector is growing as a result, and there are now more green financial options available. To place Asian countries on a sustainable development path, investment must shift away from enterprises that rely on fossil fuels, greenhouse gas emissions, and other natural resources that consume a lot of resources. To achieve the aims of sustainable development, additional finances must be provided by the public, private, and non-profit sectors in the form of banking, microcredit, insurance, and investments. Green investments have expanded rapidly in a variety of areas in recent years, including industrial capacity, renewable energy, and green buildings. However, before the economy can be decarbonized, a massive financial imbalance must be addressed. Green finance is a set of financial mechanisms that enable people to safeguard the environment by lowering greenhouse gas (GHG) emissions and energy consumption, as well as building infrastructure that can resist the effects of climate change.

Sustainable development and the use of green finance: This body of work discusses the role that green finance plays in promoting sustainable development. The need for increased funding for sustainable infrastructure projects including those promoting energy efficiency, renewable energy, and others is emphasised. The transformation to a low-carbon economy is also examined, as well as how green finance may help to lessen the risks brought on by climate change.

Green bonds: This literature focuses on the expanding market for green bonds, which are debt securities used to finance ecologically friendly projects. It looks at the advantages and difficulties of green bonds and how they might be used to raise money for eco-friendly investments.

The need for green investment is greater, however. A wider range of environmental objectives, such as reducing industrial pollution and protecting natural resources and biodiversity, are covered, along with other financial goods and services. Climate funding is one of these objectives.194 countries came together in 2010 to create the Green Climate Fund, which aims to help developing nations resist and prepare for the effects of climate change.

Having green money to assist climate change action became crucial after the Paris Agreement, Sustainable Development Goals (SDGs), and Sendai Framework for Disaster Risk Reduction were all signed in 2015. There are no attempts made to bring finance and the environment together because they are each considered as separate entities.

Methodology

Creating a Research Question:

Researchers create a study topic using the PICO approach. PICO is one of the strategies employed in the development of relevant research questions for this evaluation. A research question must comprise three fundamental PICO components: population (P), research interest (I), and context (C) (Co). When choosing a research subject, the researchers considered three important factors: green finance clients (population), active engagement in green financing (interest), and the execution of internationally viable green financing in India (Context). The research question is formed by combining the three requirements given below: What do users of green finance think about attempts to deploy green banking solutions?

Systematic Literature Processor

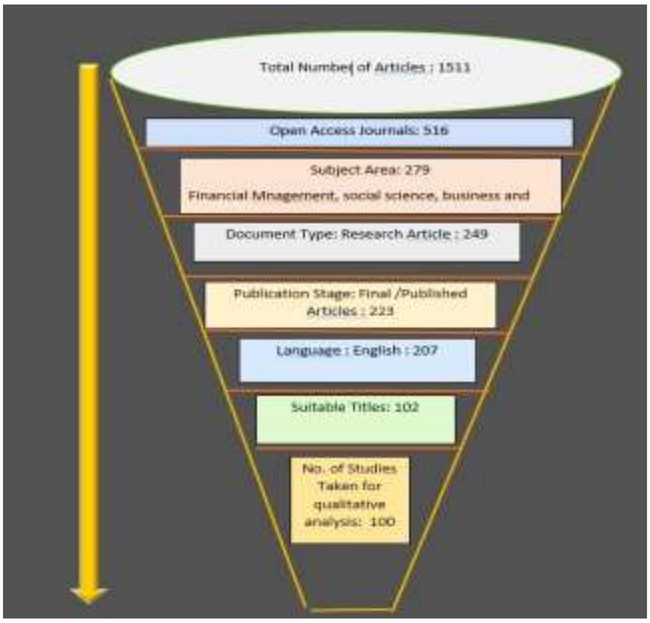
Identification:

The SLR approach must be followed while developing a research question. The researchers selected two important terms from the study question during the first step, known as identification: "green finance" and "barriers." Keyword enrichment is required for an effective and extensive search strategy. Gazendam et al. (2010) suggested using an online thesaurus to supplement synonym findings with new terms.
Searching many databases is critical for eliminating publication bias, compensating for the limitations of a single database, and increasing openness in this process (Briner and Denyer, 2012; Kraus et al., 2020; Xiao and Watson, 2019).

The Funnel Method:

Funnel Approach:

Database	Search String
SCOPUS	TITLE-ABS-KEY (("green finance*" OR "green banking" OR "green credit") AND ("Activeness*" OR "Attentive*"))



Source : Funnel approach for data screening, developed by the author

The second stage of the Funnel technique is screening in this investigation. This strategy requires the researchers to decide whether to include or exclude papers for review. The database's filtering system assists this function automatically. It is critical that the screening approach ensures that the selection criteria from the database are neither too narrow nor too broad (Kraus et al., 2020; Meline, 2006). The identical article was removed from Scopus databases by the researcher (Shamseer et al., 2015). The articles were then eliminated based on the study period (2016 to 2020), article language (English), document kind (journal article or article), and publishing stage (final)

Eligibility

The third procedure in the Funnel protocol is eligibility. It is complicated due to the manual nature of identification and screening, as well as the manual character of this method (Mohamed Shaffril et al., 2020). As a result, it is a time-consuming technique carried out by researchers. There are 102 articles available for review. The researcher began evaluating article titles and abstracts in accordance with the suggestions of Kraus et al. (2020). The content can then be evaluated by the researchers to see if it is appropriate and relevant to the study's research issue. As a result, 44 publications are excluded since they do not satisfy the specified study topic. Researchers may use the inclusion strategy after determining eligibility.

Inclusion and Extraction of Data

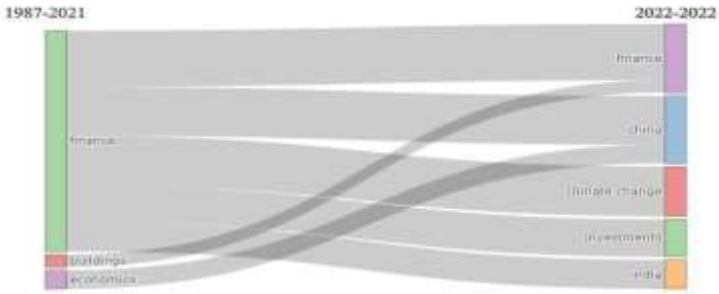
The researchers selected to assess a single submission after meeting the qualifying conditions. The researchers extracted the data after generating an extraction sheet. As a result, data extraction assists researchers in answering their research questions. Furthermore, a matrix table is a useful tool for fostering clarity and shed light on the present synthesis process (Kraus et al., 2020; Mohamed Shaffril et al., 2020).

Analysis

Data synthesis was used to analysis the data in this investigation. The synthesis is required for the analysis since it spreads the matrix table's findings throughout the 19 articles to be read. As a result, the synthesis output will be analyzed and presented using a qualitative approach known as theme analysis. Thematic analysis seeks to identify, investigate, and interpret the underlying meanings (themes) in qualitative data (Clarke and Braun, 2014). The researcher discovered many themes in this study based on the major results of the selected article, which will be detailed in the next part.

Suggest further strategies to boost long-term funding.

The phrase "green finance" is rarely heard. Green money is monetary support for environmentally beneficial projects that reduce greenhouse gas emissions and air pollution considerably. Green growth, as a growth strategy, emphasizes economic and environmental balance. Green funding is assistance for commercial and industrial expansion that reduces greenhouse gas emissions and other environmental issues. Three global economic challenges that can be addressed through green development are the financial crisis, climate change, and energy scarcity. Green finance presents a number of challenges to each country's current financial legal systems. Environmental factors had an important influence in the project financing business in the 1990s, developing and influencing lending-controlling organizational practices.



Source : Thematic Analysis Through Biblioshiny R Software

Discussion

This section expands on the seven previously mentioned concepts. A green finance system has three participants: the government or other regulatory authorities, financial institutions, and borrowers or end users. The management and monitoring of the expansion of green funding are the responsibility of the government or other competent bodies. It is the financial institution's job to offer financial assistance and assess the risk-reward profile of green financing. Borrowers and consumers are also responsible for the development of environmentally friendly projects or technologies. The three interdependent parties' goal is to safeguard the planet's ecological and population. According to Zadek and Flynn (2013) "Green finance and green investment are two terms that are commonly used interchangeably. Green finance, in contrast to the definitions supplied by Bloomberg New Energy Finance and others, includes more than only investments. It is critical to deal with running expenditures that are not covered by the concept of green investment. The most significant expenditures would be those related with project planning and site acquisition, both of which are significant and can provide distinct financial challenges. The alleged advantages of green finance show how significant it is. The growth of smart cities is encouraged through long-term green financing (he et al., 2020). Green money encourages equitable economic expansion (Wang and Wang, 2020). Investments in green projects can cut carbon emissions both immediately and over time (Li et al., 2021). Institutional investors specialising in impact investing will profit from green financing (Tang and Zhang, 2020; Barber et al., 2021). The diversification benefits of green financing can help corporate and treasury investors (Reboredo, 2018). By increasing the use of green money, fossil fuel companies that harm the environment and the climate could lose support (Sachs et al., 2019a, Ozil, 2024a).

Bohnke, Eidt, Knierim, Richert, Rober, and Volz (to be published): "All investments and funds that address environmental effect and promote environmental sustainability are included in our definition. To achieve environmental sustainability criteria, green financing necessitates sustainable investing and banking, in which investment and loan decisions are based on environmental screening and risk assessment. Wang and Zhi (2016) discovered various flaws and proved green currency's flexibility to renewable energy. They are concerned with market circumstances as well as policy formulation. Despite the inherent tensions between green money and environmental conservation, they are quickly given to achieve environmental balance more effectively. According to Sachs et al. (2019), due to the unknown risks and lower rate of return associated with green investments, financial institutions are more interested in fossil fuel endeavours than in green attempts. W. T. Woo, F. Taghizadeh-Hesary, J. Sachs, and N. Yoshino collaborated (2019a). The significance of green money in accomplishing sustainable development goals and ensuring energy security. 3–12 in the context of Energy Security and Sustainability At this time, I'd like to commend Zhang et al. (2019) for their review of green finance studies. They demonstrate the lack of a generally accepted idea of green money using bibliometric study. They also call for deeper investigation into green financing in underdeveloped countries. To help Zhang et al., I've incorporated the most recent developments in green finance research to this piece (2019). The objective is to give academics, decision-makers, and practitioners a thorough understanding of green finance. To do this, I first identify the most pertinent trends and concerns by reviewing academic, practitioner, and policy literature on green finance, after which I develop research hypotheses.

These literary reviews contribute to the body of knowledge in the following ways: One benefit of the approach is that it advances our understanding of sustainable finance. This bibliography includes the following books: Others include Ozil, Schumacher et al. (2020), Durrani et al. (2020), and Dorry and Schulz (2018). (2024a). This essay provides an example of how to support sustainable development initiatives using green money. Second, this study contributes to the body of knowledge already available on how innovative financing fosters economic expansion. To create this corpus, Sullivan (2005), Fagiolo et al. (2020), Egger and Keuschnigg (2015), and Zhu et al. (2015) all made contributions (2020). In the essay, I demonstrate how using green finance offers a creative method to finance long-term environmental initiatives that promote economic growth. The 2030 Sustainable Development Goals set forward by the UN (Bebbington and Unerman, 2018; Bernstein, 2017). The majority of respondents, according to the survey, thought that green money was a long-term substitute for aiding the UN's Sustainable Development Goals. This green finance review article serves as a resource for academics and industry experts by outlining the fundamental issues, obstacles, real-world observations, and specific research areas that merit further study. According to Sachs et al. (2019a), financial institutions are more interested in fossil fuel projects than in green ones due to the unknown risks and lower returns associated with green investments. Taghizadeh-History and Yoshino (2019) proposed two methods for promoting private investment in environmentally responsible businesses. The primary goal is to develop credit guarantee programmes for green finance. The second option is to give investors a percentage of the tax money gained as a consequence of the green energy supply's spillover effect. They think that by combining these two tactics, they may reduce risk while increasing the return on green investments.

Sharma (2013) did a review of the literature on green banking. Second, public sector banks and organisations encourage carbon-reduction goods, methods, and technology. They have chosen the top ICICI, HDFC, Executive Private Sector SBI, PNB, and Mumbai Public Sector banks (BBE and NSE and 2013-2012 Annual Report). Furthermore, state banks are more active than their competitors. They pick businesses to learn about the most current Reserve Bank promotional actions for these goods. Volz looked at how central banks may help develop a more sustainable monetary system (2017). According to Volz (2017), central banks can employ a variety of policy tools and techniques to develop a financially sustainable economy. The methods that central banks can employ include the discount policy, reserve requirements, capital requirements, open market operations, foreign exchange intervention, macroprudential policies, risk counselling, central bank communication, and international central bank cooperation. The suggested policy alternatives include capital restrictions, interest rate caps, and the accessibility of swap lines. In addition, Ozil uncovered a range of strategies that central banks may implement to lessen climate risk and promote the green economy (2021b). There are three options: I may impose a capital surcharge, raise risk capital at a fixed rate based on Tier 2 capital, or reduce capital requirements in order to address climate change. Making loans to companies whose operations have a negative influence on the environment and climate, (iv) establishing a climate bank, and (v) compelling financial institutions to move their most important assets to areas less susceptible to climate-related calamities. Green finance, according to Hohne et al. (2012), is the financial investment in initiatives and projects that promote sustainable growth, environmental protection, and legislation that supports this growth.

According to a 2005 research by Heim and Zenklusen, stock market investors have grown more environmentally conscientious and no longer support polluting corporations. The economic components of green finance, according to Zheng et al., include variables that promote green economic growth, competitive advantage, the generation of economic value, and the government's understanding of the financial implications of climate change. Investment and green finance, according to Zadek and Flynn, are the same thing (2013). Green finance, in contrast to the definitions supplied by Bloomberg New Energy Finance and others, includes more than only investments. It is critical to deal with running expenditures that are not covered by the concept of green investment. The most major costs would be those related with project planning and land acquisition, which are not only enormous but also provide distinct financial challenges.

Conclusion

This research looks at user engagement in green funding. The systematic literature gathered from the Scopus database was analysed for this inquiry. Green finance, according to the study's conclusions, is a financial strategy aimed to achieve and ensure improved environmental benefits. Green finance loans help financing companies have a beneficial environmental impact. Green financing not only assists investors in supporting future innovations that may help to sustainability, but it also gives investors with the possibility to profit. The Reserve Bank of India (RBI) began issuing green funds in India in 2015, although there have been few green fund investments due to a lack of investor awareness. Numerous writers from across the world advocate for green financing because they see it as an urgent requirement; nonetheless, investment in green finance is limited owing to a lack of action. The biggest barriers to the implementation of green finance practises are a lack of government participation and insufficient government budget financing.

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