

A STUDY ON THE ASSOCIATION OF SOCIAL FINANCE, GREEN FINANCE AND DIGITAL FINANCE

Dr V lakshmi Suneetha ,

Dr V Sravana Kumar

Assistant Professor, The Oxford College of Engineering, Bangalore.

Associate Professor, Krupanidhi College of Management, Bangalore.

Abstract: Promoting sustainable economic, social and environmental development requires identifying the convergence between green finance, social finance and digital finance. This study proposes a link between these three finance. With the help of a simple theoretical model, one can explore how digital finance acts as a seamless, effective and comprehensive link for individuals and organizations to support social initiatives that deliver social dividends and green projects that contribute to sustainability worldwide. As a result digital finance is an effective initiator and channel for effective green and social finance.

Key Words: Digital Finance, Climate finance, Impact investment, Supportable development

1. Introduction

Digital finance, also known as fin-tech (financial technology), is the application of digital technology to provide, advance or facilitate financial services. This comprises a widespread range of innovations and services that use digital tools such as mobile apps, web platforms, artificial intelligence, block-chain and data analytics to improve and expand financial offerings. Key aspects of digital finance are Mobile Banking, Digital Payments, Online Lending, Robo-Advisors, Cryptocurrencies, Block-chain Technology, Insurtech, Regtech. Digital finance has brought significant changes to the financial services industry, making financial transactions more efficient, cost-effective, and convenient. It has also opened up new opportunities for innovation and entrepreneurship, although it does come with challenges related to security, privacy, and regulatory compliance.

"Green finance" designates financial goods and services proposed to assist socially and ecologically accountable projects. It's a broad category that encompasses a variety of financial instruments and activities that aim to promote environmental sustainability and combat climate change. Green bonds, investments in the green economy, sustainable banking, environmental, social, and governance (ESG) investing, climate finance, carbon markets, and green insurance are some of the essential elements. Green finance is important because it helps redirect capital flows toward sustainable and environmentally responsible projects, supporting the transition to a greener economy. It can contribute to mitigating climate change, reducing pollution, and fostering a more sustainable future. It's a growing field with increasing interest from investors, businesses, and policymakers worldwide.

Social finance, Often called ethical finance or impact investing, this method of managing finances aims to produce both financial gains and beneficial social and environmental effects. It entails giving money to companies, associations, and initiatives that try to solve urgent environmental and social issues. Key are Double Bottom Line, Impact Investment, Socially Responsible Investing (SRI), Community Development Finance, Microfinance, Government and Philanthropic Initiatives, Blended Finance.

Social finance is a response to the growing recognition that financial activities can be a powerful force for positive change, addressing issues such as poverty, inequality, climate change, and sustainable development. It allows investors to align their financial resources with their values and promote a more inclusive and sustainable global economy. This paper mainly focuses on analysing the relationship between the three finances (social, green, and digital).

2. Literature Review:

been recognized by the international financial community as a significant attempt of regulation towards green banking in China.

1. **Bal, Y.;** Faure, M.; Liu, J: They recommended that Green Credit Policy should most likely be viewed as a beginning point rather than an end, according to Faure, M. and Liu, J. The international financial sector has already acknowledged China's Green Credit Policy as a noteworthy regulatory initiative towards green banking.

2. **Choi, H.S.C, Sirakaya, E:** discovered that additional training is required for risk management, monitoring, and assessment, along with more equitable participant selection from various communities. The training quality also has to be enhanced.

3. **L. Fabisiak**, Analysis of Web Service Usability according to handler inclinations. J claimed that the usability techniques utilised in exploitation are not the same as the user internet access services techniques employed during their design phase.

4. **Dong, Z, Li, Y**: The results of their research provide a better understanding of the supply chain networks credit risk drain. It is projected that the transition towards a low carbon, climate elastic economy and approximately green growth in the next two decades to 2030 will necessitate considerable investment, and therefore isolated sources of finance on a measure far beyond what was previously known.

Objectives of the study:

1. To study social, green and digital finance.
2. To analyse the usage of Digital finance
3. To analyse the relationship between social, green and digital finance.

Hypothesis to be tested:

Ho1: There is NO difference between digital payments and Bank accounts.

Ha1: There is difference between digital payments and Bank accounts

Ho2: There is NO difference between Bank accounts and Internet banking users.

Ha2: There is difference between Bank accounts and Internet banking users.

Ho3: There is NO difference between Internet banking users and mobile banking users.

Ha3: There is difference between Internet banking users and mobile banking users

Ho4: There is NO difference between mobile banking users and digital payments.

Ha4: There is difference between digital payments and Bank accounts

3. Data Analysis

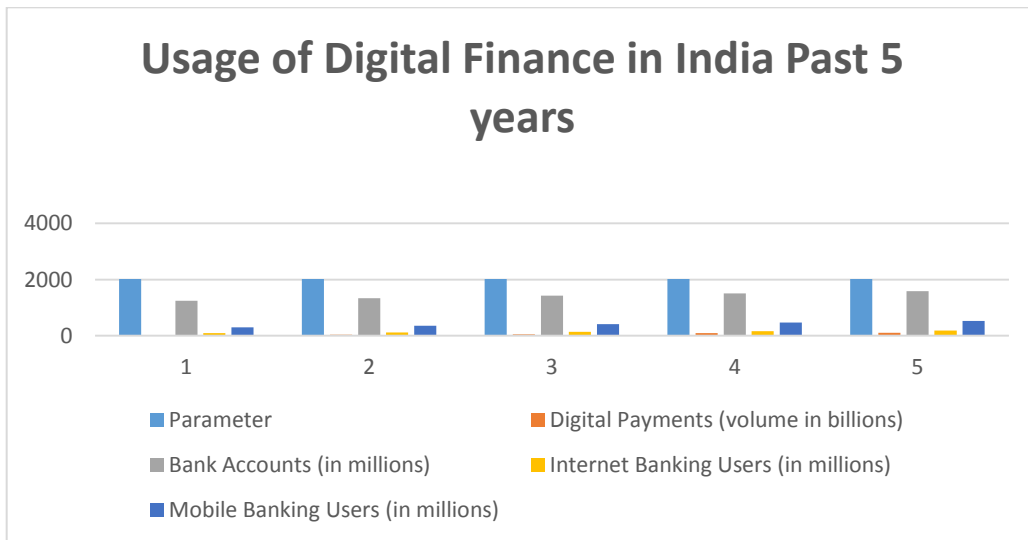
Usage of Digital Finance in India Past 5 years

Parameter	2018	2019	2020	2021	2022
Digital Payments (volume in billions)	24.8	38.3	44.8	87.1	104.9
Digital Payments (value in trillions of INR)	21.5	36.6	53.2	106.1	136.4
Bank Accounts (in millions)	1,245	1,336	1,421	1,504	1,588
Internet Banking Users (in millions)	95	113	136	160	187
Mobile Banking Users (in millions)	301	350	408	463	521

Statistic	Digital Payments	Bank Accounts	Internet Banking Users	Mobile Banking Users
Mean	59.98	1462.25	149	435.5
Standard Error	15.31565865	54.15776	15.89025	36.66629
Median	44.8	1462.5	148	435.5
S.D	34.24685387	108.3155	31.7805	73.33258
Sample Variance	1172.847	11732.25	1010	5377.667
Kurtosis	-	-1.14848	-1.05693	-1.04888
Skewness	0.553516339	-0.01114	0.152656	0
Range	80.1	252	74	171
Minimum	24.8	1336	113	350
Maximum	104.9	1588	187	521

Descriptive Statistics:

Source: Researcher Computation



One Way ANOVA Tables:

1. Between Digital Payments and Bank Accounts:

Source of Variation	Sum of Squares	Degrees of freedom	Mean Square	F-Ratio	P-value	F critical
Between Groups	3883545	1	3883545	607.7361	2.93E-07	5.987378
Within Groups	38341.1	6	6390.183			
Total	3921886	7				

2. Between Banking Accounts and Internet Banking Users:

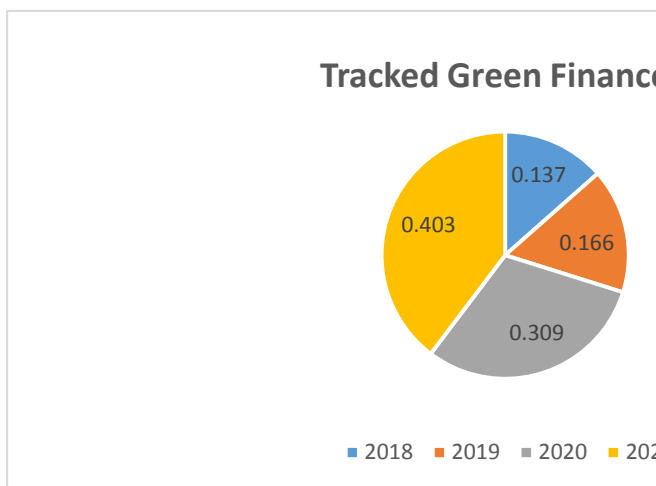
Source of Variation	Sum of Squares	Degrees of freedom	Mean Square	F-Ratio	P-value	F critical
Between Groups	3449251.13	1	3449251.125	541.388	4.13E-07	5.987378
Within Groups	38226.75	6	6371.125			
Total	3487477.88	7				

3. Between Internet Baking Users and Mobile Banking Users:

Source of Variation	Sum of Squares	Degrees of freedom	Mean Square	F-Ratio	P-value	F critical
Between Groups	164164.5	1	164164.5	51.40046	0.000372	5.987378
Within Groups	19163	6	3193.833			
Total	183327.5	7				

4. Between Mobile Banking Users and Digital Payments:

Source of Variation	Sum of Squares	Degrees of freedom	Mean Square	F-Ratio	P-value	F critical
Between Groups	268974.5	1	268974.5	83.71726	0.0005	5.987378
Within Groups	19277.35	6	3212.891			
Total	288251.8	7				



From the ANOVA table, F calculated is more than F critical value at 5% significant level, Null hypothesis is rejected. Hence there is difference between digital payments, bank accounts, internet banking users and mobile banking users.

Usage of Green Finance in the Past 5 Years.

Year	Tracked Green Finance flows (INR trillion)	Compound annual growth rate (CAGR)
2018	0.137	10%
2019	0.166	21%
2020	0.309	59%
2021	0.352	16%
2022	0.403	14%

Usage of Social Finance in India past 5 years

Year	Type of social finance	Example
2018	Social impact bond	First social impact bond in India launched to improve the learning outcomes of children in Haryana.
2019	Platform launch	Government of India launches the Social Finance India platform to provide support to social enterprises and impact investors.
2020	Development impact bond	First development impact bond in India launched to improve the quality of water in rural areas of Andhra Pradesh.
2021	Policy launch	Government of India launches the Impact Investing Policy Framework to provide a supportive regulatory environment for impact investing.
2022	Green social impact bond	First green social impact bond in India launched to finance renewable energy projects in Tamil Nadu.

4. Findings & Suggestions

Digital finance is supporting to the development of green finance & social finance. For example, you can use digital payment platforms to direct funds towards green finance & social impact initiatives. Digital lending platforms can be used to provide financing to small businesses and entrepreneurs working in green and social sectors. And digital crowdfunding platforms can be used to raise capital for green and social impact projects. The green and social finance is accelerated by digital finance. By creating it easier to access and invest in green and social impact projects, digital finance can help to create a more sustainable and inclusive world.

Usage of green finance in India has accelerated significantly in the past few years, particularly due to the government's commitment to climate change and the growing awareness of environmental and social risks among businesses and investors. However, the total amount of green finance flows is still far below the country's needs. The Climate Policy Initiative estimates that India will need to mobilize INR 1.4 trillion (USD 20 billion) in green finance per year over the next decade to achieve its climate goals.

Despite the progress made in recent years, there are still a number of challenges that need to be addressed to further promote the usage of green finance in India. These include:

- Lack of standardized green finance definitions and taxonomies. This makes it difficult to track and measure green finance flows.
- Inadequate environmental and social risk assessment and management capabilities among financial institutions.
- Insufficient availability of long-term funding for green projects.

The social finance sector in India is still relatively new, but it is growing rapidly.

5. Conclusion

The three finances under the given study, can overlap and complement each other in Technology Integration, FinTech for Social and Green Finance, Digital Payment Solutions, Data Analytics and Reporting, Blockchain Technology, Financial Inclusion, Regulatory and Policy Support, Blended Finance. While there are these connections and synergies, it's important to recognize that finance (digital, social and green) are distinct areas with their own objectives and challenges. The use of digital technology can enhance and support these finance initiatives, making them more accessible, efficient, and accountable, but the ultimate focus varies for each.

6. References

1. Bal, Y.; Faure, M.; Liu, J. The role of China's banking sector in providing green finance. *Duke Environ. Law Policy Forum* 2014, 2, 89.
2. Choi, H.S.C.; Sirakaya, E. Sustainability indicators for managing community tourism. *Tour. Manag.* 2006, 27, 1274–1289.
3. Fabisiak, L. Web Service Usability Analysis Based on User Preferences. *J. Organ. End User Comput.* 2018, 30, 1–13
4. Avdic, A. Second Order Interactive End User Development Appropriation in the Public Sector: Application Development Using Spreadsheet Programs. *J. Organ. End User Comput.* 2018, 30, 82–106.
5. Dong, Z.; Li, Y. *Social Responsibility, Green Finance, and the New Urbanization Construction*; Springer: Berlin/Heidelberg, Germany, 2015; pp. 385–392.
6. Hou, X.; Gao, Z.; Wang, Q. Internet finance development and banking market discipline: Evidence from China. *J. Financ. Stab.* 2016, 22, 88–100.
7. Kraft, M.E.; Stephan, M.; Abel, T.D. *Coming Clean: Information Disclosure and Environmental Performance*; MIT Press: Cambridge, MA, USA, 2011.
8. Li, V.; Lang, G. China's "Green GDP" experiment and the struggle for ecological modernization. *J. Contemp. Asia* 2010, 40, 44–62.
9. Lin, Z.; Whinston, A.B.; Fan, S. Harnessing Internet finance with innovative cyber credit management. *Financ. Innov.* 2015, 1, 5.