Journal of Information Systems Engineering and Management
2025, 10(5s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

Assessing the Impact of Social and Environmental Sustainability on Financial Performance: An Empirical Study on Private Sector Banks in India

[1]Dr. Soheli Ghose, [2]Jasmit Kaur, [3]Dr. C. Thiyaneswaran, [4]Professor. (Dr.) Dindayal Swain, [5]Usman Ghani, [6]Dr Rajni

[1]Dean and Assistant Professor, Department of Commerce (E), St. Xavier's College (Autonomous), Kolkata. Email sohelighose@gmail.com

[2]Assistant Professor, Sri Guru Gobind Singh College of Commerce, Pitampura, New Delhi

E mail: jasmitkaur@sggscc.ac.in ORCID: 0009-0001-4604-6448

[3] Associate Professor in Commerce, Sri Krishna Arts and Science College, Coimbatore, Tamilnadu, India. Email: thiyanes81@gmail.com

[4]Professor of Marketing, Faculty of Management Studies, Sri Sri University, Cuttack, Odisha

[5]Jain Online Deemed to be University, Bengaluru, India. Email: usman@onlinejain.com

[6]Associate Professor, Department of Commerce, Kalindi College, University of Delhi, Delhi, India. Email -rajni@kalindi.du.ac.in

ARTICLE INFO

Received: 15Oct 2024
Revised: 10Dec 2024
Accepted: 19Dec 2024

ABSTRACT

The study's goal was to determine how financial performance is affected by social and environmental sustainability. In this work, a valid technique was employed to examine existing theories, resulting in quantitative analysis. Carbon emissions and climate action, environmental management practice and policies, and green economics and investment were the determinants of independent variables for environmental sustainability, while gender diversity and welfare Innovation in green technology and corporate social responsibility were the determinants of social sustainability. The study's dependent variables include environmental sustainability, social sustainability, and financial performance. 393 bank employees make up the sample, which was chosen using a basic random sampling technique. To gather the primary data, a systematic questionnaire was also given out. To investigate the hypothesis, regression analysis and correlation were employed. Results indicated that Social and Environmental sustainability have a statistically noteworthy effect on Financial performance at 0.05 significant level, while correlation analysis indicated a constructive relationship between financial performance and social and environmental sustainability. The enhancement of the efficacy of organizations is essential to mitigate adverse impacts on the environment and secure a viable future for them. In particular, the banking sector is essential to this effort since it fosters the development of a strong, prosperous low-carbon economy. Furthermore, financial organizations should use non-financial facts while making decisions. greater account when deciding which loans and investments to make in order to enhance their performance and promote sustainable corporate growth.

Keywords: Carbon emissions and climate action; Environmental management practice and policies; Green economics and investment; Environmental sustainability, social sustainability, and green innovation.

INTRODUCTION

Sustainability trends have revolutionized business operations in the socially conscious market of today. International organizations have recognized the ethics and guidelines for businesses to manage their operations and resources in a multi-stakeholder, more sustainable way (Nizam et al., 2019). As a result, this widely accepted notion has gained momentum and become the new business language, necessitating organizations to uphold not only their profitability (for the benefit of shareholders) but also their contributions to the community, the environment, suppliers, employees, customers, and regulatory bodies. A more comprehensive viewpoint on organizational value has surfaced, one that extends outside the purview of accounting and economic reporting.

The banking industry continues to produce few and ambiguous results, despite the positive data showing a connection between a company's financial performance and its social and environmental responsibility across various company sectors (Richha and Rastogi, 2020). Empirical research in There is a positive association in

the banking sector between banks' financial success and their social, governance, and environmental performance (Nizam et al., 2019; Dzomonda and Fatoki, 2020; Menicucci and Paolucci, 2023).It is imperative that banks integrate sustainability into their operations in a timely and strategic manner as they seek to rebuild their reputation after the global financial crisis and support financial stability. From a bank's internal operations to its financing and investment portfolio, to its relationships with clients and the community, sustainability can be applied.

Even if banks may already be aware of the link between they still need to be able to value the relevant social and environmental factors into corporate success with sufficient data accessibility and sustainable performance. eminence (Irshad. & Neha , 2013; Nizam et al., 2019). As a result, investors—both present and potential—will be better able to incorporate They still need to be able to value the relevant social and environmental factors into corporate success with sufficient data accessibility and sustainable performance. operational procedures. A growing number of investors pledge to incorporate environmental and social sustainability into their investment strategy. Still up for debate and further exploration is whether of these sustainability data related to social and environmental aspects should be given more weight.

2. LITERATURE REVIEW

2.1 Environmental sustainability

Banks participate actively in environmental protection campaigns on behalf of their customers, commercial partners, and internal stakeholders (Prasad and Lakshmi, 2020). Therefore, creating a comprehensive environmental management system could result when drafting an environmental strategy that is both internal to the company and serves the needs of other customers, including borrowers. According to Laguir et al. (2018), there are three ways to assess a bank's environmental commitment: by funding environmentally friendly initiatives, by decreasing the possibility of lending money to companies that engage in unethical business practices, and by effectively allocating resources within the bank. According to Gangi et al. (2019), A bank can demonstrate its support for green initiatives by providing green financial services and products. environmental advisory services and socially conscious savings options, as well as by taking the environment into consideration while deciding which loans to make.

The advantages of environmentally conscious banks can be positively reinforced by environmental measures and policies aimed to the extent that environmental investments will continue to yield benefits (Miralles-Quir_os et al., 2019). Developing distinctive organizational competences for environmental impact reduction can be guided by proactive environmental management in particular, which can provide a competitive edge. For example, a bank could use the public need for corporate environmental consciousness by publicizing charitable initiatives for environmental causes, getting ISO 14001 accreditation, and obtaining green building certifications in order to enhance its brand (Chang and Devine, 2019). A bank that participates in environmental preventive initiatives on behalf of its clients or for its own benefit may see an increase in revenue, according to the resource-based view. A bank must respect environmental standards at every level of its operations while answering to many parties, such as the government, vendors, staff members, and customers, claims the stakeholder theory.

There seems to be a favourable association between bank profitability and the standard of corporate environmental management, despite conflicting evidence across economic sectors. Financial success and environmental practices are directly correlated, according to stakeholder and resource-based theories (Menicucci and Paolucci, 2023). The inclusion of environmental considerations in environmental sustainability criteria is a critical component that facilitates the selection of investments that demonstrate both financial viability and good environmental results. The following hypothesis was examined in accordance with the resource-based and stakeholder theories.

a. Carbon emissions and climate action (CECA)

Governmental and institutional laws and regulations that supervise bank operations are examples of regulatory environmental components. Examples of these rules include lowering carbon emissions and promoting sustainable growth and a low-carbon economy (Moya-Clemente et. al., 2020). Banks risk financial penalties if they don't abide by these rules. Investors may employ techniques like sustainability indices and environmental ratings to evaluate the environmental impact of suggested investments (Lingnau et. al., 2022). These resources support the process of determining whether investments could be subject to environmental problems or That positively influence the environment. Environmental considerations, such as long-term financial prospects and renewable energy projects with fewer carbon emissions, assist investors in identifying investment opportunities that may yield favorable returns.

The studies on the connection between lower carbon emissions and business profitability is conflicting (Rokhmawati et. al., 2017). The effects of carbon emissions reduction on Italian enterprises' profitability was

evaluated by Cucchiella et. al. (2017). The findings showed that reducing carbon emissions has long-term advantages for businesses. Yu and Tsai (2018) suggest that a company's permanence and sustainability are enhanced by its initiatives to lower its carbon emissions. This is due to the fact that doing well in the environment is more important than ever. Lewandowski (2017) used 1640 international enterprises between 2003 and 2015 to evaluate if emission reductions affected the profitability of firms. According to Dzomonda and Fatoki (2020), return on sales was directly correlated with emission reductions. Compared to the laggards, the benefit was greater for businesses who excellent in lowering carbon emissions activities. According to research by Capece et al. (2017), companies who actively participate in projects to reduce emissions get positive financial returns. The investigation looked at the connection between businesses' financial performance and ethical their ability to reduce emissions.

Although the findings of earlier studies suggest otherwise, this study indicates that firms' financial performance is enhanced by investing in technology that lower carbon emissions. are inconclusive. This is due to the fact that companies can reduce inefficiencies in their manufacturing processes, which may lead to a rise in share price as investors grow more positive profits per share more drawn to companies that make significant environmental protection commitments. Furthermore, according to the study's authors Dzomonda and Fatoki (2020), listed companies can increase the value of their shares by gaining the green confidence of stakeholders who share their values. On the other hand, if the company was able to lower its carbon emissions, it might have been able to switch to more affordable renewable energy sources over time, such solar, hydroelectricity, and biogas. This indicates that the company can reduce expenses, improving its environmental performance. The following theories are put out in light of the facts presented above:

H1a: Carbon emissions and climate action (CECA)has a positive relationship with Environmental sustainability (ENVIS)

b. Environmental management practice and policies (EMPP)

According to numerous research estechniques for environmental management are positively correlated with policies and stock outcomes (Lucas &Noordewier, 2016). When environmental management efforts are certified, there is also conflicting evidence. Earnhart (2018) discovers a favorable correlation between certified environmental management and stock outcomes. Future study should investigate this specific association between environmental behavior and stock outcomes in greater detail, as supported by the evidence. Conversely, though, Filbeck & Gorman (2004) show that accumulated fines from regulations have a beneficial impact on stock prices, suggesting that poorer environmental performance is associated with financial success. According to Wahba (2008), a company's stock market value increases when its environmental management system is certified by a third party. Remarkably, Miroshnychenko et. al. (2017) show that whereas certification of these environmental oversight activities has no effect on the market value of the asset, environmental management generally increases the value of the asset. Wahba (2008), nonetheless, demonstrates that the market value of an environmental management system increases with certification. Obviously, more research on this topic has to be done in the future.

H1b: Environmental management practice and policies (EMPP) has a positive relationship with Environmental sustainability (ENVIS)

c. Green economics and investment (GEAI)

The term "green finance," sometimes referred to as "green investments" (Zheng et. al., 2021), is used extensively in both academia and business and has multiple definitions (Amidjaya and Widagdo, 2020). The concept of green economics and investment, according to Liu et al. (2020), is still relatively new and lacks a widely accepted definition. Green economics and investment seek to attain long-term development by striking a balance between the approval of financial procedures, environmental stability, and ecological conservation. (Zhou et al., 2020).Wang and Zhi (2016) claim that it is a novel financial phenomena that integrates environmental preservation with economic advantages, making it the best option for funding environmental projects and organizations that place a high priority on environmental protection (Zheng et. al., 2021). When funding a project, it considers the effects on the environment and gives priority to funding for a range of eco-friendly projects, such as waste management, mitigation, and renewable energy adaptation strategies for climate change, manufacturing green bricks, developing green industries, energy-efficient technology and biodiversity conservation. Consequently, the banking sector depends on the growth of green economics and investment as it facilitates the shift to a green economy and helps address issues like energy efficiency, climate change and natural disasters (Philip V. (2020).

Numerous recent studies have examined green economics and investment globally (Rawat 2020; Taghizadeh-Hesary et al., 2021). Green economics and investment for sustainable economic development is the main focus of most of these studies (Wang et al., 2021; Zhang and Wang, 2021); green economics and investment patterns and prospects; Wang et al., 2021; Gilchrist et al., 2021); the impact of green economics and investment reform

and innovations on the environment; Huang and Zhang, 2021; Fedorova, 2020); and green economics and investment standards and green bonds. Studies (Shalneva and Zinheno 2019; Liu et al., 2020; Nawaz et al., 2020; Ren et al., 2020) have also examined The connection between carbon intensity and non-fossil energy consumption, green investment and the green economy, and mitigation of climate change in relation to China and the BRICS nations. The methods, opportunities, difficulties, and sustainable reporting of green finance have been highlighted in a number of prior studies (Raihan, 2019). Despite this, bankers have little understanding of the fundamentals of green economics and investment, the green funding sources that apply to Bangladesh, and the manner in which The sustainable performance of banks is influenced by the social, economic, and environmental aspects of green economics and investment. According to primary data, sustainable finance has gained popularity recently in the literature on sustainability; nevertheless, not much research has been conducted in underdeveloped nations (Bui et al., 2020).

Both industrialized and developing nations are currently addressing the grave concern of climate change and its environmental ramifications (Ngwenya and Simatele, 2020). To lessen the dangers of environmental effects of climate change, numerous methods have been implemented (Zheng et al., 2021). Using formal, coordinated green investments that follow international standards, these plans aim to stop environmental degradation and implement sustainable development (Hossain, 2019). In this context, banks can be of great assistance by financing environmentally friendly initiatives, including waste management, clean energy and renewable energy and supporting the long-term economic expansion of the country (Zheng et al., 2021). Consequently, green finance is viewed as a crucial financial instrument for improving an organization's sustainability performance across a country.

H1c: Green economics and investment (GEAI)has a positive relationship with Environmental sustainability (ENVIS)

2.2 Social sustainability factors

Banks' role as intermediaries is typically connected to how corporate social responsibility is viewed. According to Avrampou et. al. (2019), a bank's social responsibility includes, among other things, funding nongovernmental organizations, providing risk expertise to clients, facilitating affordable e-payments, educating the public about money matters, and generally assisting a sizable portion of the population with their financial needs. A robust banking commerce is essential to a prosperous economy (Aras et. al., 2018) and banks' CSR initiatives ensure stakeholder interactions are based on trust (El Khoury et. al., 2021). Adopting social tactics, in particular, provides each bank a competitive edge and the trust of investors, which has a signaling effect.

Strategic corporate social responsibility, according to Zagorchev and Gao (2015), requires a mutually beneficial arrangement where the bank adopts a socially conscious posture in order to improve profitability and market position. .In the banking industry, social sustainability affects customers, staff, and communities directly. It also has an indirect impact through initiatives and activities carried out by businesses, institutions, and organizations that eventually become bank clients. According to stakeholder theory, social sustainability means that no stakeholder's interests—such as those of investors, workers, unions, clients, suppliers, the government, and communities—are harmed. Specifically, meeting the desires and needs of many stakeholders would result in increased productivity, unique selling points for products, and a competitive edge. Social sustainability can help banks differentiate themselves from rivals and improve the public's opinion of their operations, according to the resource-based viewpoint (Gangi et al., 2019). To keep up a good reputation and foster more customer loyalty, the banking industry depends on ongoing business possibilities and trust (Shen et. al., 2016). Banks should stress to borrowers that their role as middlemen in society goes "beyond profits" in order to develop reputational capital (Gangi et al., 2019).This will give the banks with the best reputation a competitive edge, even if it means that borrowers must pay a premium for their loans.

Previous research indicates that social responsibility or sustainability enhances The long-term financial standing and market position of banks (Velte, 2017), as well as their reputation (Salman and Laouisset, 2020; Buallay et. al., 2022b) and public perception (Gangi et. al., 2019). Drawing on stakeholder theory, the social impact hypothesis postulates a high correlation between a rise in social sustainability and improved financial performance (Wu and Shen, 2017). For instance, Shen et. al. (2016) shown that, when data from international banks in various nations is analyzed, banks that are not socially sustainable perform worse than banks that are inclined toward social sustainability in terms of efficiency and profitability.

a. Corporate Social Responsibility (CSR)

Many manufacturing companies in developed nations like China view CSR, or corporate social responsibility, is a vital instrument for changing their business strategies and enhancing their financial and EVP performance. CSR improves the financial worth and profitability of the company (Hendratama and Huang 2021). CSR is a sustainability phenomena that focuses on the financial growth of businesses while enhancing

employee efforts to safeguard the environment. The capacity of to compare the financial performance of small and medium-sized enterprises with the socio-ecological sustainability areas determines their success (Bach et. al., 2021). Good CSR activities increase the firm's economic, environmental, and financial values in addition to their financial worth (Tiep Le and Nguyen, 2021). The environment and international societies gain from CSR efforts (Li et. al., 2019b). CSR plays a key role in enhancing worth for the environment, society, and employees of a firm. Research indicates that CSR investments enhance the financial and environmental performance of resource-based companies, such as mining, production, and building (Khan et. al., 2018). The goal of almost all businesses is to maximize corporate profitability while producing satisfying results. According to Thanh et. al. (2021a), favorable environmental circumstances lead to consumers paying a higher price for the goods, resulting in a significant increase in the enterprises' economic performance as per the literature.

H2a: CSR, or corporate social responsibility, shows a favorable correlation with Social sustainability (SOCIALS)

b. Gender Diversity and Welfare (GDAW)

Gender diversity has a big part in how economically and sustainably a firm may grow. According to Wasiuzzaman& Wan Mohammad(2020), establishing a gender diversity board within a company can greatly benefit when figuring out how gender affects financial performance, equity risk, and social and environmental disclosure (Jizi& Nehme, 2017). There have previously been conflicting, definitive and good findings about the relationship between Organizational performance and financial risk (Sila et al., 2016; Perryman et al., 2016; Haque & Ntim, 2018).

H2b: Gender Diversity and Welfare (GDAW) has a negative relationship with Social sustainability (SOCIALS)

c. Green innovation (GINNOV)

According to Lovarelli et. al. (2020), Green innovation is the creation and marketing of novel, sustainable, and environmentally friendly goods, services, and procedures. As businesses increasingly realize they must implement sustainable methods to maintain competitiveness and address the pressing environmental issues of social performance, financial performance, and green innovation, green innovation has become a major issue in the corporate world (Adomako & Nguyen, 2023; Iqbal et. al., 2021; Mehraj & Kaur, 2022). Hojnik and Ruzzier (2016) had previously conducted studies that mainly examined how Green innovation investments affected corporate success. However, this study adopts a different tack and looks at how these investments affected the connection between a company's financial and social performance. By adding to the body of knowledge already available on the financial impacts of green innovation, the study offers fresh perspectives on the elements influencing corporate social responsibility.

In recent years, accounting and economics have become interested in the idea of "green innovation indicators" (Sharma & Bhat, 2022). Green innovation refers to actions made to promote the development and use of ecologically friendly processes, goods, management systems, and practices. This concept is made up of two parts: green process and management innovation and innovation in green products (Chen et. al., 2022; Srouji et. al., 2023). Green finance has been recognized by financial institutions as a means of reducing increasing environmental quality and reducing environmental risk (Xu & Gao, 2022). Businesses that support green innovations and sustainable development are gaining increased support from banks and investors (Kartadjumena& Rodgers, 2019). This offers financial companies a chance to build a solid reputation as morally upright firms (Thomas et. al., 2021). In order to Determine sustainable goods, products, and services. Green income reporting and sub-sector and sub-segment criteria can be utilized to help with the transition to a green economy. (Golubeva, 2022). Businesses are paying more attention to environmental issues as a result of growing stakeholder pressure from the outside (Mir & Bhat, 2022). Further research in this field is necessary, as developing nations have not yet embraced the concept of green banking (Amir, 2021; Sharma & Choubey, 2022). Accordingly, research indicates that green innovation is essential for encouraging ecologically friendly and sustainable practices in businesses, especially in the finance industry. As a moderating variable, green innovation, according to Khattak (2023), encourages companies to grow into capable organizations and enhance their environmental performance. The findings demonstrated that companies might run successfully by utilizing concepts from green innovation and environmental sustainability. According to Chouaibi and Chouaibi's (2021) research, corporate value is increased when ethical and societal virtues are paired with green innovation's moderating influence.

H2c: GINNOV, or green innovation, shows a favorable correlation with Social sustainability (SOCIALS)

2.3 Financial Performance (FINPER)

A company's capacity to make money, control expenses, and deploy resources effectively determines its financial performance, which is a gauge of its health (Vătavu, 2015). An essential criterion for assessing an organization's success is its financial performance. According to Alghamdi et. al. (2018), the theories of

financial performance can shed light based on the past and anticipated performance of a business. These ideas are used to assess the financial standing of a business and in lending or investing decisions. Important insights into a company's past and future performance can be gained from theoretical frameworks related to financial performance. These frameworks are essential for assessing the financial health of an organization and helping to make defensible loan and investment decisions (Boukattaya& Omri, 2021).

Concerns about the environment and society may reduce risk while making financial investments. Returned volatility was lower in banks with higher environmental and social ratings than in those with lower ratings (Capelli et. al., 2021). Additional empirical research has demonstrated that banking companies with higher resilience to economic downturns can be identified by looking at environmental and social characteristics. Numerous Research has been done to investigate how investing with an eco-conscious mindset affects overall financial performance. (Al-Khatib, 2023). A According to a study, banks' stock market financial performance was positively impacted by sustainable investments. As stated by Nwozor et. al. (2021), financial institutions that have higher environmental and social scores tend to do better financially than their peers. Kolawole et al. (2022) found that the performance of the bank was enhanced by investments that prioritized social and environmental sustainability. As a result, financial organizations with strong ratings for social and environmental sustainability are more likely to beat their rivals in terms of profitability and market capitalization. Furthermore, studies indicate that a variety of factors, including social, political, and environmental factors, influence financial performance. (Hira et. al., 2023).

Moreover, the application of sustainability in terms of the environment and society might facilitate the creation of novel goods and technology that are oriented toward resource conservation or environmental preservation (Xu et. al., 2022). Implementing this strategy can reduce resource use, ameliorate emissions, and avoid other environmental consequences, claim Jha and Rangarajan (2020). As per Aydoğmuş et. al. (2020), the renewable energy industry can create job possibilities due to environmental and social sustainability, which in turn can boost economic growth and elevate living standards. Social and environmental sustainability can help create a more fair global economy by giving people in underdeveloped countries more chances to get ahead. Tuyon et. al. (2022) posit that environmental and social sustainability possess the capacity to create job opportunities, promote educational accessibility, and augment healthcare accessibility in poor countries. Therefore, investors can positively affect the world economy by directing their investment to institutions that demonstrate a commitment to social and environmental responsibility.

H3: Financial Performance (FINPER) is positively impacted by environmental sustainability (ENVIS).

H4: Financial Performance (FINPER) is positively impacted by social sustainability (SOCIALS).

H5a: Social sustainability (SOCIALS)is positively impacted by Environmental sustainability (ENVIS)

H5b: Environmental sustainability (ENVIS) is positively impacted by social sustainability (SOCIALS).

3. RESEARCH OBJECTIVES

This study's primary goal is to determine and comprehend the connection between the financial performance of banks and the sustainability of the social and environmental systems. This study also aims to assess whether social and environmental elements significantly affect the financial performance of banks. in India.

4. CONCEPTUAL MODEL

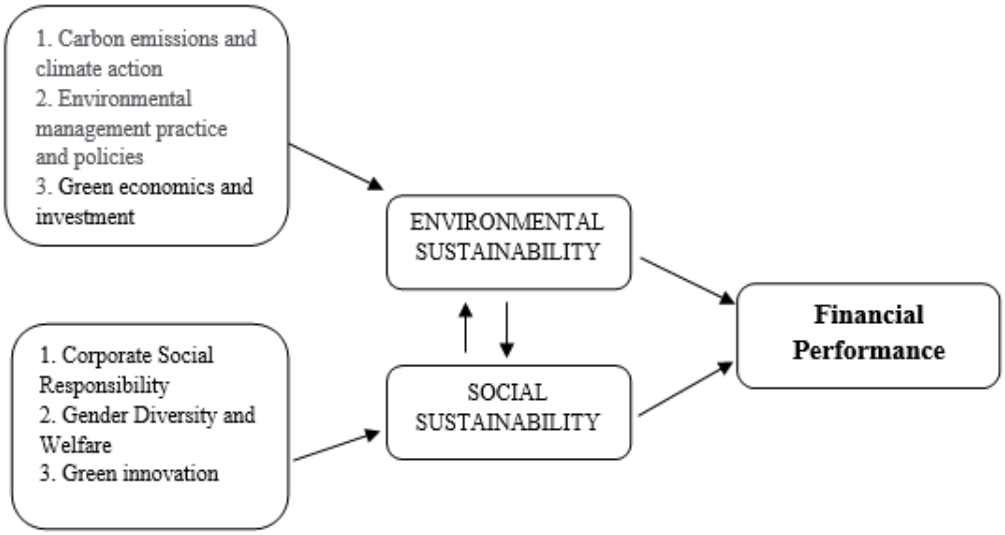

Figure 1: Conceptual Model to assess whether social and environmental elements significantly affect the financial performance of banks. in India

5. RESEARCH METHODOLOGY

5.1 Research design and sample size

A quantitative method was used in the design of this study. About 425 bank workers from various Indian banks participated in this study and out of which 393 were selected. The method used to calculate the sample size has a 5% degree of precision. The quantity of samples in each bank is determined in a proportionate manner.

5.2 Variable and measurement

The variables involved in this study consisted of independent variables (Carbon emissions and climate action (CECA); Environmental management practice and policies (EMPP); Green economics and investment (GEAI); Gender Diversity and Welfare (GDAW)**;** Corporate Social Responsibility (CSR); Green innovation (GINNOV)), mediating variables Financial performance, the dependent variable, and environmental and social sustainability, respectively, were measured by different question items.

5.3 Data collection method

For data collection, pre-made closed ended questionnaires were used to obtain data. The period of time that the data was collected was March - April of 2024. Five points The questionnaire results were gathered using a Likert scale, with 1 denoting "strongly disagree" and 5 denoting "strongly agree." Following the data has been gathered, a validity and reliability test is run and tallied.

5.4 Analysis method

The Three phases of data analysis were carried out using SPSS version 22.0: evaluating research hypotheses, reliability, validity, and reliability tests using factor loadings and Cronbach's Alpha. in research model evaluation. A set of data is deemed valid when its factor loading coefficient is higher than 0.5 and it has a reliability coefficient above 0..70. To verify that the model is correct, R-Square (R^2) and multiple regressions are employed. The study hypothesis is tested using a 5% (0.05) p-value as the basis. The hypothesis is rejected if the test results reveal a p-value greater than 0.05 and may be accepted if the p-value is less than 0.05.

6. RESULTS AND ANALYSIS

6.1. Demographic profile

Using descriptive demographic statistics represented as a percentage, proportion, and frequency of occurrence, the respondent's demographic attributes were evaluated (Table 1). Upon close inspection, 92.47% of the questionnaire are deemed to be of good calibre. A significant proportion of the 393 respondents out of 425, were males (328, 83.5%), compared to females (16.5%); the majority (109, 27.7%) were in their 30s to 39s; 159 (40.5%) held a professional degree; 50.1% had three to five years of work experience and 36.1% earned more than thirty thousand rupees.

Table1.DescriptiveStatisticsofDemographicProfile

		Frequency	**Valid %**
Gender profile	Male	328	83.5
	Female	65	16.5
Age profile	20-29 years	52	13.2
	30-39 years	109	27.7
	40-49 years	75	19.1
	50-59 years	96	24.4
	60 years and above	61	15.5
Highest education level	Ph.D./ Doctorate	81	20.6
	Masters Degree	103	26.2
	Professional Education	159	40.5
	Graduate	50	12.7
	1-2 years	101	25.7

Working experience in years (total)	3-5 years	197	50.1
	6-10 years	78	19.8
	11 years or more	17	4.3
Income	10,000- 20,000	84	21.4
	20,001- 30,000	132	33.6
	30,001- 40,000	142	36.1
	More than 40,000	35	8.9

6.2. Exploratory Factor and Reliability Analysis

Following their exclusion from three items with loadings less than 0.5 were removed in the final analysis. If a scale meets the Cronbach's Alpha minimal requirement of 0.70, it is generally accepted to be internally consistent. A Cronbach's alpha cutoff of 0.7 was used in this experiment.

Table2.ResultsofExploratoryFactorAnalysis

Variable	Cronbach alpha	Statement	Factor loadings	KMO Measure of Sample Adequacy (>0.5)	Bartlett's Test of Sphericity		Items confirmed	Items dropped	Cum % of loading
					Chi Square	Sig. (<.10)			
Carbon emissions and climate action (CECA)	0.966	CECA-1	0.183	0.854	2025.403	0.000	4	1	73.072
		CECA-2	0.945						
		CECA-3	0.955						
		CECA-4	0.967						
		CECA-5	0.938						
Environmental management practice and policies (EMPP)	0.913	EMPP-1	0.903	0.855	1519.642	0.000	5	0	74.231
		EMPP-2	0.922						
		EMPP-3	0.919						
		EMPP-4	0.825						
		EMPP-5	0.722						
Green economics and investment (GEAI)	0.865	GEAI-1	0.678	0.716	1039.637	0.000	4	0	71.561
		GEAI-2	0.913						
		GEAI-3	0.949						
		GEAI-4	0.817						
Corporate Social Responsibility (CSR)	0.966	CSR-1	0.201	0.851	2052.623	0.000	4	1	73.143
		CSR-2	0.948						
		CSR-3	0.955						
		CSR-4	0.971						
		CSR-5	0.929						
Gender Diversity and Welfare	0.917	GDAW-1	0.910	0.865	1576.657	0.000	5	0	75.219
		GDAW-2	0.927						

(GDAW)		GDAW-3	0.922						
		GDAW-4	0.828						
		GDAW-5	0.733						
Green innovation (GINNOV)	0.967	GINNOV-1	0.205	0.861	2060.712	0.000	4	1	73.466
		GINNOV-2	0.947						
		GINNOV-3	0.956						
		GINNOV-4	0.968						
		GINNOV-5	0.939						
Environmental sustainability (ENVIS)	0.915	ENVIS-1	0.906	0.856	1546.842	0.000	5	0	74.768
		ENVIS-2	0.924						
		ENVIS-3	0.920						
		ENVIS-4	0.829						
		ENVIS-5	0.729						
Social sustainability (SOCIALS)	0.871	SOCIALS-1	0.695	0.725	1062.202	0.000	4	0	72.420
		SOCIALS-2	0.915						
		SOCIALS-3	0.949						
		SOCIALS-4	0.822						
Financial Performance (FINPER)	0.866	FINPER-1	0.816	0.724	1012.657	0.000	4	0	71.695
		FINPER-2	0.944						
		FINPER-3	0.911						
		FINPER-4	0.694						

6.3. Correlation Analysis

Every variable that was taken into consideration and every other variable have a substantial link (Table 3). The highest degree of correlation (0.997) was found. between Carbon emissions and climate action (CECA) and corporate social responsibility (CSR), whilst the least significant correlations (0.810) were identified between Environmental management practice and policies (EMPP) and Financial Performance (FINPER).

Table 3: Correlations

	CECA	EMPP	GEAI	CSR	GDAW	GINNOV	ENVIS	SOCIALS	FINPER
CECA	1								
EMPP	.943**	1							
GEAI	.918**	.885**	1						
CSR	.997**	.938**	.920**	1					
GDAW	.944**	.987**	.898**	.949**	1				
GINNOV	.988**	.923**	.912**	.987**	.929**	1			

ENVIS	.940**	.981**	.892**	.940**	.982**	.948**	1		
SOCIALS	.900**	.858**	.985**	.905**	.875**	.921**	.896**	1	
FINPER	.843**	.810**	.925**	.847**	.827**	.862**	.845**	.938**	1

**. Correlation is significant at the 0.01 level (2-tailed).

6.4. Regression Analysis

According to Table 4's regression analysis, every element significantly affects financial success. The 1.000 R square value suggests that all predictors account for 100% of the variation in financial execution. The regression model's ANOVA results in Table 4 show that the validation is valid with a 95% confidence level. The summary of coefficients shown in Table 4 indicates that the beta values of 0.938 and 0.845 accurately reflect the influence of selected factors on Financial Performance (FINPER).

Table 4: Regression analysis

Independent Variable	Dependent Variable	Model Summary		ANOVA			Coefficients		
		R	R square	Mean square	f	Sig.	Standardized Coefficients Beta	t	Sig.
CECA	ENVIS	0.983	0.965	102.117	3627.835	0.000	0.063	1.867	0.063
EMPP							0.847	29.522	0.000
GEAI							0.084	3.511	0.000
CSR	SOCIALS	0.925	0.856	91.568	770.528	0.000	0.256	4.156	0.000
GDAW							-0.500	-3.490	0.001
GINNOV							1.177	9.602	0.000
ENVIS	FINPER	0.845	0.715	238.918	979.249	0.000	0.845	31.293	0.000
SOCIALS	FINPER	0.938	0.880	294.235	2870.430	0.000	0.938	53.576	0.000
ENVIS → SOCIALS		0.896	0.803	257.630	1591.278	0.000	0.896	39.891	0.000
SOCIALS → ENVIS		0.896	0.803	254.715	1591.278	0.000	0.896	39.891	0.000

7. RESULTS OF HYPOTHESES TESTING

The conceptual research framework (table 5) outlined five hypotheses, all of which have accreditation.

Table 5: Summary of Hypotheses Testing

Hy. No.	Independent Variables	Dependent Variables	R-Square	Beta Coefficient	t-value	Sig Value	Status of Hypotheses
H1a	CECA	ENVIS		0.063	1.867	0.063	Rejected
H1b	EMPP			0.0847	29.522	0.000	Accepted

H1c	GEAI		0.965	0.084	3.511	0.000	Accepted
H2a	CSR	SOCIALS	0.856	0.256	4.156	0.000	Accepted
H2b	GDAW			-0.500	-3.490	0.001	Accepted
H2c	GINNOV			1.177	9.602	0.000	Accepted
H3	ENVIS	FINPER	0.715	0.845	31.293	0.000	Accepted
H4	SOCIALS	FINPER	0.880	0.938	53.576	0.000	Accepted
H5a	ENVIS → SOCIALS		0.803	0.896	39.891	0.000	Accepted
H5b	SOCIALS → ENVIS		0.803	0.896	39.891	0.000	Accepted

8. DISCUSSION

The study's conclusions, which supported the existence of a strong positive relationship between environmental sustainability (ENVIS), green economics and investment (GEAI) and environmental management practice and policies (EMPP) (H1b, H1c), but not with carbon emissions and climate action (CECA), that is hypothesis H1a is rejected. According to Gangi et al. (2019), corporate disclosures regarding policy and target emissions, recycling, e-waste reduction, climate change risks and opportunities, and environmental philanthropy can be viewed as a strong indicator of the bank's resource efficiency and ethical behaviour in this area. Environmental philanthropy is increasingly being seen as an advantage over competitors by stakeholders, one that might foster goodwill among a range of stakeholders. The market views banks favourably because of their efficacy and dedication to cutting waste and emissions from their operations and business activities. Stakeholder participation in environmental initiatives gives a responsible bank a competitive edge, according to the stakeholder hypothesis. Because corporate compliance with environmental sustainability is one of the most important stakeholder needs (Al Amosh and Khatib, 2022), banks that have a stronger a standing for environmental transparency are able to satisfy a variety of stakeholders.

According to Dzomonda and Fatoki (2020), strict environmental regulations compel businesses to make a complete commitment to environmental preservation. According to him, environmental laws have the power to compel businesses to innovate, which leads to a commitment to environmental sustainability. In that scenario, a company can gain from advancements in systems and new products, which position the company as a market leader and encourage investment in environmental sustainability projects. Consistent with the theory, Additionally, a strong positive association between the financial aspects of green economics and investment and banks' sustainability performance. The study by Malsha et al. (2020), which demonstrated an unmistakable connection between the sustainability performance banking industry and the environmental concerns of green banking, lends credence to this conclusion. The most recent investigations provide credence to these conclusions (Khairunnessa et al., 2021). Thus, one may contend that In order to facilitate the economy's sustainable growth, banking institutions support environmentally beneficial initiatives including waste management, green building, recycling, The field of renewable energy and energy efficiency. As they give investments in environmentally friendly operations, these findings also suggest that the concepts of green economics and investing have important practical ramifications for financial institutions seeking to improve their sustainability performance, such as banks. These results are consistent with previous studies. (Raihan, 2019). Thus, by supporting ecologically beneficial projects, the environmental component of green economics and investment significantly improves banks' performance in terms of sustainability.

The empirical analysis of hypothesis 2 (2a, 2b, and 2c) reveals a significant negative link between corporate social responsibility and gender diversity and welfare (GDAW) (CSR), Green innovation (GINNOV), and Social sustainability (SOCIALS). Research on gender diversity and welfare in a firm's governing body only addresses the gender relationships in other domains, such as financial performance, sustainability disclosure, and equity risk (Jizi& Nehme, 2017; Wasiuzzaman& Wan Mohammad, 2020).Women on the panel are significant stakeholders who could help the company manage its risks by choosing investments more wisely than men (Sila et. al., 2016). In order to secure money from powerful investors and improve resource allocation, female decision-makers placed a strong emphasis on achieving environmental and social sustainability (Haque & Ntim, 2018).

Businesses can utilize corporate social responsibility, or CSR, as a potent tool to improve the environment. Enhancing the environment, society, and economy via social responsibility of corporations (CSR) optimizes the wealth of all parties involved (Le 2022a). Le and Ikram (2022) assert that a company's capacity for

innovation, financial performance, and ecological performance are all significantly impacted by sustainable development. Studies have shown that companies may benefit greatly from green innovation and sustainable development (Le and Ferasso, 2022). The results of Padilla-Lozano and Collazzo's (2022) study, which revealed that green innovation influences organizations' CSR initiatives, financial performance, and social and sustainable development, are in line with our findings. In fact, our findings show promising results in comparison to this previous investigation. Quantifying the influence of cost-effective innovations on results related to economic, social and environmental Sustainability can offer perceptions into novel ideas that promote favorable social performance results. (Buallay et. al., 2022c ;De Marchi et. al., 2022; Ai Ping et. al., 2023; Ai Ping & Al-Okaily, 2023; Al-Okaily et. al., 2023).

The three characteristics of financial performance (FINPER), social sustainability (SOCIALS), and environmental sustainability (ENVIS) were found to have a substantial positive association, per a separate investigation. This finding supports Hypotheses 3, 4, and 5(H5a and H5b). Earnhart (2018) found that social and environmental factors significantly affect business performance and that bringing these issues to light has a positive effect on the company's financial success banking industry. Aspects of the social and environmental spheres can be leveraged to boost profitability and provide a competitive edge in the banking sector. Studies by Ahmed et al. (2020) and Hongming et al. (2020) support the general the connection between financial performance, social sustainability, and environmental sustainability. They also emphasize how crucial sustainability is becoming. reporting globally and the ways in which key stakeholders are pursuing and supporting it to act as an exemplar for sustainability through the disclosure of data in financial reports (IFRS Foundation, 2020).Our analysis validates the positive and significant influence that environmental and social sustainability has on financial success, as demonstrated by the findings of Ilyas and Osiyevskyy's (2022) research. We found that social and environmental sustainability are very positively correlated, and that financial performance is impacted by sustainability reporting based on extensive testing and analysis of empirical data from studies conducted by Buallay (2022b, 2022c). These findings are consistent with our own research. Consistent with according to the findings of our study and earlier research by Jadoon et al. (2021), investors value and give priority to companies that report sustainability at a high level since it expands their customer base.

9. CONCLUSION

Given the urgency of combating global warming and creating a society that is more sustainable, every individual, government, and business must take the lead in promoting financial and non-financial transparency. Particularly important to this endeavor is the financial sector, which fosters the development of a robust and thriving economy with less carbon. Financial institutions may need to use nonfinancial data more when making loan and investment decisions in order to improve their performance and encourage long-term company growth. (Hamdallah et al., 2022). Companies can attain sustainability by the adoption of sustainable practices, particularly in developing nations. Using renewable energy sources, managing trash ethically, using resources sensibly, influencing international standards, and updating measurement models are some examples of these activities (Dissanayake et al., 2021). By increasing performance, these strategies seek to mitigate negative environmental effects and provide businesses with a sustainable future (Majid et al., 2022).

10. LIMITATIONS AND RECOMMENDATIONS

The non-financial reporting standards that are in place now have generated controversy about financial companies due to their nature. Further research is required because the study's conclusions are not totally clear, even if they do exhibit contradicting findings and illustrate how a company's practices effect sustainability issues. The indicators selected, the investigation's brief duration, the absence of data on corporate adoption of sustainability measures, and the potential one of the study's limitations is the limited sample size, which limits how broadly the findings can be applied drawbacks.

This study highlights the links between environmental, social, and financial success and provides significant new knowledge. need for a more thorough method of assessing financial performance. Subsequent investigations ought to concentrate on the traits of managers and stakeholders concerning financial performance and the release of green data. More investigation is required to provide an all-encompassing unbiased set of standards for judging green projects. Case studies and action research techniques can be used to test the proposed framework. Research on The methodology may be quantitatively validated through studies of businesses—such as most industrial enterprises—that do not publish non-financial information. This can be the result of a lack of management who are knowledgeable and engaged in sustainability. Thus, companies ought to make their non-financial performance reporting more transparent. By maintaining consistency between words and acts, incorporating board of directors characteristics can encourage companies to share more information about green initiatives and sustainable development, which can help protect the integrity of the disclosure of non-financial information.

REFERENCES

[2] Adomako, S., & Nguyen, N. P. (2023). Green creativity, responsible innovation, and product innovation performance: A study of entrepreneurial firms in an emerging economy. *Business Strategy and the Environment*. https://doi.org/10.1002/BSE.3373

[3] Ahmed, B., Akbar, M., Sabahat, T., Ali, S., Hussain, A., Akbar, A. &Hongming, X. (2020). Does firm life cycle impact corporate investment efficiency? *Sustainability*, 13(1), 197.https://doi.org/10.3390/su13010197

[4] Ai Ping, T. & Al-Okaily, M. (2023). Evaluation of data Analytics-oriented business intelligence technology effectiveness: An enterprise-level analysis. *Business Process Management Journal,* 29, 777–800. https://doi.org/10.1108/BPMJ-10-2022-0546

[5] Ai Ping, T., Al-Okaily, M., Iranmanesh, M. & Al-Betar, M. (2023). The efficiency measurement of business intelligence systems in the big data driven economy: A multidimensional model. *Information Discovery and Delivery*. https://doi.org/10.1108/IDD-01-2022-0008

[6] Al Amosh, H. and Khatib, S.F.A. (2022). "Websites visits and financial performance for GCC banks: the moderating role of environmental, social and governance performance", Global Business Review, first published July 13, 2022, doi: 10.1177/09721509221109576.

[7] Alghamdi, A., Donleavy, G., Farooque, O. A., Anderson, J. & Khan, A. (2018). Theories Linking Capital Structure with Financial Performance 2018. *Australian Academy of Accounting and Finance Review*, 4(4), p. 142-152.https://hdl.handle.net/1959.11/31137

[8] Al-Khatib, A. W. (2023). The impact of industrial Internet of things on sustainable performance: the indirect effect of supply chain visibility. Business Process Management Journal. DOI:10.1108/bpmj-03-2023-0198

[9] Al-Okaily, M., Al-Kofahi, M., Shiyyab, F.S. and Al-Okaily, A. (2023), Determinants of user satisfaction with financial information systems in the digital transformation era: insights from emerging markets. *Global Knowledge, Memory and Communication*. https://doi.org/10.1108/GKMC-12-2022-0285

[10] Amidjaya, P.G. and Widagdo, A.K. (2020). Sustainability reporting in Indonesian listed banks. *J. Appl. Account. Res.*, 21, 231–247. DOI 10.1108/JAAR-09-2018-0149

[11] Amir, M. (2021). Banker attitudes and perception towards green banking: A study of select banks on conventional banks in Bangladesh. *MPRA*, 10(2), 1–10.https://doi.org/10.20525/ijfbs.v10i2.1163

[12] Aras, G., Tezcan, N. and Kutlu Furtuna, O. (2018). "The value relevance of banking sector multidimensional corporate sustainability performance", Corporate Social Responsibility and *Environmental Management,* Vol. 25 No. 6, pp. 1062-1073, doi: 10.1002/csr.1520.

[13] Avrampou, A., Skouloudis, A., Iliopoulos, G. and Khan, N. (2019). "Advancing the sustainable development goals: evidence from leading European banks". *Sustainable Development*, Vol. 27 No. 4, pp. 743-757. doi: 10.1002/sd.1938.

[14] Aydoğmuş, M., Gülay, G. and Ergun, K. (2022). Impact of ESG Performance On Firm Value And Profitability. *Borsa Istanbul Review*.Vol 22(2), pp. S119-S127. https://doi.org/10.1016/j.bir.2022.11.006

[15] Bach, T., Le, T. and Bui, Y. (2021). Informal short-term borrowings and small and medium enterprises' performance in a credit crunch: Evidence from Vietnam. *J Dev Stud*, 57(8):1321–1335. https://doi.org/10.1080/00220388.2020.1862798

[16] Boukattaya, S. and Omri, A. (2021). Corporate Social Practices and Firm Financial Performance: Empirical Evidence from France. *International Journal of Financial Studies*, 9(4), p.54. https://doi.org/10.3390/ijfs9040054

[17] Buallay, A. M. (2022b). Sustainability reporting: History and development. In International perspectives on sustainability reporting (pp. 43–51). *Emerald Publishing Limited*.DOI 10.1108/9781801178563

[18] Buallay, A. M. (2022c). Sustainability reporting in different regions. In International perspectives on sustainability reporting (pp. 167–187). *Emerald Publishing Limited*.DOI 10.1108/9781801178563

[19] Bui, T.D., Ali, M.H., Tsai, F.M., Iranmanesh, M., Tseng, M.-L. and Lim, M.K. (2020). Challenges and Trends in Sustainable Corporate Finance: A Bibliometric Systematic Review. *J. Risk Financ. Manag.*, 13(11), 264. https://doi.org/10.3390/jrfm13110264

[20] Capece, G., Di Pillo, F., Gastaldi, M., Levialdi, N. and Miliacca, M. (2017). Examining the effect of managing GHG emissions on business performance. *Bus. Strat. Environ.*, 26, 1041–1060.DOI: 10.1002/bse.1956

[21] Capelli, P., Ielasi, F. & Russo, A. (2021). Forecasting volatility by integrating financial risk with environmental, social, and governance risk. *Corporate Social Responsibility and Environmental Management*, *28*(5), 1483-1495.https://doi.org/10.1002/csr.2180

[22] Chang, Q. and Devine, A. (2019). "Environmentally-certified space and retail revenues: a study of US bank branches". *Journal of Cleaner Production*, Vol. 211, pp. 1586-

1599.https://doi.org/10.1016/j.jclepro.2018.11.266
[23] Chen, J., Siddik, A. B., Zheng, G. W., Masukujjaman, M., & Bekhzod, S. (2022). The effect of green banking practices on banks' environmental performance and green financing: An empirical study. *Energies*, 15(4), 1292.https://doi.org/10.3390/en15041292
[24] Chouaibi, S. &Chouaibi, J. (2021). Social and ethical practices and firm value: The moderating effect of green innovation: Evidence from international ESG data. *International Journal of Ethics and Systems,* 37(3), 442–465.DOI:10.1108/IJOES-12-2020-0203
[25] Cucchiella, F., Gastaldi, M. and Miliacca, M. (2017). The management of greenhouse gas emissions and its effects on firm performance. *J. Clean. Prod.*, 167, 1387–1400.https://doi.org/10.1016/j.jclepro.2017.02.170
[26] De Marchi, V., Pineda-Escobar, M. A., Howell, R., Verheij, M., &Knorringa, P. (2022). Frugal innovation and sustainability outcomes: Findings from a systematic literature review. *European Journal of Innovation Management*, 25(6), 984–1007.https://doi.org/10.1108/EJIM-02-2022-0083
[27] Dissanayake, D., Tilt, C. A. & Qian, W. (2021). How do public companies respond to national challenges through sustainability reporting?–The case of Sri Lanka. *Qualitative Research in Accounting & Management,* 18(4/5), 455–483.https://doi.org/10.1108/QRAM-06-2020-0088
[28] Dzomonda, O. and Fatoki, O. (2020). Environmental Sustainability Commitment and Financial Performance of Firms Listed on the Johannesburg Stock Exchange (JSE). *Int. J. Environ. Res. Public Health,* 17, 7504. doi:10.3390/ijerph17207504
[29] Earnhart, D. (2018). The Effect of Corporate Environmental Performance on Corporate Financial Performance. *Annu. Rev. Resour. Econ.*, 10:425–44. https://doi.org/10.1146/annurev-resource-100517-023007
[30] El Khoury, R., Nasrallah, N. and Alareeni, B. (2021). "ESG and financial performance of banks in thein the MENAT region: concavity–convexity patterns, Journal of Sustainable Finance & Investment, DOI: 10.1080/20430795.2021.1929807
[31] Fedorova, E.P. (2020). Role of the State in the Resolution of Green Finance Development Issues.*Financ. J.*, 12, 37–51.DOI: 10.31107/2075-1990-2020-4-37-51
[32] Filbeck, G. and Gorman, R.F. (2004). The relationship between the environmental and financial performance of public utilities. *Environ. Resour. Econ.,* 29(2):137–157. https://doi.org/10.1023/B:EARE.0000044602.86367.ff
[33] Gangi, F., Meles, A., D'Angelo, E. and Daniele, L.M. (2019). "Sustainable development and corporate governance in the financial system: are environmentally friendly banks less risky?". *Corporate Social Responsibility and Environmental Management*, Vol. 26(3), pp. 529-547. doi: 10.1002/csr.1699.
[34] Gilchrist, D., Yu, J. and Zhong, R. (2021). The Limits of Green Finance: A Survey of Literature in the Context of Green Bonds and Green Loans. *Sustainability*, 13(2), 478.https://doi.org/10.3390/su13020478
[35] Golubeva, O. (2022). Sustainability and technology: The contribution of "managerial talk" to the three pillars framework. *Accounting, Auditing & Accountability Journal,* 35(9), 412–441. https://doi.org/10.1108/AAAJ-09-2021-5462
[36] Hamdallah, M. E., Srouji, A. F. & Al-Ibbini, O. A. (2022). Does perceived organizational support have a mediating role in directing the relationship between E-banking and corporate digital responsibility? In Digital economy, business analytics, and big data analytics applications (pp. 615–631). *Springer International Publishing*.http://dx.doi.org/10.1007/978-3-031-05258-3_49
[37] Haque, F., & Ntim, C. G. (2018). Environmental policy, sustainable development, governance mechanisms and environmental performance. *Business Strategy and the Environment*, *27*(3), 415–435.https://doi.org/10.1002/bse.2007
[38] Hendratama, T.D. and Huang, Y. C. (2021). Corporate social responsibility, firm value and life cycle: evidence from Southeast Asian countries. *J Appl Account Res,* 22(4):577–597. https://doi.org/10.1108/JAAR-09-2020-0194
[39] Hira, N. U., Ahmad, W., Khan, I., Khan, S., Abdullah, F., Shoaib, S. & Jamal, S. (2023). The Impact of Environmental, Social And Governance Factors (ESG) On Firms' Financial Performance: Evidence From Pakistan. *Journal of Positive School Psychology*, Vol. 7(2), 514-537. https://journalppw.com/index.php/jpsp/article/view/15601/10047
[40] Hojnik, J. & Ruzzier, M. (2016). What drives eco-innovation? A review of an emerging literature. *Environmental Innovation and Societal Transitions*, 19, 31–41.https://doi.org/10.1016/j.eist.2015.09.006
[41] Hongming, X., Ahmed, B., Hussain, A., Rehman, A., Ullah, I. & Khan, F. U. (2020). Sustainability reporting and firm performance: The demonstration of Pakistani firms. *SAGE Open*, 10(3), 2158244020953180.DOI: 10.1177/2158244020953180
[42] Hossain, M. (2019). Green Finance in Bangladesh Barriers and Solutions. In Handbook of Green Finance; Sustainable Development; *Springer: Singapore*, pp. 1–26. ISBN 9789811087103.

[43] https://doi.org/10.1016/j.mulfin.2019.01.002
[44] Huang, H. and Zhang, J. (2021). Research on the Environmental Effect of Green Finance Policy Based on the Analysis of Pilot Zones for Green Finance Reform and Innovations. *Sustainability*, 13 (7), 3754.**https://doi.org/10.3390/su13073754**
[45] IFRS Foundation. (2020). Consultation paper on sustainability reporting. www.ifrs.org/content/dam/ifrs/publications/requests-for-information/english/2020/consultation-paperon-sustainability-reporting.pdf
[46] Ilyas, I. M. &Osiyevskyy, O. (2022). Exploring the impact of sustainable value proposition on firm performance. *European Management Journal*, 40(5), 729–740.https://doi.org/10.1016/j.emj.2021.09.009
[47] Iqbal, Q., Ahmad, N. H., & Halim, H. A. (2021). Insights on entrepreneurial bricolage and frugal innovation for sustainable performance. *Business Strategy & Development*, 4(3), 237–245. https://doi.org/10.1002/BSD2.147
[48] Irshad. & Neha (2013), "A study on impact of e-banking awareness on customers' attitude towards its use" International Journal of Marketing & Financial Management, Vol. 1, Issue 1, Dec-2013, pp 01-23, DOI: https://doi.org/10.53882/ijmfm.2013.0101001
[49] Jadoon, I. A., Ali, A., Ayub, U., Tahir, M. & Mumtaz, R. (2021). The impact of sustainability reporting quality on the value relevance of corporate sustainability performance. *Sustainable Development,* 29(1), 155–175.DOI: 10.1002/sd.2138
[50] Jha, M.K. and Rangarajan, K. (2020). Analysis of corporate sustainability performance and corporate financial performance causal linkage in the Indian context. *Asian Journal of Sustainability and Social Responsibility*, 5(1).https://doi.org/10.1186/s41180-020-00038-z
[51] Jizi, M. I. & Nehme, R. (2017). Board gender diversity and firms' equity risk. *Equality, Diversity andInclusion*, Vol. 36 No. 7, pp. 590-606. https://doi.org/10.1108/EDI-02-2017-0044
[52] Kartadjumena, E. & Rodgers, W. (2019). Executive compensation, sustainability, climate, environmental concerns, and company financial performance: Evidence from Indonesian commercial banks. *Sustainability*, 11(6), 1673.**https://doi.org/10.3390/su11061673**
[53] Khairunnessa, F.; Vazquez-Brust, D.A. and Yakovleva, N. (2021). A Review of the Recent Developments of Green Banking in Bangladesh. *Sustainability*, 13, 1904.**https://doi.org/10.3390/su13041904**
[54] Khan, M., Lockhart, J.C. and Bathurst, R.J. (2018). Institutional impacts on corporate social responsibility: a comparative analysis of New Zealand and Pakistan. *Int J Corp Soc Responsib*, 3(1):1–13. DOI: 10.1186/s40991-018-0026-3
[55] Khattak, A. (2023). Are environmental sustainability thoughts a panacea for environmental performance? Social innovation and moderating role of green innovation. *International Journal of Innovation Science*. DOI:10.1108/ijis-10-2022-0190
[56] Kolawole, K.D., Ajayi, M.A., Alhassan, A., Bekun, F.V. and Uzuner, G. (2022). Sustainable Energy Supply, Finance, and Domestic Investment Nexus in West Africa. *Sustainability*, 14(19), p.11882.**https://doi.org/10.3390/su141911882**
[57] Laguir, I., Marais, M., El Baz, J. and Stekelorum, R. (2018). "Reversing the business rationale for environmental commitment in banking: does financial performance lead to higher environmental performance?". *Management Decision*, Vol. 56 (2), pp. 358-375. doi: 10.1108/MD-12-2016-0890.
[58] Le Thanh, T., Huan, N.Q. and Hong, T.T.T. (2021a). Effects of corporate social responsibility on SMEs' performance in emerging market. *Cogent Bus Manag,* 8(1):1878978. DOI: 10.1080/23311975.2021.1878978
[59] Le, T.T. (2022a). Corporate social responsibility and SMEs' performance: mediating role of corporate image, corporate reputation and customer loyalty. *Int J Emerg Mark*.https://doi.org/10.1108/IJOEM-07-2021-1164
[60] Le, T.T. and Ferasso, M. (2022). How green investment drives sustainable business performance for food manufacturing small- and medium-sized enterprises? Evidence from an emerging economy. *Corp Soc Responsib Environ Manag* . , 29(4):1034–1049. https://doi.org/10.1002/csr.2252
[61] Le, T.T. and Ikram, M. (2022). Do sustainability innovation and firm competitiveness help improve firm performance? Evidence from the SME sector in Vietnam. *Sustain Prod Consum* 29:588–599. https://doi.org/10.1016/j.spc.2021.11.008
[62] Lewandowski, S. (2017). Corporate carbon and financial performance: The role of emission reductions. *Bus. Strat. Environ.*, 26, 1196–1211.**https://doi.org/10.1002/bse.1978**
[63] Li, X., Du, J. and Long, H. (2019b). Theoretical framework and formation mechanism of the green development system model in China. *Environ Dev*, 32:100465. 10.1016/j.envdev.2019.100465
[64] Lingnau, V., Fuchs, F. and Beham, F. (2022). The link between corporate sustainability and willingness to invest: new evidence from the field of ethical investments. *Journal of Management Control*, 33(3), pp.335–369.https://doi.org/10.1007/s00187-022-00340-z
[65] Liu, N., Liu, C., Xia, Y., Ren, Y. and Liang, J. (2020). Examining the coordination between green finance

and green economy aiming for sustainable development: A case study of China. *Sustainability*, 12, 3717.**ttps://doi.org/10.3390/su12093717**

[66] Lovarelli, D., Garcia, L. R., Sánchez-Gir_on, V., &Bacenetti, J. (2020). Barley production in Spain and Italy: Environmental comparison between different cultivation practices. *Science of the Total Environment*, 707, 135982.DOI: 10.1016/j.scitotenv.2019.135982

[67] Lucas, M.T. and Noordewier, T.G. (2016). Environmental management practices and firm financial performance: the moderating effect of industry pollution-related factors. *Int. J. Prod. Econ.* 175:24–34. https://doi.org/10.1016/j.ijpe.2016.02.003

[68] Majid, M. F., Meraj, M. & Mubarik, M. S. (2022). In the pursuit of environmental sustainability: The role of environmental accounting. *Sustainability*, 14(11), 6526.**https://doi.org/10.3390/su14116526**

[69] Malsha, K.P.P.H.G.N.; Anton Arulrajah, A. and Senthilnathan, S. (2020). Mediating role of employee green behaviour towards sustain-ability performance of banks. *J. Gov. Regul.*, 9, 92–102.*DOI: 10.22495/jgrv9i2art7*

[70] Mehraj, D. & Kaur, S. (2022). Green process innovations and firm marketing performance in the emerging markets. *Business Strategy & Development*, 5(4), 424–436. https://doi.org/10.1002/BSD2.208

[71] Menicucci, E. and Paolucci, G. (2023). ESG dimensions and bank performance: an empirical investigation in Italy. *Emerald Publishing Limited*, ISSN 1472-0701, VOL. 23 NO. 3 2023, pp. 563-586. DOI 10.1108/CG-03-2022-0094

[72] Mir, A. A. & Bhat, A. A. (2022). Green banking and sustainability–a review. *Arab Gulf Journal of Scientific Research*, 40(3), 247–263.https://doi.org/10.1108/AGJSR-04-2022-0017

[73] Miralles-Quir_os, M.M., Miralles-Quir_os, J.L. and Redondo-Hern_andez, J. (2019). "The impact of environmental, social, and governance performance on stock prices: evidence from the banking industry". *Corporate Social Responsibility and Environmental Management*, Vol. 26(6), pp. 1446-1456. doi: 10.1002/csr.1759.

[74] Miroshnychenko, I., Barontini, R., Testa, F. (2017). Green practices and financial performance: a global outlook. *J. Clean. Prod.,* 147:340–51. https://doi.org/10.1016/j.jclepro.2017.01.058

[75] Moya-Clemente, I., Ribes-Giner, G., & Pantoja-Díaz, O. (2020). Identifying environmental and economic development factors in sustainable entrepreneurship over time by partial least squares (PLS). *PLoS ONE*, 15(9), 1–17.https://doi.org/10.1371/journal.pone.0238462

[76] Nawaz, M.A., Seshadri, U., Kumar, P., Aqdas, R., Patwary, A.K. and Riaz, M. (2020). Nexus between green finance and climate change mitigation in N-11 and BRICS countries: Empirical estimation through difference in differences (DID) approach. *Environ. Sci. Pollut. Res.*, 28, 6504–6519.https://doi.org/10.1007/s11356-020-10920-y

[77] Ngwenya, N. and Simatele, M.D. (2020). The emergence of green bonds as an integral component of climate finance in South Africa. *S. Afr. J. Sci.*, 116, 10–12.https://orcid.org/0000-0001-5809-5047

[78] Nizam, E., Ng, A., Dewandaru, G., Nagayev, R. and Nkoba, M. A.(2019). The impact of social and environmental sustainability on financial performance: A global analysis of the banking sector. *Journal of Multinational Financial Management,*Vol 49, pp. 35-53.DOI: 10.1016/j.mulfin.2019.01.002

[79] Nwozor, A., Olanrewaju, J.S., Oshewolo, S., Iseolorunkanmi, J., Fayomi, O., Okidu, O. and Adetunji, T.A. (2021). Transition to Green Energy and Sustainable Development in Nigeria: A Prospective and Evaluative Analysis. *IOP Conference Series: Earth and Environmental Science*, 665(1), p.012029.DOI:10.1088/1755-1315/665/1/012029

[80] Padilla-Lozano, C.P. and Collazzo, P. (2022). Corporate social responsibility, green innovation and competitiveness – causality in manufacturing. *Compet Rev Int Bus J.*, 32(7):21–39. https://doi.org/10.1108/CR-12-2020-0160

[81] Perryman, A. A., Fernando, G. D., & Tripathy, A. (2016). Do gender differences persist? An examination of gender diversity on firm performance, risk, and executive compensation. *Journal of Business Research*, *69*(2), 579–586. https:// doi. org/ 10. 1016/j. jbusr es. 2015. 05. 013.

[82] Philip V. (2020), "The Effects of Digital revolution in Personal Traditional Banking", International Journal of Social Sciences & Economic Environment, Vol. 5,Issue 2, 2020, pp 12–19. DOI : https://doi.org/10.53882/IJSSEE.2020.0502002

[83] Prasad J and Lakshmi V. (2020), "The Influence of customer education and their protection in Banking services", International Journal of Social Sciences & Economic Environment, Vol. 5,Issue 2, 2020, pp 01–11. DOI : https://doi.org/10.53882/IJSSEE.2020.0502001

[84] Raihan, M.Z. (2019). Sutainable Finance for Growth and Development of Banking Industry in Bangladesh: An Equity Perspective. *MIST J. Sci. Technol.*, 7, 41–51.https://doi.org/10.47981/j.mijst.07(01)2019.135(%25p)

[85] Rawat, S.K. (2020). Recent Advances in Green Finance. *Int. J. Recent Technol. Eng.*, 8, 5528–5533. DOI:10.35940/ijrte.F9980.038620

[86] Ren, X., Shao, Q. and Zhong, R. (2020). Nexus between green finance, non-fossil energy use, and carbon intensity: Empirical evidence from China based on a vector error correction model. *J. Clean. Prod.*, 277.https://doi.org/10.1016/j.jclepro.2020.122844
[87] Richha. J and Rastogi U (2020), "Impact of narcissism gathering on monetary kudos by banks", International Journal of Social Sciences & Economic Environment, Vol. 5,Issue 1, Jan-Jun-2020, pp 18–29. DOI : https://doi.org/10.53882/IJSSEE.2020.0501003
[88] Rokhmawati, A., Gunardi, A. and Rossi, M. (2017). How Powerful is Your Customers' Reaction to Carbon Performance? Linking Carbon and Firm Financial Performance. *Int. J. Energy Econ. Policy*, 7, 85–95.https://www.econjournals.com/index.php/ijeep/article/view/5752
[89] Salman, M. and Laouisset, J. (2020). "The governance in the corporate excellence model – the 4th generation model", *International Journal of Business Ethics and Governance*, Vol. 3 No. 2, pp. 71-91, doi:10.51325/ijbeg.v3i2.34.
[90] Shalneva, M.S. and Zinchenko, Y.V. (2019). Sustainable Finance as a Way of European Companies' Transition to Green Economy, *Springer International Publishing*: New York, NY, USA, Vol 57. https://dx.doi.org/10.15405/epsbs.2019.03.45
[91] Sharma, M. & Choubey, A. (2022). Green banking initiatives: A qualitative study on Indian banking sector. *Environment, Development and Sustainability*, 24(1), 293–319.DOI: 10.1007/s10668-021-01426-9
[92] Sharma, V. & Bhat, D. A. R. (2022). The role of community involvement in sustainable tourism strategies: A social and environmental innovation perspective. *Business Strategy & Development*, 6, 119–127. https://doi.org/10.1002/BSD2.227
[93] Shen, C.H., Wu, M.W., Chen, T.H. and Fang, H. (2016). "To engage or not to engage in corporate social responsibility: empirical evidence from global banking sector", *Economic Modelling*, Vol. 55, pp. 207-225, doi: 10.1016/j.econmod.2016.02.007.
[94] Sila, V., Gonzalez, A. &Hagendorff, J. (2016). Women on board: Does boardroom gender diversity affect firm risk? *Journal of Corporate Finance, 36*, 26–53. https:// doi. org/ 10. 1016/j. jcorp fin. 2015. 10. 003
[95] Srouji, A. F., Hamdallah, M. E., & Zulkarnain, L. (2023). The mediating role of green disclosures on the relationship between sustainability and financial performance in an emerging market. Cutting-Edge Business Technologies in the Big Data Era. SICB 2023. *Studies in Big Data*, 135, 301–312.https://doi.org/10.1007/978-3-031-42463-2_28
[96] Taghizadeh-Hesary, F., Yoshino, N. and Phoumin, H. (2021). Analyzing the Characteristics of Green Bond Markets to Facilitate Green Finance in the Post-COVID-19World. *Sustainability*, 13, 5719.**https://doi.org/10.3390/su13105719**
[97] Thomas, A., Scandurra, G. & Carfora, A. (2021). Adoption of green innovations by SMEs: An investigation about the influence of stakeholders. *European Journal of Innovation Management*, 25(6), 44–63.https://doi.org/10.1108/EJIM-07-2020-0292
[98] Tiep Le, T., Huan, N.Q., Thuy Hong, T.T. and Tran, D.K. (2021). The contribution of corporate social responsibility on SMEs performance in emerging country. *J Clean Prod*, 322:129103. https://doi.org/10.1016/j.jclepro.2021.129103
[99] Tuyon, J., Onyia, O.P., Ahmi, A. and Huang, C. H. (2022). Sustainable financial services: reflection and future perspectives. *Journal of Financial Services Marketing*, 4 : 1–27.doi: 10.1057/s41264-022-00187-4
[100] Vătavu, S. (2015). The Impact of Capital Structure on Financial Performance in Romanian Listed Banks. *Procedia Economics and Finance*, [online] 32, pp.1314–1322.https://doi.org/10.1016/S2212-5671(15)01508-7
[101] Velte, P. (2017). "Does ESG performance have an impact on financial performance? Evidence from Germany", *Journal of Global Responsibility*, Vol. 8 No. 2, pp. 169-178. https://doi.org/10.1108/JGR-11-2016-0029
[102] Wahba, H. (2008). Does the market value corporate environmental responsibility? An empirical examination. *Corp. Soc. Responsib. Environ. Manag.*, 15(2):89–99. DOI: 10.1002/csr.153
[103] Wang, M., Li, X. and Wang, S. (2021). Discovering research trends and opportunities of green finance and energy policy: A data-driven scientometric analysis. *Energy Policy*, 154. DOI: 10.1016/j.enpol.2021.112295
[104] Wang, X., Zhao, H. and Bi, K. (2021). The measurement of green finance index and the development forecast of green finance in China. *Environ. Ecol. Stat.*, 28, 263–285.DOI: 10.1007/s10651-021-00483-7
[105] Wang, Y. and Zhi, Q. (2016). The Role of Green Finance in Environmental Protection: Two Aspects of Market Mechanism and Policies. *Energy Procedia*, 104, 311–316.https://doi.org/10.1016/j.egypro.2016.12.053
[106] Wasiuzzaman, S. & Wan Mohammad, W. M. (2020). Board gender diversity and transparency of

environmental, social and governance disclosure: Evidence from Malaysia. *Managerial and Decision Economics,41*(1), 145–156.DOI: 10.1002/mde.3099

[107] Wu, M. W. and Shen, C. (2017). "Application of multi-level matching between financial performance and corporate social responsibility in the banking industry", *Review of Quantitative Finance and Accounting*, Vol. 49 No. 1, pp. 29-63.DOI: 10.1007/s11156-016-0582-0

[108] Xu, B., Li, S., Afzal, A., Mirza, N. and Zhang, M. (2022). The impact of financial development on environmental sustainability: A European perspective. *Resources Policy*, 78, p.102814.DOI: 10.1016/j.resourpol.2022.102814

[109] Xu, S. & Gao, K. (2022). Green finance and high-quality development of marine economy. *Marine Economics and Management*, 5(2), 213–227.https://doi.org/10.1108/MAEM-01-2022-0001

[110] Yu, H.C. and Tsai, B.Y. (2018). Environmental policy and sustainable development: An empirical study on carbon reduction among Chinese enterprises. *Corp. Soc. Resp. Environ. Manag.*, 25(5), 1019–1026.DOI: 10.1002/csr.1499

[111] Zagorchev, A. and Gao, L. (2015). "Corporate governance and the cost of capital: an international study", *International Review of Finance*, Vol. 14 No. 3, pp. 393-429.

[112] Zhang, B. and Wang, Y. (2021). The Effect of Green Finance on Energy Sustainable Development: A Case Study in China. *Emerg. Mark. Financ. Trade*, 57, 3435–3454.DOI: 10.1080/1540496X.2019.1695595

[113] Zheng, G. W., Siddik, A.B., Masukujjaman, M., Fatema, N. and Alam, S.S. (2021). Green Finance Development in Bangladesh: The Role of Private Commercial Banks (PCBs). *Sustainability*, 13, 795.https://doi.org/10.3390/su13020795

[114] Zhou, X., Tang, X. and Zhang, R. (2020). Impact of green finance on economic development and environmental quality: A study based on provincial panel data from China. *Environ. Sci. Pollut. Res.*, 27, 19915–19932.DOI: 10.1007/s11356-020-08383-2