

	ORIGINAL RESEARCH PAPER SUSTAINABLE INVESTMENT ATTITUDES: AN EMPIRICAL INVESTIGATION OF THE ROLE OF FINANCIAL LITERACY AND ENVIRONMENTAL PERCEPTIONS	Management KEY WORDS: Sustainability, Financial Literacy, Sustainable Finance Instruments, ESG, Environmental Literacy
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ABSTRACT	Background: The aim of the study is to examine whether sustainable finance literacy and the perceived environmental impact of sustainable finance instruments exert substantial influence over the sustainable investment attitudes of investors. The concept of sustainable finance has arisen as a key driver of change as global economies struggle with urgent concerns, including climate change, global warming, pandemic, social inequality, and corporate governance.	
	Methodology: This is an explanatory study, to analyse whether sustainable investment attitudes of investors in a developing country like India impact on the environment indicates sustainable finance literacy and sustainable finance instruments'. The data was collected through close-ended questionnaire through the Google form, which includes Sustainable Finance (SF), Sustainable Finance Instruments (SFI), Sustainable Finance Literacy (SFL) & Environmental Values and Investment Attitudes (SFIA). The data was collected from 296 participants from Central Zone of Vadodara city. The initial regression model was constructed to assess the independent influence of sustainable finance literacy on sustainable investment attitudes. Findings: The findings of the study describe that individuals with a greater level of sustainable finance literacy and a positive perception of the favourable environmental effects of sustainable finance instruments tend to display a positive investment stance and are more likely to invest in sustainable finance instruments.	
	Outcome of the Study: The results of the study imply that, to stimulate sustainable investments in developing countries, regulatory authorities and sustainable fund issuers such as financial corporations can enhance promotional campaigns and workshops aimed at increasing awareness and understanding of sustainable finance literacy, sustainable financial instruments, and their positive impact on the environment.	
INTRODUCTION		
Mitigation and adaptation to climate change are essential for reducing the effects of the continuous increase in global temperature since the pre-industrial era. Since the Paris Agreement in 2015, nited Nations member states have pledged to limit the increase in global temperature to 1.5 degrees Celsius. Throughout the past ten years, there has been an increase in the amount of money going toward projects that are climate neutral. Despite the positive trend in green financing activities, the amount is still well below the goals. To accomplish the climate targets by 2030, the yearly growth rate of climate funding needs to be at least 550% (Climate Policy Initiative, 2021). By 2030, it is projected that there would be a global financing shortfall for climate reduction of \$850 billion per year and climate adaptation of \$180 to \$300 billion annually (IFAD, 2021). As a result, the financial sector's role in directing capital toward more sustainable initiatives is becoming increasingly crucial. Financial authorities in many countries released initiatives to promote the participation of retail investors in sustainable investments. In European Union (EU) for instance, European Commission launched The Commission Delegated Regulation (EU) 2021/1257 of 21 April 2021 (European Commission, 2021) in which all firms subject to the Markets in Financial Instruments Directive (MiFID), including financial firms and advisors, are required to assess their client's sustainability preferences. However, limited access to financial advisory services and financial markets is one of the main obstacles to putting this strategy into practice. A substantial number of eager retail investors are prevented from making sustainable investments by a lack of availability and incomplete information (Gutsche et al., 2023).		
The concept of sustainable finance has arisen as a key driver of change as global economies struggle with urgent concerns, including climate change, global warming, pandemic, social inequality, and corporate governance (Cui, H et al., 2020; Wang, E.Z et al., 2022 & Gáspár, S. et al., 2023).		
Through a paradigm change that goes beyond conventional ideas of profitability, financial strategies are being redirected toward an all-encompassing strategy that incorporates environmental, social, and governance (ESG) factors. Sustainable finance instruments aim to balance economic growth with environmental preservation and societal well-being through innovative investment channels and a wider range of corporate accountability. Investors, institutions, and companies are becoming more and more aware of how the decisions that they make today could affect future generations' quality of living.		
The research conducted by Filippini et al. (2021) introduces the concept of "sustainable finance literacy", which is defined as the knowledge and comprehension of regulations, standards, and established criteria related to financial products incorporating sustainability features. Sustainable finance literacy can be viewed as an enhanced version of financial literacy that considers the promotion of sustainability and the achievement of sustainable development goals as integral factors in financial decision making. Bethlendi et al. (2022) demonstrate a positive association between knowledge of environmental issues and sustainable financial literacy, revealing that these factors are linked to individuals' sustainable investment attitudes in their study conducted in Hungary. Strauß et al. (2023) explore the determinants of sustainable finance literacy and find that investors who express interest in economic news and sustainable finance tend to have higher levels of sustainable finance literacy in Switzerland. Faradynawati (2023) examines the comprehension of sustainable investment, incorporating financial literacy, sustainability literacy, and sustainable finance literacy as fundamental components in Norway, Sweden, and Finland. Furthermore, Degryse et al. (2023) conducted research in the Netherlands and establish a positive correlation between sustainable finance literacy and the propensity to engage in sustainable investments. Most of these studies have been conducted in developed nations.		
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However, with the recent surge of interest in these topics in developing countries, it becomes imperative to investigate whether similar positive associations can be observed in these contexts.

The aim of the study to analyse whether sustainable finance literacy and sustainable finance instruments' perceived impact on the environment indicates a significant difference in sustainable investment attitudes of investors in a developing country like India.

Literature Review

Selected articles were scrutinized with respect to their variables i.e. Sustainable Finance, Sustainable Finance Instruments, Sustainable Finance Literacy & Environmental Values and Investment Attitudes.

Sustainable Finance

Sustainable finance is an evolving concept centered on integrating Environmental, Social, and Governance (ESG) considerations into financial decision-making processes to promote long-term economic viability and address global challenges such as climate change, social inequality, and ethical governance. While often used interchangeably, terms like climate finance and green finance have distinct focuses—climate finance targets financial strategies to mitigate climate-related risks, whereas green finance emphasizes environmentally beneficial investments. (Diaz-Rainey et al 2017; Zhang, D. et al 2019)

According to the European Commission (2021), sustainable finance encompasses a broad range of financial activities including investment, lending, and capital allocation, all aimed at fostering sustainable development. The International Capital Market Association (ICMA) expands this definition to include the stability of financial systems and organizational resilience.

Sustainable finance plays a pivotal role in achieving the United Nations Sustainable Development Goals (SDGs), which are central to the 2030 Agenda for Sustainable Development. It supports the transition to a climate-neutral, low-carbon economy, and a more inclusive society. However, challenges such as vague conceptual boundaries and the short-term focus of traditional financial models persist. (Migliorelli, M 2021)

From a corporate perspective, ESG practices have been linked to improved profitability and competitive advantage through enhanced resource efficiency and better stakeholder engagement. Overall, sustainable finance marks a shift from a shareholder-centric approach to a stakeholder-oriented financial model, facilitating responsible investment and sustainable global development.

Sustainable Finance Instruments

Sustainable finance refers to the integration of environmental, social, and governance (ESG) factors into financial decision-making, aiming to direct capital toward initiatives that are financially viable and contribute to a sustainable and equitable future. (UNEP FI 2021) Sustainable finance instruments are the practical tools that implement these principles, allowing investors to align with specific ESG goals. (International Capital Market Association 2023)

Key Instruments Include:

Green bonds, which fund environmentally focused projects such as renewable energy, sustainable agriculture, and clean transportation. (Maltais, A. 2020)

Sustainability bonds, which support both environmental and social initiatives, including affordable housing, education, healthcare, and energy efficiency. (International Capital Market Association 2023)

Sustainable Finance Literacy

The definitions of sustainability and sustainable finance literacy are still evolving due to rapid environmental, economic, and social changes. A universally accepted definition for both financial and sustainable financial literacy is currently lacking. The OECD defines financial literacy as the ability to understand financial products, assess risks and opportunities, and make informed financial decisions—skills rooted in both knowledge and attitudes toward money. (OECD Report 2005) usardi and Mitchell (2014) suggest that individuals invest in financial knowledge until the costs of acquiring it equal the benefits, meaning financial literacy levels are shaped by both internal and external influences. Research highlights various factors affecting young people's financial literacy, including personal traits (e.g., gender, income, math skills) and broader factors like cultural context and national development. Moreno-Herrero et al. (2018) identify three main determinants of youth financial literacy, emphasizing the need for targeted education strategies.

Environmental Values and Investment Attitudes

Beyond sustainable finance literacy, an investor's environmental values significantly influence their investment decisions. Investment attitude—defined here as the willingness to invest in sustainable finance instruments—is shaped by personal beliefs and perceived environmental benefits. Research suggests that individuals who recognize a positive link between sustainable investments and environmental impact tend to have more favourable attitudes toward such investments.

Studies by Dilla et al. (2013) and others, including Bauer and Smeets (2015), Riedl and Smeets (2017), and Briere and Ramelli (2020), confirm that investors with strong environmental or "green" values are more likely to use socially responsible investment criteria and choose sustainable financial products.

Hypothesis (H₁): Individuals with better sustainable finance literacy are more likely to have a positive investment attitude toward sustainable finance instruments.

RESEARCH METHODOLOGY

This is an empirical study, to analyse whether sustainable investment attitudes of investors in a developing country like India impact on the environment indicates sustainable finance literacy and sustainable finance instruments'. The data was collected through close-ended questionnaire through the Google form. The questionnaire includes Sustainable Finance, Sustainable Finance Instruments, Sustainable Finance Literacy & Environmental Values and Investment Attitudes.

The data was collected from the central zone of Vadodara City. The data was collected from 296 participants. The questionnaire includes demographic characteristics like Age, Gender, Income and Education. Subsequent question groups assessed whether the traits of sustainable investment attitude are associated with sustainable finance literacy and sustainable finance instruments' perceived impact on the environment. Investment attitude questions are formulated with binary response options; "yes" or "no". Sustainable finance literacy and sustainable finance instruments' perceived impact on the environment were measured through a five-point Likert scale, with the endpoints labeled as "strongly agree" and "strongly disagree".

Investment attitude (IA) questions were constructed based on participants' current and short-term interest in making sustainable finance investments.

Sustainable finance literacy (SFL) questions are structured to measure the participants' knowledge of sustainable finance and sustainable finance instruments in Central Vadodara.

The perceived impact of sustainable finance instruments impact of environmental literacy and green values of potential investors on sustainability attitudes.

The aim of the study to analyse the investment attitudes toward sustainable finance instruments. The explanatory variables in the models are sustainable finance literacy and the perceived environmental impact of sustainable finance instruments. Studies show that social and demographic characteristics such as age, gender, level of education, and income status are also regarded as influential elements in shaping decisions related to making investments. Thus, these socio-demographic characteristics were incorporated into each model as control variables. The initial regression model was constructed to assess the independent influence of sustainable finance literacy on sustainable investment attitudes.

RESULTS/FINDINGS

Our sample includes 56.8% female and 43.2% male respondents for whom we have complete information on socio-demographic characteristics, SFL, and SFIA variables used in our empirical analysis. The majority of our respondents fall within the 25–34 age bracket. Additionally, 64.7% of our respondents hold a bachelor's degree. Regarding monthly income, a significant portion of the respondents is categorized within the less than 50,000 bracket.

Table 1 provides the mean, standard deviation, and variance statistics for the IA, SFL and SFIA variables. Regarding the IA construct, it is evident that respondents are contemplating investing in some form of sustainable finance instrument within the upcoming year. Nevertheless, it is noteworthy that the majority have not previously invested in sustainable funds or companies that prioritize environmental, social, and governance criteria.

Factor/Stat	Mean	Std. Dev.	Variance
IA1	2.012	0.73	0.478
IA2	4.016	0.745	0.725
SFL1	3.728	0.845	0.759
SFL2	3.511	0.762	0.635
SFL3	3.986	0.922	0.835
SFIA1	3.989	0.906	0.822
SFIA2	4.143	0.796	0.641
SFIA3	4.111	0.742	0.576
SFIA4	3.653	0.864	0.748
SFIA5	4.185	0.832	0.662
SFIA6	4.221	0.824	0.667
SFIA7	4.325	0.821	0.726

The results presented in the first column of Table 2 show that sustainable finance literacy is a key explanatory factor and is positively associated with sustainable investment attitudes. Furthermore, the results illustrate that individuals with higher income levels, especially those earning TL 20,001 or more, have a greater inclination to invest in sustainable finance instruments when compared to those in the income group of TL 0–5000. Given that sustainable finance literacy serves as a predictor for sustainable finance investment attitudes, we proceed to investigate whether proficiency in distinct aspects of sustainable financial literacy exerts varying impacts on sustainable finance investment attitudes.

	Investment Attitude (1)	Investment Attitude (2)	Investment Attitude (3)
Const	0.3801 (-0.379)	0.404 (-0.381)	-0.3493 (-0.438)
Gender	-0.0004 (-0.1)	0.0163 (-0.099)	0.0273 (-0.097)

25–34	-0.0223 (-0.184)	-0.0195 (-0.183)	-0.1906 (-0.186)
35–44	-0.0049 (-0.216)	-0.0081 (-0.213)	-0.2229 (-0.22)
45 and above	-0.165 (-0.21)	-0.1337 (-0.209)	-0.345 (-0.211)
Bachelor's degree	0.0593 (-0.253)	0.0385 (-0.253)	0.0106 (-0.245)
Master's degree	0.0254 (-0.277)	-0.0124 (-0.276)	-0.0206 (-0.268)
Doctorate degree	0.0482 (-0.355)	0.0136 (-0.356)	-0.0313 (-0.344)
Less than 50,000	0.452 (-0.304)	0.4554 (-0.302)	0.6453** (-0.3)
Above 50,000	0.7417** (0.322)	0.7320** (-0.321)	1.0348*** (-0.326)
SFL_score	0.5655*** (0.070)		0.4275*** (-0.082)
SF1_Financial return		0.1679* (0.090)	
SF2_Interest rate		0.0593 (-0.076)	
SF3_Risk diversification		0.3098*** (-0.073)	
SFIA_score			0.2822*** (-0.093)

Coefficient estimates from OLS regressions, standard errors in parentheses.* p < 0.10, ** p < 0.05, *** p < 0.01.

The final regression model shows that individuals who believe sustainable finance instruments positively impact the environment are more likely to have favourable attitudes toward sustainable investment. Sustainable finance literacy also remains a significant positive factor influencing these attitudes. Additionally, higher income levels are associated with a greater tendency to invest in sustainable finance instruments compared to lower-income individuals.

DISCUSSION

This study contributes to the expanding research on sustainable finance by examining how sustainable finance literacy and the perceived environmental impact of sustainable finance instruments influence sustainable investment attitudes in the context of a developing country.

The results of our study reveal that sustainable finance literacy is a key explanatory factor for sustainable investment attitudes. The findings confirm the H1 hypothesis, which indicates that individuals with better sustainable finance literacy are more likely to have a positive investment attitude toward sustainable finance instruments.

Our findings suggest several policy suggestions for regulatory bodies and issuers of sustainable funds, such as companies and financial institutions. Based on our findings, regulatory bodies and sustainable fund issuers can strategically focus their efforts on attracting potential investors who are currently hesitant to invest in sustainable financial instruments. Given the positive association between sustainable finance literacy and sustainable investment attitudes, regulatory authorities and financial institutions can consider offering workshops designed to educate potential investors about the financial aspects of sustainable products, including their risk, return, and diversification properties.

CONCLUSION

Our results indicate that respondents are in agreement regarding the positive impact of sustainable finance instruments on promoting energy conservation, reducing greenhouse gas emissions, and efficiently managing natural resource consumption. Therefore, corporations and banks offering sustainable funds can highlight these aspects in their promotional campaigns to attract potential investors.

Our study has some limitations. Primarily, our research concentrates on a developing country, without incorporating a contrast between developed and developing countries. Although this strategy yielded valuable insights within the designated context, it constrained the broader relevance of the results on a global level. Future research can explore a comparison between developing and developed countries. This future study could include additional variables, like cultural factors and governmental policies, to further investigate their influence on sustainable investment attitudes within the regression models.

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