International Journal of Computer Information Systems and Industrial Management Applications
ISSN 2150-7988 Volume 18(11s) 2026 pp. 1200-1206
https://doi.org/10.70917/ijcisim-2026-3848
Article

AN ANALYTICAL EXAMINATION OF THE IMPACT OF ESG-BASED INVESTMENT INSTRUMENTS ON INVESTORS' PORTFOLIO DECISION-MAKING PROCESS

M. Palaniappan[1], R. Siva Sundari[2], S. Thiruselvan[3]

[1]PG & Research Department of Commerce (SF), Kamaraj College (Autonomous), Affiliated to Manonmaniam Sundaranar University (Tirunelveli), Thoothukudi – 628003.
Email: **pazhaniappan@gmail.com**
[2]PG & Research Department of Commerce (SF), Kamaraj College (Autonomous), Affiliated to Manonmaniam Sundaranar University (Tirunelveli), Thoothukudi – 628003.
Email: **sivasundarirajesh2011@gmail.com**
[3]PG & Research Department of Commerce (SF), Kamaraj College (Autonomous), Affiliated to Manonmaniam Sundaranar University (Tirunelveli), Thoothukudi – 628003.
Email: **thiruselvansiva@gmail.com**

Abstract: Environmental, Social, and Governance (ESG) investing has emerged as a significant investment approach that integrates sustainability principles with monetary decision-making. The increasing awareness of responsible investing has encouraged investors to consider environmental protection, social responsibility, and corporate governance while making investment decisions. The current research, with the title "Investor Perception towards ESG-Based Investment Instruments and Their Influencing Portfolio Decision Making", analyses investors awareness, perception, attitude towards ethical and sustainability aspects of life as well as the impact of ESG investment instruments on portfolio decision making. A descriptive research design using enabling primary data from a structured questionnaire of 275 respondents in the study. A convenience sampling technique was used to select the respondents. The collected data were analysed using Percentage Analysis, Independent Sample t-test, One-Way ANOVA, Kruskal–Wallis Test, and other appropriate statistical tools with the help of SPSS software. The findings reveal that investors possess a moderate to high level of awareness regarding ESG investment concepts and generally exhibit a favourable perception towards ESG-based investment instruments. The findings of the research indicate that the positive influence of ESG on investors does exist, especially in terms of long-term financial impact and investment ethics or sustainability. The implications of data analysis hypotheses testing indicates that the 'age' and the 'occupation' has positive significant effect on some dimensions of ESG awareness and portfolio decision-making, while other demographic variables age, gender, income level & area of residence had no significant effect on most dimensions of investors perception and attitude towards ESG investments. BofA noted in the study that investors are becoming increasingly aware of the significance of environmental responsibility, corporate governance and social responsibility when choosing how to invest. The study concludes that ESG-based investment instruments have a positive impact on investors' portfolio decision-making and are becoming an integral part of modern investment strategies. Enhancing investor awareness, strengthening ESG disclosure practices, promoting financial literacy, and improving regulatory support can further accelerate the adoption of sustainable investment practices. The findings provide valuable implications for investors, financial institutions, policymakers, asset management companies, and researchers in promoting responsible and sustainable investment behaviour while contributing to long-term economic, environmental, and social development.

Keywords: ESG Investments, Investor Perception, Sustainable Investing, Portfolio Decision-Making, Environmental, Social and Governance (ESG), Responsible Investment, Financial Behaviour.

1. INTRODUCTION

In recent years, the global financial landscape has witnessed an important shift towards sustainable and responsible investing. Environmental, Social, and Governance (ESG) factors have emerged as key considerations in investment decision-making, reflecting a growing awareness among investors about the long-term impact of their investments on society and the environment. ESG-based investment instruments, which integrate sustainability criteria into financial analysis, are increasingly gaining importance in modern portfolio management. Friede, G., Busch, T., & Bassen, A. (2015). ESG investments include a range of financial instruments such as green bonds, socially responsible mutual funds, and sustainability-focused exchange-traded funds. These instruments not only aim to generate financial returns but also promote ethical practices, environmental protection, and social well-being. As a result, investors are gradually shifting from traditional profit-oriented approaches to more sustainable and value-driven investment strategies. The decision-making process of investors regarding portfolio allocation is influenced by various factors, including risk and return expectations, ethical considerations, market trends, and availability of information. ESG-based investment instruments introduce an additional dimension to this process by incorporating non-financial factors such as environmental impact, corporate governance practices, and social responsibility. This shift has led to a growing interest in understanding how ESG considerations influence investors' portfolio decisions. Gillan, S. L., Koch, A., & Starks, L. T. (2021). Factors such as financial literacy, awareness of sustainable investing, risk perception, ethical values, and accessibility to investment platforms may significantly influence the adoption of ESG-based instruments among retail investors in Thoothukudi. Additionally, the role of financial advisors, digital platforms, and market information sources has become increasingly important in shaping investor preferences and decisions in the modern financial environment. Therefore, this study aims to conduct an analytical examination of the impact of ESG-based investment instruments on investors' portfolio decision-making process in Thoothukudi.

2. REVIEW OF LITERATURE

Friede et al. (2015) conducted a comprehensive meta-analysis of over 2,000 empirical studies to examine the relationship between Environmental, Social, and Governance (ESG) factors and financial performance. The study found that a majority of the research supports a positive or neutral relationship between ESG practices and financial returns, indicating that sustainable investments do not compromise profitability. The authors highlighted that ESG integration enhances long-term portfolio stability, reduces risk exposure, and improves corporate performance. The study further emphasized that investors are increasingly incorporating ESG criteria into their investment decisions due to growing awareness of sustainability issues and long-term value creation. However, the adoption of ESG-based instruments largely depends on investor awareness, understanding, and availability of reliable ESG information.

Baker et al. (2018) examined the role of green bonds as a major ESG-based financial instrument and analyzed their pricing, demand, and investor ownership patterns. The study found that investors are increasingly attracted to green bonds due to their environmental benefits and relatively stable returns. It also highlighted that institutional and socially conscious investors are more likely to include ESG-based instruments in their portfolios. The research indicated that ethical considerations, environmental awareness, and long-term sustainability goals significantly influence investor preferences. However, the study also noted that lack of awareness and limited availability of ESG products can restrict their adoption among retail investors.

Raut et al. (2021) explored the behavioural aspects influencing investment decisions of Indian investors, with a focus on psychological and cognitive factors. The study applied the Theory of Planned Behaviour and found that attitudes, subjective norms, and perceived behavioural control significantly affect investment decisions. It also emphasized that past experiences and behavioural biases play a crucial role in shaping investor preferences. The study highlighted that awareness, perception, and social influence are key determinants in the adoption of new investment instruments, including ESG-based products. It further pointed out that investors with higher financial literacy and exposure to modern financial concepts are more likely to consider sustainable investments in their portfolios.

3. RESEARCH GAP

The several studies have examined the relationship between ESG-based investment instruments and financial performance, sustainable investing, and investor behaviour, limited research has focused on their influence on the portfolio decision-making process of individual retail investors, particularly in the Indian context. Existing studies primarily emphasize institutional investors and developed markets, with comparatively little attention given to the combined effects of ESG awareness, investor perception, ethical values, financial literacy, and sustainability considerations on investment decisions. Furthermore, empirical evidence from semi-urban regions such as Thoothukudi District is scarce, where awareness of ESG investment products and sustainable investing practices may differ due to varying levels of financial literacy and access to investment information. Therefore, the present study seeks to bridge this gap by analytically examining the impact of ESG-based investment instruments on investors' portfolio decision-making process in Thoothukudi District, providing valuable insights for policymakers, financial institutions, and investment professionals to promote sustainable investment practices and enhance investor participation in ESG-based financial markets.

4. STATEMENT OF THE PROBLEM

In recent years, there has been a growing emphasis on sustainable and responsible investing, leading to the emergence of Environmental, Social, and Governance (ESG)-based investment instruments. These instruments aim to generate financial returns while promoting environmental protection, social responsibility, and ethical corporate governance. Despite their increasing global popularity, the adoption of ESG-based investment instruments among individual investors remains limited, particularly in semi-urban and developing regions. Revelli, C., & Viviani, J. L. (2015). One of the primary issues contributing to this situation is the lack of awareness and understanding of ESG concepts among investors. Many investors are still more familiar with traditional investment avenues and may not fully recognize the benefits and long-term value associated with sustainable investments. Additionally, ESG investing introduces non-financial considerations into the decision-making process, which may create complexity and uncertainty for investors. Investor perception also plays a significant role in influencing the adoption of ESG-based instruments. Factors such as risk perception, return expectations, ethical values, and trust in ESG ratings and disclosures can affect investors' willingness to include such instruments in their portfolios. Furthermore, limited availability of ESG investment options, lack of standardized information, and insufficient guidance from financial advisors may act as barriers to adoption. Riedl, A., & Smeets, P. (2017). Therefore, the problem addressed in this study is to analyze the impact of ESG-based investment instruments on investors' portfolio decision-making process in Thoothukudi. The study seeks to identify the level of awareness, examine investor perception, and analyze the key financial, behavioural, and technological factors influencing the adoption of ESG-based investments. Understanding these aspects is essential for promoting sustainable investment practices and enhancing investor participation in responsible financial markets.

5. RESEARCH QUESTIONS

RQ1: How do ESG-based investment instruments influence the portfolio decision-making process of investors in Thoothukudi District?

RQ2: What is the level of awareness and understanding of Environmental, Social, and Governance (ESG)-based investment instruments among investors in Thoothukudi District?

RQ3: What are the perceptions and attitudes of investors towards ESG-based investment options in Thoothukudi District?

RQ4: How do ethical values and sustainability considerations influence investors' portfolio decision-making regarding ESG-based investment instruments?

RESEARCH OBJECTIVES

To analyze the impact of ESG-based investment instruments on investors' portfolio decision-making process in Thoothukudi. To examine the level of awareness and understanding of ESG (Environmental, Social, and Governance) investment instruments among investors. To analyze investors' perception and attitude towards ESG-based investment options. To study the influence of ethical and sustainability considerations on investors' portfolio decisions.

6. NULL HYPOTHESIS

H01: There is no significant relationship between age of the respondents and Awareness & Understanding of ESG

H02: There is no significant relationship between gender of the respondents and Perception & Attitude towards ESG Investments

H03: There is no significant relationship between Occupation of the respondents and Impact on Portfolio Decision-Making

H04: There is no significant relationship between Area of residence of the respondents and Ethical & Sustainability Considerations

7. METHODOLOGY

The present study entitled “An Analytical Examination of the Impact of ESG-Based Investment Instruments on Investors’ Portfolio Decision-Making Process” adopts a descriptive research design to analyze investors’ awareness, perception, attitude, and decision-making behaviour towards Environmental, Social, and Governance (ESG)-based investment instruments in Thoothukudi District, Tamil Nadu. The study is based on both primary and secondary data. Primary data were collected from investors through a structured questionnaire, whereas secondary data were collected from academic journals, research articles, books, reports, and online sources related to ESG investing, sustainable finance, and investor behaviour. The study employed a convenience sampling technique for selecting respondents from investors residing in Thoothukudi District. A total of 275 respondents were selected for the study. The questionnaire consisted of demographic details and statements related to ESG awareness and understanding, perception and attitude towards ESG investments, portfolio decision-making factors, and ethical and sustainability considerations. The collected data were analyzed using Percentage Analysis, Independent Sample t-test, One-Way ANOVA, and Kruskal–Wallis Test with the support of SPSS software. Percentage analysis was used to understand the demographic profile of investors, while t-test, ANOVA, and Kruskal–Wallis tests were applied to examine the relationship between demographic variables such as age, gender, occupation, and area of residence with ESG-related investment perceptions and portfolio decision-making behaviour.

ANALYSIS AND INTERPRETATION

H01: There is no significant relationship between age of the respondents and Awareness & Understanding of ESG

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
I am aware of ESG (Environmental, Social, and Governance) investment concepts.	Between Groups	19.042	4	4.760	7.705	.000
	Within Groups	166.827	270	.618		
	Total	185.869	274			
I understand the features and benefits of ESG-based investment instruments.	Between Groups	16.600	4	4.150	5.766	.000
	Within Groups	194.310	270	.720		
	Total	210.909	274			
I am familiar with ESG-related financial products such as green bonds and ESG mutual funds.	Between Groups	14.941	4	3.735	4.190	.003
	Within Groups	240.680	270	.891		
	Total	255.622	274			
I have sufficient knowledge to evaluate ESG investment options.	Between Groups	5.196	4	1.299	1.229	.299
	Within Groups	285.349	270	1.057		
	Total	290.545	274			
	Within Groups	243.784	270	.903		
	Total	249.287	274			

Source: Primary Data

Interpretation

A One-Way ANOVA was conducted to examine whether respondents' age significantly influences their awareness and understanding of ESG (Environmental, Social, and Governance) investment concepts. The results indicate that the statement "I am aware of ESG (Environmental, Social, and Governance) investment concepts" has a significant difference among different age groups (F = 7.705, p = 0.000). Since the significance value is less than 0.05, the null hypothesis is rejected for this statement. This indicates that respondents' awareness of ESG investment concepts differs significantly across age groups. Similarly, the statement "I understand the features and benefits of ESG-based investment instruments" also shows a statistically significant difference (F = 5.766, p = 0.000). Therefore, the null hypothesis is rejected, indicating that respondents of different age groups vary significantly in their understanding of ESG investment instruments. The statement "I am familiar with ESG-related financial products such as green bonds and ESG mutual funds" also reveals a significant difference among age groups (F = 4.190, p = 0.003). Since the p-value is less than 0.05, the null hypothesis is rejected, suggesting that familiarity with ESG financial products varies significantly based on respondents' age. However, for the statement "I have sufficient knowledge to evaluate ESG investment options," the ANOVA result is not statistically significant (F = 1.229, p = 0.299). As the significance value is greater than 0.05, the null hypothesis is accepted, indicating that respondents' age does not significantly influence their perceived knowledge of evaluating ESG investment options.

H02: There is no significant relationship between gender of the respondents and Perception & Attitude towards ESG Investments

Factors	F	Sig.	t	df	Sig. (2-tailed)
ESG-based investments are beneficial for long-term financial growth.	.123	.726	-.988	273	.324
			-1.003	272.475	.317
I believe ESG investments contribute positively to society and the environment.	.038	.846	1.248	273	.213
			1.253	269.956	.211
I have a positive attitude towards investing in ESG-based instruments.	.037	.847	-1.249	273	.213
			-1.267	272.721	.206
ESG investments are as reliable as traditional investment options.	.091	.763	1.513	273	.131
			1.506	260.292	.133
I am interested in including ESG instruments in my investment portfolio.	.782	.377	.311	273	.756
			.310	263.209	.757

Source: Primary Data

Interpretation

The Independent Samples t-test results reveal that none of the perception and attitude variables show a statistically significant difference based on the gender of the respondents, as all p-values are greater than 0.05. Hence, the null hypothesis (H_{02}) is accepted. It can be concluded that gender does not have a significant influence on respondents' perception and attitude towards ESG investments. Both male and female respondents exhibit similar perceptions regarding the financial benefits, social and environmental contribution, investment attitude, reliability, and investment interest in ESG-based investment instruments.

H03: There is no significant relationship between Occupation of the respondents and Impact on Portfolio Decision-Making

ANOVA						
		Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
ESG factors influence my investment decisions.	Between Groups	25.099	5	5.020	6.241	.000
	Within Groups	216.377	269	.804		
	Total	241.476	274			
I consider ESG criteria while selecting investment options.	Between Groups	7.870	5	1.574	2.224	.052
	Within Groups	190.406	269	.708		
	Total	198.276	274			
ESG investments play an important role in my portfolio diversification.	Between Groups	6.378	5	1.276	1.767	.120
	Within Groups	194.167	269	.722		
	Total	200.545	274			
I prefer ESG-based investments over non-ESG investments.	Between Groups	4.665	5	.933	1.153	.333
	Within Groups	217.720	269	.809		
	Total	222.385	274			
ESG considerations affect my long-term investment strategy.	Between Groups	6.356	5	1.271	1.722	.130
	Within Groups	198.611	269	.738		
	Total	204.967	274			

Source: Primary Data

Interpretation

The One-Way ANOVA results reveal that occupation has a significant influence only on the extent to which ESG factors influence respondents' investment decisions. However, occupation does not significantly affect respondents' consideration of ESG criteria during investment selection, portfolio diversification, preference for ESG investments, or long-term investment strategy, as the p-values for these variables are greater than 0.05. Hence, the null hypothesis (H_{03}) is partially rejected. It is concluded that occupation significantly influences certain aspects of portfolio decision-making, particularly the influence of ESG factors on investment decisions, but it does not significantly affect the other dimensions of ESG-based portfolio decision-making.

H04: There is no significant relationship between Area of residence of the respondents and Ethical & Sustainability Considerations

Factors	Environmental concerns influence my investment decisions.	Social responsibility is important when choosing investment options.	Corporate governance practices affect my investment preferences.	I prefer investing in companies with strong ethical values.	Sustainability considerations influence my portfolio allocation.
Kruskal-Wallis H	.560	15.564	.286	1.751	.751
df	1	1	1	1	1
Asymp. Sig.	.454	.000	.593	.186	.386
a. Kruskal Wallis Test					
b. Grouping Variable: Area of residence					

Source: Primary Data

Interpretation

The Kruskal–Wallis H test results reveal that only the variable relating to social responsibility shows a statistically significant difference based on respondents' area of residence ($p = 0.000$). The remaining variables environmental concerns, corporate governance practices, ethical investment preference, and sustainability considerations do not show significant differences, as their p-values are greater than 0.05. Hence, the null hypothesis (H_{04}) is partially rejected. It can be concluded that the area of residence significantly influences respondents' perceptions of social responsibility in investment decisions, whereas it does not significantly influence other ethical and sustainability considerations related to ESG investments.

8. CONCLUSION

The present study, "Investor Perception towards ESG-Based Investment Instruments and Their Impact on Portfolio Decision-Making," examined investors' awareness, perception, attitude, and behavioural responses towards Environmental, Social, and Governance (ESG) investment instruments. The findings reveal that ESG investing is gradually gaining recognition among investors as a sustainable investment approach that not only offers financial returns but also promotes environmental protection, social responsibility, and sound corporate governance. The study found that respondents possess a moderate to high level of awareness regarding ESG investment concepts, although their understanding of specific ESG financial products and their ability to evaluate ESG investment options require further improvement. Investors generally exhibited a positive perception and favourable attitude towards ESG-based investments, recognizing their potential for long-term financial growth, sustainable development, and responsible investing. The analysis also revealed that ESG factors significantly influence investors' portfolio decision-making, particularly in terms of investment decisions, while demographic variables such as age and occupation showed significant differences for certain dimensions of ESG awareness and portfolio decisions. However, gender and area of residence had limited influence on respondents' perceptions and attitudes towards ESG investments, indicating that ESG investment preferences are becoming increasingly independent of these demographic characteristics. Furthermore, ethical values, environmental concerns, corporate governance, and sustainability considerations were found to play an important role in shaping investors' attitudes towards responsible investing. Investors increasingly recognize that sustainable business practices contribute to long-term value creation and reduced investment risk.

Nevertheless, the study identified the need for greater investor education, improved financial literacy, and wider dissemination of information regarding ESG investment products to encourage broader adoption. Overall, the study concludes that ESG-based investment instruments have a positive influence on investors' portfolio decision-making and represent an emerging investment trend in the financial market. Strengthening investor awareness, enhancing transparency in ESG disclosures, improving regulatory support, and promoting financial education will further encourage responsible investment practices. The findings provide valuable implications for investors, financial institutions, policymakers, asset management companies, and researchers in developing effective strategies to promote sustainable and socially responsible investment practices. Ultimately, the study contributes to the growing body of literature on sustainable finance and highlights the importance of integrating ESG principles into investment decision-making for achieving both financial performance and long-term societal well-being**.**

References

1. Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. Journal of Sustainable Finance & Investment, 5(4), 210–233.
2. Baker, M., Bergstresser, D., Serafeim, G., & Wurgler, J. (2018). Financing the response to climate change: The pricing and ownership of U.S. green bonds. Journal of Financial Economics, 142(2), 561–581.
3. Revelli, C., & Viviani, J. L. (2015). Financial performance of socially responsible investing (SRI): What have we learned? A meta-analysis. Business Ethics: A European Review, 24(2), 158–185.
4. Riedl, A., & Smeets, P. (2017). Why do investors hold socially responsible mutual funds? The Journal of Finance, 72(6), 2505–2550.
5. Raut, R. K., Das, N., & Kumar, R. (2021). Extending the theory of planned behaviour: Impact of past behavioural biases on the investment decision of Indian investors. Asian Journal of Business and Accounting, 14(1), 35–68.
6. Gillan, S. L., Koch, A., & Starks, L. T. (2021). Firms and social responsibility: A review of ESG and CSR research in corporate finance. Journal of Corporate Finance, 66, Article 101889.
7. Global Sustainable Investment Alliance. (2023). Global sustainable investment review 2022. https://www.gsi-alliance.org
8. Khan, M., Serafeim, G., & Yoon, A. (2016). Corporate sustainability: First evidence on materiality. The Accounting Review, 91(6), 1697–1724. https://doi.org/10.2308/accr-51383