







“ESG or financial metrics? What retail investors really look for in decision-making”

AUTHORS	Suresh Gopal   Saravanakrishnan V.  Elangovan N.  
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Elangovan N., 2025

Suresh Gopal, Ph.D., Associate
Professor, Symbiosis Institute of
Business Management, Bengaluru
Campus, Symbiosis International
(Deemed University), India.

Saravanakrishnan V., Ph.D., Associate
Professor, CHRIST University, India.

Elangovan N., Ph.D., Professor,
Business Management Department,
CHRIST University, India.
(Corresponding author)



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Suresh Gopal (India), Saravanakrishnan V. (India), Elangovan N. (India)

ESG OR FINANCIAL METRICS? WHAT RETAIL INVESTORS REALLY LOOK FOR IN DECISION-MAKING

Abstract

With the increasing global emphasis on responsible investing, this study explores the tradeoff between ESG and traditional financial metrics in shaping the investment decisions of retail investors in India. A within-subject experimental design was employed at Christ University, India, involving an initial sample of 75 participants, with 55 completing all three experiment rounds. The sample respondents evaluated masked stock profiles across three rounds, where updated financial and ESG information on masked stock was provided at each round. The results indicate that though ESG metrics are getting attention among retail investors, financial metrics are still the main determining factor for investment. It was found that ROE (52 responses), 3-year CAGR Net Profit (36 responses), and P/E ratios (48 responses) are the most influencing factors to make investment decisions. Similarly, ESG factors (Governance, Environmental, and Sustainability scores) are also frequently mentioned, with 74 citations. Retail investors mainly consider profitability and view ESG as risk-mitigating or neutralizing factors. While evaluating the ESG factors, retailers mainly look at the firm's environmental concerns, followed by governance and social factors. This result contrasts with the previous studies in this domain, where the literature emphasized governance factors more than environmental factors. These results highlight the integration of ESG elements, as retail investors remain with favorable returns and sacrifice sustainability. Further, this study spots the need for better and quantifiable ESG performance reports to consider alternative data comparable to financial data for better investment decisions.

Keywords

ESG, financial metrics, retail investors, investment decision, sustainability, behavioral finance

JEL Classification

G11, G40, G41

INTRODUCTION

The capital market plays a significant role in transforming a sustainable world and economy. Investors seriously concentrate on environmental, social, and governance (ESG) elements to achieve sustainability by recognizing them as critical indicators of firms' long-term performance. Sustainable or ESG investment is a new phenomenon in the investment world beyond traditional investment for wealth maximization practices. Hence, investors have shifted their sentiment towards sustainable investing in recent years. Consequently, corporations have changed their communication practices with comprehensive reports, including sustainability reports. Further, the growing expectation that ESG investment may lead to sustainable goals has increased the ESG-focused stocks among investors.

Around the world, investors are interested in investing in ESG-based assets, accounting for more than 25% of total investment (Raut et al., 2023; Sultana et al., 2018). A significant transformation in investor attitudes toward sustainable investing mainly drives this global trend. Further regulatory norms also demand transparency and ESG practices in firms' core business strategies. This transparency facilitates

investors in making informed decisions while evaluating the organization's sustainable practices and growth. This implies the significance of sustainability in investment decision-making.

Institutional investors understand the potential financial impact of many factors and are increasingly incorporating them into their investment strategies. One such factor is the growing appreciation of the company's ESG practices to mitigate hazards, relevant marketing, and sustainable growth strategies. Further, enough evidence indicates that ESG factors are considered significantly while making investment decisions (Pedersen et al., 2021; Garefalakis & Dimitras, 2020). Furthermore, corporations are also considering ESG integration in their business strategies, and the stock associated with these companies provides sustainable returns to investors. However, in a study, EUROSIF (2023) stated that institutional investors are the main drivers behind ESG investment. Conversely, some studies illustrate that investors consider ESG factors to make their portfolio meet their ESG goals, and some think ESG stocks give long-term returns. As the evolving global dynamic economies, the concept of risk has shifted from traditional to more ESG-related. Hence, Investment decisions are vital for investors and investment advisors to pick the right stock. However, they find it difficult to make investment decisions (Sood et al., 2023) that fulfill financial and ESG goals.

Despite integrating ESG factors in investment strategies by institutional investors and its impact on the global investment landscape, many areas remain to be explored. For example, many studies have examined the importance of ESG factors in investment decisions, but primarily by leaving out the traditional financial metrics. It is crucial to understand how they make a tradeoff between financial metrics and ESG elements so that the true significance of ESG factors on investment decisions can be traced. Further, the retail investors, to which the ESG factors are integrated over and above the financial metrics while making investments, are understudied. As environmental, social, and governance considerations increase prominence in the investment landscape, it is essential to explore the extent to which investors consider these factors in their investment decision-making processes.

1. LITERATURE REVIEW

The previous section laid the foundation by highlighting the importance of ESG metrics in driving investors' investment strategies. With this fundamental understanding, this literature review critically examines the investor's decision-making process and the factors affecting their decision, mainly focusing on retail investors. This section focuses on the studies that highlight factors considered while making investment decisions, precisely how ESG factors are weighed against traditional financial metrics.

The investment decision is a process that involves selecting the right stock from the various stock markets. Per the traditional finance theory, investors are rational and make decisions purely based on their knowledge and expectations. On the other hand, in behavioral economics theory, investors' psychological factors and cognitive errors describe their investment decision-making process. Transitioning from this theoretical foundation

to the practical, traditionally, investors made decisions by considering risk, return, and liquidity. However, with growing interest in ESG, they have also garnered increasing attention to ESG factors (Von Wallis & Klein, 2015).

At the same time, around the world, investors differ in their perception of integrating ESG factors into their investment decisions (Eccles et al., 2017; Maiti, 2020). Investors generally seek good financial returns and non-financial benefits like social and environmental benefits. It has been confirmed in many studies (Perz-Gladish et al., 2012). It is highlighted that ESG factors are not considered as seriously as financial metrics. In some contexts, traditional investment strategies perform better than ESG-integrated investment strategies regarding risk and returns (Ballesterio et al., 2012). Companies with the lowest ESG scores or entire industries performed better than the average market returns. This finding has resulted in a widespread negative perception of ESG factors and shareholders' value; hence, investors hesitate to recognize

it in their investment decisions (Kostsantonis et al., 2016). However, a few earlier studies argued that companies with above-average and high ESG scores outperform their competitors and give higher returns (Cicchello et al., 2023; Giese et al., 2019; Landi & Sciarelli, 2019). Understandably, the above discussion led to confusion about whether the ESG integration in the investment is sound. Studies also indicated that ESG integration potentially unnecessarily burdens the investment decision process (Van Duuren et al., 2016). The problem with integrating ESG metrics into the investment decision process is quantifying ESG performance in terms of monetary value (Young-Ferris & Roberts, 2021). Hence, in most cases, retail investors ignore the ESG performance while evaluating the investment options as quantifying both aggregate and disaggregate ESG performance in monetary value is difficult.

Further, investors use ESG factors as a tool for risk mitigation techniques rather than as a tool for shareholder value (Van Duuren et al., 2016; Przychodzen et al., 2016). Among the three ESG factors, governance criteria are the most influencing metrics of retail investors' investment decisions, followed by environmental and social factors (Sood et al., 2023). The ESG information influences the investment decisions of retail investors in Tunisia, and the governance and social factors influence more than the environmental factors (Khemir et al., 2019). Further governance metrics have higher priority among investors than social and environmental metrics to ensure the required rate of returns (Vintila & Gherghina, 2012).

To conclude, the studies highlighted the possibility of higher returns from the higher ESG-scored companies (Cicchello et al., 2023; Giese et al., 2019), the tangible valuation of ESG performance is a concern for the investors (Young-Ferris & Roberts, 2021; Petelczyc, 2022). Further ESG performance and its impact on actual returns also concern investors (Ballesterio et al., 2012). Hence, this disagreement called for a deeper investigation into how retail investors integrate ESG factors into their investment decisions, a question that this study aims to answer. This study explores the trade-off between ESG and traditional financial metrics in shaping the investment decisions of retail investors in India.

2. METHODOLOGY

Scholars widely adopt experimental procedures in behavioral finance to examine investors' behavior. The experimental method is most appropriate due to its advantage in its ability to get insight into investors' attitudes and behavior by manipulating the controlled variables (investment decision-making criteria) as required to detect the significance of the response variable (Investment Decision).

Using finance students as samples is common in behavioral finance studies (Ashraf & Merunka, 2017). The participants of the experiments were Christ University, Bengaluru, India, master's degree (Finance specialization) students recruited through personal invitations. Initially, 75 respondents participated in the first round of the experiment, but during the second and third rounds of experiments, only 67 and 55 respondents participated. Hence, the final sample size is 55 respondents. From the initial sample size of 75 to the final sample, 55 indicates 27% of attrition, which is acceptable for a longitudinal study. The total observations are 165 responses (55 respondents x 3 rounds), which is good enough ($Power = 80\%$, $\alpha = 0.05$, $\eta^2\rho = 0.05$) to detect the effect in behavioral studies (Brysbart, 2019). Participants were informed that participation was voluntary, anonymity would be maintained, and written consent was obtained. Participants received INR 100 for each experiment stage as a welcome reward for their time and efforts. The study's purpose was not fully disclosed to avoid bias in the decision-making process, but they were informed that the study focuses on investment preferences. At the end of the study, participants were fully debriefed on its purpose.

After providing the necessary details to the committee, this study was approved by the institute's research conduct and ethics committee, CHRIST University, India, under approval number CU: RCEC/165/04/24.

2.1. Experimental procedure

The main objective of this study is to examine whether retail investors consider ESG performance or traditional investment decision-making

ing metrics precedence. This study followed the within-subject experiment procedure by considering individual differences in decision-making (Axt et al., 2018). The within-subject design experiment facilitates the comparison of the decisions between the rounds. The respondents want to make investment decisions in three rounds of experiments conducted at fifteen-day intervals. They were assigned with respondent ID to track their investment decision across the rounds. In each round, the participants receive the ESG and financial performance-related information with some modifications.

The first-round experiment is considered a baseline for comparison. Intended to avoid industry-specific responses and ensure that the investment decision is purely based on ESG and financial metrics, this study used three hypothetical stocks from the same industry. Participants received the initial PE ratio, Return on Equity, and 3-year CAGR net profit as financial metrics and environmental, sustainable, and governance score as ESG metrics for three hypothetical companies. The participants were asked to allocate the endowed virtual amount of INR 10,00,000 among the stocks and provide a rationale for the decision based on the metrics given. Their decision and rationale were recorded immediately.

The second round of the experiment is conducted two weeks after the first round to minimize the participant's learning effects and fatigue. In the second round of the experiment, updated financial and ESG metrics reflected the new development of the respective companies. For the solar company, financial metrics were improved, but ESG metrics declined. Similarly, the ESG metrics were improved for renewable energy companies, and there was no change in financial metrics. Finally, ESG and financial metrics were improved for power energy companies (for a detailed experimental procedure, refer to Annexure). Then, they asked to re-evaluate their portfolio, adjust it if required, and provide the rationale for any changes. The modified portfolio amounts and rationale were recorded.

The final and third rounds of the experiment are conducted two weeks after the second round with the same participants. They were provided with

their last round portfolio details, the latest company developments, and updated financial and ESG metrics details. In this round, modified financial performance metrics (reduced) were made, and no changes in ESG metrics were made for the solar company. Similarly, improved financial metrics data were provided for renewable energy companies. At the same time, increased operational cost information was provided. Finally, improved financial metrics and stable ESG metrics data of power energy companies were provided to the participants. The participants were asked to make any changes based on the updated information and the latest developments in the company. Their decision was recorded to identify which factor, i.e., Financial and ESG, is significantly considered for investment decisions.

After completing all three rounds of experiments, participants were debriefed after completing a risk attitude and ESG awareness questionnaire. All the participants were rewarded with INR 100 for each round of the experiment for their efforts and time, as mentioned at the beginning of the experiment.

2.2. Experimental control and validity measures

By following Aczel et al. (2018), this study has adopted the within-subject experiment method to control for individual differences. This study has conducted experiment rounds with 15-day intervals, which will mitigate the risk of confounding variables influencing the outcome (Pei et al., 2018). Further, this interval facilitates the participants in making investment decisions with fresh perspectives and reduces the effect of learning on their decisions (Charness et al., 2012). To control the information order effect, the information and companies provided to the participants were randomized (Athey & Imbens, 2017). The participants were not explicitly informed about the study objective but were told to make the investment decision based on the information provided to them. This approach ensured that their investment decisions were purely based on the information.

2.3. Experiment document

The experiment documents (refer to the Appendix) were given to the participants. The first part of the

document is a brief introduction to the study and instructions about the procedure to be followed in the investment decision sheet. The financial and ESG metrics are given in the second part, and the final part of the document is to enter the investment decision.

2.4. Statistical tools

SPSS version 25 was used for the statistical analysis. Descriptive statistics were used to summarize investment trends across rounds. Repeated measures ANOVA was applied to assess the impact of varying financial and ESG metrics on retail investors' decisions. Additionally, Mauchly's Test of Sphericity and adjustments like Greenhouse-Geisser corrections were used to ensure the validity of the statistical findings. The qualitative text analysis was done using MS Excel. The occurrence of the words was calculated by manually coding the open-ended statements given by the respondents, who were reasoning out the investment decision.

3. RESULTS

The data analysis focuses on retail investors' decisions to invest in energy sectors, Solar, Renewable Energy, and Power Energy, across three rounds of company-specific information dissemination. The mean investment values across rounds indicate variations in investor preferences. For Solar, the mean investments decreased from 263,678.57 in Round 1 to 174,064.29 in Round 3, suggesting a decline in investor confidence or interest as more information was provided. In contrast, invest-

ments in Renewable Energy and Power Energy sectors generally increased, with Renewable Energy rising from 374,721.43 in Round 1 to 415,950.00 in Round 3 and Power Energy increasing from 346,620.00 in Round 1 to 394,641.43 in Round 3. The standard deviations across rounds indicate that investment decisions varied widely among investors, reflecting different responses to the information provided (Table 1).

Figure 1 shows a comparative chart of company investment across the rounds. The chart clearly shows that investment in Solar companies declined in the subsequent rounds. The renewable energy sector saw an investment increase linearly across the rounds. Power energy investments showed an increasing trend but did not increase linearly.

A repeated measures ANOVA was conducted to evaluate the effect of different information provided in the three rounds on the investment decisions of three companies. The analysis assessed the main effect of time, the main effect of intervention type, and the interaction between time and intervention type.

The multivariate tests show significant effects of the rounds on investment decisions. The Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root values for the round effect all indicate a significant impact ($p < .01$) on investment decisions, with a moderate partial eta squared value of 0.303. This suggests that the rounds of information dissemination significantly influenced investment decisions, accounting for approximately 30.3% of the investment variance (Table 2).

Table 1. Descriptive statistics for investment values

Measure	Round	Mean	SD	SE	95% CI	
					LB	UB
Solar	1	263678.571	138075.1	18451.062	226701.816	300655.327
	2	209142.857	143442.7	19168.335	170728.655	247557.060
	3	174064.286	136384.5	18225.148	137540.272	210588.299
Grand Mean		215628.571		15393.994	184778.318	246478.825
Renewable Energy	1	374721.429	128856.4	17219.154	340213.473	409229.384
	2	392785.714	130693.2	17464.612	357785.850	427785.579
	3	415950.000	157541.4	21052.355	373760.137	458139.863
Grand Mean		394485.714		15713.529	362995.099	425976.329
Power Energy	1	346620.000	162527.6	21718.662	303094.828	390145.172
	2	378355.714	155235.9	20744.268	336783.272	419928.157
	3	394641.429	135219	18069.396	358429.550	430853.307
Grand Mean		373205.714		18025.137	337082.532	409328.896

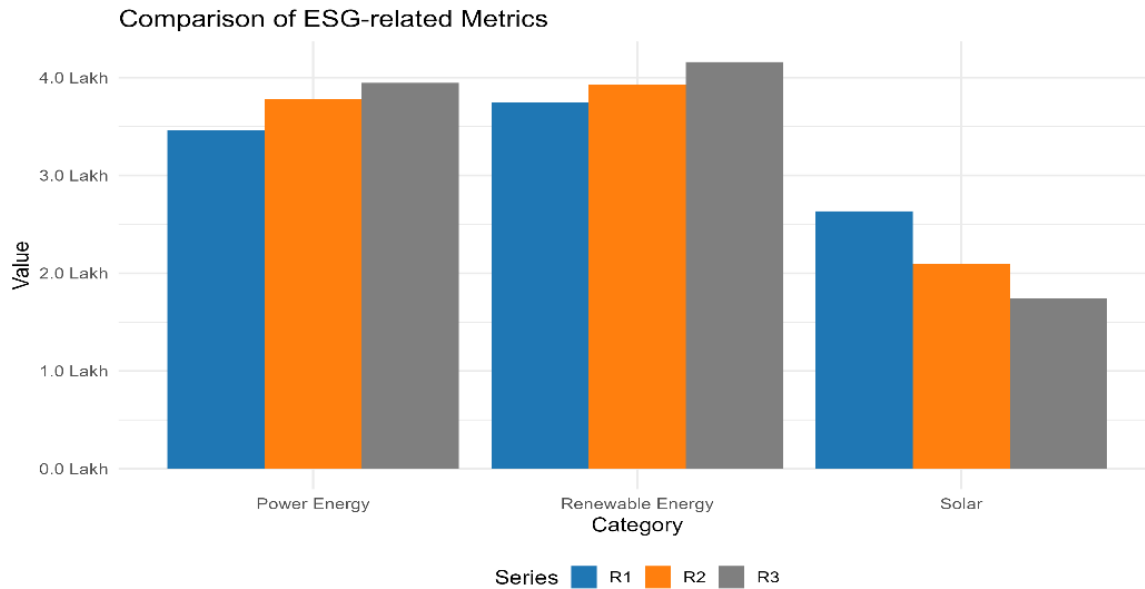


Figure 1. Chart showing investment in companies at different rounds

Table 2. Multivariate test results

		Effect	Statistic	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Between Subjects	Intercept	Pillai's Trace	0.997	6212.892	3.000	53.000	0.000	0.997
		Wilks' Lambda	0.003	6212.892	3.000	53.000	0.000	0.997
		Hotelling's Trace	351.673	6212.892	3.000	53.000	0.000	0.997
		Roy's Largest Root	351.673	6212.892	3.000	53.000	0.000	0.997
Within Subjects	Round	Pillai's Trace	0.303	3.623	6.000	50.000	0.005	0.303
		Wilks' Lambda	0.697	3.623	6.000	50.000	0.005	0.303
		Hotelling's Trace	0.435	3.623	6.000	50.000	0.005	0.303
		Roy's Largest Root	0.435	3.623	6.000	50.000	0.005	0.303

Mauchly's Test of Sphericity indicates that the assumption of sphericity was violated for all three investment sectors (Solar, Renewable Energy, and Power Energy), as the test results were significant ($p < .05$). Therefore, the degrees of freedom were adjusted using the Greenhouse-Geisser and Huynh-Feldt corrections, which were applied to the tests of within-subjects effects (Table 3).

The within-subjects effects test results reveal that the rounds significantly affected investment deci-

sions in the Solar ($p = .000, \eta^2 = .184$) and Power Energy sectors ($p = .011, \eta^2 = .079$), indicating that changes in company-specific information had a substantial impact on these sectors. However, the effect on Renewable Energy was marginal ($p = .065$), suggesting a less pronounced impact of the information rounds on this sector (Table 4).

The tests of between-subjects effects highlight that the intercept was significant for all sectors, with particularly high F-values for Renewable Energy

Table 3. Mauchly's test of sphericity

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Solar	.680	20.854	2	.000	.757	.774	.500
Renewable Energy	.807	11.605	2	.003	.838	.861	.500
Power Energy	.751	15.432	2	.000	.801	.821	.500

Note: H0: The error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

Table 4 Within-subjects effects

Within-Subjects Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's Trace	0.204	4.133	6.000	218.000	0.001	0.102
Wilks' Lambda	0.797	4.318 ^a	6.000	216.000	0.000	0.107
Hotelling's Trace	0.252	4.500	6.000	214.000	0.000	0.112
Roy's Largest Root	0.244	8.878 ^b	3.000	109.000	0.000	0.196

Note: a. Exact statistic. b. The statistic is an upper bound on F that yields a lower bound on the significance level.

Table 5. Tests of between-subjects effects

Source	Measure	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	Solar	7811274377142.858	1	7811274377142.858	196.205	.000	.781
	Renewable Energy	26143988434285.715	1	26143988434285.715	630.253	.000	.920
	Power Energy	23399460869485.715	1	23399460869485.715	428.686	.000	.886
Error	Solar	2189649462857.143	55	39811808415.584			
	Renewable Energy	2281494445714.287	55	41481717194.805			
	Power Energy	3002127469714.287	55	54584135812.987			

Note: Transformed Variable: Average.

($F = 630.253$, $p = .000$) and Power Energy ($F = 428.686$, $p = .000$). This indicates a strong overall effect of the company-specific information on investment decisions across all rounds, with a substantial amount of variance explained ($\eta^2 > .78$).

From the result presented in Table 5, it can be understood that retail investors' investment decisions in the energy sectors were significantly influenced by the specific information provided about companies in each round. While investor confidence in the Solar sector declined as more information was disclosed, the opposite trend was observed for Renewable Energy and Power Energy, where investments increased over time. These findings suggest that the content and nature of the information provided played a critical role in shaping investment behavior, with investors possibly perceiving Solar energy companies less favorably over time while finding Renewable and Power Energy companies increasingly attractive. The significant within-subjects effects indicate that the tim-

ing and progression of information dissemination were crucial in determining investment choices, underlining the importance of strategic communication in influencing investor behavior.

3.1. Qualitative analysis of decision criteria

Each company exhibited distinct trends across the three rounds of investment decision-making, reflecting evolving investor priorities (Table 6). For Power Energy Ltd, investors initially favored its balanced metrics, decent growth, and sustainability focus in Round 1. By Round 2, a company's improved cost efficiency was acknowledged, although concerns about market competition surfaced. By Round 3, its consistent growth and improved CAGR solidified investor confidence. Solar Ltd started strong in Round 1 with high ROE and robust profit growth, but by Round 2, opinions were mixed due to supply chain issues and rising costs, though some investors noted its

Table 6. Key decision-making factors

Company	Round 1	Round 2	Round 3
Power Energy Ltd	Balanced metrics Decent growth Sustainability	Improved cost efficiency Market competition concerns	Consistent growth Improved CAGR
Solar Ltd.	High ROE Strong profit growth	Supply chain issues Increased costs Long-term potential	Mixed views: Overvalued vs. Improved sales
Renewable Energy Ltd.	Low P/E ratio High sustainability scores	New product launch Improved environmental scores	Financial improvements Cost-efficiency programs

long-term potential. By Round 3, the company divided opinions further; while some investors viewed it as overvalued due to its high P/E ratio, others appreciated its improved sales and ROE. Renewable Energy Ltd was initially favored in Round 1 for its low P/E ratio and high sustainability scores. In Round 2, the company's new product launch and enhanced environmental scores received a positive reception. By Round 3, the company gained further favor with significant financial improvements and cost-efficiency programs. Round-by-round analysis revealed that initial decisions were driven by a balance of financial metrics and ESG scores, with a common diversification strategy. As rounds progressed, investors became more responsive to specific company developments, focusing more on P/E ratios, environmental scores, and cost efficiency. By the final round, investor decisions displayed greater sophistication, weighing short-term financial strains against long-term growth prospects and emphasizing profitability improvements and cost-efficiency strategies.

Decision Factors in Table 7 revealed that ROE and P/E Ratio are the most frequently cited fac-

tors, with 52 and 48 mentions, respectively. This underscores their importance in traditional financial analysis. 3-year CAGR Net Profit is the third most cited factor (36 mentions), indicating a strong focus on growth trends. ESG factors (Governance, Environmental, and Sustainability scores) are also frequently mentioned, with 74 citations. This implies the importance of non-financial metrics in financial decisions. New Product/Collaboration and Cost Efficiency are cited less frequently but still play a role in decision-making, particularly in later rounds. The remarks ("High," "Medium," or "Low-Medium") in the table were assigned based on the frequency of citation, reflecting the relative emphasis investors placed on each factor during decision-making. Factors with higher frequencies, such as ROE and P/E Ratio, were deemed critical ("High") due to their consistent importance across investment rounds. In contrast, factors with fewer citations, like New Product/Collaboration and Cost Efficiency, were marked as "Low-Medium," indicating they were considered but not as influential in the overall decision-making process. This classification helps highlight investors' priorities when evaluating financial and ESG metrics.

Table 7. Frequency of cited decision factors

Factor	Frequency of Citation	Remarks
ROE	52	H
P/E Ratio	48	H
3-year CAGR Net Profit	36	MH
Governance Score	28	M
Environmental Score	24	M
Sustainability Score	22	M
New Product/Collaboration	12	LM
Cost Efficiency	10	LM

Note: H denotes High; MH denotes Medium-High; M denotes Medium; LM denotes Low-Medium.s

Table 8. Observed investor behaviors

Behavior	Description	Frequency
Consistent Strategy	Regardless of new information, investors consistently prioritized the same financial or ESG factors across all rounds.	18
Adaptive Strategy	Investors adjusted their decisions by incorporating new financial or ESG data as it became available.	34
Single Metric Focus	Decisions were based mainly on one key factor, such as a financial metric like ROE or an ESG component.	7
Multi-factor Analysis	Investors considered a combination of financial and ESG metrics to make well-rounded decisions.	41
Long-term Perspective	Focused on the potential long-term benefits of financial metrics or ESG performance, ignoring short-term fluctuations.	25
Short-term Reaction	Investors responded quickly to immediate financial or ESG performance changes, adjusting decisions accordingly.	20

Analyzing the Investor Behaviors in Table 8, it is found that Multi-factor Analysis is the most common behavior (41 instances), suggesting that most investors consider a range of factors rather than relying on a single metric. Adaptive Strategy (34 instances) is more common than Consistent Strategy (18 instances), indicating that investors are generally responsive to new information and changing circumstances. Long-term Perspective (25 instances) is slightly more prevalent than Short-term Reaction (20 instances), but the relatively close numbers suggest a balance between these two approaches. Single Metric Focus is the least common behavior (7 instances), reinforcing that most investors use a more comprehensive approach.

4. DISCUSSION

This study compared the influence of Environmental, Social, and Governance (ESG) factors on retail investors' decision-making to traditional financial metrics. The study results indicate that ESG factors are gaining significance, but traditional financial metrics remain essential metrics when making investment decisions among retail investors in India. This has important implications for corporations as ESG factors have gained attention among investors. Oprean-Stan et al. (2020) state that firms must incorporate ESG factors in their strategies and corporate reporting.

While ESG is considered, it often does not weigh as heavily in the final decision-making. The retail investor, however, makes their decision in investment based on the financial metrics. The ESG factors are not given more weightage in the investment selection. The result could help investors understand the relative importance of ESG factors. Traditional financial metrics can help make informed decisions that align with risk tolerance and values. Investors should understand the relative importance of ESG factors for their investment decisions (In et al., 2019; Pompella & Costantino, 2023). The study's results indicate that ROE and the P/E ratio were the most critical factors across all investment rounds, outweighing the individual ESG component. This implies that investors prefer ROE and the P/E ratio for investment over any other metrics. The companies should continue to focus on financial performance and incorporate ESG initiatives to enhance their reputation and at-

tract socially responsible investors. A similar implication (Almeyda & Darmansya, 2019; Hughes et al., 2021) has been discussed in their studies.

The result indicates that the investor acknowledged the importance of ESG information but made minimal adjustments based on the ESG factors alone. This has an essential implication for investor insights; an investor would understand the relative ranking between traditional financial metrics and ESG factors to invest in such a way as to balance the financial return along with ethical considerations. Minkkinen et al. (2022) discussed the relative ranking between traditional financial metrics and ESG factors regarding investment decisions to align the financial returns with ethical considerations. The result implies that the investors invest mainly for a return, and therefore, financial metrics are a relatively more obvious gateway to expected future performance. The result has important implications, such as the better availability of ESG information in a better comparable form, which can enhance the quality of data so that governments can support ESG investing by developing standardized ESG reporting frameworks. The government should develop a standardized ESG reporting framework (Chopra et al., 2024).

Among the ESG components, environmental factors were shown to have a stronger influence on investment decisions than social or governance elements. This finding is exciting given the increasing public awareness of environmental issues such as climate change and resource scarcity. The focus on environmental aspects may reflect the broader market trend where companies with strong environmental performance are seen as having better long-term sustainability, thus presenting lower risks. The result could be used to inform that governments could promote sustainable investing through policies directing companies to adopt environmentally friendly practices and disclose their environmental performance. Liu et al. (2024) also discussed adopting friendly environmental practices to be disclosed.

From the result, it can be perceived that the solid environmental aspects may lead to better long-term sustainability and lower risk. There are many cases where companies have been shut down due to environmental issues. This results in a compa-

ny following strong environmental aspects, which leads to potentially strong growth. These findings are consistent with the previous studies (Ha et al., 2023; Doni & Fiameni, 2023). Further, we draw that the emphasis on environmental factors can also be traced back to an increasing public awareness of environmental concerns. Companies with higher environmental scores protect the environment while doing business. In line with Schwörer (2024) results, environmental factors increase public awareness.

However, the weight given to environmental factors was still secondary to financial metrics, suggesting that while investors are aware of environmental risks, they are not willing to sacrifice financial performance for better environmental outcomes. This trend may shift as regulatory pressures increase and more comprehensive ESG reporting becomes normal. However, retail investors seem hesitant to fully integrate ESG into their financial decision-making frameworks. Moss et al. (2024) have argued that ESG reporting is becoming the norm, but retail investors still hesitate to make financial decisions based on ESG factors. It is evident from the result that governance factors are considered and weighed more in financial decision-making than environmental factors. Investors prefer the governance factor because it indicates how the companies report their finances and how they are managed. The governance score also helps investors select a good or bad company for their portfolio. This implies that investors prefer the governance factor over the environmental factor. These findings are in harmony with the past studies done by Lopez-de-Silanes et al. (2024).

In contrast, the findings show that social factors are the least preferred when making investment decisions over environmental and governance factors. The result implies that retail investors place less emphasis on social factors such as employee engagement, diversity, and community engagement. In fact, retail investors do not worry about these factors to ensure the profitability of their investment. This relative disinterest might be due to the perceived difficulty in quantifying the financial impact of these components, making them harder to integrate into traditional investment strategies. Similar to these expectations are the results of the study by Jeffers et al. (2024).

From the study, it is understood that the lack of reliable data on social performance and understanding how it can contribute to the long-term growth of a company's stability may lead to a lower priority to use social factors for investment decisions. The companies should develop strategies and publish audited data on social factors that can bring awareness and confidence among retail investors. This result also aligns with previous studies (Sharma et al., 2022). One of the most notable aspects of the study was the role of the content and format of the information provided in shaping investor decisions. The critical implication of the result is that corporates should consider the content and format of their financial and ESG disclosures to communicate their performance to investors effectively. Similar findings and implications are discussed in the study by Caglio et al. (2019).

The repeated ANOVA measures revealed significant effects of the timing and nature of information disclosure on investment choices, highlighting the importance of how ESG and financial data are communicated to investors. Investors responded more favorably to more straightforward, more direct presentations of financial metrics and, to a lesser extent, to ESG metrics presented in a more tangible and comparable format. This finding has significant implications for corporate communication strategies. Companies that provide transparent and accessible ESG data are more likely to attract and retain investors, particularly as the demand for socially responsible investing grows. Improved standardization of ESG reporting could help bridge the gap between financial and non-financial metrics, making it easier for investors to weigh ESG factors in their decision-making processes. Investors can make more informed decisions by understanding the information presented in the format (Giese et al., 2020).

5. IMPLICATIONS FOR FUTURE RESEARCH AND PRACTICE

The findings from this study highlight the need for better integration of ESG factors into retail investment processes. While ESG awareness is growing, retail investors still prioritize financial returns,

suggesting that current ESG metrics may not be perceived as robust or reliable enough to serve as primary decision drivers. Future research should focus on developing tools and methodologies that make ESG performance easier to evaluate and directly comparable to financial metrics. This could help shift the balance toward more sustainable investing practices. Similarly, many studies have been done (Kotsantonis & Serafeim, 2019; Weston & Nnadi, 2021). Moreover, the study indicates that regulatory bodies have a potential role in enhanc-

ing the clarity and standardization of ESG reporting. As governments worldwide emphasize sustainable business practices, standardized ESG metrics could become essential to investment decision-making. For companies, improving and transparently reporting their ESG performance may become vital to their market strategies, potentially influencing their access to capital and investor relations. These findings are in harmony with past studies (Bahadori et al., 2021; Weston & Nnadi, 2021; La Rosa & Bernini, 2022).

CONCLUSION

This study explored the tradeoff between ESG and Traditional financial metrics in shaping the investment decisions of retail investors in India. Using a within-subject experimental design, this study examined how retail investors prioritize the ESG and financial metrics while evaluating the stocks. The results highlighted that while ESG metrics are getting attention, financial metrics such as ROE, P/E ratio, and 3-year CAGR are the primary parameters for making investments. Retail investors appear cautious in fully integrating ESG considerations into their decision-making, partly due to these factors' complexity and perceived intangibility. The findings underscore the need for improved ESG reporting standards and tools to help investors understand and utilize non-financial information in their investment strategies. As the market for ESG investment grows, so will the importance of creating a more informed and balanced decision-making process that integrates financial performance and sustainable business practices.

AUTHOR CONTRIBUTIONS

Conceptualization: Suresh Gopal, Saravanakrishnan V., Elangovan N.

Data curation: Saravanakrishnan V., Elangovan N.

Formal analysis: Suresh Gopal, Elangovan N.

Investigation: Suresh Gopal, Saravanakrishnan V., Elangovan N.

Methodology: Suresh Gopal, Saravanakrishnan V., Elangovan N.

Project administration: Suresh Gopal.

Supervision: Suresh Gopal, Elangovan N.

Validation: Suresh Gopal, Saravanakrishnan V., Elangovan N.

Visualisation: Saravanakrishnan V., Elangovan N.

Writing – original draft: Suresh Gopal, Saravanakrishnan V., Elangovan N.

Writing – review & editing: Suresh Gopal, Saravanakrishnan V., Elangovan N.

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APPENDIX A

Respondent Name: _____

Res. Id:

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Phone Number (not mandatory):

Mail Id: _____

ROUND 1

Thank you for taking part in this investment simulation exercise. You have to make an investment decision in this exercise. There are three rounds of investment exercise. This is the initial round. In this round, you must allocate your endowed amount of Rs. 10,00,000 among the given stock. There are three stocks from the same industry and top performers. The company's performance parameters are the same as those of their peer companies on the list. However, there is still a small difference between the companies listed below. It would be best if you made investments within these companies. Other conditions are:

1. You cannot hold any cash in your hand at any point in time.
2. At the beginning of each round, there will be a piece of information; based on the information, some metrics will be changed. You can modify your portfolio if you wish.
3. At each round, you must mention on what basis (explicitly mention, say, PE ratio) you decide to sell or buy the shares.
4. Take your time to evaluate the company based on the new information for each company. Take note of changes from your last investment.
5. You can make changes in the portfolio (if you think the new development and market dynamics align with your investment goal).
6. If you modify your portfolio, please indicate which company stock you are selling and which stock you are buying.
7. You should support your decision (whether modifying the portfolio or not) with rational points. (which metrics you considered to modify your portfolio).

Company 1: Solar CMP: 1200

Metrics	2023
PE Ratio	50
Environment Score	50
3 Yr CAGR Net Profit (%)	70
ROE	29
Sustainability Score	27
Governance Score	72

Company 2: Renewable Energy CMP: 1200

Metrics	2023
Governance Score	78
PE Ratio	55
ROE	34
Environment Score	45
Sustainability Score	22
3 Yr CAGR Net Profit (%)	75

Company 3: Power Energy CMP: 1200

Metrics	2023
Sustainability Score	32
PE Ratio	40
Environment Score	55
Governance Score	77
ROE	29
3 Yr CAGR Net Profit (%)	70

I am investing in:

Company	Number of Shares (Buy)	Value	Decision-based on Key Metrics
Solar			
Renewable Energy			
Power Energy			
Total			

Describe your investment decision: (why you want to buy the stock, ex., The PE ratio is healthy or the Environmental score is good)

ROUND 2**Instruction:**

Thanks for your valuable input in an earlier round. Welcome back to the investment exercise. After considering the market condition and company development, there are some updates on the metrics of the companies you invested in earlier. As an investor, it is essential to examine your portfolio based on the new information available to you. It will help you to optimize your investment and achieve your investment goal. The points you should consider are as follows:

1. All other metrics are the same for all the companies.
2. Company-specific development information is given.
3. Take your time to evaluate the company based on the new information for each company. Take note of changes from your last investment.
4. You can make changes in the portfolio (if you think the new development and market dynamics align with your investment goal).
5. If you modify your portfolio, please indicate which company stock you are selling and which stock you are buying.
6. You should support your decision (whether modifying the portfolio or not) with rational points. (which metrics you considered to modify your portfolio).

Power Energy Ltd

Power Energy Ltd reports significant growth in earnings due to its improved operational efficiency and initiated a new ESG strategy. The COE stated that these balanced strategies with ongoing business would be essential for sustainable progress. Its performance indicators are as follows.

CMP: 1200

Metrics	2023
PE Ratio	42
Governance Score	77
ROE	29
Environment Score	57
3 Yr CAGR Net Profit (%)	70
Sustainability Score	32

Solar Ltd

Solar Ltd increased its profits due to operational efficiency. It reflects effective management strategies through its sustainable growth. At the same time, market competition remains a challenge. Its performance indicators are as follows.

CMP: 1200

Metrics	2023
Sustainability Score	27
PE Ratio	45
ROE	29
Governance Score	72
Environment Score	50
3 Yr CAGR Net Profit (%)	70

Renewable Energy Ltd

With the help of the R&D department of Renewable Energy Ltd, a new product that reduces carbon emissions was launched. This year, sales are slow, highlighting the time needed for market acceptance and its impact on financial results. Its performance indicators are as follows.

CMP: 1200

Metrics	2023
PE Ratio	55
Environment Score	55
ROE	34
Governance Score	78
3 Yr CAGR Net Profit (%)	75
Sustainability Score	22

I am investing in:

Company	Number of Shares				Value	Decision-based on Key Metrics
	Opening	Buy	Sell	Closing		
Power Energy						
Solar						
Renewable Energy						
Total						
Describe your investment decision: (Why you want to sell the stock and why you want to buy the stock)						

ROUND 3

Instruction:

Thanks again for your participation in earlier rounds of the investment decision exercise. This round is the third and final round. After careful consideration of the current market and company development, there are some changes in the metrics of the companies you invested in earlier. Hence, it is necessary to re-assess your portfolio based on the updated metrics to optimise it and achieve your investment goal. The points you should consider are as follows:

1. All other metrics are the same for all the companies.
2. Company-specific development information is given.
3. Take your time to evaluate the company based on the new information for each company. Take note of changes from your last investment.
4. You can modify your portfolio mix (if you think the new development and market dynamics align with your investment goal).
5. If you modify your portfolio, please indicate which company stock you are selling and which stock you are buying.
6. You should support your decision (whether modifying the portfolio or not) with rational points. (which metrics you considered to modify your portfolio).

Renewable Energy Ltd

Renewable Energy Ltd registered growth in sales due to its marketing strategy and innovative products. Increased sales resulted in an improved ROE of 36. However, their operational cost has increased due to their modified marketing strategy and innovative product adoption.

CMP: 1200

Metrics	2023
3 Yr CAGR Net Profit (%)	75
Sustainability Score	22
PE Ratio	55
ROE	36
Governance Score	78
Environment Score	55

Solar Ltd

Solar Ltd faces supply chain disruptions this year and enhanced renewable energy capability with the new collaboration. The latest collaboration is expected to have a long-term impact but will raise operational costs immediately. Since the operating cost has increased significantly, the PE Ratio moves to 47. However, their strategic team expected its initiatives to strengthen their market position.

CMP: 1200

Metrics	2023
Governance Score	72
ROE	29
Sustainability Score	27
PE Ratio	47
Environment Score	50
3 Yr CAGR Net Profit (%)	70

Power Energy Ltd

Power Energy Ltd experienced significant financial improvement due to its cost-efficiency program. The cost-efficiency program implications for the organisation’s comprehensive commitments, like human resource welfare initiatives, are under review. The company registered a positive turn in 3-year CAGR net profit (%) to 72.

CMP: 1200

Metrics	2023
ROE	29
3 Yr CAGR Net Profit (%)	72
Governance Score	77
Environment Score	57
PE Ratio	42
Sustainability Score	32

I am investing in:

Company	Number of Shares				Value	Decision-based on Key Metrics
	Opening	Buy	Sell	Closing		
Power Energy						
Solar						
Renewable Energy						
Total						

Describe your investment decision: (Why you want to sell the stock and why you want to buy the stock)