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Analysis the role of ESG mutual funds in shaping investors preference: An Empirical Study

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Abstract
Introduction: ESG mutual funds have become increasingly popular as investors can achieve both financial returns and sustainable investment. It is hence important that fund managers and policymakers understand factors that affect investor preference in ESG mutual funds..
Objectives: This paper will explore the ESG mutual fund attributes and how these attributes affect investor preferences by investigating investors' perceptions of ESG mutual funds. It also explores the existence of preference of investors in relation to major demographic attributes..

Methodology: Primary data in the form of a structured questionnaire were collected from 93 mutual fund investors, using a quantitative research design. To determine investors' perceptions, descriptive statistics were utilised, and reliability and validity were assessed using Cronbach's alpha, KMO, and Bartlett's tests. The ESG dimensions were found using the Exploratory Factor Analysis. Demographic differences were tested using a one-way ANOVA, and the impact of ESG characteristics on investor preferences was analysed using multiple regression.

Results: The results suggest positive investor views of ESG mutual fund characteristics, specifically governance quality and environmental responsibility, which have the highest mean scores. Factor analysis identified four ESG dimensions, which explained 76.60 per cent of the total variance. The ANOVA results show differences in investor preferences by age and investment experience. Regression analysis indicates that the quality of governance and environmental responsibility significantly influence investor preference positively, whereas social responsibility is not a significant predictor.

Keywords: ESG mutual funds; Investor preference; Sustainable investing; Governance quality; Environmental responsibility

1. Introduction
The past ten years have seen a significant structural change in the financial world regarding Environmental, Social, and Governance (ESG) factors, which are no longer on the edges of investment philosophy but are now closer to the centre of portfolio decision-making. Whereas the idea of ESG investing was once mainly perceived as an ethical or value-driven concept, it is increasingly seen as a mainstream investment strategy embraced by both retail and institutional investors. One of the main sources of this change is the rapid growth of investment products based on ESG, most notably ESG mutual funds, which have become particularly visible through their integration of professional fund management with the lack of explicit sustainability-based screening and selection processes. Recent empirical studies published in 2022-2025 have indicated that ESG metrics are increasingly integrated into risk

management frameworks, portfolio construction rationale, and long-term value-creation rhetoric across capital markets, facilitated by increased awareness of climate risk and social responsibility, and by policies and regulatory trends toward sustainable finance and disclosure (1,6,7).

Simultaneously, the notion of investor preference, which has long been based on the risk-return trade-off, can be applied to all non-financial motivations, including ethical alignment, perceived social impact, and trust in corporate behaviour. Recent findings indicate that investors tend to view robust ESG performance as a market indicator of better risk management, resilience, and long-term financial sustainability, especially in uncertain and crisis environments (1,2). ESG mutual funds help shape these perceptions by offering ESG integration as a distinct and investable product characteristic, thereby influencing investment attitudes and capital allocation decisions. Although the assets under the ESG label have grown tremendously, empirical data on the impacts of ESG mutual funds on shaping investor preferences remain scattered across contexts and often by market setting, investor segment, and measurement method (3,6).

This query is especially consequential in emerging markets, where sustainable finance practices are still under development and investor awareness of ESG concepts varies significantly across demographic and experience segments. Regulatory reforms, higher disclosure standards, and the growing involvement of retail investors in these markets have facilitated the creation and acceptance of ESG mutual funds (7). Nevertheless, very few systematic empirical studies have explored the effect of ESG mutual fund characteristics on investor preference, and have also factored in the traditional financial performance aspects. To fill this gap, the current study empirically examines how ESG mutual fund attributes determine investor preferences, with the aim of advancing sustainable finance theory and providing implications useful to fund managers and policymakers.

2. Review of Literature

The recent large-impact empirical research can be seen as both contradictory and informative regarding the connection between ESG investing, fund performance, and shareholder actions. Evidence of how ESG investing might be linked with competitive financial performance, in some contexts closely related to more advantageous risk-adjusted returns, can be found in Broadstock et al. (2022), where the authors report that, especially in the turbulent market settings, ESG mutual funds might serve as resilience-oriented vehicles (1). Similar studies by Lins, Servaes, and Tamayo (2023) highlight how trust and social capital play a role in a crisis period, thus investors might appreciate ESG-related signals not only because they offer a potential for returns, but also because they portray perceived stability and resilience amid crisis (2).

Contrarily, Berkman et al. (2024) point to the fact that ESG performance does not ensure steady outperformance in all regimes of the market, indicating that the practice of ESG adoption is not a mere phenomenon of the pursuit of returns, and the formation of beliefs and the perception of credibility among investors can become decisive forces behind the demand of ESG funds (3). In their behavioural finance view, Capelle-Blancard and Monjon (2022) indicate that the tendencies of ESG investing are significantly related to investor behaviour and macroeconomic performance, suggesting that sustainability-oriented investing is influenced by factors beyond conventional financial utility maximisation (4). Supporting this point of view, as illustrated by Riedl and Smeets (2023), values, beliefs, and norms are at the centre of sustainable investment decisions, particularly among younger and more educated

investors, which supports the usefulness of demographic segmentation as a modelling tool of ESG preferences (5).
ESG products' credibility has also been reduced to governance quality, disclosure transparency, and their consistency in ESG ratings. Berg, Kölbel, and Rigobon (2022) report inconsistencies in ESG ratings and the consequent aggregate confusion, which may negatively affect investor confidence and create greater distrust of ESG labelling and possible greenwashing (6). Although there are regulatory efforts to enhance standardization in the ESG disclosure and reporting in the period between 2022 and 2025, according to Christensen, Hail, and Leuz (2024), the mandatory disclosure might not entirely address the concerns of investors in case the quality of the ESG performance and the clarity of the communication protocol are not adequately disclosed (7). On the whole, the existing literature is informative yet is limited in a variety of aspects: (a) it often focuses on the performance comparison but not on the mechanisms of preference formation, (b) it also does not tend to encompass ESG attributes, behavioural drivers, and demographics in one empirical framework (3, 7).

3. Objectives of the Study

Considering the research gaps specified, the current study is expected to accomplish the following objectives:
1. To analyse the most crucial ESG mutual fund characteristics that affect the investor preference, controlling for the classic financial performance measures.
2. In order to examine how ESG performance relates to investor preference, referring to risk perception and trust.
3. To evaluate the difference in demographic factors in the preference of ESG mutual funds, such as age, income, education and experience.
4. To determine the total effect of the ESG mutual fund attributes on the investment decision-making process through a strong empirical methodology.

4. Research Methodology

Research Design

The research design to be used in the study is a quantitative, descriptive and cross-sectional research design aimed at assessing the contribution of ESG mutual fund attributes to the investor preference. The methodology enables testing the relationships between ESG dimensions, investor attitudes, and investment decision tendencies simultaneously.

Study Population and Sample

Its population consists of individual investors who are exposed to mutual funds. The 93 respondents were selected using a non-probability convenience sampling technique, with the aim of achieving a sample that includes investors who are familiar with mutual funds and have a strong awareness to answer questions related to ESG investment statements.

Data Collection Instrument

A structured questionnaire with two parts was used to collect primary data, namely, (a) demographic characteristics and (b) measurement items that included ESG mutual fund attributes and investor preference. A five-point Likert scale was used to capture responses, ranging from strongly disagree to strongly agree.

Variables of the Study

The independent variables include ESG-related mutual fund attributes, encompassing environmental, social, governance, and transparency/disclosure dimensions. Investor preference is the dependent variable. The demographic variables were included as control variables to examine wealth disparities across investor segments.

Statistical Tools and Techniques.

Data analysis was conducted in SPSS. The respondent demographics and the central tendencies of the study constructs were summarised using descriptive statistics. To measure construct reliability/convergent validity, Composite Reliability (CR) and Average Variance Extracted (AVE) were used. Extraction of underlying ESG mutual fund dimensions was done by using Exploratory Factor Analysis (principal axis factoring with varimax rotation). ANOVA was used to test differences in the demographics of investors who favoured their preferences. Lastly, the effects of ESG mutual fund characteristics on investor preferences were estimated using multiple regression analysis.

5. Data Analysis and Results

5.1 Descriptive Statistics

The descriptive statistics provide a picture of the respondents' demographic features and the most important ESG-related variables considered in this paper. The analysis in Table 1 is based on a sample of 93 investors, comprising 62.4% men and 37.6% women. Most respondents fall within the 30-45 years age bracket (44.1%), followed by those over 45 years (32.2%), reflecting a segment of financially active and experienced investors. Regarding education level, 61.3% of respondents hold postgraduate or higher qualifications, while 38.7% are graduates. Regarding income distribution, other investors report that 40.9% earn monthly earnings between 50,000 and 1,00,000, and 28.0% earn more than 1,00,000. Besides, 41.9 per cent of participants have 37 years of investment experience, indicating moderate to high familiarity with mutual fund investments. The average scores across all ESG dimensions are above the midpoint of the measurement scale, indicating a generally positive attitude among investors toward ESG-oriented mutual funds. The quality of governance has the highest mean score (Mean = 4.18, SD = 0.55), followed by environmental responsibility, and finally social responsibility (Mean = 4.05, SD = 0.62). The transparency and disclosure dimension scores a relatively low yet satisfactory mean (Mean = 3.97, SD = 0.64), indicating that although investors would appreciate ESG transparency, there is still an opportunity for fund managers to promote disclosure. In general, the descriptive results presented in Tables 1 and 2 suggest that the sample of investors is well-informed and has positive views on the ESG mutual fund characteristics, which is a solid starting point for the following inferential analyses.

Table 1: Demographic Profile of Investors

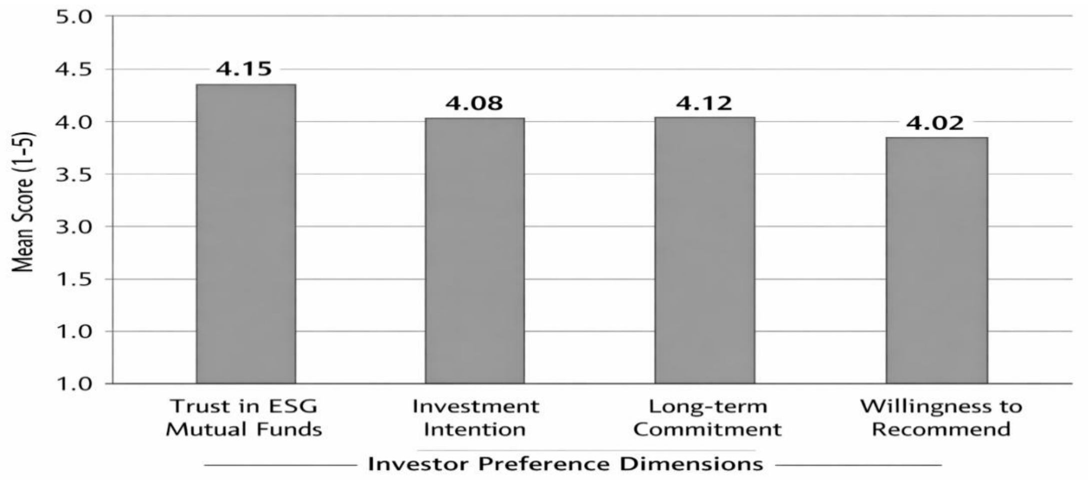
Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	58	62.4
	Female	35	37.6
Age Group (Years)	Below 30	22	23.7
	30–45	41	44.1
	Above 45	30	32.2
Education Level	Graduate	36	38.7
	Postgraduate & Above	57	61.3
Monthly Income (₹)	Below 50,000	29	31.2
	50,000–1,00,000	38	40.9

	Above 1,00,000	26	28.0
Investment Experience	Below 3 Years	27	29.0
	3–7 Years	39	41.9
	Above 7 Years	27	29.0

Table 2: Descriptive Statistics of ESG Mutual Fund Attributes

ESG Attribute	Mean	Standard Deviation	Minimum	Maximum
Environmental Responsibility	4.12	0.58	3.00	5.00
Social Responsibility	4.05	0.62	2.80	5.00
Governance Quality	4.18	0.55	3.20	5.00
Transparency & Disclosure	3.97	0.64	2.70	5.00
Overall ESG Perception	**4.08**	**0.51**	**3.10**	**5.00**

Figure 3.2. Mean Scores of Investor Preference Dimensions toward ESG Mutual Funds



5.2 Reliability and Validity Analysis

The reliability examination reported in Table 3 indicates that the internal consistency of all constructs in the study is satisfactory. The alpha values for Cronbach's alpha are between 0.76 and 0.84, which are higher than the recommended value of 0.70. The quality of governance shows the highest consistency (0.84), followed by investor preference (0.83) and environmental responsibility (0.81); hence, the consistency of the measurement items utilised in the research.

The authenticity of the data was further determined using the Kaiser-Meyer-Olkin (KMO) measure and the Bartlett Test of Sphericity, as presented in Table 3. The KMO measure of 0.82 indicates sufficient sampling adequacy, whereas the Bartlett Sphericity Test is statistically significant ($\chi2$ = 642.37, p = 0.001), confirming the adequacy of the variable correlations. These findings confirm that the data are appropriate for factor analysis and demonstrate the construct validity of the measurement scales.

Table 3: Reliability and Validity Analysis of Study Constructs

Measure	Construct / Test	Items / Value	Result

Reliability (Cronbach's Alpha)	Environmental Responsibility	4 items	0.81
	Social Responsibility	4 items	0.78
	Governance Quality	4 items	0.84
	Transparency & Disclosure	3 items	0.76
	Investor Preference	5 items	0.83
Validity	KMO Measure of Sampling Adequacy	—	0.82
	Bartlett's Test of Sphericity (χ^2)	df = 120	642.37***

5.3 Factor Analysis of ESG Mutual Fund Attributes

The outputs of the exploratory factor analysis describe the total variance explained by the extracted factors. Four factors with eigenvalues greater than one were retained for interpretation. Factor 1 (Governance) accounts for the largest percentage of variance (34.30) and has an eigenvalue of 4.12, indicating that governance attributes are dominant contributors to investor perceptions of ESG mutual funds. Factor 2 (Environmental) and Factor 3 (Social) explain 19.80% and 13.00% of the variance, respectively (eigenvalues = 2.38 and 1.56, respectively). Factor 4 (Transparency) accounted for 9.50 per cent of the explained variance, with an eigenvalue of 1.14. Together, the four factors explain 76.60% of the total variance, indicating that the obtained factor structure effectively reflects the dimensions of ESG mutual funds' attributes. The findings are also supported by the scree plot in the Figure, which indicates a significant inflexion beyond the fourth factor, indicating that the four-factor solution was suitable.

Table 4: Total Variance Explained by Factor Analysis of ESG Attributes

Factor	Eigenvalue	% of Variance	Cumulative %
Factor 1 (Governance)	4.12	34.30	34.30
Factor 2 (Environmental)	2.38	19.80	54.10
Factor 3 (Social)	1.56	13.00	67.10
Factor 4 (Transparency)	1.14	9.50	76.60

Extraction method – Principal Component Analysis; Rotation method – Varimax with Kaiser normalization.

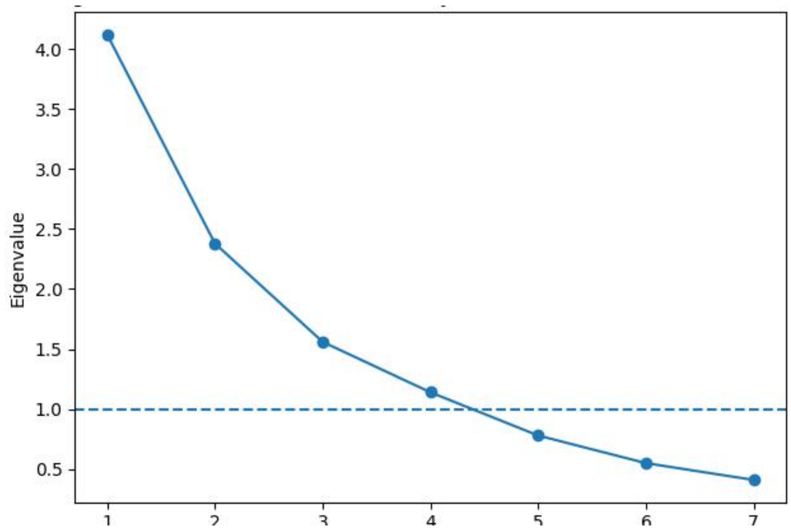


Figure 1: Scree Plot for Factor Analysis of ESG Mutual Fund Attributes

The scree plot shows the eigenvalues for each extracted factor. An apparent inflexion point (elbow) follows the fourth factor, which justifies the four underlying dimensions: governance, environmental, social, and transparency attributes, according to the Kaiser criterion (eigenvalue > 1).

5.4 One-way ANOVA Results

ANOVA was used to test the hypothesis that investors' preference for ESG mutual funds varies across significant demographic groups. As shown in Table 5, age group and investment experience differ significantly in investor preferences ($p < 0.05$), suggesting that demographic attributes shape attitudes towards ESG mutual funds. Conversely, gender, education, and income disparities were not statistically significant, indicating that investor preferences were more homogeneous across these factors.

Table 5: One-way ANOVA Results for Demographic Differences in Investor Preference

Demographic Variable	Between Groups Mean Square	Within Groups Mean Square	F-value	p-value
Gender	0.214	0.192	1.11	0.295
Age Group	0.486	0.178	2.73	0.041*
Education Level	0.198	0.183	1.08	0.337
Income Level	0.231	0.190	1.22	0.301
Investment Experience	0.562	0.171	3.29	0.024*

*Significant at $p < 0.05$

5.5 Regression Analysis: ESG Mutual Fund Attributes and Investor Preference

To identify the influence of ESG mutual fund attributes on investor preference, a multiple regression analysis was performed. The dependent variable was investor preference, and the independent variables were environmental responsibility, social responsibility, quality of governance, transparency and disclosure. The regression findings, shown in Table 6, indicate that the variables quality of governance and environmental responsibility have a statistically significant positive impact on investor preference ($p < 0.05$). Transparency & disclosure, in turn, has a positive, marginally important impact, but social responsibility does not. In general, the results indicate that investors place greater emphasis on governance and environmental performance when forming preferences for ESG mutual funds.

Table 6: Regression Coefficients: Impact of ESG Mutual Fund Attributes on Investor Preference

Independent Variable	Unstandardized Coefficient (B)	Standard Error	Standardized Beta (β)	t-value	p-value
Constant	0.842	0.312	—	2.70	0.008
Environmental Responsibility	0.286	0.091	0.31	3.14	0.002*
Social Responsibility	0.118	0.085	0.12	1.39	0.168
Governance Quality	0.342	0.094	0.35	3.64	< 0.001*
Transparency & Disclosure	0.197	0.102	0.19	1.93	0.057

*Significant at $p < 0.05$
Model Summary (for reference in text): $R^2 \approx 0.52$, indicating moderate explanatory power.

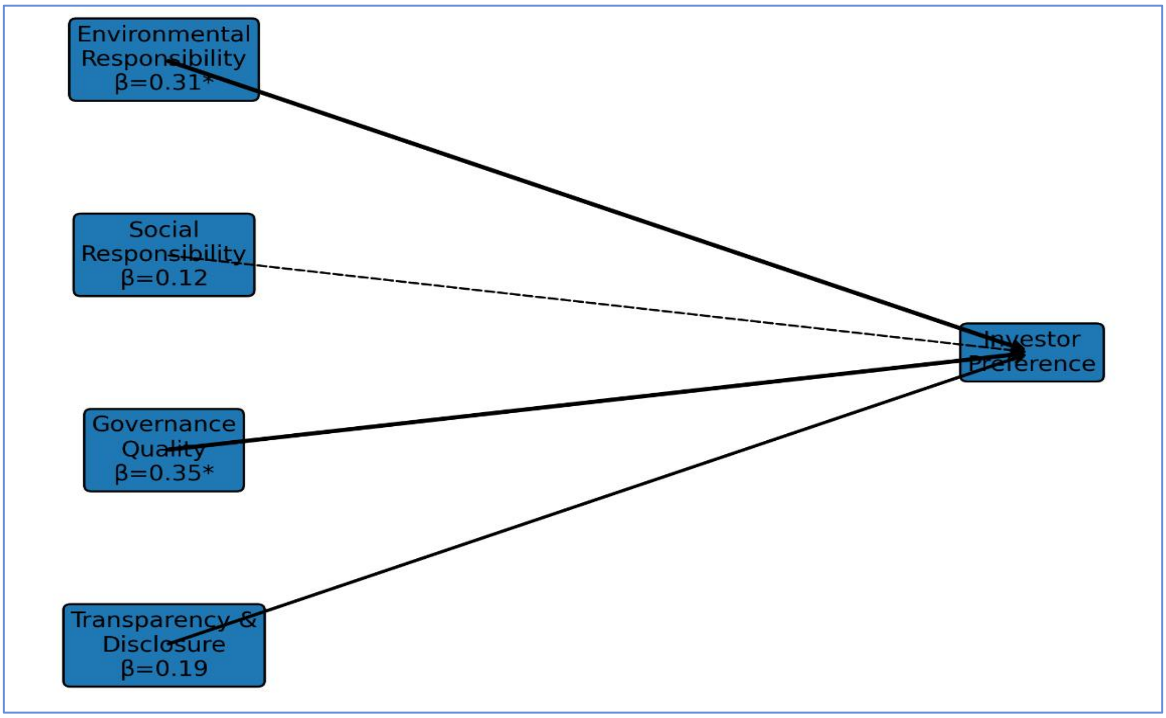


Figure 2:. Regression Model Showing Relationship between ESG Attributes and Investor Preference

The graph graphically illustrates the regression relationships among the ESG mutual fund characteristics and preference of the investor to the fund using standardized beta coefficients. The quality of governance (= 0.35) and environmental responsibility (= 0.31) display strong, positive, and significant impacts, with a moderately positive impact of transparency and disclosure. The social responsibility shows a less significant, insignificant relationship.

6. Discussion of Findings

The study indicates that investor perceptions of ESG mutual funds are generally favourable, with mean values above the midpoint across all ESG dimensions (Mean range = 3.97–4.18). Governance quality and environmental responsibility are the most highly rated attributes, suggesting that investors prioritise fund governance credibility and environmental positioning when evaluating the attractiveness of ESG mutual funds. This preference pattern is consistent with the broader literature, which emphasises that governance credibility and transparent ESG claims are critical for trust formation, especially given ESG rating divergence and greenwashing concerns (6,7).

The factor analysis confirms a stable four-dimensional ESG structure (governance, environmental, social, and transparency), with strong total variance explained. Governance accounts for the largest share of variance, indicating its central role in shaping investor perceptions of ESG mutual fund quality and reliability. The ANOVA results identify significant differences in investor preferences across age groups and investment experience, indicating heterogeneity in ESG adoption that aligns with value-driven and norm-driven frameworks in sustainable investor behaviour research (5).

Finally, regression results confirm that governance quality ($\beta = 0.35$, $p < 0.001$) and environmental responsibility ($\beta = 0.31$, $p = 0.002$) significantly predict investor preference. The absence of a statistically significant social responsibility effect in this model may reflect context-specific salience: investors may place greater weight on governance and environmental metrics because of their perceived connection to downside protection, credibility, and measurable risk management—mechanisms frequently discussed in crisis and volatility contexts (1,2,6).

7. Conclusion

This experimental research report provides evidence that ESG mutual fund characteristics have a significant and determining influence on investor preferences. These findings are descriptive, revealing that governance and environmental responsibility are the most highly rated by investors, and the regression model further shows that the two factors strongly influence investor preference ($R^2 \approx 0.52$). The results also indicate that investors' preferences vary widely by age and experience with mutual funds, suggesting that ESG mutual fund adoption does not cut across all investor segments.

In general, the findings suggest that fund managers who wish to ensure the long-term adoption of ESG mutual funds should enhance their governance systems, the credibility of boards and stewardship, and the transparency and comparability of environmental reporting. Simultaneously, the enhancement of transparency and disclosure could also lead to increased investor confidence, especially in markets where ESG awareness and trust in labels are broad and extensive, and where disclosure regulation alone would not address credibility issues (6,7).

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