

ESG Awareness and Sustainable Investment Decisions among Retail Investors in Bangalore, India: Evidence from a Cross-Sectional Survey

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Abstract

Environmental, social, and governance (ESG) considerations are increasingly relevant to individual investors, yet evidence on how ESG awareness translates into sustainable investment decisions in emerging-market retail settings remains limited. This study examines ESG awareness and sustainable investment decision-making among 200 retail investors in Bangalore (Bengaluru), India, and evaluates the roles of financial literacy, risk perception, social influence, and ethical values. A cross-sectional survey using five-point Likert-type measures was analysed through descriptive statistics, reliability analysis, factorability tests, correlations, and regression. The scales showed acceptable to strong internal consistency (Cronbach's alpha = .776-.852), and factorability was supported by KMO = .871 and Bartlett's test, chi-square = 1452.36, $p < .001$. Mean ESG awareness was 3.82 (SD = .71), significantly above the neutral midpoint, $t(199) = 16.33$, $p < .001$, $d = 1.15$. ESG awareness correlated positively with environmental ($r = .621$), social ($r = .584$), and governance ($r = .603$) considerations and explained 46.8% of the variance in sustainable investment decisions ($R = .684$, $R^2 = .468$, adjusted $R^2 = .462$). Financial literacy (beta = .298), risk perception (beta = .214), social influence (beta = .256), and ethical values (beta = .331) were significant predictors of ESG-based investment behaviour, with ethical values showing the largest standardized effect. The findings suggest that sustainable retail investing is shaped by both ESG understanding and broader financial, social, risk, and moral considerations. The study contributes city-level evidence from an important Indian financial and technology hub and offers implications for regulators, fintech platforms, advisers, and investor education.

Keywords: ESG awareness; sustainable investment; retail investors; financial literacy; risk perception; ethical values; Bangalore; India; sustainable finance

1. Introduction

Sustainable investment has moved from a specialized segment of capital markets toward a more mainstream investment approach in which financial considerations are assessed alongside environmental, social, and governance factors. ESG information can inform investors about issues that conventional financial statements may not fully capture, including exposure to environmental transition risk, labour and human-capital practices, stakeholder relations, board effectiveness, business ethics, and governance quality. The increasing relevance of these considerations does not imply that ESG automatically improves investment performance; rather, it broadens the information set through which investors evaluate risk, opportunity, values, and long-term corporate resilience. Research in corporate finance has documented substantial links between corporate ESG characteristics and firm risk, valuation, ownership, and performance, while also emphasizing that the evidence is heterogeneous across contexts and measurement approaches (Gillan et al., 2021). Similarly, the extensive review by Friede et al. (2015) reported that most empirical studies in their synthesis found a non-negative relationship between ESG characteristics and corporate financial performance, supporting the view that sustainability considerations need not be treated as inherently incompatible with financial objectives.

The growth of ESG investing is particularly important for retail investors. Digital brokerage, low-cost investment platforms, mobile applications, online financial education, and social media have reduced many traditional barriers to securities-market participation. Retail investors can now obtain market information, compare investment products, and transact with substantially lower search and execution costs than in earlier periods. Nevertheless, increased access does not necessarily produce informed investment decisions. Individual investors often operate with uneven financial knowledge, limited time for analysis, incomplete understanding of

sustainability metrics, and varying tolerance for investment risk. They may also be influenced by family, peers, advisers, digital communities, advertising, or market narratives. As a result, whether retail investors meaningfully use ESG information depends not merely on the availability of ESG data but also on their awareness, ability to interpret information, trust in ESG claims, ethical orientation, and expectations regarding financial consequences.

Research on sustainable investing supports this multidimensional interpretation. Riedl and Smeets (2017), using administrative and survey evidence, showed that social preferences can be important in explaining socially responsible investment choices. Hartzmark and Sussman (2019) found that making sustainability information salient affected mutual-fund flows, indicating that investor attention to sustainability can influence allocation decisions. More recent evidence using investor beliefs and actual portfolio data similarly shows substantial heterogeneity in the motivations for ESG investing: some investors are primarily motivated by ethics, others by hedging concerns or return expectations, and many remain unconvinced about ESG investing altogether (Giglio et al., 2025). These findings imply that ESG investment behaviour cannot be explained by a single financial or moral motive.

A further challenge concerns the reliability of ESG information. Ratings can diverge because providers differ in scope, measurement, and weighting, making apparently simple scores difficult to compare (Berg et al., 2022). Greenwashing can further weaken investor trust when sustainability claims overstate substantive performance (Zhong et al., 2025). For retail investors, meaningful ESG awareness therefore requires more than familiarity with the acronym; it requires a basic ability to interpret ESG dimensions, recognize information limitations, and use sustainability information in investment evaluation.

India provides a timely setting for examining these issues. The Indian sustainable-finance ecosystem has expanded alongside regulatory efforts to improve corporate sustainability disclosure. The Securities and Exchange Board of India (SEBI) introduced the Business Responsibility and Sustainability Report (BRSR) framework and subsequently developed BRSR Core, which specifies a set of key ESG indicators and a phased assurance framework for listed entities (Securities and Exchange Board of India [SEBI], 2023). These developments increase the quantity and standardization of ESG-related information available in the market. At the same time, Indian retail investors are heterogeneous in financial experience, digital sophistication, investment objectives, and familiarity with ESG concepts. Empirical research in India has shown differences between socially responsible and conventional investors in awareness and attitudes toward ESG issues (Jonwall et al., 2022), while recent studies have linked ESG investment intentions to risk perception, return expectations, information quality, moral norms, and fintech adoption (Kaushik, 2026; Mir & Dwivedi, 2026).

Bangalore, officially Bengaluru, offers a particularly relevant local context. It is a major technology, entrepreneurship, and financial-services centre with high digital connectivity and extensive use of fintech platforms. The city contains a large population of salaried professionals, technology workers, entrepreneurs, and other market participants who are likely to encounter both conventional and ESG-related investment information through digital channels. Yet city-specific empirical evidence on the relationship between ESG awareness and retail investment decisions remains limited. National or cross-country evidence cannot automatically be assumed to describe investor behaviour in a specific urban ecosystem because financial literacy, access to investment products, information exposure, income, peer effects, and cultural values may differ substantially across locations.

The revised study addresses the local gap through a behavioural framework informed by the Theory of Planned Behavior (TPB). ESG awareness is treated as the principal cognitive predictor of sustainable investment decisions, while financial literacy, risk perception, social influence, and ethical values are examined as complementary determinants. Environmental, social, and governance considerations are retained as related dimensions of ESG awareness.

Accordingly, the study has three objectives: (1) to assess the level of ESG awareness among retail investors in Bangalore; (2) to evaluate the effect of ESG awareness on sustainable investment decisions; and (3) to determine whether financial literacy, risk perception, social influence, and ethical values contribute to ESG-based investment behaviour. By addressing these objectives, the study contributes localized evidence to the growing literature on

sustainable retail finance in emerging markets and provides practical insight into how investor education, disclosure, and digital financial communication might strengthen informed participation in ESG investing.

2. Literature Review and Hypothesis Development

2.1 ESG investing and sustainable investment decision-making

ESG investing refers broadly to the incorporation of environmental, social, and governance information into investment analysis, portfolio construction, security selection, stewardship, or product choice. The concept is related to, but not identical with, socially responsible investment, ethical investment, impact investment, and sustainable finance. ESG integration may be used for several purposes. Some investors view ESG information as financially material and incorporate it to assess long-term risk and firm quality. Others use ESG criteria to align investments with personal or social values. Still others combine both financial and non-financial objectives. Pedersen et al. (2021) formalized this trade-off through the ESG-efficient frontier, showing theoretically and empirically that investors may balance portfolio performance and ESG characteristics rather than treat them as mutually exclusive objectives.

The empirical literature also suggests that sustainability preferences affect actual capital allocation. Riedl and Smeets (2017) found that social preferences and signaling motives help explain holdings of socially responsible mutual funds. Hartzmark and Sussman (2019) demonstrated that sustainability ratings can influence mutual-fund flows when sustainability becomes salient. These studies are important because they show that investor behaviour is responsive not only to expected return and variance but also to sustainability-related information and preferences. However, the strength of that response depends on context. Giglio et al. (2025) found that ethical motives, climate-hedging motives, and return expectations coexist among retail investors, and that financial beliefs remain important even for investors who report non-financial motivations. Thus, sustainable investing should be understood as a decision domain in which financial rationality, beliefs, values, and social influences interact.

For emerging markets, this interaction may be especially important because ESG information infrastructures are still evolving. Disclosure may be improving rapidly while investor familiarity remains uneven. Where information is complex, individuals may rely on heuristics or external cues instead of independently evaluating sustainability reports. Hutchings (2025), for example, found that a simplified ESG nudge can improve retail investors' ability to distinguish companies on sustainability attributes and affect capital allocation. This suggests that the presentation and comprehensibility of information can materially influence how ESG information enters investment decisions.

2.2 Theoretical foundation: Theory of Planned Behavior

The Theory of Planned Behavior provides a useful behavioural foundation for explaining why ESG knowledge and related beliefs may translate into investment action. Ajzen (1991) proposed that behaviour is proximally influenced by behavioural intention, which is shaped by attitude toward the behaviour, subjective norms, and perceived behavioural control. Attitude reflects whether the individual evaluates the behaviour positively or negatively; subjective norms capture perceived social expectations; and perceived behavioural control represents the individual's perceived capacity to perform the behaviour.

Applied to sustainable investing, ESG awareness can contribute to attitude formation by helping investors understand the environmental, social, governance, risk, and reputational implications of investment alternatives. Social influence resembles the subjective-norm component of TPB because investors may consider the views of peers, family, financial advisers, professional networks, and online communities. Financial literacy can strengthen perceived behavioural control by increasing confidence and competence in evaluating investment products, although financial literacy is not conceptually identical to perceived behavioural control. Ethical values can function as an additional moral-norm component, extending the basic TPB model to account for value-driven investment motivation. Risk perception can influence attitudes and perceived behavioural control because investors who believe ESG products are unusually risky may hesitate even when they approve of sustainability goals.

Recent Indian research supports the relevance of this framework. Kaushik (2026) reported that investment attitudes, return expectations, risk perception, and ESG concerns are associated with ESG investment intention among Indian investors. Mir and Dwivedi (2026) used an extended TPB approach in the context of ESG investment through fintech platforms and found that awareness, attitude, perceived behavioural control, moral norms, and information quality are important for adoption intention. These results support a behavioural model in which awareness is important but operates alongside financial capability, risk beliefs, social context, and moral considerations.

2.3 ESG awareness as a predictor of sustainable investment decisions

Awareness is a necessary, although not sufficient, condition for the deliberate use of ESG information. An investor cannot consistently integrate environmental emissions, workforce practices, board accountability, or governance quality into investment analysis if the investor does not recognize these issues as relevant or understand what ESG information represents. ESG awareness can reduce informational ambiguity by enabling the investor to connect sustainability indicators with potential long-term risks, corporate reputation, stakeholder relationships, regulatory exposure, and personal values.

This relationship is supported by evidence from both developed and emerging markets. Jonwall et al. (2022) found that Indian socially responsible investors displayed higher awareness of socially responsible investing and greater concern for ESG issues than conventional investors. D'Hondt et al. (2022) showed that individual characteristics, including financial literacy and risk tolerance, help explain retail portfolio exposure to ESG factors, while also demonstrating that environmental, social, and governance dimensions are not homogeneous. Experimental evidence further indicates that direct ESG awareness interventions can affect sustainable choice. Shahan et al. (2026) found that exposure to ESG information increased the probability of sustainable investment decisions in an experimental setting, although the willingness to choose sustainable alternatives remained sensitive to return differentials.

Awareness may influence behaviour through several mechanisms. First, it reduces the cognitive cost of interpreting ESG information. Second, it may alter perceived risk by highlighting long-term environmental or governance threats that are not immediately visible in short-term market data. Third, it can make value congruence more salient by helping investors identify firms or funds that align with personal ethical preferences. Fourth, awareness may increase the perceived legitimacy of sustainable investing by normalizing ESG as part of mainstream financial analysis rather than treating it as a purely philanthropic activity.

The first hypothesis therefore evaluates whether ESG awareness is meaningfully present in the study population, while the second tests its explanatory relationship with sustainable investment decisions.

H1: The mean level of ESG awareness among retail investors in Bangalore is significantly above the neutral scale midpoint.

H2: ESG awareness has a positive and statistically significant effect on sustainable investment decisions among retail investors in Bangalore.

2.4 Environmental, social, and governance considerations

Although ESG is commonly presented as an aggregate construct, the environmental, social, and governance pillars represent distinct types of information. Environmental considerations include energy use, greenhouse-gas emissions, pollution, climate strategy, natural-resource management, and environmental compliance. Social considerations include labour practices, employee well-being, diversity and inclusion, community relations, human rights, product responsibility, and stakeholder impacts. Governance considerations include board structure, executive accountability, ownership rights, audit quality, business ethics, internal controls, and transparency.

Retail investors may not assign equal importance to these pillars. D'Hondt et al. (2022) found that the determinants of environmental, social, and governance exposure are not fully homogeneous, reinforcing the need to avoid treating ESG as a perfectly unitary preference. Ratings divergence also complicates pillar-level interpretation because providers may differ in scope and measurement (Berg et al., 2022). In the present study, environmental,

social, and governance measures are therefore interpreted as related dimensions of ESG awareness rather than interchangeable constructs. Positive correlations between ESG awareness and each dimension would indicate that greater general ESG awareness is associated with stronger consideration of all three pillars.

2.5 Financial literacy and ESG-based investment behaviour

Financial literacy refers to the knowledge and skills required to understand financial concepts and make informed financial decisions. In investment contexts, relevant competencies include understanding risk-return trade-offs, diversification, inflation, compounding, market volatility, fees, product structure, and information quality. Financial literacy can support sustainable investment by enabling investors to evaluate whether ESG products fit their financial objectives rather than relying solely on labels or promotional claims.

The relationship between financial literacy and sustainable investment is supported by recent evidence. Cucinelli and Soana (2023) found that individuals with stronger financial knowledge and financial behaviour were more likely to prefer financial intermediaries with socially responsible characteristics. D'Hondt et al. (2022) also identified financial literacy as a determinant of retail portfolio exposure to ESG factors. In India, where digital platforms make a wide range of investment products accessible, financial literacy may be particularly important because investors must distinguish between genuine sustainability information, generalized marketing language, and potentially conflicting ratings.

Financial literacy may also interact with ESG awareness. An investor may understand that climate or governance issues matter but still be unable to translate that awareness into portfolio decisions without basic investment knowledge. Conversely, a financially literate investor with little ESG awareness may conduct technically competent analysis while omitting sustainability-related risk factors. The two forms of knowledge are therefore complementary.

H3a: Financial literacy has a positive and statistically significant effect on ESG-based investment behaviour among retail investors in Bangalore.

2.6 Risk perception and ESG-based investment behaviour

Risk perception concerns the investor's subjective assessment of uncertainty and potential loss. Sustainable investments may be perceived as lower risk if investors believe companies with stronger ESG practices are better positioned to manage regulatory, reputational, operational, or climate-related risks. Alternatively, ESG products may be perceived as higher risk if investors associate them with narrower investment universes, uncertain valuation effects, new technologies, changing regulation, or lower expected returns. Therefore, risk perception is likely to influence whether ESG awareness produces actual allocation behaviour.

Pedersen et al. (2021) show that responsible investing involves trade-offs between ESG characteristics and conventional portfolio efficiency, while Giglio et al. (2025) demonstrate that investors' beliefs about ESG returns are closely related to their portfolio allocation. In the Indian setting, Kaushik (2026) likewise found risk perception to be an important determinant of ESG investment intention. The present study therefore treats risk perception as an independent behavioural determinant rather than assuming that ESG awareness automatically leads to investment.

H3b: Risk perception has a statistically significant effect on ESG-based investment behaviour among retail investors in Bangalore.

2.7 Social influence and ESG-based investment behaviour

Investment decisions are embedded in social environments. Retail investors frequently obtain information from family members, colleagues, friends, financial advisers, online influencers, social-media communities, news sources, and fintech platforms. Within the TPB framework, such influences are closely related to subjective norms: individuals may be more inclined to perform a behaviour when people or groups important to them view that behaviour favourably (Ajzen, 1991).

Social influence may be especially relevant for ESG investing because sustainability is partly a value-laden and identity-relevant domain. Investors may interpret ESG participation as a socially responsible action, a signal of personal values, or a response to perceived expectations within professional or peer groups. Riedl and Smeets (2017) found that social signaling contributes to socially responsible investment decisions, illustrating that investment behaviour can communicate identity or values. Digital communication may magnify these effects by increasing exposure to peer opinions and simplified sustainability narratives.

H3c: Social influence has a positive and statistically significant effect on ESG-based investment behaviour among retail investors in Bangalore.

2.8 Ethical values and ESG-based investment behaviour

Ethical values refer to personal beliefs about what constitutes responsible or desirable conduct. In sustainable investing, ethical orientation may shape preferences concerning climate responsibility, employee treatment, human rights, community impact, corruption, executive conduct, and corporate accountability. Investors with stronger ethical concerns may derive non-financial utility from holding companies or funds perceived as consistent with their values. This helps explain why some investors accept fees or expected-return trade-offs to hold socially responsible assets (Riedl & Smeets, 2017).

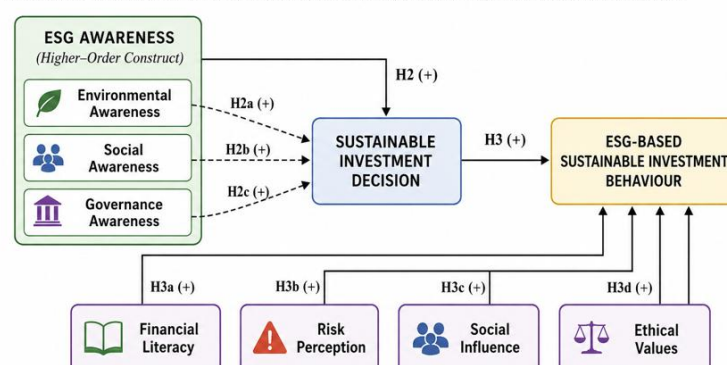
Ethical motivations do not necessarily replace financial considerations. Giglio et al. (2025) showed that ethical motives can coexist with expectations about returns, and sustainable allocations remain sensitive to financial beliefs. Nevertheless, ethical values can make ESG criteria more decision-relevant and can strengthen behavioural intention when sustainability choices are framed as personally meaningful. Mir and Dwivedi (2026) similarly highlight the role of moral norms in Indian investors' ESG adoption intentions through fintech.

H3d: Ethical values have a positive and statistically significant effect on ESG-based investment behaviour among retail investors in Bangalore.

2.9 Research gap and contribution

The literature establishes that ESG information can affect investor preferences and portfolio choices, but three gaps remain relevant to the present study. First, much of the strongest evidence comes from developed markets, institutional data, fund-flow studies, or national samples. Retail-investor behaviour in specific emerging-market cities remains less examined. Second, Indian evidence is growing rapidly, but recent studies often focus on national samples, Delhi-NCR, specific products, or fintech adoption rather than Bangalore retail investors specifically (Jonwall et al., 2022; Kaushik, 2026; Mir & Dwivedi, 2026). Third, awareness is often discussed together with attitudes, values, and financial competence without clearly distinguishing these constructs.

Figure 1
Conceptual Model of ESG Awareness and Sustainable Investment Behaviour among Retail Investors in Bangalore



Note. **H2:** ESG awareness has a positive impact on sustainable investment decisions.
H2a–H2c: Environmental, social, and governance awareness dimensions positively influence sustainable investment decisions.
H3: Sustainable investment decisions positively influence ESG-based sustainable investment behaviour.
H3a–H3d: Financial literacy, risk perception, social influence, and ethical values positively influence ESG-based sustainable investment behaviour.

This study addresses these gaps by focusing on Bangalore and by separating ESG awareness from four complementary behavioural determinants: financial literacy, risk perception, social influence, and ethical values. Its contribution is therefore contextual and explanatory rather than algorithmic or causal. The cross-sectional design cannot establish causality, but it can identify whether awareness and behavioural determinants are systematically associated with sustainable investment decisions in a local retail-investor population.

3. Research Methodology

3.1 Research design

The study employed a quantitative, cross-sectional, explanatory survey design. This design is appropriate because the research objectives concern the level of ESG awareness and the statistical relationships between awareness, behavioural determinants, and self-reported investment decisions at a single point in time. The unit of analysis was the individual retail investor residing in or investing from Bangalore.

3.2 Population, sampling, and sample size

The target population comprised retail investors in Bangalore who participate in financial markets through direct securities, mutual funds, exchange-traded products, or comparable investment channels. The original study used convenience sampling and obtained 200 usable responses through a combination of online and offline questionnaire administration. Convenience sampling was retained in this revised manuscript because it reflects the actual data-collection approach. Although non-probability sampling limits statistical generalization to the entire Bangalore investor population, it is commonly used in exploratory and behavioural investment studies where a complete sampling frame of retail investors is unavailable.

The final sample size of 200 is adequate for the reported descriptive, reliability, correlation, factorability, and ordinary least squares regression analyses, particularly given the limited number of predictors. Nevertheless, future research should employ stratified or probability-based recruitment where feasible and should seek larger samples capable of testing demographic heterogeneity and more complex structural models.

3.3 Instrument and measurement

Data were collected through a structured questionnaire using five-point Likert-type response formats. Based on the source manuscript, the instrument included the following constructs: ESG awareness (5 items), environmental consideration (4 items), social consideration (4 items), governance consideration (4 items), financial literacy (4 items), risk perception (4 items), social influence (4 items), and ethical values (4 items). ESG-based investment behaviour was also measured as an outcome construct, although the original manuscript did not preserve the item count for this scale in the reliability table.

ESG awareness captured respondents' familiarity with and understanding of environmental, social, and governance considerations in investment contexts. The three pillar-specific constructs assessed the extent to which environmental, social, and governance issues entered investment evaluation. Financial literacy represented respondents' perceived knowledge and competence in financial decision-making. Risk perception measured the perceived uncertainty or risk associated with ESG-related investment decisions. Social influence captured the effect of peers, family, advisers, media, or comparable social sources. Ethical values reflected the importance of moral and responsibility-based considerations. Sustainable investment decisions and ESG-based investment behaviour represented the degree to which respondents incorporated sustainability factors into investment choices.

For a final journal submission, the authors should append or provide the exact questionnaire items, sources of adapted scales, response anchors, and any translation or pilot-testing procedures. These details were not contained in the source manuscript and therefore cannot be reconstructed reliably without the original questionnaire.

3.4 Reliability and construct suitability

Internal consistency was assessed using Cronbach's alpha. Values ranged from .776 to .852 across the reported constructs, exceeding the conventional .70 threshold and indicating acceptable to strong reliability for exploratory behavioural research. Sampling adequacy for factor analysis was evaluated with the Kaiser-Meyer-Olkin statistic

and Bartlett's test of sphericity. The reported KMO value of .871 indicates strong common variance among the items, while the significant Bartlett test indicates that the correlation matrix is not an identity matrix and is therefore suitable for factor extraction.

The source manuscript did not report factor loadings, communalities, eigenvalues, explained variance, composite reliability, average variance extracted, or discriminant-validity statistics. Consequently, the present revision does not fabricate these values. Before submission to a journal that expects confirmatory measurement evidence, the raw dataset should be re-analysed and a complete measurement model should be reported.

3.5 Data analysis

The analysis proceeded in five stages. First, descriptive statistics summarized the mean and standard deviation of each construct. Second, a one-sample t-test was derived for ESG awareness to assess H1 by comparing the observed mean with the neutral midpoint of 3 on the five-point scale. Third, reliability and factorability were evaluated using Cronbach's alpha, the KMO statistic, and Bartlett's test. Fourth, Pearson correlations assessed the association between overall ESG awareness and environmental, social, and governance considerations. Fifth, regression analysis evaluated the effect of ESG awareness on sustainable investment decisions and the contribution of financial literacy, risk perception, social influence, and ethical values to ESG-based investment behaviour.

The source manuscript reported $R = .684$, $R^2 = .468$, adjusted $R^2 = .462$, and a standardized coefficient $\beta = .684$ for the simple regression of sustainable investment decisions on ESG awareness. However, the originally reported t value of 7.23 is mathematically inconsistent with $R = .684$ and $n = 200$ in a one-predictor regression. To preserve statistical coherence, the present manuscript recalculates the inferential statistic directly from the reported correlation and sample size, yielding $t(198) = 13.19$ and $F(1, 198) = 174.08$. This correction does not alter the reported effect size or explained variance. The four-predictor regression coefficients are reproduced from the source results because the full covariance matrix and model summary were not available for independent reconstruction.

Statistical significance was evaluated at $p < .05$. Values originally reported as $p = .000$ are expressed as $p < .001$, consistent with standard academic reporting practice.

3.6 Ethical considerations

The source manuscript does not report an institutional ethics approval number, consent wording, anonymity procedure, or data-protection protocol. These details must be verified against the actual data-collection process before journal submission. At minimum, the final manuscript should state whether participation was voluntary, whether informed consent was obtained, whether respondents could withdraw, and how anonymity and confidentiality were protected.

4. Results

4.1 Descriptive statistics

Table 1 presents the descriptive statistics. ESG awareness had a mean of 3.82 ($SD = .71$), indicating that respondents, on average, reported awareness above the scale midpoint. Among the ESG pillars, environmental consideration recorded the highest mean ($M = 3.76$, $SD = .68$), followed by governance consideration ($M = 3.74$, $SD = .69$) and social consideration ($M = 3.69$, $SD = .72$). Financial literacy was also relatively high ($M = 3.88$, $SD = .65$). Ethical values had the highest mean of all reported constructs ($M = 3.95$, $SD = .60$), suggesting that moral and responsibility-related considerations were salient to respondents. Risk perception was comparatively lower, although still above the midpoint ($M = 3.55$, $SD = .74$). ESG-based investment behaviour averaged 3.80 ($SD = .67$).

Table 1. Descriptive statistics of study constructs

Variable	Mean	SD
ESG awareness	3.82	0.71
Environmental consideration	3.76	0.68
Social consideration	3.69	0.72
Governance consideration	3.74	0.69
Financial literacy	3.88	0.65
Risk perception	3.55	0.74
Social influence	3.62	0.70
Ethical values	3.95	0.60
ESG-based investment behaviour	3.80	0.67

To test H1, ESG awareness was compared with the neutral midpoint of 3.00. The mean difference was .82 points. Using the reported sample size, mean, and standard deviation, the one-sample test yields $t(199) = 16.33$, $p < .001$, with Cohen's $d = 1.15$. Thus, ESG awareness was not merely above the midpoint descriptively; the difference was statistically large. H1 is supported.

4.2 Reliability and factorability

Table 2 reports Cronbach's alpha values. All reported constructs exceeded .70. ESG awareness demonstrated alpha = .842. The environmental, social, and governance scales recorded alpha values of .801, .789, and .815, respectively. Financial literacy showed alpha = .833, risk perception alpha = .776, social influence alpha = .808, and ethical values alpha = .852. These results indicate satisfactory internal consistency.

Table 2. Reliability of the measurement scales

Construct	Number of items	Cronbach's alpha
ESG awareness	5	.842
Environmental consideration	4	.801
Social consideration	4	.789
Governance consideration	4	.815
Financial literacy	4	.833
Risk perception	4	.776
Social influence	4	.808

Ethical values	4	.852
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The KMO statistic was .871, indicating strong sampling adequacy. Bartlett's test of sphericity was statistically significant, chi-square = 1452.36, $p < .001$. Together, these values support the suitability of the item correlation matrix for factor analysis. Because detailed factor extraction results were absent from the source analysis, no unsupported factor-loading or validity values are introduced here.

4.3 Correlations between ESG awareness and ESG pillars

ESG awareness was positively correlated with all three pillar-specific considerations. The strongest correlation was observed for environmental consideration ($r = .621$), followed by governance consideration ($r = .603$) and social consideration ($r = .584$). With $n = 200$, all three correlations are statistically significant at $p < .001$. The results indicate that respondents with stronger general ESG awareness were also more likely to report greater attention to environmental, social, and governance information when evaluating investments.

Table 3. Correlation of ESG awareness with ESG pillar considerations

ESG pillar	Pearson r with ESG awareness	Significance
Environmental	.621	$p < .001$
Social	.584	$p < .001$
Governance	.603	$p < .001$

The magnitudes are moderately strong rather than near-perfect, which is theoretically desirable because it suggests that overall ESG awareness is related to, but not redundant with, the three pillar-specific constructs.

4.4 Effect of ESG awareness on sustainable investment decisions

The simple regression model examined whether ESG awareness predicts sustainable investment decisions. The model produced $R = .684$ and $R^2 = .468$, with adjusted $R^2 = .462$. Thus, ESG awareness accounted for 46.8% of the observed variance in sustainable investment decisions. Based on the reported R value and sample size, the model-level test is $F(1, 198) = 174.08$, $p < .001$. The standardized regression coefficient is $\beta = .684$, and the corresponding recalculated t statistic is $t(198) = 13.19$, $p < .001$.

Table 4. Regression of sustainable investment decisions on ESG awareness

Predictor	Standardized beta	t	p
ESG awareness	.684	13.19	$< .001$

Model summary: $R = .684$; $R^2 = .468$; adjusted $R^2 = .462$; $F(1, 198) = 174.08$, $p < .001$.

The result provides strong support for H2. Retail investors with higher ESG awareness were substantially more likely to report sustainable considerations in their investment decisions.

4.5 Predictors of ESG-based investment behaviour

The second regression analysis examined four behavioural determinants: financial literacy, risk perception, social influence, and ethical values. All four standardized coefficients were statistically significant. Ethical values had the largest coefficient ($\beta = .331$, $t = 4.89$, $p < .001$), followed by financial literacy ($\beta = .298$, $t = 4.12$, $p < .001$), social influence ($\beta = .256$, $t = 3.67$, $p < .001$), and risk perception ($\beta = .214$, $t = 3.08$, $p = .002$).

Table 5. Predictors of ESG-based investment behaviour

Predictor	Standardized beta	t	p	Hypothesis
Financial literacy	.298	4.12	< .001	H3a supported
Risk perception	.214	3.08	.002	H3b supported
Social influence	.256	3.67	< .001	H3c supported
Ethical values	.331	4.89	< .001	H3d supported

The source manuscript did not include the complete model-summary statistics for this four-predictor regression. Therefore, R², adjusted R², F, tolerance, and VIF values are not fabricated in this revision. These values should be retrieved from the original statistical output or recalculated from the raw dataset before submission. At the coefficient level, however, the reported results support H3a-H3d and indicate that ESG-based investment behaviour is associated with a combination of financial competence, risk evaluation, social context, and ethical orientation.

5. Discussion

The purpose of this study was to examine whether ESG awareness is associated with sustainable investment decision-making among retail investors in Bangalore and to evaluate the contribution of financial literacy, risk perception, social influence, and ethical values to ESG-based investment behaviour. The results provide consistent evidence that ESG-related investment behaviour is multidimensional. Awareness is important, but sustainable investment choices also reflect financial capability, perceptions of risk, social cues, and personal values.

First, the study found that mean ESG awareness was significantly above the neutral midpoint, with a large standardized mean difference. This result suggests that ESG is not an entirely unfamiliar concept within the sampled Bangalore retail-investor community. The finding is plausible in a highly digitized urban setting where investors are exposed to fintech platforms, corporate disclosures, financial news, social media, and sustainability-related communication. However, awareness should not be equated with expert-level ESG literacy. The present instrument measures self-reported awareness, and respondents may understand ESG at different levels of depth. The distinction is important because awareness can range from recognizing the term ESG to being able to evaluate materiality, reconcile conflicting ratings, or detect greenwashing.

The positive correlations between general ESG awareness and all three ESG pillars further indicate that ESG-aware investors tend to consider environmental, social, and governance dimensions together. Environmental consideration showed the strongest association, followed closely by governance and then social factors. This pattern is broadly consistent with evidence that retail investors do not treat the three ESG pillars identically (D'Hondt et al., 2022). Environmental issues may be especially salient because climate change, pollution, energy transition, and resource use receive extensive public and media attention. Governance may also be particularly relevant to investors because board accountability, disclosure quality, corruption, and shareholder rights have direct implications for financial risk. Social issues can be more heterogeneous and may be harder for retail investors to quantify, which may partly explain their slightly weaker relationship with overall ESG awareness.

Second, ESG awareness was a strong predictor of sustainable investment decisions. The model explained 46.8% of the variance, which is substantial for individual-level behavioural research. This finding is consistent with experimental evidence that increasing ESG awareness can raise the likelihood of sustainable choices (Shahen et al., 2026) and with Indian evidence showing that awareness and informativeness contribute to ESG investment intention (Jonwall et al., 2022; Mir & Dwivedi, 2026). The result can be interpreted through the TPB framework: awareness contributes to informed attitudes and can increase the perceived relevance of ESG information during

investment evaluation. Investors who understand why environmental, social, or governance issues may affect firms are more capable of incorporating those issues into investment choices.

Nevertheless, the magnitude of the relationship should not be interpreted causally. Cross-sectional self-reported data cannot establish whether awareness causes sustainable investment behaviour, whether prior sustainable investing increases ESG awareness, or whether both are driven by an unobserved third factor such as education, professional background, ethical orientation, or general interest in finance. Longitudinal and experimental designs would be required to establish directionality more convincingly.

Third, ethical values emerged as the strongest of the four additional predictors of ESG-based investment behaviour. This result aligns with the view that sustainable investing contains an important values-based component. Riedl and Smeets (2017) showed that social preferences help explain socially responsible investment holdings, while Giglio et al. (2025) documented a meaningful group of retail investors whose ESG motivation is primarily ethical. In the present sample, the high mean for ethical values and the relatively large standardized coefficient imply that many investors may use ESG information not only because they expect financial benefits but also because they view investment as a domain in which personal responsibility and social consequences matter.

Ethical motivation does not imply indifference to returns; prior evidence shows that values-based investors remain sensitive to financial expectations (Giglio et al., 2025; Shahan et al., 2026). Instead, ethical values appear to add non-financial utility to portfolios that align with preferred sustainability outcomes.

Financial literacy was the second-strongest additional predictor. This is an important result for policy and investor education because sustainable finance products can be information-intensive. Investors may need to interpret ESG ratings, understand fund mandates, distinguish between integration and exclusion strategies, evaluate costs, and compare sustainability characteristics without neglecting diversification or expected returns. Cucinelli and Soana (2023) found a positive association between financial literacy and preference for socially responsible financial intermediaries, and D'Hondt et al. (2022) similarly identified financial literacy as an important determinant of retail ESG exposure. The present findings extend this logic to Bangalore: investors who perceive themselves as more financially knowledgeable are more likely to engage in ESG-based investment behaviour.

Social influence also showed a positive effect. This result is consistent with the subjective-norm component of TPB and with evidence that socially responsible investing can involve social signaling (Ajzen, 1991; Riedl & Smeets, 2017). In a digitally connected investment environment, social influence can operate through multiple channels. Friends and colleagues may recommend products; financial advisers may frame ESG as part of prudent long-term planning; social media may amplify sustainability narratives; and platform interfaces may highlight ESG labels or ratings. Hutchings (2025) demonstrates that how ESG information is presented can influence retail allocation, suggesting that communication architecture matters. The implication is that investor education cannot focus only on individuals in isolation; information ecosystems and trusted intermediaries also shape behaviour.

Risk perception had the smallest standardized coefficient among the four additional predictors but remained statistically significant. This is theoretically meaningful because ESG investing involves uncertainty about both financial performance and sustainability claims. Some investors may view stronger ESG practices as a source of resilience, while others may worry about concentration risk, valuation premiums, policy dependence, or unclear return trade-offs. Pedersen et al. (2021) show that ESG preferences can interact with conventional portfolio efficiency, and Kaushik (2026) identifies risk perception as a significant component of ESG investment intention in India. The present finding reinforces the need for balanced communication: presenting sustainable assets as inherently safer or superior would be misleading. Investors require clear information about both sustainability characteristics and ordinary investment risks.

Information credibility also conditions the value of ESG awareness. Rating divergence can create confusion (Berg et al., 2022), while greenwashing can undermine trust and provoke adverse retail-investor reactions (Zhong et al., 2025). India's BRSR and BRSR Core initiatives are therefore relevant not only for corporate compliance but also for the quality of the information environment in which investors form ESG beliefs (SEBI, 2023).

The findings support a behavioural interpretation of sustainable investing in which ESG awareness is a central cognitive input but not a complete explanation. Retail investors appear to integrate what they know about ESG with what they know about finance, how they perceive risk, what influential others communicate, and what they personally value. This integrated interpretation is more consistent with contemporary sustainable-finance evidence than a simple assumption that investors choose ESG assets solely because they are environmentally concerned or solely because they expect superior returns.

6. Theoretical and Practical Implications

6.1 Theoretical implications

The study contributes to sustainable-investment research in three ways. First, it provides localized evidence from Bangalore, adding an emerging-market urban perspective to a literature that has often relied on developed-market data or national-level samples. Second, it distinguishes ESG awareness from financial literacy, risk perception, social influence, and ethical values rather than combining them into a single broad notion of sustainable-investment orientation. This distinction clarifies that awareness is cognitive, while the other constructs represent capability, perceived uncertainty, normative context, and moral preference. Third, the results are compatible with an extended TPB interpretation. ESG awareness can shape attitudes and perceived relevance; social influence maps onto subjective norms; financial literacy can enhance perceived control; risk perception affects the attractiveness and feasibility of action; and ethical values provide a moral-norm extension. The model therefore offers a more behaviourally grounded account of sustainable investment decisions than a purely financial or purely ethical explanation.

6.2 Implications for regulators and policymakers

For regulators, the results suggest that disclosure reform should be accompanied by investor comprehension initiatives. Standardized ESG disclosure is valuable only when investors can interpret it. SEBI's BRSR Core framework can improve comparability and assurance in the Indian market, but retail users may still require plain-language explanations, standardized terminology, and accessible educational materials. Investor-protection communication should also explain the limitations of ESG ratings and the possibility of rating disagreement rather than implying that a single score is an objective measure of corporate sustainability.

Regulators should also continue to address greenwashing risk. If investors perceive ESG labels as unreliable, awareness may not translate into confident investment decisions. Clear product-labelling rules, consistent disclosure of investment methodology, and enforcement against misleading sustainability claims can strengthen trust. Educational campaigns should explain that sustainable investing does not eliminate conventional risks such as market volatility, concentration, valuation risk, or product fees.

6.3 Implications for financial advisers, asset managers, and fintech platforms

Financial advisers should assess both financial suitability and sustainability preferences. Ethical preferences should be elicited explicitly, but they should not be interpreted as willingness to accept unlimited return sacrifice or risk. Recommendations should integrate sustainability preferences with investment horizon, diversification, liquidity, costs, and risk tolerance.

Asset managers and fintech platforms can improve engagement by providing transparent, decision-useful ESG information. Product materials should explain screening criteria, portfolio construction, material ESG risks, rating methodologies, and the handling of conflicting signals. Digital interfaces can use standardized summaries and educational prompts, but simplified information should be accompanied by clear limitations and should never present ESG scores as guarantees of financial performance (Hutchings, 2025).

6.4 Implications for investor education

Investor-education programmes should integrate ESG literacy with conventional financial literacy. Teaching sustainability concepts without diversification, risk, fees, and valuation may encourage values-aligned but financially weak decisions. Conversely, conventional financial education that ignores sustainability may leave investors unable to evaluate non-financial information increasingly present in corporate reporting and investment

products. A combined curriculum should cover ESG terminology, materiality, rating disagreement, greenwashing, risk-return trade-offs, and methods for verifying claims. The positive coefficient for financial literacy suggests that such integrated education could strengthen the ability of investors to convert general awareness into disciplined decision-making.

7. Limitations and Future Research

The study has several limitations. First, convenience sampling and a sample of 200 respondents restrict generalization beyond the participants. The findings should not be interpreted as representative estimates for all retail investors in Bangalore or India. Future studies should use larger, stratified samples and, where possible, probability-based recruitment. Second, the design is cross-sectional and relies on self-reported perceptions and behaviour. Common-method variance, social-desirability bias, and reverse causality are therefore possible. Future research should combine survey measures with actual portfolio data, transaction histories, or experimental investment tasks. Longitudinal designs could also test whether ESG education changes behaviour over time. Third, the source manuscript did not preserve complete measurement-model information, detailed questionnaire items, participant demographics, or the full model summary for the four-predictor regression. These omissions should be corrected from the original dataset and survey instrument before submission. Confirmatory factor analysis or PLS-SEM could be used to test convergent and discriminant validity, mediation, and indirect effects in a larger sample. Fourth, the study treats ESG awareness as a broad construct. Future research should distinguish objective ESG knowledge from self-perceived awareness and should measure awareness of rating disagreement, greenwashing, regulatory disclosure, and specific sustainable products. It would also be valuable to examine whether financial literacy moderates the effect of ESG awareness, whether ethical values mediate attitude formation, and whether social influence is stronger for younger or digitally active investors. Finally, the study is geographically concentrated in Bangalore. Comparative work across Indian cities and regions could identify whether local financial ecosystems, education, digital adoption, income, or cultural factors alter sustainable-investment behaviour.

8. Conclusion

This study examined the relationship between ESG awareness and sustainable investment decisions among 200 retail investors in Bangalore, India. The findings indicate that respondents reported ESG awareness significantly above the neutral midpoint and that awareness was positively associated with environmental, social, and governance considerations. Most importantly, ESG awareness showed a strong positive relationship with sustainable investment decisions, explaining 46.8% of the observed variance in the reported model. Financial literacy, risk perception, social influence, and ethical values were also significant predictors of ESG-based investment behaviour, with ethical values showing the largest standardized effect.

The evidence therefore suggests that sustainable retail investing is neither a purely ethical choice nor a purely financial calculation. It is shaped by knowledge, competence, risk beliefs, social context, and personal values. For India's evolving sustainable-finance market, this finding has practical significance. Better disclosure can improve the information environment, but disclosure alone is insufficient. Retail investors also require the financial and ESG literacy needed to interpret information, evaluate risk, recognize potential greenwashing, and align investment choices with both financial objectives and sustainability preferences.

For regulators, financial intermediaries, and fintech platforms, the central implication is that ESG participation should be supported through credible information and investor capability rather than promotional simplification. For researchers, the Bangalore evidence provides a useful basis for larger, multi-city, longitudinal, and behaviourally validated studies of sustainable investment in emerging markets.

Conflict of Interest Statement

The author(s) declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this article.

Ethical Approval Statement

Ethical approval was not required for this study because it is based exclusively on bibliographic metadata retrieved from the Scopus database and does not involve human participants, animals, clinical interventions, or personally identifiable information.

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