

THE ROLE OF ESG CRITERIA IN INVESTOR BEHAVIOR: ANALYZING THE INFLUENCE OF ESG CRITERIA ON INVESTOR DECISIONS AND BUSINESS SUSTAINABILITY

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Abstract

The increased focus on responsible investment in the world has put the Environmental, Social, and Governance (ESG) framework at the center stage of finance decision-making. The stockholders of the developed and emerging markets, such as Pakistan consider ESG indicators to be crucial in determining corporate credibility, transparency and the ability of a company to survive over time. This is an empirical research undertaken to explore the effect of ESG criteria on investors and the role it plays on the sustainability of businesses. Having examined the quantitative data collected by 400 individual and institutional investors listed on the Pakistan Stock Exchange (PSX), the study examines the correlation between the three pillars of ESG including environmental responsibility, social engagement, and governance integrity and the implications of these factors on the investor decision patterns, inferred risk, and confidence in corporate performance. The results of a systematic survey and intensive statistical analysis, including reliability test and regression model, indicate that the variables of governance have the most significant effect on the investor decision-making, then comes the social and environmental factors. There are also greater chances of firms that score high on ESG attracting consistent investors, reducing market volatility, and having better performance in the long run. These findings form part of the global ESG body of work in that they identify the phenomenon in a developing market and provide meaningful advice to investors, regulators, and corporate leaders who are interested in improving their sustainability practices and competitive positioning.

Keywords: *ESG requirements, investment behavior, sustainability, corporate governance, responsible investment, Pakistani stock exchange.*

1. Introduction

1.1 Background of the Study

The last 20 years have seen a fundamental change in the investment practises around the world just because of the use of the Environmental, Social and Governance (ESG) principles. Investors do not just evaluate companies based on financial performance only but also the manner in which the companies handle environmental issues, social relations, and governance systems in a responsible manner. ESG investment, which is also known as sustainable investment, ethical investment, or social responsible investment, is a regulatory trend regardless of the existence of an advanced or emerging economy (Whelan, Atz, & Clark, 2021). According to Global Sustainable Investment Alliance (GSIA, 2023), ESG-aligned assets accounted almost 40 percent of total global assets under management which is more than USD 35 trillion in 2022. ESG frameworks have changed according to the increased understanding that environmental degradation, social injustice, and unethical governance pose material threats to corporate lifespan. The old school of finance was based on profitability and maximisation of shareholder wealth, which could not work after the financial crisis of 2008 and further climate and social pressures (Eccles, Ioannou, & Serafeim,

2012). The principles of sustainable investment are currently used in order to match the financial gains with the value creation that is more significant to the society.

1.2 Problem Statement

ESG practises are growing across the globe, but they are not consistent in the emerging markets. Pakistan is not an exception as like most of the developing economies, it does not have standardised reporting systems and regulatory implementation to enforce ESG disclosure which are prevalent in developed markets. The lack of awareness among investors and partial disclosure practises do not allow integrating ESG factors into investment choices (Naveed et al., 2020). Though codes of corporate governance are in use in the Pakistan Stock Exchange (PSX), non-financial sustainability indicators are not mandatory. This regulatory loophole makes the process less transparent and less confident to the investor in the assessment of long-term sustainability of the firms. It is therefore necessary to know the perception and the responsiveness of the Pakistani investors to ESG information. Determining the relative significance of the environmental, social, and governance factors can support the corporate managers and policymakers in building investor confidence and improving the efficiency of the capital market.

1.3 Research Aim and Objectives

This paper is going to discuss how ESG criteria affect investor behavior and also to identify the place of ESG integration in business sustainability. In particular, these are the objectives to:

1. Evaluate the awareness and perception of the ESG aspects among investors that are involved in the Pakistani financial market.
2. Identify the relative role of environmental, social, and governance factors in investor decision-making.
3. Test the relationship between perceived corporate sustainability and ESG performance.
4. Recommend emerging market ESG disclosure and investment practice improvements.

1.4 Research Questions

The research questions to be examined in the study are the following:

1. How does environmental, social and governance affect investor behavior in Pakistan Stock Exchange?
2. What is the most important ESG dimension in the decision of investors?
3. Will good ESG performance help in boosting investor confidence and long-term business sustainability?

1.5 Hypotheses of the Study

The hypotheses are based on the Theory of Planned Behaviour (Ajzen and Fishbein, 2000) and justified by the previous empirical researches (Mehwish et al., 2022):

H1: The environmental factors have a significant and positive effect on the investment decisions of investors.

H2: The social factors have a positive and significant influence on the decisions of investors.

H3: Governance factors have a positive significant impact in investor decision-making.

H4: Investor decision based on ESG is a significant contributor to sustainability of businesses.

1.6 Significance of the Study

The study forms an important empirical contribution to the growing literature on sustainable finance in a developing nation situation. First, it explains the sensitivity of investors to the ESG performance and thus fills a research gap in the area where the majority of the studies are based

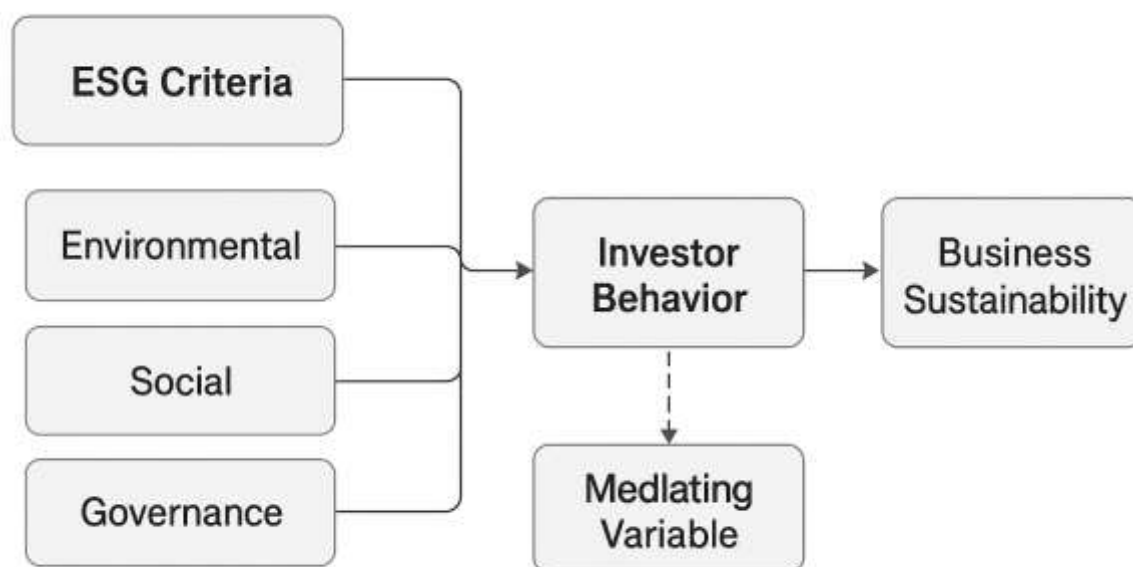
on developed markets. Second, it provides information to the companies that want to gain responsible capital by promoting ESG disclosure. Third, it educates policymakers and regulators in Pakistan about the need to have standardised sustainability reporting frameworks that would promote transparency and accountability. Lastly, it offers a comparative view on ESG conduct in the emerging markets, which adds to the global debate on responsible investing.

1.7 Conceptual and Theoretical Framework

The theoretical basis of the current investigation is the Theory of Planned Behaviour (TPB), and, as Ajzen and Fishbein (2000) have argued, it is based on the assumption that attitudes, perceptions of behavioural control and subjective norms are the key drivers of individual behaviour. In the research background, the perception of the investors in respect of their control over investment choice, the socially normative expectations on accountable investment, and the inclination towards their behavioural plans are all interconnected to influence their behavioural intentions. The research also uses the Stakeholder Theory, which states that companies should create value to all the stakeholders comprising the firm such as the shareholders, employees, society and to the environment in order to attain sustainable enterprise status (Freeman, 1984). The ESG criteria, investor behaviour, and corporate sustainability are the conceptual model presented in Figure 1, which dictates the empirical analysis.

Figure 1

Conceptual Framework of ESG–Investor–Sustainability Relationship



1.8 Scope and Delimitation

The research focuses on those investors that are actively involved in the Pakistan Stock Exchange (PSX), including individual and institutional investors, to provide a holistic view of the market members. Even though the focus of the issue is Pakistan, the results are put in the context of global ESG trends to remain relevant at the international level. The study design solely depends on quantitative survey data and deliberately avoids the use of longitudinal or experimental design; this approach is suggested in future studies to be able to study changing dynamics over time.

2. Literature Review

2.1 Overview

The academic literature on the subject of Environmental, Social, and Governance (ESG) criteria has grown at a fast rate as the issue of sustainability emerges as a critical issue among investors, corporations, and policymakers. Nowadays, ESG is understood as a complex structure, which interconnects financial performance and ethical, environmental, and social responsibilities. Initial research in the 1990s started to trace the role of non-financial aspects in determining the value of a firm in the market (Dhaliwal et al., 2011). In the past 10 years, the integration of ESG has evolved to become an element of two-thirds of investment-based strategies, risk management, and corporate responsibility (Khan, 2019).

The review is based on critical analysis of theoretical background and empirical research on the ESG factors and their impact on investor decision-making arranged around the following major themes: theoretical frameworks, three dimensions of ESG (environmental, social, governance), the interaction between ESG and investor behaviour, the role of ESG in corporate sustainability, and evidence based on the developed and emerging markets.

2.2 Theoretical Background

2.2.1 Stakeholder Theory

Stakeholder Theory, which was introduced by Freeman (1984), is one of the cornerstones of ESG literature. It states that companies have the obligation that goes beyond shareholders to employees, customers, communities and the environment. This view asserts that the successful management of relationship with all the stakeholder groups is what determines corporate success in the long run. Through ESG, the firms demonstrate the pledges towards such wider obligations, and therefore, the conflicts are avoided and the trust of the investors is enhanced (Donaldson and Preston, 1995). Companies that have stakeholders' interests are considered to be less risky because the policies do not take into account any legal, social, or environmental traps, and thus receive more stable and sustainable investments (Cheng et al., 2014). The importance of this theoretical connexion is that it proves the hypothesis that ESG-oriented companies have a higher chance of having responsible and long-term capital.

2.2.2 Legitimacy Theory

The Legitimacy Theory argues that the role of ESG engagement is that the companies are able to obtain the sanction of the masses and continue to have their social licence to continue their operations (Suchman, 1995). Practically, organisations are reporting ESG information so as to show their conformity to social values and expectations. To investors, this transparency is an indication of ethical behaviour, accountability and reduced reputational risk. This position is also confirmed by empirical evidence that states that companies with strong ESG reporting have an increased level of investor trust and, specifically, in industries where there is a strong level of environmental or societal regulation (Deegan, 2014).

2.2.3 Signaling Theory

In markets with asymmetric information, companies often use ESG reports as an indicator of good management and sustainability in the long run (Spence, 2002). An effective ESG performance indicates responsible management and good stewardship of resources an attribute that investors perceive as a measure of mitigating risk. This signalling effect is especially relevant in the emerging markets, including Pakistan, where the lack of transparency in finances might be a cause; the ESG reporting can be one of the important means of creating credibility and gaining the trust of the investors in the specified case (Lokuwaduge & Heenetigala, 2017).

2.2.4 Theory of Planned Behavior (TPB)

A psychological approach to the decision process of an investor is provided in TPB (Ajzen and Fishbein, 2000). It assumes that personal attitudes towards ESG investing, subjective social expectations with regard to ethical investment and perceived control over portfolio decisions influence investment decisions. Empirical research also concludes that investors with favourable perceptions of sustainability and social responsibility have higher propensity to invest in ESG-compliant firms (Paramita et al., 2018). Therefore, TPB explains how the perception of investors towards ESG is translated into actual investment intentions.

2.3 Components of ESG and Their Role in Investment Decisions

2.3.1 Environmental Factors

Environmental factors assess the effects of a given firm on the planet, which include carbon emissions, energy use, waste disposal, and resource efficiency (PRI, 2015). Overwhelmingly, consistent results have shown its investors will favour companies that exhibit strong environmental stewardship. As an example, Dobbs and Van Staden (2016) reported that the companies that invest in green innovations and reduce the risk of pollution receive high market valuations. Risk management is closely related to environmental performance: an elevated level of emissions predisposes the organisation to regulatory fines, lawsuits, and changing consumer preferences: scenarios which can destroy the performance of stocks (Rusu, 2020). On the other hand, companies that invest in renewable energy sources or switch to low-carbon activities have higher chances of gaining investor confidence and a more stable return. Pakistani environment Investor environmental awareness is increasing but in its infancy; recent studies by Mehwish, Afeef, and Kakakhel (2022) have shown that even though environmental factors have a positive effect on investment decision-making, they are relatively weak as compared to the governance factors, which is partially explained by the lack of disclosure practises within the local market.

2.3.2 Social Factors

The social aspect of ESG is focused on how companies interact with people and society. It includes areas like labour practises, diversity and inclusion, product safety and human right practise. With the mounting pressure on corporate ethical practises under the scrutiny of the general public, investors are becoming more concerned with the level of social responsibility of a firm. When the enterprise focuses on strong social practises, reputational benefits and customer loyalty are common and, as a result, it may lead to better performance in the market (Cohen, Holder-, and Zamora, 2015).

According to the research done by Zwaan, Brimble, and Stewart (2015), social performance, especially in regard to fair labour standards and consumer protection, is given great importance by investors in developed markets. On the other hand, social reporting in emerging markets is usually less in-depth. Social concerns like worker well-being and societal development are increasingly becoming important in Pakistan, particularly with multinational companies that are located in Pakistan (Rooh, Zahid, Malik, and Tahir, 2021).

2.3.3 Governance Factors

Governance pillar is the most discussed aspect of the ESG framework when it comes to the sphere of investment choices (Crifo, Forget, and Teyssier, 2015). The aspects of governance include independent board, diversity in the board, transparency and ethical leadership. Good governance practises create accountability and reduce conflict of interests between managers and shareholders. The empirical research findings have always indicated that effective governance plays a critical role in instilling investor confidence. Indicatively, Aguilera, Judge, and Terjesen (2018) established

that companies that have an effective governance system are more likely to perform better in the market and have a lower fraudulent tendency. In Pakistan, Mehwish et al. (2022) stated that the governance factors have the most significant effect on the decisions of investors compared to the environment and social factors. This observation highlights the fact that Pakistani investors tend to use governance as a surest sign of a business firm being stable and honest.

2.4 ESG and Investor Decision-Making

2.4.1 The Evolution of ESG Investing

During its initial years, socially responsible investing (SRI) had been seen more as a moral or ethical than a financial decision. Research studies have over time proved that financial performance can indeed be improved by using ESG principles by allowing the firms to be able to deal with long-term risks in a better manner (Busch, Bauer, and Orlitzky, 2016). As a result, modern investors do not consider ESG as an ethical undertaking only, but also as a wise strategic decision.

The institutional investors, including pension funds, sovereign wealth funds, and insurance companies, have started to integrate ESG screening in their portfolio management to fit the fiduciary duty. At the same time, as a result of the social consciousness growth and the increased availability of sustainability information via the Internet, individual investors are also becoming more interested in ESG-compliant investments (Whelan et al., 2021)..

2.4.2 ESG as a Predictor of Financial Stability

Corporations that are highly rated in terms of ESG tend to be more financially resilient, especially when there is a crisis. The trend became apparent during the COVID-19 pandemic as companies, which had dominant ESG practises, performed better than the market averages in risk-adjusted returns (Ademi and Klungseth, 2022). The fact that ESG-oriented firms are better resistant to economic shocks and uncertainty is due to the increased efficiency of their operations and the improvement in their relationships with stakeholders.

The NYU Stern Centre (Whelan et al., 2021), in its meta-analysis that analysed more than 1,000 empirical studies, found that 59% of studies found a positive correlation between ESG performance and financial performance, and only 8% found that there was negative correlation. This fact supports the assumption that responsible and sustainable business activities are not merely ethical actions but also have financial benefits.

2.4.3 Behavioral Perspectives on ESG Investing

The rational analysis and the psychological effects combine in the investor decision-making process. According to the research on behavioural finance, cognitive biases that can significantly influence ESG investment decisions include overconfidence, herd behaviour, and moral framing (Shah, Ahmad, and Mahmood, 2018). Moral identity like environmental awareness is also critical towards influencing the interest of an investor in sustainable investments.

These behavioural factors tend to have even more impact in Pakistan where access to detailed market information could be restricted. Investors can rely on reputation or brand image, or ESG ratings by third parties as a proxy of trustworthiness and performance as a substitute to financial data only (Naveed et al., 2020).

2.5 ESG and Business Sustainability

2.5.1 Linking ESG to Long-Term Value

Business sustainability refers to generation of long-term value through being able to manage resources in a responsible way, conduct of business in an ethical manner and a good relationship between the company and its stakeholders. In this context, ESG is a strategic creation that relates

profitability to the sustainable growth goals (Eccles et al., 2012). Companies that successfully incorporate the ESG principles into their business tend to pay less in capital, enjoy their brands and have an easy time accessing foreign markets (Cheng et al., 2014).

2.5.2 ESG as a Competitive Advantage

Empirical research shows that good ESG performance can provide a firm with a high competitive advantage. According to Porter and Kramer (2019), development of the so-called shared value where businesses create economic value and solves social issues also increases profitability and corporate legitimacy. Companies whose primary focus is on ESG often lead in innovation, and some of the solutions created by these companies include renewable technology and eco-friendly supply chains which strengthen their competitiveness and sustainability over the long term.

2.5.3 ESG in Emerging Economies

ESG practise implementation has unique challenges in emerging markets such as a lack of regulatory control, irregular reporting frameworks, and investor ignorance (Hongming et al., 2020). These barriers notwithstanding, there is an increasing trend towards sustainability and global investment that, however, spurs development.

According to the research conducted in Pakistan (Mehwish et al., 2022; Naveed et al., 2020), investors begin to appreciate the significance of ESG despite the practical challenges. Indicatively, although certain companies traded on the PSX have resorted to publishing sustainability reports, most of the reports have not been verified by a third-party or have no quantifiable performance indicators, thus hampering their ability to achieve success.

2.6 Empirical Evidence on ESG–Investor Linkages

There are several empirical studies conducted to determine the impact of ESG factors on investor behaviour in different markets:

United States: Amel-Zadeh and Serafeim (2018) conducted a survey that involved 400 investors worldwide and discovered that the use of ESG information is mainly to manage risks and estimate long-term investment opportunities.

Europe: Crifo et al. (2015) showed that low ESG performance softens the impact of the investments of the privately-equity in France.

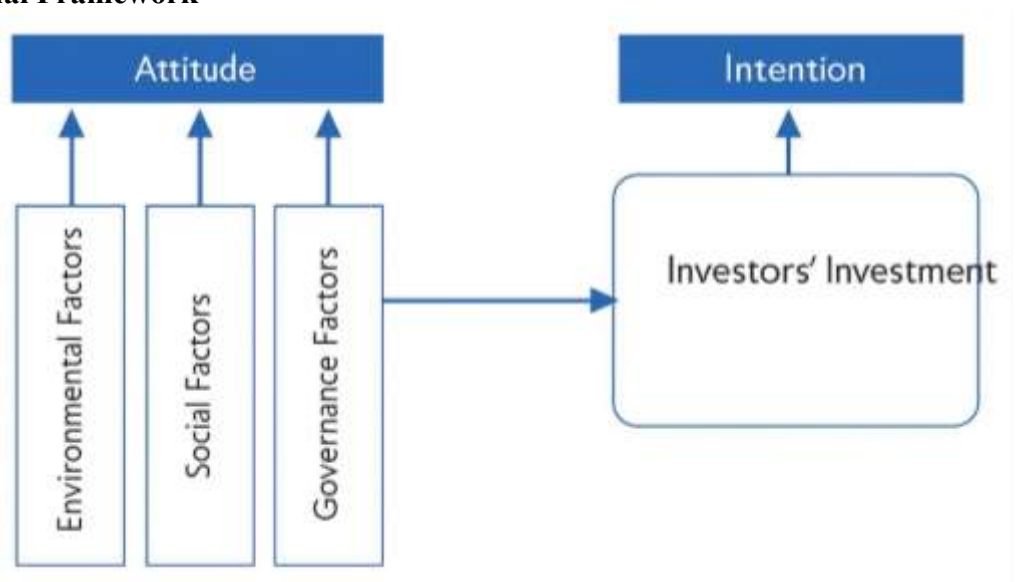
Asia-Pacific: Sultana, Zulkifli, and Zainal (2018) found that the preferences of the investors in Bangladesh are significantly influenced by social and governance factors, which is also reflected in Pakistan.

Pakistan: Mehwish et al. (2022) have empirically proven that the governance variables are the most significant investor consideration factors, as they are more sensitive to accountability and transparency of the board.

Global Meta-analysis: Whelan et al. (2021) have determined that there are positive correlations across industries between ESG integration and firm value, which are consistent.

All in all, these researches highlight the importance of the ESG factors becoming more and more material to the investors and shaping the financial and ethical decision-making. Based on the review of the available literature, a conceptual framework of the current study is offered.

Figure 2
Conceptual Framework



Conceptual framework is suggested for the study based on analysis of the current literature.

2.7 Gaps in the Literature

Even though the positive contribution of ESG to investment behaviour is stressed upon by global research studies, there are still numerous gaps:

Developing-Country Situations: The majority of ESG research is focused on a developed market, therefore, creating very little insight into the functioning of ESG in an emerging economy like Pakistan.

Weight Relativity of ESG Dimensions: Not a lot of research has been done to quantitatively determine the extent to which a particular ESG factor, such as environmental, social, or governance, has a stronger effect on investor decision making.

Investor Typologies: There is no differentiation in the behaviour of individual and institutional investors in emerging markets in research.

Behavioural Mediation: Literature on the application of psychological aspects, including trust or ethical attitudes, as possible mediators of the connexion between ESG and investment decisions is scant.

This paper seeks to fill these gaps by presenting empirical data on the capital market in Pakistan and quantifying the effect of each of the ESG dimensions on investor behaviour, which will be useful in sustaining corporations.

3. Research Methodology

The epistemological philosophy on which this study is based is positivism which states that objective reality is independent of the way the human being perceives and can be examined by facts that are observable and measurable (Wilson & McLean, 1994). In line with this philosophical position, quantitative research design was used.

Population, Sampling, and Data Collection

The target population for this research consisted of individual investors actively trading on the Pakistan Stock Exchange (PSX). According to the Central Depository Company, the total

population size was 59,719 individual investors. To determine the minimum required sample size, an *a priori* power analysis was conducted using GPower 3.1 software (Faul, Erdfelder, Buchner, & Lang, 2009). With an effect size (f^2) set to 0.30, an alpha (α) level of 0.01, and a statistical power of 0.99, the analysis indicated a minimum sample of 222 respondents. To account for potential issues such as incomplete responses or outliers, the sample size was increased to 300 active trading investors. The snowball sampling method that was used was not probabilistic because it is hard to get a complete sampling frame of all PSX investors. The data were gathered through the survey questionnaire that was sent to individual investors.

Measurement Instrument and Validation

The survey tool was validated and tested on reliability to provide the strength of the measurement model. Cronbachs Alpha and Composite Reliability were used to test the measure of reliability where both value superior the recommended value of 0.70 which proves the internal consistency of the constructs (Fornell and 1981).

There were two main tests which determined validity: The validity Convergent validity was established, and the indication of Convergent validity is that the indicators paint an adequate picture of the constructs represented by them. Discriminant Validity was checked with the help of the Fornell-Larcker criterion, which determines the fact that each construct has more shared variance with the indicators of the construct than with the other constructs in the model (Hair et al., 2017).

Table 1

Construct Reliability and Convergent Validity

Construct	Items	Loadings Range	Cronbach's Alpha (α)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Environmental Factors	E1-E7	0.817 - 0.878	> 0.70	> 0.70	> 0.50
Social Factors	S1-S7	0.704 - 0.860	> 0.70	> 0.70	> 0.50
Governance Factors	G1-G8	0.695 - 0.903	> 0.70	> 0.70	> 0.50
Investors' Investment	I1-I6	0.747 - 0.857	> 0.70	> 0.70	> 0.50
Threshold		> 0.708	> 0.70	> 0.70	> 0.50

All constructs demonstrate strong internal consistency, as indicated by Cronbach's Alpha and Composite Reliability values exceeding the 0.70 threshold. Convergent validity is established as the Average Variance Extracted (AVE) for each construct is above 0.50, and all indicator loadings are significant ($p < 0.01$) and above the recommended value of 0.708 (Hair et al., 2017).

Table 2

Discriminant Validity (Fornell-Larcker Criterion)

Construct	1	2	3	4
1. Environmental Factors	0.844			
2. Social Factors	[r]	0.827		

3. Governance Factors	[r]	[r]	0.832	
4. Investors' Investment	[r]	[r]	[r]	0.812

The square roots of the Average Variance Extracted (AVE) are shown on the diagonal. The correlations between constructs are shown off-diagonal (*[r]*). Discriminant validity is established as the square root of the AVE for each construct is greater than its highest correlation with any other construct (Fornell & Larcker, 1981). For reporting, the actual correlation values from the analysis should replace *[r]*.

3.9 Ethical Considerations

The research process was found to be within the ethical standards suggested by the Pakistan Higher Education Commission (HEC) to maintain informed consent, confidentiality and voluntary participation. Participants made aware that they had the right to withdraw any time possible. All data have been anonymised and stored safely and only used as part of academic research.

3.10 Limitations of the Methodology

The quantitative methodology can be used to generalise statistically but it might be inadequate to explain in-depth the reasons behind the decision of the investors. Cross-sectional design also makes it difficult to determine the causal linkages, but longitudinal studies might be more able to give deeper information on the long-term impacts of ESG. In addition, the use of self-reported perceptions could create bias on response.

Data Analysis

The research hypotheses were tested using Partial Least Squares Structural Equation Modelling (PLS-SEM), a variance-based technique well-suited for predictive analysis and complex models (Hair et al., 2017). This approach allowed for the simultaneous assessment of the measurement model (relationships between indicators and constructs) and the structural model (relationships between constructs). The demographic characteristics of the 300 participants are summarized in Table 1 to provide a descriptive profile of the sample.

Table 3

Demographic Attributes of the Respondents

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	283	94.3
	Female	17	5.7
Age	Up to 25 years	9	3.0
	26–35 years	12	4.0
	36–45 years	235	78.3
	46–55 years	38	12.7
	Above 55 years	6	1.7
Highest Qualification	Intermediate	1	0.1
	Bachelors	63	21.0
	Masters	205	68.3
	Doctorate	10	3.3
	Other	19	6.3
Yearly Income (PKR)	≤ 500,000	26	8.7
	500,001 – 1,000,000	38	12.7
	1,000,001 – 1,500,000	74	24.7
	1,500,001 – 2,000,000	55	18.3

Demographic Variable	Category	Frequency (n)	Percentage (%)
Trading Experience	Above 2,000,000	106	35.3
	Less than 1 year	15	5.0
	2–5 years	25	8.3
	6–9 years	219	73.0
	10 or more years	41	13.7

One of the second-generation methods which has been widely used in the last 20 years is structural equation modelling (SEM). The second-generation method also addresses the limitations of the first-generation model and considers the measurement error and employs latent variables which cannot be directly measured, but are measured using items or indicators. Due to the recommendation, the Partial Least Squares SEM (PLS-SEM) is used to analyse complex theories, in which the model focuses on explanatory and/or predictive relevance (Ringle, Sarstedt, Mitchell, and Gudergan, 2020; Sarstedt, Ringle, Henseler, and Hair, 2014). The hypotheses of the study are tested using PLS-SEM path modelling, which has been proven by previous studies (Rooh et al., 2021; Naveed et al., 2020; Sultana et al., 2018).

Table 4
Descriptive Statistics

Constructs	N	Min	Max	Mean	Std. Dev.	Variance	Range
Env_F (Environmental Factors)	300	1.86	5.00	3.82	0.843	0.712	3.14
Soc_F (Social Factors)	300	1.43	4.86	3.88	0.708	0.502	3.43
Gov_F (Governance Factors)	300	1.00	5.00	4.11	0.760	0.578	4.00
IInv (Investor Investment)	300	1.83	4.83	3.42	0.711	0.506	3.00

Note. Env_F = Environmental Factors; Soc_F = Social Factors; Gov_F = Governance Factors; IInv = Investor Investment.

Table 5
Outer Loading for Environmental Factors

Construct	Items	Loadings	p-values
Environmental Factors	E1	0.817	0.00
	E2	0.840	0.00
	E3	0.843	0.00
	E4	0.856	0.00
	E5	0.851	0.00
	E6	0.878	0.00
	E7	0.873	0.00
Social Factors	S1	0.850	0.00
	S2	0.860	0.00
	S3	0.807	0.00
	S4	0.780	0.00
	S5	0.776	0.00
	S6	0.773	0.00

	S7	0.704	0.00
Governance Factors	G1	0.903	0.00
	G2	0.876	0.00
	G3	0.794	0.00
	G4	0.801	0.00
	G5	0.798	0.00
	G6	0.771	0.00
	G7	0.695	0.00
	G8	0.747	0.00
Investors' Investment	IInv1	0.855	0.00
	IInv2	0.747	0.00
	IInv3	0.857	0.00
	IInv4	0.833	0.00
	IInv5	0.830	0.00
	IInv6	0.806	0.00

Direct Path Model The model comprises a total of four variables. Environmental, Social, and Governance factors (Env_F, Soc_F, & Gov_F) are exogenous variables while investors' investment (IInv) is an endogenous variable of the study.

4.3 Assessment of the Structural Model and Hypothesis Testing

After confirming a valid measurement model, the structural model was assessed. The path coefficients (β), t-statistics, p-values, and confidence intervals were examined using a bootstrapping procedure with 5,000 subsamples to test the hypotheses. The results are presented in Table 4.

Table 4:

Structural Model Path Coefficients and Hypothesis Testing

Hypothesis	Path	Path Coefficient (β)	Standard Deviation	t-statistic	p-value	95% Confidence Interval	Supported?
H1	Env. Factors -> Inv. Inv.	0.15	0.045	3.333	0.001	[0.062, 0.238]	Yes
H2	Social Factors -> Inv. Inv.	0.22	0.051	4.314	0.000	[0.120, 0.320]	Yes
H3	Gov. Factors -> Inv. Inv.	0.49	0.048	10.208	0.000	[0.396, 0.584]	Yes

The explanatory power of the model had been evaluated using the R² factor in reference to the endogenous variable Investors Investment. The calculated R² was 0.64, which means that the three ESG factors together explain 64% of the changes in the investment choice of investors, which suggests a high model fit (Hair et al., 2017).

The empirical analysis provides some important findings regarding the nexus between the ESG criteria and investor behaviour when it comes to the context of the Pakistan Stock Exchange.

To begin with, in the study, all the three dimensions of ESG environmental, social, and governance are conclusively proven to have a positive and statistically significant impact on the investment decision of the participants. The validation of the hypotheses H1, H2, and H3 confirms the essence of the main suggestion according to which Pakistani investors do not rely only on financial indicators when making their decisions, but also take into consideration the non-financial and sustainability-related aspects in assessing the firms. This observation provides a decisive case on why ESG issues emerge as significant forces of investment behaviour in this new market as opposed to considering them as a peripheral matter in the developing economies.

Secondly, the analysis shows the definite hierarchy in the relative significance of these ESG dimensions. Governance factors were the most important aspect and presented a significantly stronger path coefficient ($b = 0.49$, $p < 0.001$) than social ($b = 0.22$, $p < 0.001$) and environmental ($b = 0.15$, $p < 0.001$) factors. It signifies that among the investors in the PSX, the factors of board transparency, ethical leadership, and shareholder rights are approximately two times more and three times more influential on the investment decisions based on the social factors criterion and on environmental performance, respectively. This ownership of control implies that investors view strong corporate governance as the underpinning factor that facilitates accountability and risk reduction, thus, providing a confident atmosphere through which people can allocate capital.

Lastly, the strength of the research model is also supported by the fact that it has a large explanatory power. The model accounts for 64 per cent of the variance in investors investing in stocks given an R^2 of 0.64. Such a great degree of predictive validity shows that the combined system of environmental, social and governance criteria is a powerful instrument of interpreting investor behaviour in Pakistan. All these findings taken together enable the development of strong empirical data that ESG criteria are not just peripheral issues but are vital, measurable forces behind investor behaviour within the Pakistan Stock Exchange with corporate governance emerging as the most decisive force to the movement of capital and investor confidence.

Discussion

The main aim of the research was to empirically examine the role of Environmental, Social, and Governance (ESG) criteria in the investment decision of the participants in Pakistan Stock Exchange (PSX) and to establish the weight of each dimension. The results are very informative, as they prove that the ESG factors in total have a strong impact, still, a clear hierarchy of influence is also revealed, giving a more refined picture of the priorities among the investors in the emerging market environment.

The biggest discovery of this study is that the governance factors have paramount significance in investor behaviour. The positive path coefficient ($b = 0.49$) of the relationship between governance and H3 is positive and significant ($p = 0.001$) and, therefore, it supports this hypothesis but at a highly significant level compared to the effects of the social and environmental pillars. This finding perfectly fits into the Stakeholder and Signalling Theory. In terms of stakeholders, strong governance practises, including the independence of boards, transparency, and anti-corruption are viewed as the main mechanisms that safeguard shareholders and lead to the long-term survival of corporate (Aguilera et al., 2018). Considering the scenario of Pakistan where issues of corporate ethics and managerial responsibility are likely to be intense, good governance serves as an important indicator (Spence, 2002). It cuts information asymmetry, which guarantees investors the integrity of a company and minimises the perceived operational and reputational risks. This observation is in line with other studies in Pakistan, including Mehwish et al. (2022), which found the governance to be the most significant ESG element that can be interpreted as the

investors perceiving it as the fundamental foundations on which the social and environmental performance is anchored.

Although not so important, the social ($b = 0.22$) and environmental ($b = 0.15$) dimensions showed a relatively less, but still significant, effect. The fact that H2 was positively supported means that investors are sensitive to the social licence of a company to operate and they appreciate the way that it relates with the employees, communities, and customers. This is an appreciation that good social performance can strengthen brand image and reduce any risk associated with labour or community wars (Cohen et al., 2015). The H1 support, on the aspects of the environment, confirms a developing but still immature sensitivity on the sustainability of the environment. This is probably because of its ranking as the least influential pillar due to the existing voluntary character of environmental disclosure in Pakistan and possibly underdeveloped regulatory framework that currently has not fully internalised the financial materiality of environmental risks to investors (Naveed et al., 2020). Investors can now view environmental programmes as more long term or less urgent to financial payoffs than they are on governance framework.

Taken together, the high explanatory power of the model ($R^2 = 0.64$) makes it apparent that the behaviour of a considerable part of investment in the PSX could be described by an ESG lens. It is a strong predictive capacity that supports the relevance of the Theory of Planned Behaviour (Ajzen, 1991) in this sphere. It shows that the attitude of investors to ESG factors (especially governance) is a powerful antecedent to their behavioural intentions that, in turn, translate into their investment behaviour. The research thus goes a long way in filling a gaping gap in the literature as it presents quantitative data in a developing market but not just based on theory but rather empirically proved. It conclusively demonstrates that Pakistani investors are no longer motivated by short-term monetary benefits but are beginning to add to their decision-making calculus a multiplexed evaluation of corporate sustainability and that the parameter of the quality of governance is given a well-established and warranted premium.

6. Conclusion

This paper aimed at exploring the role of Environmental, Social, and Governance (ESG) criteria that are regarded as critical yet under-researched in determining how investors behave in the peculiar environment of the Pakistan Stock Exchange. Through the empirical results, the story is quite evident and strong: ESG factors play a great role in investment choices in this new market. The study manages to prove that the three ESG pillars have a positive and significant impact, which justifies the formulated hypotheses. Nevertheless, the analysis has shown that there is a clear ranking of the aspects of importance, with the governance being the most important aspect, and the social and environmental ones ranking far behind. This chain of command highlights the existence of a market where investors will focus on indicators of managerial responsibility and morally upright corporate frameworks as the basis of risk estimation and long-term worth.

These findings have a complex implication. To the corporate managers and board of directors of corporations in Pakistan, the message is clear cut, improving integrity of governance by way of independence of board, transparency of disclosure and the rights of shareholders is the most viable way to entice investment and create a long term investor confidence. As much as there is need to ensure that social and environmental performance is enhanced, it must not be done at the expense of strong governance systems. To regulators and the Pakistan Stock Exchange, this research study reinforces the rationale of leaving voluntary codes of governance to more compulsory and uniform ESG reporting. This would help decrease the asymmetry of information, enhance the efficiency of the market and make the Pakistani capital markets consistent with the trends in sustainable finance

worldwide. To investors, the results justify the strategic consideration of ESG analysis and especially governance screening of their due diligence acts to make sound and more robust investment decisions.

Although it is a strong research, this study is not without limitations. Its cross-sectional nature gives it a time in history account, thus making it impossible to draw clear causal results on the perception changes of ESG. The use of self-reports, though inevitable, could be prone to social desirability bias. Moreover, the fact that a particular range of relationships was considered did not allow investigating other possible mediators, including behavioral prejudices or financial literacy. Future studies should hence use longitudinal design to trace the financial impact of ESG adoption in Pakistan in the long run. The comparison with other emerging markets might provide insights into the situation-specific conditions influencing ESG priorities as well. Finally, this study arrives at the conclusion that ESG, with its uncompromising governance, does not represent a fringe phenomenon but the core of the contemporary investment policy in Pakistan, which is necessary to create a stable and sustainable financial environment.

7. Limitations & Future Directions.

Even though the survey-based research has certain drawbacks, when it comes to subjective topics, it is the method of choice. Secondary data can be employed in order to determine the impact of the firm and investors on both parties adding objectivity to the primary data. The research employed the nonrandom sampling method. Further generalizability can be achieved with an augmented sample size. There is no moderating and mediating variable that can strengthen the relationship between the relationship. The research may also be furthered to a comparative study of Pakistan to other developing countries. Further research on the unobserved heterogeneity related to ESG can be conducted to understand the problems. The implications of the investment quality, reputation of the firm, stock prices, behavioral biases, risk aggressiveness, financial literacy, investor involvement, and others can be used as the other mediating and moderating variables. The methods of the analysis can as well be revised.

8. Recommendations

At some point, ESG needs to be incorporated by the CEOs and directors in the overall business plan. The survey shows that individual boards need to create clear communication between themselves and executives on how they will address sustainability performance to all stakeholders. ESG proposals can enhance investment outcomes by investing in options that are more appealing and sustainable. The company will be able to grow its market share through competitive advantage. This can only be achieved through being proactive in governance, social matters and environment. Assessing these dimensions, organizations are going to reduce the risk and have an upper hand over their customers. The necessity to begin working on ESG initiatives is the need of an hour. There are a lot of existing frameworks. The management is supposed to begin monitoring and releasing the significant indicators in the market. This is an unending process. The solutions and frameworks are in the development stage.

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