

Informativeness of environmental, social and governance (ESG) data on investment decisions: The mediating role purpose of investment

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ABSTRACT

In terms of investment, social and governance (ESG) issues consider various non-financial aspects of business performance. This includes the impact of the company's operations on the environment, society, and the quality of corporate governance. ESG factors have received significant attention from the investment community, along with increasing awareness of the importance of sustainability in investment decision making. Investors are increasingly realizing that taking ESG factors into account when making investment decisions can provide long-term benefits, both from an environmental and financial perspective. This study's objective is to investigate how ESG issues affect investment choices by using the mediation of investment goals as a variable in the relationship. This study included quantitative methodology and a survey questionnaire. Researchers gather and use analytical methods to study quantitative data. Simple random selection was used to perform the questionnaire survey of Indonesian stock market users, including individuals and businesses. There are 371 samples total that may be examined for this investigation. Software called SmartPLS 3.0 was used for the study's analysis. According to the study's findings, corporate governance, social responsibility, and the environment all have varied effects on investment choices. Environmental considerations have a major impact on investing objectives but little to no impact on investment choices. Social considerations have a favorable and considerable impact on investment decisions, but they have little impact on investment aims. Investment goals and choices are significantly impacted by corporate governance variables. According to this study, investment objectives play a part in mediating the relationship between environmental, social, and corporate governance (ESG) concerns and investment choices. Investment objectives operate as a mediator between environmental and corporate governance considerations, which both have an impact on investment choices. The impact of social considerations on investment decisions is not, however, moderated by investment objectives.

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1. Introduction

The Global Financial Crisis (GFC) has led to significant changes in business in recent decades, demonstrating the inevitable nature of international economic interactions. Due to unethical conduct, risk monitoring, accountability, and the capacity to strategically manage stakeholders, companies are becoming more fearful (Jia et al., 2020). Investors in the stock market are growing worried about the Environmental, Social, and Governance (ESG) concerns of the businesses taking part in this defiant transformation process (Kraik, 2019). This viewpoint is gaining ground and is seen as one of the key elements of national and global sustainable development in a broader sense since ESG involves sustainable returns and risk reduction, as well as accountability to society and the environment. ESG concerns consider a number of non-financial factors of a company's performance when making investments. This includes the impact of the company's operations on the environment, society, and the quality of corporate governance (Tarmuji, 2016; Sultana et al., 2018; Ellili, 2021).

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ESG factors have received significant attention from the investment community, along with increasing awareness of the importance of sustainability in making investment decisions (Almeyda & Darmansya, 2019). Environmental factors cover issues such as climate change, the responsible use of natural resources, and the environmental impact of company operations. Social factors involve the company's relationship with employees, local communities and other stakeholders, as well as general corporate social responsibility. Factors of corporate governance include good management practices, equity in the ownership structure, and transparency in financial reporting (Evans et al., 2017; Dmytriyev et al., 2021; Wang et al., 2016). Investment objectives can include financial and non-financial aspects. Some investors may focus more on achieving short-term financial returns, while others may have broader goals, such as supporting environmental or social initiatives that are aligned with their personal values (Naveed et al., 2020).

Investors are increasingly realizing that considering ESG factors in making investment decisions can provide long-term benefits, both in terms of environmental and financial sustainability (Tarmuji et al., 2016). Ellili's research (2021) has shown that companies that perform well in terms of ESG tend to have better long-term financial performance, less operational risk, and better maintain their reputation and relationships with stakeholders. This study aims to explore the influence of ESG factors on investment decisions, considering the mediating role of investment objectives (Shaikh et al., 2022). By understanding this relationship in greater depth, investors and financial market participants can make smarter and more sustainable investment decisions that integrate social and environmental values (Sherwood & Pollard, 2018).

The importance of considering ESG factors when making investing decisions has a significant influence. Companies that act unethically may pay significant costs linked to stakeholder investment, sustainability costs, resource consumption costs, loss of customer trust, and cleanup expenses in the case of a severe disaster (Cek & Eyupoglu, 2020; Sultana et al., 2018). According to Ferrero-Ferrero et al. (2016), ESG virtuous businesses may increase their capacity for innovation, risk management, access to financing, cost reductions, and customer loyalty. In addition, a focus on ESG can also encourage innovation and creativity, enabling companies to better face future challenges. By considering ESG factors, companies can more effectively manage risk, reducing the possibility of serious financial problems (Tarmuji et al., 2016; Shaikh, 2022). However, there is still little understanding of how these ESG factors specifically influence investment decisions, especially in the context of investment objective brokering. Investment objectives may vary between investors, ranging from a focus on short-term financial returns to supporting broader environmental or social initiatives (Sahut & Pasquini-Descomps, 2015). Therefore, it is important to understand how ESG factors can influence investment decisions through the mediation of investment objectives. This study will explore the relationship between ESG factors and investment decisions, by taking the mediation of investment objectives as a variable influencing the relationship. With a better understanding of the influence of ESG and the mediating role of investment objectives, it is hoped that this research can contribute to the development of investment strategies that are more sustainable and have positive social and environmental impacts. It is hoped that this research will provide deeper insight into how ESG factors can influence investment decisions, as well as the importance of considering investment objectives in an ESG context.

2. Literature Review

2.1 *Environmental, Social and Governance*

Investment decisions are important processes that have long-term consequences for investors. The decision involves careful analysis of the various factors that can affect investment performance and the associated risks. In recent years, there has been increasing attention to Environmental, Social, and Corporate Governance (ESG) factors as relevant factors in investment decision making (Awais et al., 2016; Shaikh, 2022). Investment decisions that include ESG considerations have a huge impact, both for investors and for companies that are the object of investment. By taking ESG factors into account, investors can reduce their investment risk (Van Duuren et al., 2016). In addition, ESG considerations can also help investors identify companies that have good governance practices. Companies with strong governance tend to have efficient management structures, transparent decision making, and good risk monitoring. By investing in such companies, investors can reduce the risks related to abuse of power, scandals, or legal non-compliance that can harm the value of the investment (Pak & Mahmood, 2015; Tarmuji et al., 2016; Sultana et al., 2018).

In terms of investment objectives, environmental information factors influence investors in determining investment objectives (Giese et al., 2019). Companies that are committed to sustainability practices and environmental protection are more likely choices for investors to invest in. Investors seek businesses that adopt green technology, reduce greenhouse gas emissions, use natural resources responsibly, and contribute to climate change solutions (Ferrero-Ferrero et al., 2016). Investing in a company with good environmental information gives investors confidence that the company is prioritizing a positive impact on the environment. Environmental information is also an important consideration when making investment decisions (Alsayegh et al., 2020). Investors will see information about companies related to the environment, such as sustainability reports, policies, and actions taken by companies to reduce negative impacts on the environment. This information assists investors in determining whether companies are managing natural resources responsibly (Tan & Zhu, 2022). Companies that have a commitment to the environment will be more likely to attract many investors. Thus, the hypothesis in this study is concluded as follows:

Hypothesis 1: *Environmental information has a positive effect on the purpose of investment.*

Hypothesis 2: *Environmental information has a positive effect on investment decisions.*

Social information involves issues related to corporate social responsibility, social impact, engagement with the community, and relations with stakeholders (Shnayder et al., 2016; Westermann-Behaylo et al., 2015). These factors play an important role in shaping investors' views of companies and their investment decisions. In the context of investment objectives, social information factors influence investors in determining their goals. Investors tend to invest in companies that pay attention to the social impacts generated by company activities (Bi et al., 2017). Investors seek companies that have policies and programs aimed at reducing social inequality, supporting local communities, or contributing to sustainable development. Investing in companies with good social information gives confidence to investors that these companies are socially responsible and have an awareness of the resulting social impacts (Tan et al., 2016). In making investment decisions, the social information factor is also an important consideration. Investors will analyze the company's social information, including sustainability reports, social policies, and engagement with stakeholders. This information assists investors in evaluating how the company deals with social issues that are relevant to the company's business (Boekhorst, 2015). Investors will be more inclined to choose companies that are committed to social responsibility, pay attention to human rights, maintain diversity, or contribute to the surrounding community. Investors who consider social information will be more inclined to invest in companies that are socially responsible, care about social impact, and have good relationships with stakeholders (Amel-Zadeh & Serafeim, 2018; Xie et al., 2019). These factors help maintain investor confidence, minimize reputational risk, and provide confidence that their investment is supporting companies that contribute positively to society.

Hypothesis 3: *Social Information has a positive effect on the purpose of investment.*

Hypothesis 4: *Social information has a positive effect on investment decisions.*

Good governance within a company includes practices of transparency, accountability, integrity and protection of stakeholder interests. These factors play an important role in influencing investors' views of companies and their decisions in investing (Tan & Zhu, 2022). Governance information factors influence investors in determining the purpose of investing in companies that have strong and effective governance. Investors look for companies that have a clear ownership structure, an independent board of directors, and an efficient supervisory system (Tarmuji et al., 2016). Investments in companies with good governance give investors' confidence that the company will be managed with integrity and be responsible for the interests of stakeholders (Ellili, 2021). In addition, investors will view corporate governance information, which includes financial reports, corporate policies, and relevant disclosures. This information assists investors in evaluating the risk and potential success of the investment (Naveed et al., 2020; Sherwood & Pollard, 2018). Investors tend to choose companies with good governance practices because they show the company's commitment to transparency, accountability, and paying attention to the interests of stakeholders.

Hypothesis 5: *Governance information has a positive effect on the purpose of investment.*

Hypothesis 6: *Governance information has a positive effect on investment decisions.*

2.2 Purpose of Investment

When making investing selections, investment objectives have a significant importance. The investing goals of each individual investor are crucial to comprehending the overall investment choice and success. Typically, investors allocate capital according to investing goals or objectives before making any final judgments. According to Ellili's results (2021), investors who buy stocks to save money may be more interested in ESG investing than those whose investment objective is to generate a consistent income from stock market investments (Tarmuji et al., 2016). Investment objectives can vary, such as seeking high financial returns, building a diversified portfolio, securing a financial future, or supporting social and environmental projects. These investment objectives reflect investors' values, needs, and preferences (Nofsinger et al., 2019).

Clear and well-defined investment objectives will influence investment decisions. Investors will consider whether an investment is in accordance with its goals. Investors will evaluate whether the investment can help achieve the set short-term or long-term financial goals (Amel-Zadeh & Serafeim, 2018). The investment is not in accordance with the stated objectives, investors may choose to look for alternative investments that are more suitable. In addition, investment objectives can also affect investors' preferences for the types of assets or sectors they choose to invest in (Bi et al., 2017; Sultana et al., 2018). For example, the objective of the investment is to support sustainable projects or socially responsible companies, investors are likely to choose to invest in the renewable energy sector or companies with good sustainability practices.

Hypothesis 7: *Purpose of investment has a positive effect on investment decisions.*

When investors have strong investment objectives related to environmental, social, and corporate governance, ESG information will become an important factor in making investment decisions (Van Duuren et al., 2016). Investment objectives can direct investors' attention to certain aspects of ESG that match the investors' values and preferences. Investment goals can

also affect the relative weight that investors give to ESG information (Dmytriyev et al., 2021). Investors with strong social investment objectives may be more likely to prioritize ESG information relating to the protection of human rights or the company's positive engagement in local communities (Alsayegh et al., 2020). In addition, investment objectives can function as a filter in the investment decision-making process. Investors with clear investment goals will use ESG information to identify companies that are in line with their values and goals, and then consider this information in making investment decisions (Tarmuji et al., 2016; Sultana et al., 2018). Departing from the literature, the hypothesis can be concluded:

Hypothesis 8: *The relationship between environmental information and investment decisions can be mediated by the purpose of investment.*

Hypothesis 9: *The relationship between social information and investment decisions can be mediated by the purpose of investment.*

Hypothesis 10: *The relationship between governance information and investment decisions can be mediated by the purpose of investment.*

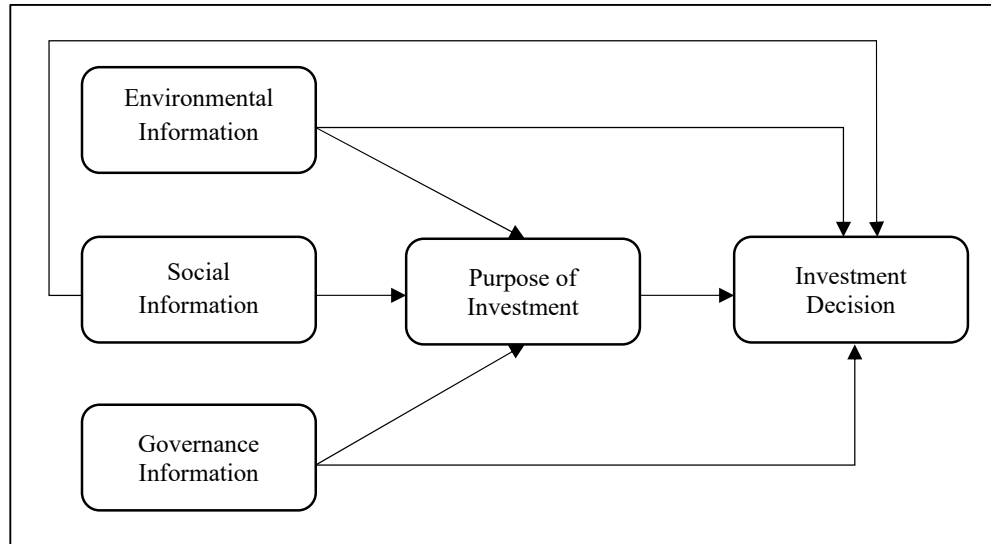


Fig. 1. Model Framework

3. Research Method

This study included a quantitative methodology and a survey questionnaire. In this method, the researcher uses an analytical strategy to gather and study quantitative data. As this is the primary portion of the study connected to the purpose, the questionnaire survey was conducted on individual stock market investors and on corporations collaborating with investors in Indonesia by simple random sampling in order to obtain the final data. 412 respondents received questionnaires on a Likert scale of 1–7 (strongly disagree – strongly agree). The number of questionnaires returned was 387 questionnaires. There were 25 respondents who did not return the questionnaire. In addition, 16 questionnaires were left unanswered, making a total of 371 samples available for analysis in this study. Additionally, this study tests ideas using quantitative scientific procedures that allow us to arrive at a logical answer for the problems it raises. This study uses SmartPLS 3.0 software, the industry standard for Structural Equation Modeling (SEM), to analyze quantitative data. It presents partial least squares (PLS) algorithms as well as factor-based PLS algorithms that account for measurement errors and produce accurate composite estimates.

4. Research Result

While the structural model explains the link of latent variables, structural equation modeling (SEM) describes the relationship between the constructs and the related indicator variables. Using SmartPLS for test analysis in this study. Early on in the study, it was determined if the constructs employed to measure the research latent variables were reliable before examining the impact of exogenous factors on endogenous variables. This can be explained by the standard value of the loading factor which is above 0.6. Furthermore, reliability and validity analysis tests were carried out to confirm that the constructs used were reliable and valid. Validity test is used to measure the validity or validity of a questionnaire. The construct in measuring the latent variable is reliable with a Cronbach Alpha value > 0.7 and valid with a value > 0.5. The reliability value is still low, the researcher may consider removing the less reliable construct or making improvements to the measurement instruments used.

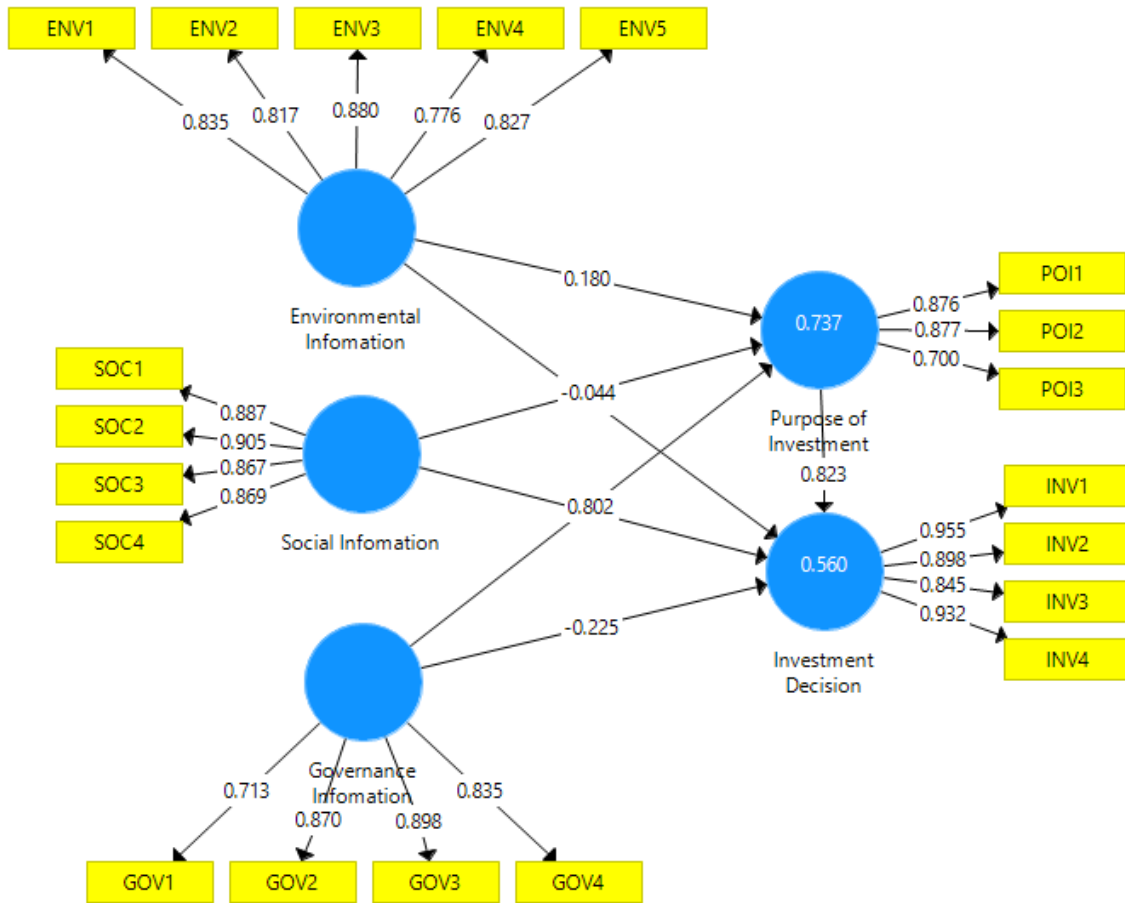


Fig. 2. Measurement Model
Source: Processed data (2023)

Table 1
Std. Loading Factor

Variable	Construct	Std. Loading Factor
Environmental Information	ENV1	0.835
	ENV2	0.817
	ENV3	0.880
	ENV4	0.776
	ENV5	0.827
Social Information	SOC1	0.887
	SOC2	0.905
	SOC3	0.867
	SOC4	0.869
Governance Information	GOV1	0.713
	GOV2	0.870
	GOV3	0.898
	GOV4	0.835
Purpose of Investment	POI1	0.876
	POI2	0.877
	POI3	0.700
Investment Decision	INV1	0.955
	INV2	0.898
	INV3	0.845
	INV4	0.932

Source: Processed data (2023)

The results of the analysis test in Table 1 above show that the construct of the environmental information latent variable has an external load value that ranges from 0.776 - 0.880, so that this indicator can be considered valid and reliable for measuring environmental information variables. In addition, the social information latent variable construct has an external load value that ranges from 0.867 - 0.905, so that the external burden value of the indicators used can also be considered valid for measuring environmental variables. With a value between 0.713 - 0.898, indicators for governance information latent

variables seem reliable to measure it. Furthermore, the indicator for the investment objective variable obtains an external load value that ranges from 0.700 - 0.877, indicating that the indicator is valid. In addition, indicators for investment choice variables obtain external load values ranging from 0.845 - 0.955, which indicates that the indicators used for investment choice variables are also valid and reliable for measuring these latent variables.

Table 2
Reliability and Validity

Variable	Cronbach's Alpha	rho A	Composite Reliability	Average Variance Extracted (AVE)
Environmental Information	0.886	0.914	0.916	0.685
Social Information	0.905	0.907	0.933	0.778
Governance Information	0.849	0.855	0.899	0.692
Purpose of Investment	0.752	0.751	0.861	0.676
Investment Decision	0.928	0.933	0.94	0.825

Source: Processed data (2023)

The results of the reliability test showed that the environmental information variable had a Cronbach alpha value of 0.886, social information of 0.905, government information of 0.849, investment objectives of 0.752, and investment decisions of 0.928. Cronbach's alpha value for each of these variables is above the value of 0.7, which indicates that all items in the test have strong reliability. Furthermore, in the validity test, all variables in this study have an AVE of more than 0.5; the AVE value for the variable environmental information is 0.685, social information is 0.778, government information is 0.692, investment objectives are 0.676, and investment decisions are 0.825, this indicates that all variables in this study can be considered valid. The next analysis test is the R square analysis test. Where the value of R square is a value that shows how much exogenous variables (environmental information, social information, governance information, purpose of investment) affect endogenous variables (investment decision).

Table 3
R Square

	R Square	R Square Adjusted
Purpose of Investment	0.737	0.732
Investment Decision	0.560	0.549

Source: Processed data (2023)

In this study, the independent variable has a significant influence on the investment objective variable by obtaining an R-Square value of 0.737 with an adjusted R-Square value of 0.732. Conversely, the investment decision variable obtains an R-Square value of 0.560 with an adjusted R-Square value of 0.549. Furthermore, in this study, there are two forms of hypothesis testing used, namely direct and indirect hypothesis testing or through mediation. Direct hypothesis testing is used to assess the impact of independent variables on dependent variables, such as the influence of environmental information, social information, governance information, and the purpose of investment-on-investment decisions. In contrast, indirect or mediation hypothesis testing is useful for determining whether the relationship between the independent and dependent variables is influenced by the intermediary variable, namely the purpose of investment. This hypothesis test determines whether the independent and dependent variables have a direct or indirect relationship with each other. It also determines whether the investment objective can serve as a mediator between these relationships. The T statistic value is greater than 1.96 or the P value is less than 0.05, the hypothesis can be accepted or considered significant.

Table 4
Path Coefficients

Hypothesis	Standard Deviation	T Statistics	P Values
Environmental Information → Purpose of Investment	0.047	3.840	0.000
Environmental Information → Investment Decision	0.063	0.437	0.663
Social Information → Purpose of Investment	0.051	0.852	0.396
Social Information → Investment Decision	0.068	3.157	0.002
Governance Information → Purpose of Investment	0.046	17.473	0.000
Governance Information → Investment Decision	0.101	2.216	0.028
Purpose of Investment → Investment Decision	0.080	10.325	0.000

Source: Processed data (2023)

The first hypothesis test's findings, namely the impact of environmental knowledge on investment goals, yielded a T statistics value of 3,840. The first hypothesis in this investigation is noteworthy since the P value derived for it is 0.000 (0.05). A T statistics value of 0.437 and a P value of 0.663 are obtained for the second hypothesis, which claims that environmental knowledge affects investment decisions. In the second hypothesis, the P value is more than 0.05 and the T statistical value is less than 1.96. In other words, the study's second hypothesis was rejected. The third theory, which examines how social information affects investment goals, receives a T statistical value of 0.852 and a P value of 0.396. The resulting P value is more than 0.05 and the T statistical value of the hypothesis is less than 1.96. As a result, this study's third hypothesis is rejected. However, the T statistical value and P value in this fourth hypothesis of 3.157; 0.002 show that social information has a positive and substantial impact on the aim of investing. Furthermore, the fifth and sixth hypotheses which state that

governance information has an influence on the purpose of investment and investment decision obtain a T statistical value of 17,473; 2,216 and a P value of 0,000; 0.028, so it was found that the fifth and sixth hypotheses in this study had a significant influence which could be accepted. The seventh hypothesis, the effect of the purpose of investment-on-investment decisions can also be accepted with a T statistical value of 10.325 (> 1.96) and a P value of 0.000 (< 0.05).

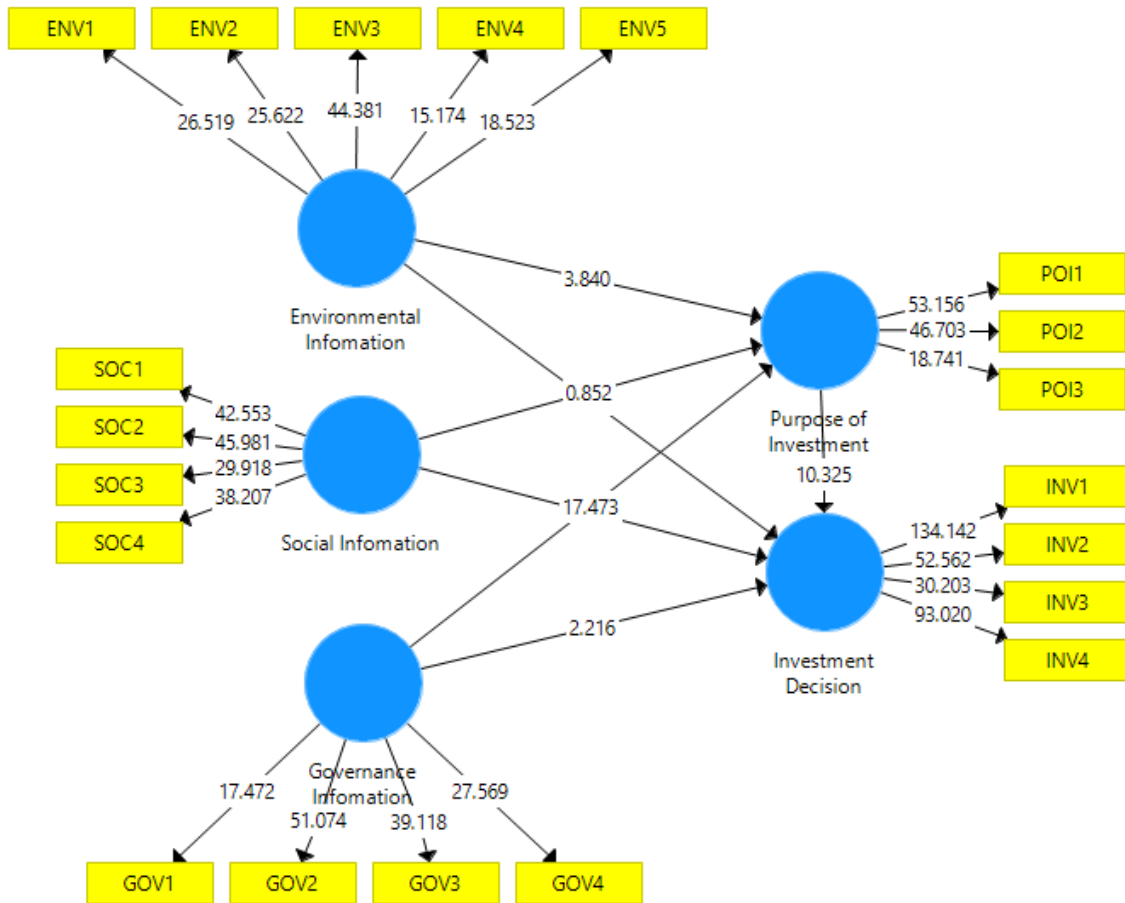


Fig. 3. Analysis Model Structure
Source: Processed data (2023)

Table 5
Indirect Effect

	Standard Deviation	T Statistics	P Values
Environmental Information → Purpose of Investment → Investment Decision	0.041	3.645	0.000
Social Information → Purpose of Investment → Investment Decision	0.043	0.835	0.405
Governance Information → Purpose of Investment → Investment Decision	0.082	8.098	0.000

Source: Processed data (2023)

The results of the hypothesis test using the purpose of investment variable as the mediating variable in the eighth hypothesis obtained a T statistical value of 3.645 with a P value of 0.000 so that it can be concluded that the eighth hypothesis has a significant and acceptable influence. But in the ninth hypothesis, where the purpose of investment mediates the relationship of social information to investment decisions is not accepted because the T statistical value obtained is 0.835 (less than 1.96) and the P value is 0.405 (more than 0.05). Whereas in the tenth hypothesis which states that the purpose of investment can mediate the relationship of governance information to investment decisions, it obtains a T statistical value of 8,098 with a P value of 0,000, meaning that the tenth hypothesis in this study can be accepted.

5. Discussion

This research produces initial evidence based on real experience about the extent to which individual investors in a developing country are interested in ESG (Environmental, Social and Governance) investments (Tarmuji et al., 2016). In the context of

environmental issues, investors tend to prefer investing in companies that create market opportunities through sophisticated environmental processes and technologies. These findings indicate that investors have a desire to support environmentally friendly production in order to encourage sustainable development (Sultana et al., 2018; Tan & Zhu, 2022). They believe that companies with good environmental practices will achieve better performance in the long run, while companies that do not pay attention to the environment are considered a risky investment. Investors also show an interest in considering environmental factors when making investment decisions (Naveed et al., 2020).

This study confirms that investors have a preference for social issues, including employee safety and health, respect for basic human rights, and information transparency. Investors show a strong interest in investing in socially well-behaved companies (Ellili, 2021). This finding acknowledges that investors have rational reasons to consider social aspects in investment decisions, which involve social and economic benefits. This is different from the traditional view of financial theory which considers investors as entities that solely seek economic benefits from investment (Awais et al., 2016). Because ESG concerns have an effect on long-term investment returns, classical financial theory and behavioral finance theory are combined in the context of ESG (Tarmuji et al., 2016; Van Duuren et al., 2016; Sahut & Pasquini-Descomps, 2015). As a result, economic reasons, social issues, and environmental concerns may all have an impact on the environmental, social, and governance aspects in investment choices. However, governance issues often pertain to investor rationality and are backed by traditional financial theory.

This research reveals that investors give priority to establishing an effective board of directors with clear responsibilities in terms of corporate governance. This involves adhering to the guidelines for financial reporting and the independence of the auditor. Concerns about corporate governance are said to be heavily influenced by the board of directors' independence and accountability, as well as the audit committee's organizational structure. This study shows that investors consider it important to have good corporate governance as a response to the governance scandals that occurred both in Indonesia and globally. Investors also have the belief that investing in companies that have received punishment from the relevant authorities due to corruption or other governance violations is a risky investment (Amel-Zadeh & Serafeim, 2018). In addition, investors associate corporate governance practices that meet standards with better and sustainable financial performance and returns in the long term.

6. Conclusion

Based on the results of this study, it can be concluded that environmental, social, and corporate governance factors have different influences on investment decisions. Environmental factors significantly affect investment objectives, but do not have a significant influence on investment decisions. Social factors do not have a significant effect on investment objectives but have a positive and significant influence on investment decisions. Meanwhile, corporate governance factors have a significant influence on investment objectives and investment decisions. Furthermore, this study shows that investment objectives have a role as a mediation between ESG factors (environmental, social, and corporate governance) and investment decisions. Investment objectives mediate the influence of environmental factors on investment decisions, as well as the influence of corporate governance factors on investment decisions. However, investment objectives do not mediate the influence of social factors on investment decisions.

The implication of this research is the importance of considering ESG factors in making investment decisions. The results of the study show that environmental factors and corporate governance can influence investment objectives and investment decisions. This shows that investors need to consider the environmental impact and performance of corporate governance in choosing investments that are sustainable and have positive social and environmental impacts. In addition, this study highlights the importance of investment objectives as a mediating factor in the relationship between ESG factors and investment decisions. Investors need to have a clear understanding of the investment objectives and how ESG factors can support the achievement of these objectives. A good investment objective can assist investors in making investment decisions that are in line with values and taking ESG factors into account.

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