

# DIGITAL REFERENCES AND INVESTMENT COMMUNITIES IMPACT AS MODERATING FINANCIAL AND ESG REPORTING TO STOCKS LIQUIDITY

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**Abstract:** Stimulus to improve the development of ESG practices in Indonesia is marked in 2022 by the Indonesia Stock Exchange with regulation for issuers to provide ESG in their yearly reports. The Indonesia Stock Exchange incitement it with launch IDX ESG index in early 2021. Principally and regulatory, IDX has made efforts to pulse out their responsibility in social, environmental and good governance. Whether ESG reporting also has acceptance by the stock investment community, which has active digital tracking persuades in social media and tends to be a reference for investors, especially investors from generation Z and alpha ?. What are the impact of digital references on financial reporting and ESG on issuers liquidity shares on the Stock Exchange Market? Based on this phenomenon, this research was conducted for issuers registered in IDX ESG list at 2020 - 2021. Digital Reference and Social Media-based on Investment Community becomes as moderation variable (Z). The Independent variable are Financial Report with change in ROE as a proxies, then ESG Report Analysis with ESG Risk Value as it proxy. The dependent variable in these studies are the level of stock demand which will be characterized by the liquidity of the stock projected at the share volume purchases.

**Keywords:** Digital Reference, ESG, Financial, Investment, Stocks Liquidity

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## 1. Introduction

Indonesia Stock Exchange (IDX) as a party that subscribes and provides a system as well as a means to bring together selling and buying securities offers continues to make efforts to develop the capital market. Efforts include the development of IDX trading service engines, investor media interfaces, online trading applications belonging to exchange members, as well as massive education through social media, influencers, communities, and capital market school (SPM) class classes. Especially since the covid 19 pandemic occurred, online trading and all information based on social media or more we call the internet of things (IoT) is one of the best ways to do education and literacy in a massively open manner which then becomes the center of digital reference investors in making investment decisions. The presence of this IoT provides a significant change in the presentation of historical data financial statements that are generally needed by investors and prospective investors as well as investment managers of trading companies and the investor community to conduct fundamental analysis.

Stakeholders need a flexible reporting system that will allow them to obtain information in an easier way. Financial statements submitted over the internet provide many benefits for the

company. The company's website can make a source of information used and needed for stakeholders, the website is a unique medium for presenting financial and non-financial information (Reskino, 2016). At first the website was used to market the company's products, but currently the website is also used as a medium of communication with parties related to the company, both with stakeholders, stakeholders, and other interested parties, especially investors, one of which is in the dissemination of company financial information (Hasugian, P.S 2018).

The phenomenon of digitization is characterized by a significant increase in the number of retail investors, especially millennials. In 2020, there were 448,717 single investor identification who had joined and conducted securities investment transactions, especially stocks on the Indonesian stock exchange market. These single investors are members of various retail communities of stock investment. Social media, such as Youtube and Instagram become a land for them to spread information, also through whatsapp groups. There are 10 largest and most profiled stock communities with exchange market member trading companies that have investment managers with more than 700 members community activities focus on educating the people of Indonesia to be investment literate in collaboration with various parties, both academics at the campus level, city or district governments, agencies, and non-capital market communities in Indonesia (Investor Saham Pemula, 2018). Usually they gather and discuss together about the latest stock developments both online and offline. When discussing they often argue about which analysis is most appropriate in maximizing the return on investing in stocks in the capital market (Siska Yunia, 2021).

Awareness of the world's business people in practicing and implementing operational activities to better support environmental sustainability, environmentally friendly, and positive impact on social activities in the past two decades has increased. Business activities are not only oriented to large economic benefits, but pay more attention to aspects of environmental damage.

One of the causes of environmental damage that occurs due to the utilization of resources that are done is not appropriate and does not follow the rules or norms that apply, thus impacting social conflicts. So far, the company's performance assessment is only seen from how much profit they earn. At first, there was a view by investors that the benefits of ESG (Environmental, Social, and Governance) are not too important and the costs incurred are too high. However, in recent years there has been a new trend among investors that in measuring the performance of companies must consider the ESG factor.

ESG report in Indonesia before 2022 is a voluntary accountability report. Based on the data, (source: [esg.idx.co.id](http://esg.idx.co.id)) it was found that in 2020 only 135 of the 716 issuers who have volunteered to report their ESGs and in 2021 rose to 144 issuers from 769, no wonder, Indonesia is lagging behind due to conducting business activities based on environmental conservation, social responsibility, and good governance or ESG Report compared to other Asian countries. On the other hand, investors in carrying out their investment decisions are still based solely on financial performance, especially profitability.

In fact, the implementation of ESG has a positive impact on the company's performance in the long term. In addition to improving business performance and raising the issuer's share price, esg implementation can attract interest, increase consumer loyalty, and open wider access to financing sources which will then ultimately increase stock liabilities in the capital market signaling high levels of demand in stocks.

Demand for the stock itself will be based on changes in the number of shares actively traded on the stock exchange market, which indicates how often the stock occurs transacted. The object of this study, of course, comes from the stocks listed on the ESG Leader index which is evaluated every six months, with a major minor evaluation in each quarter of the company's performance and the stock.

Based on the background mentioned above, this study was conducted which aims to find out the influence of financial and ESG reports on stock liquidity and analyze whether Digital Reference and The Community can moderate the influence of Financial and ESG Reports on Liquidity Stock. The limitations on this study were placed on the moderation treatment of Digital Reference and Community variables conducted separately on independent variables, not done simultaneously for such moderation.

## 2. Literature Review

### Signalling Theory

Signal theory (Akelof, 1970) indicates an information asymmetry between the management of the company and the parties concerned with the information. Signal theory suggests how companies should give signals to users of financial statements (Brigham and Houston, 2009). Signal theory indicates that a company will provide signals through action and communication. The company adopts these signals to reveal hidden attributes to stakeholders (Scott and Graham, 2010).

### Efficient Market Hypothesis Theory

The Efficient Market Hypothesis theory states that the stock price formed is a reflection of all the information available. The market is said to be efficient when the value of the security at all times reflects all available information, which results in the price of a security being at its equilibrium level. The equilibrium price of a security results in the absence of opportunities obtained by investors to get an abnormal return from the difference in the price of a stock security.

### Clean Surplus Theory

Clean Surplus theory explains that the market value of a company can be expressed in variables of profit-and-loss statements and balance sheets. It is used to estimate the value of a company's stock which is then compared to the actual market value, to indicate the possibility of an overvaluation or low valuation of the market. Clean surplus theory emphasizes the usefulness of current financial statement information to predict future earnings. This theory suggests that a company's value that relies on fundamental accounting variables is consistent with the measurement perspective.

### Stakeholders Theory

The theory states that a company is not an entity that only operates for its own interests, but must provide benefits to all its stakeholders (shareholders, creditors, consumers, suppliers, governments, communities, analysts, and others). Increased company value creation as a result of activities undertaken and minimize losses that may arise for stakeholders.

### Relation between Financial Performance (Fundamentals) and Stock Liquidity

The study of the relationship between liquidity and a company's financial performance is numerous. Thus, the positive relationship between liquidity and performance will not be far-fetched (Fang, et al, 2009). Coffe in 1991, and Bhide in 1993, showed that liquidity is a facilitator for the trading of shares by outside shareholders (investors). Fang, et al, in 2009 also using feedback theory reported a positive relationship between liquidity and performance. They found that companies with better operational performance disclosures will attract institutional investors, for which the company seeks to disclose comprehensive information about the company, namely by disclosing its financial information that aims to make the company viewed as having positive value in the eyes of stakeholders in carrying out every

business activity so that support from stakeholders can be obtained. Corporate stakeholders can join to be users of products issued by the company or can be supporters of funds where it becomes part of the form of support provided. The company will be able to increase the company's working capital while improving its operations thanks to the financial support provided so that it has an impact on increasing the return on sales of the company's products (Buallay, 2019).

H1 : Financial Report significant positif to shares liquidity

### **Relation ESG Report to Shares Liquidity**

A form of disclosure of non-financial information such as ESG disclosure can also be viewed as a good signal that is expected to be received by others that can influence decision making. Disclosure of a company's non-financial information about the environment, social, and corporate governance can be a positive signal to investors. Positive signals captured by investors will make the company gain good judgment in the eyes of investors through an increase in stock demand transactions so that there is an increase in stock prices that have an impact on the company's increasing value (Safriani and Utomo, 2020). Non-financial disclosures such as ESG are expected to be social investments to satisfy the interests of stakeholders who will later contribute to improving the company's performance. Sustainability actions taken by the company will create higher demand and greater growth for the company (Buallay, 2019) because it attracts the attention of the company's stakeholders.

H2 : ESG Report has significant positif result to shares liquidity

### **Relevancy of Digital Reference as moderation of Financial and ESG Report to Shares Liquidity**

Liquid shares are stocks that are actively traded. The measure of stock liquidity is determined through the frequency of stock trading, transaction volume, and transaction value of a stock. Muliana's research, 2018, shows that the level of information revealed on a website will be a digital reference for investors, it has an influence on the frequency of stock trading. Handayani, 2016 also proves that the information revealed on a website or social media will be a digital reference for investors and prospective investors, has an influence on stock liquidity seen with the frequency of stock trading. Both of the results of the above research are in accordance with their previous research, namely Inscription, 2014 which revealed that digital references marked by the level of disclosure of website information are one of the many factors that have an influence on the frequency of stock trading. This information can be in the form of information in the form of Financial Report or non-financial report (ESG Report).

H3 : Digital Reference has positif and significant result as moderation in Financial and ESG report to Shares Liquidity

### **Relevancy of Investor Community Information as moderation Financial and ESG Report effect to Shares Liquidity**

Pratama Research (2020) shows that investors tend to be cautious in the decision-making process. Investors have the courage to choose the type of investment that has a higher risk in making investment decisions if they have a high level of tolerance for risk (Putra et al., 2016) with a tendency to follow the steps accepted by the environment of the reference community. The behavior of investors to follow the actions of most people even though the information received is information for something different than that of most people (Banerjee, 1992). Research was also conducted by Chan et al., 1990. According to them, investor behavior tends to refer to the activities carried out by investment managers, in fact, in stock trading, a positive feedback that refers to the activity of investors who profit from the purchase of shares and

investors who experience losses from the sale of shares. In the same study Chan et al., 1990 they stated that community information influences investment decision making in the stock market..

H4 : Investor Communities has relevant impact as moderation variable of Financial and ESG report to Shares Liquidity

### 3. Method

#### Population and Sample

The population in this study were the shares of issuers listed on the ESG Leader index for the period 2020 - 2021, with major minor data taken in each quarterly report. The sample is selected using the purposive sampling method. The criteria used in selecting a sample are as follows:

1. The issuer's shares are included in the ESG Leader index and qualified in major and minor evaluations of ESG Leader criteria during the period 2020 - 2021.
2. Shares of the issuer publish quarterly financial statements on the official website of the Indonesia Stock Exchange or idx.co.id.
3. The Company discloses the performance of Environmental, Social, Governance (ESG) in its annual report on the esg.idx.co.id website.

#### Data Collection Procedure

The method of data collection in this study is done by collecting and identifying secondary data in the form of quarterly financial statements that have been published. Furthermore, the data is recapitulation to facilitate data processing. Digital reference data is based on the digital data record of investment managers registered on the Indonesia Stock Exchange Market, and community recommendation information data is obtained from the digital track record data of communities on social media, such as Instagram and Youtube. This research also refers to previous research as a reference hypothesis as a basis for linking existing theories, concepts, research results followed by elements of reasoning (logic).

#### Variable Data

The measurement of variable stock prices uses the growth of the difference in stock price difference at the time the major minor evaluation is published with the price before the evaluation is carried out. This proxy of the difference in stock price is done to find out there is a positive gain when the Financial and ESG Report indicates good sustainability value in the future and vice versa will be negative when the results of the Financial and ESG Report decrease. The proxy of dependent variables can be written as follows:

$$Y = \frac{(Harga\ saham_t - harga\ saham_{t-1})}{harga\ saham_{t-1}}$$

t = time at the publication of major minor evaluation of ESGLeader index

Financial Performance measurements will be based on the percentage of roe value changes in each issuer sampled in the study. The proxi Financial Performance as the first independent variable can be written as follows,

$$X1 = \frac{ROE_t - ROE_{t-1}}{ROE_{t-1}}$$

t = time at the publication of major minor evaluation of ESGLeader index

Measurement of ESG as the second independent variable will be based on the ESG value of the index issued by Sustainalytics or can download the results of major minor evaluation on the display of index products on the idx.co.id

Measurement of the first and second moderation variables, namely digital references and investor communities will be based on the digital track record of recommendations issued by each of those moderations on the day major minor publication is published. Digital references will be based on the track record of investment manager recommendations that have been registered with the IDX while the Investor Community recommendations will be based on the track record of recommendations of community groups that already have more than 700 individual members on social media. Any recommendations of issuers included in the research sample given, will be given a value of 1. The highest value will be generated if all investment managers and community groups provide recommendations in the same issuer.

#### 4. Result and Discussion

##### Descriptive Analysis

Descriptive statistics in this study, used to find out the picture of research data seen from the average value (mean), the highest value and the lowest value of the variable studied. Based on the results of descriptive statistical analysis, the following is an overview of all the variables in this study, by showing the number of samples, sample average (mean), maximum value, minimum value and standard deviation for each variable.

Table 1. Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
FINR (X <sub>1</sub> )	76	18,2900	11,4500	29,7400	23,053421	5,1302	26,320
ESGL (X <sub>2</sub> )	76	28,1987	-16,0601	12,1386	0,083378	2,8083	7,887
CAPG (Y)	76	0,1307	-0,0667	0,0640	0,001216	0,0232	0,001
DIGIRF (M <sub>1</sub> )	76	5,0000	0,0000	5,0000	2,118421	1,8616	3,466
KOMTS (M <sub>2</sub> )	76	7,0000	0,0000	7,0000	3,671053	2,4076	5,797
M1.X1	76	21,7392	-9,7728	11,9664	0,101000	2,4384	5,946
M1.X2	76	148,5500	0,0000	148,5500	48,936316	46,1360	2128,539
M2.X1	76	39,4896	-19,5456	19,9440	0,243404	4,4883	20,145
M2.X2	76	193,0600	0,0000	193,0600	83,759211	59,0386	3485,567
Valid N (listwise)	76						

From the table above, it can be known that the amount of data used is 76 samples with :

- Variabel FINR (X<sub>1</sub>) has *mean* 23,053421, standard deviation 5,1302 and variance 26,230.
- Variabel ESGL (X<sub>2</sub>) has *mean* 0,083378, standard deviation 2,8083 and variance 7,887.
- Variabel CAPG (Y) has *mean* 0,001216, standard deviation 0,0232 and variance 0,001.
- Variabel DIGIRF (M<sub>1</sub>) has *mean* 2,118421, standard deviation 1,8616 and variance 3,466.
- Variabel KOMTS (M<sub>2</sub>) has *mean* 3,671053, standard deviation 2,4076 and variance 5,797.

##### Fit Proper Test (F) Model and Partial (t) Model

The Goodness of Fit test or model feasibility test is used to measure the accuracy of a sample's regression function in estimating actual values. Statistically the Goodness of Fit test can be done through the measurement of the statistical value F. The Statistical Test F is used to show

whether all the free (independent) variables included in the model have a mutual influence on the dependent variables. The models in this study are:

**Model 1.** To find out the effect of financial and ESG report on changes in liquidity trading of specialty stock issuers included in the list of ESG Leader indexes. The results of the SPSS regression multiple liner model 1 can be seen in table 2. A signification value of 0.017 indicating an error tolerance yield smaller than 0.05 indicates that this model 1 has an error rate smaller than 5%. This toleration indicates that model 1 is accepted and can be continued partially further analyzing each variable independently of its dependent variable.

**Tabel 2. Fit Proper Test Model 1**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0,002	2	0,001	1,809	0,017 <sup>b</sup>
	Residual	0,039	73	0,001		
	Total	0,040	75			

a. Dependent Variable: CAPG

b. Predictors: (Constant), FINR, ESGL

**Tabel 3. Partial Test Model 1**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0,014	0,012		-1,136	0,260
	FINR	0,002	0,001	0,189	1,630	0,011
	ESGL	0,001	0,001	0,146	1,254	0,021

Based on the results of the partial test in table 3, then model (1) can be written as follows,  

$$Y = -0,014 + 0,002.X_1 + 0,001.X_2 + 0,012$$

The minus value of constant (a) indicates that if the issuer does not publish the Financial and ESG Report, then the liquidity of the stock will be reduced by minus 1%.

**Model 2.** In this model, the regression function has included elements of moderation in an effort to find out how big the first moderation variable is digital references to emphasize the relationship of influence between financial and ESG report on changes in liquidity trading of specialty stock issuers included in the list of ESG Leader indexes. The F (2) test model can be written as follows:

$$Y = a + b_1.X_1 + b_2.X_2 + b_3.M_1 + b_4.|X_1.M_1|_4 + b_5.|X_2.M_1|_5 + e$$

As for the results of the second regression model F test, it can be seen in the following table,

**Table 4. Fit Proper Test Model 2**

Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	0,008	5	0,002	3,585	0,006 <sup>b</sup>
	Residual	0,032	70	0,000		
	Total	0,040	75			

a. Dependent Variable: CAPG

b. Predictors: (Constant), M1.X2, M1.X1, ESGL, FINR, DIGIRF

The signification value of 0.0006 indicates that the error tolerance result is less than 0.05. Model 2 is accepted and can be continued partially further analyzing each variable independent of its dependent variables.

**Tabel 5. Partial Test Model 2**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0,019	0,020		0,922	0,360
FINR	0,000	0,001	0,049	0,421	0,675
FESGL	0,000	0,001	0,203	1,059	0,293
DIGIRF	0,014	0,007	1,112	2,097	0,040
M1.X1	0,003	0,001	0,338	2,903	0,005
M1.X2	0,001	0,000	1,324	2,396	0,019

In this model 2 test, the element of moderation has been included in the calculation. The results in table 5 show that Digital Reference is a proven moderation with the results of digital reference signification on financial report of 0.0005 and digital reference signification on ESG Report of 0.0019. From table 5, it can also be written the regression formula as follows:

$$Y = 0,0019 + 0,014M_1 + 0,003 |X_1.M_1|_4 + 0,001.|X_2.M_1|_5 + 0,020$$

The signification value when compared to model 1, will be seen in model 2, all reports both financial and ESG have a signification value that is lower than 5% and lower than in model 1. So it can be said that digital references from investment managers are the perfect moderation for the increase in the number of stock transactions on the exchange market that are valid at that time.

**Model 3.** In this model, the regression function includes a second element of moderation, namely investor communities in an effort to find out how large the moderation variable is in the relationship of influence between financial and ESG report on changes in liquidity trading of specialty stock issuers included in the list of ESG Leader indexes. The F (3) test model can be written as follows:

$$Y = a + b_1.X_1 + b_2.X_2 + b_3.|X_1.M_2|_3 + b_4.|X_2.M_2|_4 + e$$

As for the results of the third regression model F test, it can be seen in the following table,

**Table 6. Fit Proper Test Model 3**

Model	Sum of Squares	df	Mean Square	F	Sig,
3 Regression	0,007	5	0,001	3,121	0,013 <sup>b</sup>
Residual	0,033	70	0,000		
Total	0,040	75			

a, Dependent Variable: CAPG

b, Predictors: (Constant), M2,X2, ESG, FINR, M2,X1, KOMTS



The signification value 0.0013 that the Model 3 accepts and can continue partial further analyzing in each variable independent of its dependent variable.

**Table 7. Parsial Test Model 3**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig,
	B	Std. Error	Beta		
(Constant)	0,010	0,026		0,389	0,699
FINR	0,000	0,001	0,042	0,319	0,750
ESGL	0,000	0,001	0,123	0,513	0,609
KOMTS	-0,007	0,005	0,733	-1,366	0,176
M2.X1	0,002	0,001	0,394	2,981	0,004
M2.X2	0,001	0,000	0,898	1,595	0,015

The partial model 3 test results seen in Table 7 show that the recommendations of the investor community cannot affect them directly. This is indicated by the signification value of KOMTS which turned out to be greater than 0.176, this value is soothing if the investment community cannot have a direct effect on the liquidity of shares in the stock market. The recommendation of the new investor community can only be a moderation for the influence of the Financial and ESG Report on the liquidity of stocks on the stock market indicated by a signification value of 0.004 to moderate the financial report and 0.0015 to moderate ESGL. From table 7, it can be written the regression formula as follows:

$$Y = 0,010 + 0,002 |X_1.M_2|_4 + 0,001. |X_2.M_2|_5 + 0,026$$

### Discussion

Furthermore, the results of the statistical regression analysis, when attributed to the hypotheses H1, H2, H3 and H4 can be written as follows,

1. In model 1 testing, it shows that when separately or partially as seen in table 3, each independent variable has a significant influence on changes in stock liquidity in the stock market. This shows that if the disclosure of financial information, the company will be seen as having a positive value in the eyes of stakeholders in carrying out every business activity so that support from stakeholders can be obtained from the purchase of a number of shares indicated by an increase in the number of requests for the purchase of shares of the issuer, called an increase in the amount of stock liquidity. Based on this, hypothesis 1 is accepted. Next, by testing in model 1 in table 3, show when hypothesis 2 is accepted. This indicates that ESG disclosure or disclosure of non-financial information about the environment, social, and corporate governance is a positive signal for investors, in the form of disclosure of the company's value.
2. In the test of model 2, table 5 provides an overview if digital references from investment managers that can be seen from websites and string apps, significantly affect individually and as moderation for each financial and ESG disclosure of the number of trading transactions of issuers' shares included in the ESGL index. The results of this moderation test are in accordance with the research, Inscription (2014), Handayani (2016), and Muliana research (2018) which revealed that digital references marked by the level of disclosure of website information are one of the many factors that have an influence on the frequency of stock trading, so it is said that hypothesis 3 is accepted.
3. The model 3 test seen in table 7 showed that the partial effect of the investment community's recommendations could not have a direct (significant) effect on the increase in the number

of shares transacted. Thus, hypothesis 4 cannot be proven in this study. But in moderation, the investment community's recommendations will be able to moderate strongly the influence of financial disclosures and ESG Reports on the frequency of trading of issuers' shares on the ESG index.

## 5. Conclusions

Based on the results of research and discussions that have been conducted, it can be concluded that digital references and investment communities can moderate the influence of financial and ESG reports on stock liquidity indicated by the number of transactions of shares of issuers listed in the ESG index. This can be seen from the results of the signification of the treatment of moderation variables (Digital Reference and Investment Community) to independent variables (Financial and ESG Report) which are getting smaller in each model 2 regression table and model 3 regression compared to the partial signification value of each independent variable in table 1.

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