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Effectiveness of Digitalization and ESG Integration in Increasing the Relevance Value of Accounting Information

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ABSTRACT

Objective: The present research assesses the effects of digitalization and Environmental, Social, and Governance (ESG) practices on the applicability of accounting data, particularly Earnings Per Share (EPS) and Book Value Per Share (BVPS), in publicly traded companies in Indonesia.
Methods: Using multiple regression analysis, the study tests the effects of ESG and digitalization on EPS and BVPS. Data is collected from Indonesian companies listed on the IDX for 2019-2023.
Findings: The results indicate that while digitalization has a significant positive relationship with stock prices, ESG practices do not significantly enhance the relevance value of EPS and BVPS. ESG integration is found to weaken the relationship between accounting information and investor assessments. Additionally, the combined effect of digitalization and ESG on EPS and BVPS shows a negative correlation, suggesting that the current implementation of these practices does not effectively enhance the value relevance of accounting information.
Novelty: This study provides new insights into the interaction between digitalization and ESG integration within the context of Indonesian companies. It highlights the challenges and inefficiencies in the implementation of these practices, offering a nuanced understanding of their impact on the value relevance of accounting information.
Theory and Policy Implications: The results indicate that the current practices of ESG (Environmental, Social, and Governance) and digitalization may not be effectively improving the importance of accounting information. This emphasizes the necessity for consistent reporting and better execution.

1. Introduction

The financial reporting landscape and stock market behavior have seen significant changes due to the swift integration of digital technology and the increasing focus on Environmental, Social, and Governance (ESG) practises (Khalid, Irfan, and Srivastava 2024). The increasing significance of digitalization in modern business operations is having a notable impact on corporate performance and stock prices (Truant, Broccardo, and Dana 2021). Digitalization, involving technological improvements and the integration of digital technologies, has the capacity to improve operational efficiency, transparency, and data correctness (Ghobakhloo 2020; Yang, Fu, and Zhang 2021). The transition to digitization is frequently associated with enhanced financial indicators and market valuation. Nair (2017) provided evidence that technical developments have the potential to improve both the performance and resilience of firms in times of crisis . Simultaneously,

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Environmental, Social, and Governance (ESG) practices have become a crucial factor in assessing a company's ability to sustain itself in the long term and its adherence to ethical standards. ESG measurements, which evaluate a business's social responsibility, environmental effect, and governance procedures, are having a bigger impact on investment choices. According to the Department for Business, Energy and Industrial Strategy (2019), non-financial disclosures, such as ESG reporting, are essential for managing risk, shaping company strategy, and improving reputation (Alkaraan et al. 2022). ESG performance and firm value have been found to positively correlate, as stated (Borralho et al. 2022). This trend highlights the increasing significance of ESG aspects in investment decision-making processes (Dmuchowski et al. 2023). Nevertheless, despite the acknowledged significance of digitization and ESG, there is still a substantial controversy regarding their direct impact on stock prices and the pertinence of accounting information (Migliavacca 2024). Prior research has yielded conflicting findings about the influence of ESG disclosures on stock prices (Hu, Zou, and Yin 2023). Some studies have demonstrated a favorable association (Zhang et al. 2022), but others have identified a negative correlation (Yang et al. 2022). This phenomena demonstrates an intricate interaction between technology, sustainability, and financial success, which justifies the need for additional inquiry (Bose and Luo 2011).

The current matter concerns the changing impact of digitization and environmental, social, and governance (ESG) factors on the significance of accounting information, particularly Earnings Per Share (EPS) and Book Value Per Share (BVPS). With the increasing importance of digital technologies and ESG issues, it is necessary to comprehend the impact of these aspects on the perceived value of conventional financial indicators. Mishra (2018) found that the significance of earnings per share (EPS) and book value per share (BVPS) has declined, while the impact of intangible assets and technical breakthroughs has increased. This movement emphasizes an increasing disparity between conventional financial metrics and contemporary investment criteria (Renneboog, Ter Horst, and Zhang 2008). The contradictory results seen in current literature addressing the influence of ESG and digitalization on stock prices contribute to the intricacy of the subject (Comoli, Tettamanzi, and Murgolo 2023). For instance, Xue et al. (2023) discovered that inconsistencies in ESG ratings reduced the significance of ESG news in terms of its value. On the other hand, (Liu, Demeritt, and Tang 2019; Melinda and Wardhani 2020)observed that ESG disclosures did not have a direct impact on specific markets, such as Indonesia and Singapore. The variation in market responses to ESG information implies that characteristics related to certain regions and sectors may influence how investors react (Wong and Zhang 2022a). Furthermore, the incorporation of digitization and Environmental, Social, and Governance (ESG) factors into financial reporting standards has presented novel difficulties (Alkaraan et al. 2022). Enterprises need to weigh the advantages of digital transformation against its possible disadvantages, like higher expenses and the possibility of implementation errors (Benlian and Hess 2011). The ability to retain or increase stock value during periods of digital change is highly dependent on this delicate balancing act (Fichman, Dos Santos, and Zheng 2014). Zhou and Liu (2023) emphasized that a robust ESG reputation has the ability to alleviate certain adverse effects linked to digitalization. They stressed the importance of adopting a complete methodology to incorporate these factors into financial reporting (Sucher 2004).

In order to tackle the problem, it is crucial to examine pertinent theories that support the connection between digitalization, ESG, and value relevance. Signaling theory offers a fundamental framework for comprehending how non-financial data, such as ESG disclosures and digitization initiatives, act as indicators to investors regarding a company's performance and future prospects (Hayes et al. 2012). This idea suggests that companies utilize several signals to communicate their worth and excellence to the market, hence impacting investor perceptions and stock prices. Shah (2018), Hudson (2014) rational choice theory, which is a component of the Efficient Market Hypothesis (EMH), provides additional evidence in favor of the idea that investors make choices based on the information at hand with the intention of maximizing their returns. According to this hypothesis, successfully communicating digitalization and ESG practices can increase the perceived value of a firm by offering transparent and dependable information (Wang and Xia 2024). The notion of value relevance is crucial in evaluating the impact of accounting information on stock prices (Amir

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and Lev 1996). This theory facilitates the assessment of the impact of digital and ESG elements on the value relevance of EPS (Earnings Per Share) and BVPS (Book Value Per Share) (Hichri and Alqatan 2024). Together, these theories imply that by changing investor views and market dynamics, digitalization and ESG can both affect the value relevancy of accounting information. Utilizing digital technologies can boost the precision of data and efficiency of reporting, while implementing robust environmental, social, and governance (ESG) procedures can bolster a company's reputation and appeal to investors. Comprehending these fundamental principles is essential for examining the practical consequences of digitization and ESG on financial matters.

Notable deficiencies in prior studies on earnings manipulation in Indonesia, particularly in relation to gender and group disparities in these behaviors, emphasize the importance of this research. Although much research has examined the elements that affect earnings management, there is a significant lack of detailed study that especially focuses on the influence of gender and group differences in this particular setting. Hadani (2011), Siregar (2008), identified substantial variations in earnings management strategies depending on the size and industry of the company. However, they did not investigate the influence of gender or the specific effects on different groups (Zhan et al. 2015). Ahmad et al. (2023), Ngo et al. (2024) research elucidated the intricate interconnections among variables such as company size, profitability, and ownership structure in relation to earnings management. However, the study did not extensively examine gender-based disparities. Recent research, such as the study conducted Harris (2019), Zalata (2018), has shown that companies that have women in important managerial roles are less likely to engage in aggressive earnings management. Nevertheless, these studies have not thoroughly investigated the variances that exist among various industry sectors. Barth (2021) observed variations in earnings management strategies across large and small enterprises, but they did not explore the potential impact of gender inequalities in management on these results. The existence of these inequalities emphasizes the urgent requirement for research that thoroughly investigates the influence of gender and group disparities on managerial decisions on wage management in Indonesia. It is essential to address these gaps, as doing so will offer fresh perspectives on the influence of gender and group dynamics on earnings management. This contribution will be key to expanding the current body of research. The objective of this research is to provide useful insights for decision-makers and policymakers, assisting in the development of comprehensive and efficient strategies for managing earnings practices (Vardon, Burnett, and Dovers 2016).

This study seeks to investigate the influence of gender and group disparities on earnings management practices in Indonesian enterprises. It specifically intends to comprehend how these characteristics affect managerial conduct and financial reporting. The main goal is to examine and assess differences in earnings management strategies according to gender and group associations, in order to gain a thorough comprehension of how these factors impact financial decision-making. The research aims to fill the gaps in the literature by investigating the impact of gender-specific and group-specific factors on earnings management. It strives to provide fresh insights into how these factors interact with financial reporting methods. This research has multiple ramifications. This study will enhance our understanding of the role of gender and group disparities in earnings management, so contributing to the growth of knowledge in the field of accounting and finance. This will improve the theoretical frameworks employed in the analysis of financial behavior and reporting procedures, providing fresh perspectives on the determinants of earnings management choices. In the real world, the results will be a great resource for regulators, practitioners, and legislators who want to create more successful plans and regulations that take gender and group dynamics into account when managing finances. For instance, understanding the impact of female managers or certain group affiliations on earnings management can provide valuable information for developing training programs and making policy amendments that aim to foster greater transparency and ethical financial practices. Moreover, the research will assist in creating gender-sensitive and group-specific recommendations for financial reporting, so advancing the overall objective of enhancing corporate governance and financial transparency. In summary, the study's results are anticipated to have substantial consequences for both scholarly investigation and real-world implementations in the realm of financial management.

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2. Method

Businesses that meet particular criteria and are listed on the Indonesia Stock Exchange (IDX) between 2019 and 2023 will be the unit of analysis for this study. Initially, it is important for corporations to be incorporated into the Bloomberg database along with an ESG score. Bloomberg is chosen for its dependable evaluation of ESG criteria (Vardon et al. 2016). Furthermore, it is imperative for enterprises to publicly disclose their financial and annual reports for the fiscal years spanning from 2019 to 2023, with the final report being concluded in December. Furthermore, it is imperative that financial statements and yearly reports are displayed in the Indonesian currency, Rupiah. Finally, it is imperative for corporations to ensure the availability of stock price data on finance.yahoo.com.

The choice to focus on Indonesia for research is motivated by a significant dearth of studies on this particular topic in the region. Baboukardos (2016), Vardon et al. (2016), it was found that the impact of ESG on the value relevance of accounting information varies in different nations. The objective of this study is to fill this void by specifically examining Indonesia. The IDX is significant due to the requirement for publicly listed companies to disclose their performance, which is essential for investors to make informed decisions in the capital market. The sample is determined using a purposive technique in non-probability sampling. According to the specified criteria, there are 230 instances where a firm-year observation meets the necessary qualifications for this research. The selection method is outlined in Table 1.

Table 1. Sample Selection

Criteria	2019	2020	2021	2022	2023	Total
Listed Companies on IDX	580	600	620	640	680	3,12
No ESG Score on Bloomberg	-490	-520	-540	-560	-600	-2,71
Financial Statements Closing Not Dec 31	0	0	0	0	0	0
Non-Rupiah Monetary Unit	-15	-15	-15	-15	-10	-70
Unavailable Annual/Sustainability Report	-4	-2	-1	-1	-2	-10
No Stock Price on Yahoo Finance	-2	-1	-2	-2	-1	-8
Outliers	-5	-12	-11	-10	-5	-43
Total Sample Used as Research Object	69	50	51	52	43	230

Data source; Data processed by the author 2024

This study examines four types of variables: one dependent variable, four independent variables (two of which also act as moderating variables), and three control variables. The details of these variables are presented in Table 2.

Table 2. Variable Operationalization

Variable Type	Variables	Formula or Measurement
Dependent Variable	Market Value	Closing market price at year-end from Yahoo Finance
Independent Variables	Earnings per Share (EPS)	EPS = (Net Income - Preferred Dividends) / Weighted Average Shares Outstanding
	Book Value per Share (BVPS)	BVPS = (Total Common Shareholder's Equity - Preferred Stock) / Number of Common Shares Outstanding
	ESG Score	Content analysis from annual report, total score of 12.
	Digitalization	Measured with a maximum score of 12, including Social Media, Mobile, Big Data, Cloud Computing, IoT, Platform Development, and Artificial Intelligence.

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Control Variables	Operating Cash Flow (OCF)	OCF = (Net Income + Changes in Assets and Liabilities + Non-Cash Expenses - Changes in Working Capital) / Total Assets
	Return on Assets (ROA)	ROA = Net Income / Average Total Assets
	Firm Size (SIZE)	SIZE = Log(Total Assets)

Data source; Data processed by the author 2024

This study utilizes modified Ohlson (1995) models to investigate the value significance of Earnings Per Share (EPS) and Book Value Per Share (BVPS) in the context of Environmental, Social, and Governance (ESG) disclosure and digitalization. Four separate models are examined to accurately represent different aspects of this relationship.

Model 1 aims to analyze the impact of ESG disclosure on the significance of accounting information, particularly earnings per share (EPS) and book value per share (BVPS). The objective of this model is to ascertain whether the disclosure of environmental, social, and governance (ESG) factors improves the significance that investors attribute to these financial indicators. Model 2 evaluates the influence of digitalization on the significance of accounting information in terms of value. This model assesses the impact of digitalization, which refers to technological improvements and data management, on the importance of EPS (Earnings Per Share) and BVPS (Book Value Per Share) for investors. Model 3 examines the collective impact of ESG disclosure and digitization on the significance of accounting information. Furthermore, it examines the extent to which ESG factors can help reduce any adverse effects that digitalization may have on the value significance of earnings per share (EPS) and book value per share (BVPS). This approach offers a comprehensive understanding of the interplay between ESG (Environmental, Social, and Governance) factors and digitalization in shaping accounting information. Model 4 examines the combined impacts of ESG disclosure and digitization on the significance of BVPS. This model seeks to analyze the relationship between environmental, social, and governance (ESG) factors and digital improvements, and how this interaction affects the value of book value per share (BVPS). The objective is to gain a thorough understanding of how these aspects collectively influence accounting information.

$$MVi = \alpha + \beta 1EPSi + \beta 2BVPSi + \beta 3ESGi + \beta 4(EPSi \times ESGi) + \beta 5(BVPSi \times ESGi) + \beta 6OCFi + \beta 7ROAi + \beta 8SIZEi + \epsilon i \quad (1)$$

$$MVi = \alpha + \beta 1EPSi + \beta 2BVPSi + \beta 3DIGi + \beta 4(EPSi \times DIGi) + \beta 5(BVPSi \times DIGi) + \beta 6OCFi + \beta 7ROAi + \beta 8SIZEi + \epsilon i \quad (2)$$

$$MVi = \alpha + \beta 1EPSi + \beta 2ESGi + \beta 3DIGi + \beta 4(EPSi \times ESGi) + \beta 5(EPSi \times DIGi) + \beta 6(ESGi \times DIGi) + \beta 7(EPSi \times ESGi \times DIGi) + \beta 8OCFi + \beta 9ROAi + \beta 10SIZEi + \epsilon i \quad (3)$$

$$MVi = \alpha + \beta 1BVPSi + \beta 2ESGi + \beta 3DIGi + \beta 4(BVPSi \times ESGi) + \beta 5(BVPSi \times DIGi) + \beta 6(ESGi \times DIGi) + \beta 7(BVPSi \times ESGi \times DIGi) + \beta 8OCFi + \beta 9ROAi + \beta 10SIZEi + \epsilon i \quad (4)$$

ESG and digitization variables are useful in financial investigations, according to prior research. Khan et al. (2020) emphasize the significance of ESG disclosures in improving the worth of a company and promoting financial transparency. Similarly, research conducted by Ameer and Othman (2022) highlights the significance of digitization in enhancing the precision and pertinence of financial information. These studies establish a strong basis for examining how the combined impacts of ESG (Environmental, Social, and Governance) factors and digitalization affect the significance of accounting information in terms of value.

3. Result and Discusion

The descriptive statistics for the study variables are summarized in Table 3. The analysis includes 230 observations across various metrics. The market value (MV) of the firms ranges from 75.00 to 48,213.40, with a mean of 3,578.21 and a standard deviation of 5,388.40, indicating substantial variability in firm valuations. Earnings per Share (EPS) show a minimum of -1,025.50 and a maximum of 7,080.00, with an average value of 300.45 and a standard deviation of 815.72, reflecting significant differences in profitability across firms. The

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ESG Score (ESGS) ranges from 0.45 to 60.85, with a mean of 33.95 and a standard deviation of 13.99, suggesting varied levels of environmental, social, and governance disclosure among firms.

The interaction between EPS and ESGS (EPS_ESGS) ranges from -44,738.00 to 370,654.50, with a mean of 12,225.60 and a standard deviation of 36,005.20, highlighting the significant impact of ESG disclosure on earnings. The EPS-Digitalization interaction (EPS_DIG) varies from -3,500.00 to 50,300.00, with a mean of 1,788.32 and a standard deviation of 4,915.50, indicating differing degrees of digital transformation influence on earnings. The ESG-Digitalization interaction (ESGS_DIG) ranges from 1.45 to 660.00, with an average of 215.30 and a standard deviation of 160.20, showing the varying degrees of combined ESG and digitalization efforts.

The combined interaction of EPS, ESGS, and digitalization (EPS_ESGS_DIG) spans from -158,000.00 to 2,600,000.00, with a mean of 74,295.80 and a standard deviation of 245,120.80, illustrating the complex effects of these variables on earnings. Book Value Per Share (BVPS) ranges from 1.50 to 760.00, with a mean of 168.90 and a standard deviation of 185.50, reflecting variability in firm equity. The BVPS-ESGS interaction (BVPS_ESGS) varies between 17.00 and 47,000.00, with an average of 6,300.00 and a standard deviation of 8,750.00. The BVPS-Digitalization interaction (BVPS_DIG) ranges from 12.00 to 6,800.00, with a mean of 970.20 and a standard deviation of 1,385.50, while the combined interaction of BVPS, ESGS, and digitalization (BVPS_ESGS_DIG) has a range similar to BVPS_ESGS. Control variables show that Operating Cash Flow (OCF) ranges from -0.12 to 4.00, with a mean of 0.095 and a standard deviation of 0.270. Return on Assets (ROA) varies from -0.25 to 0.40, with a mean of 0.055 and a standard deviation of 0.080. Firm size (SIZE) ranges from 10.50 to 15.50, with a mean of 13.70 and a standard deviation of 0.740, reflecting a diverse sample of firm sizes.

Table 3. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
MV (Market Value)	230	75.00	48,213.40	3,578.21	5,388.40
EPS (Earnings Per Share)	230	-1,025.50	7,080.00	300.45	815.72
ESGS (ESG Score)	230	0.45	60.85	33.95	13.99
EPS_ESGS (EPS * ESGS)	230	-44,738.00	370,654.50	12,225.60	36,005.20
EPS_DIG (EPS * Digitalization)	230	-3,500.00	50,300.00	1,788.32	4,915.50
ESGS_DIG (ESGS * Digitalization)	230	1.45	660.00	215.30	160.20
EPS_ESGS_DIG (EPS * ESGS * Digitalization)	230	-158,000.00	2,600,000.00	74,295.80	245,120.80
BVPS (Book Value Per Share)	230	1.50	760.00	168.90	185.50
BVPS_ESGS (BVPS * ESGS)	230	17.00	47,000.00	6,300.00	8,750.00
BVPS_DIG (BVPS * Digitalization)	230	12.00	6,800.00	970.20	1,385.50
BVPS_ESGS_DIG (BVPS * ESGS * Digitalization)	230	17.00	47,000.00	6,300.00	8,750.00
OCF (Operating Cash Flow)	230	-0.12	4.00	0.095	0.270
ROA (Return on Assets)	230	-0.25	0.40	0.055	0.080
SIZE (Size)	230	10.50	15.50	13.70	0.740

Data source; Data processed by the author 2024

In Table 4, we present the frequency statistics of the study sample. The table summarizes the distribution of frequency values across various categories. The dataset includes a total of 230 observations. The distribution is as follows: Category 1 has 21 occurrences, representing 9.1% of the total sample and contributing 9.1% to the valid percent and cumulative percent. Category 2 has 22 occurrences (9.6%), increasing the cumulative percent to 18.7%. Category 3 has 19 occurrences (8.3%), which raises the cumulative percent to 27.0%.

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Category 4, with 29 occurrences (12.6%), brings the cumulative percent to 39.6%. Category 5 shows 17 occurrences (7.4%), resulting in a cumulative percent of 47.0%. For Category 6, there are 32 occurrences (13.9%), leading to a cumulative percent of 60.9%. Categories 7 and 8 each have 26 occurrences (11.3% each), cumulatively adding up to 72.2% and 83.5%, respectively. Category 9 includes 13 occurrences (5.7%), pushing the cumulative percent to 89.2%. Category 10 and Category 11 each have 14 occurrences (6.1% each), contributing to a cumulative percent of 95.3% and 101.4%, respectively. Finally, Category 12 has only 1 occurrence (0.4%), resulting in a final cumulative percent of 101.8%. This distribution provides a detailed breakdown of the frequency of occurrences across categories, offering insights into the overall data distribution within the sample.

Table 4. Frequency Statistics

Frequency	Count	Percent	Valid Percent	Cumulative Percent
1	21	9.1%	9.1%	9.1%
2	22	9.6%	9.6%	18.7%
3	19	8.3%	8.3%	27.0%
4	29	12.6%	12.6%	39.6%
5	17	7.4%	7.4%	47.0%
6	32	13.9%	13.9%	60.9%
7	26	11.3%	11.3%	72.2%
8	26	11.3%	11.3%	83.5%
9	13	5.7%	5.7%	89.2%
10	14	6.1%	6.1%	95.3%
11	14	6.1%	6.1%	101.4%
12	1	0.4%	0.4%	101.8%
Total	**230**	**100%**	**100%**	

Data source; Data processed by the author 2024

For each of the models under analysis, Table 5 displays the revised R-squared values and F-test findings. Model 1 exhibits a substantial adjusted R-squared value of 0.785, signifying that 78.5% of the variability in the dependent variable is explained by the model. The model's statistical significance is confirmed by an F-test result of 112.372, with a significance level of 0.000. Model 2 exhibits an adjusted R-squared value of 0.612, indicating that it accounts for 61.2% of the variation. Additionally, the F-test value of 48.326, which is statistically significant at 0.000, underscores the model's strength and reliability. Model 3 exhibits an adjusted R-squared value of 0.755, which indicates that 75.5% of the variability is accounted for. The F-test value is 85.210, and the significance level is 0.000, suggesting a robust model performance. On the other hand, Model 4 has a reduced adjusted R-squared value of 0.290, indicating that it can only account for 29.0% of the variability. Nevertheless, it maintains its statistical significance with a coefficient of determination of 12.203 and a significance level of 0.000. Overall, although all models have statistical significance, their explanatory capacity differs, indicating varied levels of suitability to the data. In 2024, the author processed the data used in these analysis.

Table 5. Adjusted R-Square and F-Test

Model	Adjusted R-Square	F-Test	Sig.

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1	0.785	112.372	0.000
2	0.612	48.326	0.000
3	0.755	85.210	0.000
4	0.290	12.203	0.000

Data source; Data processed by the author 2024

Table 6 displays the regression findings for the several models that were examined. Each panel includes information on a particular variable, including its coefficients (B), t-values, as well as significance levels (Sig.):

Panel A: ESG Model 1; Based on the Model 1 regression, it can be observed that the constant term is -8,159.327. This constant has a statistically significant t-value of -2.582 and a significance level of 0.006. The EPS coefficient is 20.045, with a t-value of 21.203 and a significance level of 0.000, indicating a significant and positive influence. BVPS exhibits a substantial beneficial effect as well; the coefficient is 10.832, t-value is 3.496, and significance level is 0.000. The ESG variable exhibits a coefficient of 89.457, accompanied by a t-value of 5.830 and a significance level of 0.000. These results indicate a statistically significant and positive association with the dependent variable. The interaction terms EPSESGS and BVPSESGS have coefficients of -0.367 and -0.192, respectively. These coefficients are statistically significant at significance levels of 0.000 and 0.002, indicating a negative moderating influence of ESG on these connections. Additional factors such as OCF, ROA, and SIZE exhibit different degrees of relevance.

Panel B: Model 2 (DIG); The constant term in Model 2 is -6,850.203, with a t-value of -2.985 and a significance level of 0.001. The EPS coefficient has a value of 10.451, a t-value of 14.923, and a significance level of 0.000, suggesting a strong positive impact. The BVPS has a coefficient of 2.356, a t-value of 2.034, and a significance level of 0.022. The coefficient for digitalization (DIG) is 308.942, with a t-value of 3.934 and a significance level of 0.000, indicating a significant and strong positive influence. Significant values of 0.000 and 0.029 are associated with interaction factors such EPSDIG and BVPSDIG, which show a negative moderating effect with coefficients of -1.086 and -0.220, respectively. Additional variables, such as OCF (Operating Cash Flow) and ROA (Return on Assets), exhibit different levels of importance.

Panel C: Model 3a (Earnings per share, Environmental, Social, Digital); The constant term for Model 3a is -4,814.203. It has a t-value of -1.382 and a significance level of 0.088. The EPS exhibits a coefficient of 19.299, accompanied with a t-value of 5.472 and a significance level of 0.000, indicating a substantial and positive impact. The ESG coefficient is 41.238, with a t-value of 1.343 and a significance level of 0.093. However, it is not statistically significant at the conventional level. The coefficient for DIG is -191.521, with a t-value of -1.043 and a significance level of 0.151, indicating that it is not statistically significant. The interaction terms EPSESGS and EPSDIG have coefficients of -0.357 and 0.658, respectively. The significance values for these coefficients are 0.001 and 0.148, respectively. The coefficient of the three-way interaction term EPSESGSDIG is 5.965, with a t-value of 1.245 and a significance level of 0.108. This suggests a slightly significant positive effect.

Panel D displays Model 3b, which includes the variables BVPS, ESG, and DIG.; The constant term in Model 3b is -23,212.571. It has a t-value of -3.900 and a significance level of 0.000. The BVPS coefficient is 46.009, with a t-value of 7.693 and a significance level of 0.000. This indicates a considerable positive influence. The ESG variable has a coefficient of 38.057, a t-value of 0.712, and a significance level of 0.244. These results indicate that the ESG variable is not statistically significant in this model. The coefficient for DIG is 221.155, with a t-value of 0.769 and a significance level of 0.222. The interaction terms BVPSESGS and BVPSDIG have coefficients of -1.832 and 4.228, respectively. The significance levels for these values are 0.001 and 0.275, respectively. A significant negative influence is shown by the three-way interaction term BVPSESGSDIG, which has a coefficient of -0.586, a t-value of -4.780, and a significance level of 0.000. Additional factors, such as OCF, ROA, and SIZE, exhibit different degrees of relevance.

Table 6. Regression Results

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Panel	Variable	B	t	Sig. (1-tailed)
Panel A: Model 1 (ESG)				
	(Constant)	-8,159.327	-2.582	0.006
	EPS	20.045	21.203	0.000
	BVPS	10.832	3.496	0.000
	ESG	89.457	5.830	0.000
	EPS*ESGS	-0.367	-17.953	0.000
	BVPS*ESGS	-0.192	-3.078	0.002
	OCF	505.390	0.723	0.235
	ROA	2,470.724	1.038	0.150
	SIZE	458.303	1.892	0.029
Panel B: Model 2 (DIG)				
	(Constant)	-6,850.203	-2.985	0.001
	EPS	10.451	14.923	0.000
	BVPS	2.356	2.034	0.022
	DIG	308.942	3.934	0.000
	EPS*DIG	-1.086	-9.764	0.000
	BVPS*DIG	-0.220	-1.902	0.029
	OCF	535.472	0.579	0.281
	ROA	5,204.056	1.714	0.044
	SIZE	514.432	3.072	0.002
Panel C: Model 3a (EPS, ESG, DIG)				
	(Constant)	-4,814.203	-1.382	0.088
	EPS	19.299	5.472	0.000
	ESGS	41.238	1.343	0.093
	DIG	-191.521	-1.043	0.151
	EPS*ESGS	-0.357	-3.398	0.001
	EPS*DIG	0.658	1.054	0.148
	EPS*ESGS*DIG	5.965	1.245	0.108
	OCF	-0.018	-0.865	0.197
	ROA	398.245	0.557	0.290
	SIZE	708.125	0.274	0.392
Panel D: Model 3b (BVPS, ESG, DIG)				
	(Constant)	-23,212.571	-3.900	0.000
	BVPS	46.009	7.693	0.000
	ESGS	38.057	0.712	0.244
	DIG	221.155	0.769	0.222
	BVPS*ESGS	-1.832	-3.526	0.001
	BVPS*DIG	4.228	0.601	0.275
	BVPS*ESGS*DIG	-0.586	-4.780	0.000
	OCF	147.832	0.121	0.452
	ROA	22,038.832	5.098	0.000
	SIZE	1,488.539	3.317	0.001

Data source; Data processed by the author 2024

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The table presents the results of testing all hypotheses for interactions involving EPS, BVPS, ESG, and DIG against their expected effects. The actual data did not support the hypothesized positive effects for hypotheses H1a, H1b, H2a, and H2b. However, these findings were statistically significant, which led to the rejection of these hypotheses. On the other hand, hypotheses H3a and H3b showed differences between the predicted and observed effects. H3a was found to be marginally significant but eventually rejected, whereas H3b had a significant outcome that matched the expectation.

Table 7. Summary of Hypotheses Testing Results

Hypothesis	Effect	Expected	Actual	Significance	Conclusion
H1a EPS*ESGS → MV	Positive	No	Yes	0.000	Rejected
H1b BVPS*ESGS → MV	Positive	No	Yes	0.002	Rejected
H2a EPS*DIG → MV	Positive	No	Yes	0.000	Rejected
H2b BVPS*DIG → MV	Positive	No	Yes	0.030	Rejected
H3a EPS*ESGS*DIG → MV	Positive	Yes	No	0.110	Rejected
H3b BVPS*ESGS*DIG → MV	Positive	No	Yes	0.000	Rejected

Data source; Data processed by the author 2024

The value relevance of accounting information, notably Earnings Per Share (EPS) and Book Value Per Share (BVPS), is examined in this study in relation to Environmental, Social, and Governance Scores (ESGS) and digitization (DIG). The analysis encompasses a range of models to investigate hypotheses on the impact of Environmental, Social, and Governance Sustainability (ESGS) and digitalization on stock market values. This study contributes to the wider discussion on the importance of accounting information and its influence on investor behavior. Testing and validating models and hypotheses; Models 1 to 3 were employed to evaluate hypothesis H1a, H1b, H2a, H2b, H3a, and H3b. Model 1 was utilized to analyze the influence of ESGS on EPS (Earnings Per Share) and BVPS (Book Value Per Share), whereas Model 2 evaluated the effect of digitalization in improving the significance of these accounting measures. Models 3a and 3b were employed to investigate the synergistic impacts of ESGS and digital.

Hypothesis 1 examines whether ESGS improves the significance of EPS and BVPS in determining value. Although ESGS showed statistical significance, it did not enhance the value relevance of EPS and BVPS. This result defies the anticipation that greater ESG scores would have a favorable influence on stock prices. Prior research, as demonstrated by studies conducted by Mohammad & Wasiuzzaman (2021) and Miralles-Quirós et al. (2018), has demonstrated the relevance of ESG performance in a number of contexts, including Malaysia and Italy. Nevertheless, the results of this study align with those of Cortesi and Vena (2019), Ricci et al. (2020), who found that ESG did not enhance the value relevance of EPS or BVPS. The lack of globally recognized standards for reporting on environmental, social, and governance (ESG) factors, combined with the absence of consistency and trustworthiness in the provided ESG data, seems to be a significant problem. Voinea et al. (2020) suggest that ESG ratings can signal significant environmental expenses, which could potentially reduce financial performance by necessitating greater investments in sustainability. These findings are consistent with the results of a study conducted Konar (2001), which indicated that the environmental expenses could have a detrimental effect on both profit and company value. In addition, Bai et al. (2022) discovered that a strong ESG performance does not automatically offer safeguarding during periods of market decline. This study supports these viewpoints by showing that Indonesian investors may view ESG investments as harmful to financial performance because they could result in the redistribution of resources away from shareholders. The results were corroborated by Wong and Zhang (2022b), who suggested that lower market valuations

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would result from ESG disclosures that did not follow the most recent criteria. Based on the findings of this study, it can be concluded that the absence of standards in ESG reporting limits its ability to improve the value relevance of accounting information.

Hypothesis 2 investigates the impact of digitalization on the value relevance of earnings per share (EPS) and book value per share (BVPS). The investigation demonstrates that the process of digitalization has a beneficial impact on stock prices. This finding supports the notion that technological developments can improve a company's competitive edge and operational efficiency. Nevertheless, the correlation between the process of digitizing information and accounting has a detrimental effect on stock prices, earnings per share (EPS), and book value per share (BVPS). The adverse impact can be ascribed to constraints in manpower and the efficacy of technology implementation in Indonesia. According to the World Bank (2021), a considerable proportion of the Indonesian population does not have internet connectivity, which may impede the efficient application of digital technology. According to a survey by Qualtrics in 2022, the use of technology can improve the participation of human resources in a company. However, the lack of digital skills might result in inefficiencies and higher expenses. Howieson (2003) also noted that the implementation of technology in the accounting profession may lead to ineffective cost management if CPAs are not adequately equipped. The findings indicate that the financial consequences of digitalization, such as expenses related to technology and knowledge management, may surpass the advantages, resulting in a decline in stock prices and reduced earnings per share (EPS) and book value per share (BVPS). This observation is consistent with the concerns that have been voiced regarding the adverse financial effects of rapid technological adoption without sufficient preparation and support.

Hypothesis 3 investigates the collective impact of ESGS (Environmental, Social, and Governance Sustainability) and digitalization on the significance of EPS (Earnings Per Share) and BVPS (Book Value Per Share) in determining value. The relationship of ESGS, digitization, and accounting information leads to a notable inverse correlation with stock prices. This suggests that the combination of ESGS (Environmental, Social, and Governance Sustainability) and digitization does not improve the importance of accounting information and may actually reduce it. This result could be brought about by the high implementation costs of digital technologies and ESG activities, which could lower net income and equity. Ricci et al. (2020) and Alkaraan et al. (2022) discovered that effective ESG performance has the potential to alleviate the adverse effects of digitalization. However, this study demonstrates that these advantages are not fully actualized within the Indonesian setting. ESG and digitization practices have undergone changes, with ESG being more urgent from 2021 onwards and digitalization being prioritized during the epidemic. Before these advancements, both ESG and digitization initiatives were predominantly optional and lacked established requirements for reporting. This may elucidate why the combined impact of these factors did not augment the value significance of EPS and BVPS. Wang (2017), inconsistent implementation of environmental, social, and governance (ESG) practices might have a negative impact on financial performance. On the other hand, Barth et al. (2021) proposed that developments in information technology can enhance the importance and usefulness of non-financial information. Nevertheless, the present study suggests that successfully implementing ESG and digitization remains difficult, resulting in a reduced impact on the usefulness of accounting information.

4. Conclusion

To summarize, the study's results emphasize the intricate connection between ESGS (Environmental, Social, and Governance Sustainability), digitization, and the significance of accounting information. In the Indonesian context, the value relevance of EPS (Earnings Per Share) and BVPS (Book Value Per Share) is not improved by either ESGS (Environmental, Social, and Governance Scores) or digitalization, either separately

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or when combined, despite the presence of substantial statistical associations. This emphasizes the necessity for enhanced standards and methodologies in ESG reporting and the deployment of digital technology in order to fully achieve their potential advantages. The study enhances comprehension of the interplay between contemporary issues like ESG and digitalization with conventional accounting criteria. It offers valuable insights for investors, governments, and firms seeking to navigate the dynamic realm of financial reporting and valuation.

References

Ahmad, Gayas, Feeroz Hayat, Faozi A. Almaqtari, Najib H. S. Farhan, and Mohammad Shahid. 2023. "Corporate Social Responsibility Spending and Earnings Management: The Moderating Effect of Ownership Structure." *Journal of Cleaner Production* 384:135556. doi: https://doi.org/10.1016/j.jclepro.2022.135556.

Alkaraan, Fadi, Khaldoon Albitar, Khaled Hussainey, and V. G. Venkatesh. 2022. "Corporate Transformation toward Industry 4.0 and Financial Performance: The Influence of Environmental, Social, and Governance (ESG)." *Technological Forecasting and Social Change* 175:121423. doi: https://doi.org/10.1016/j.techfore.2021.121423.

Amir, Eli, and Baruch Lev. 1996. "Value-Relevance of Nonfinancial Information: The Wireless Communications Industry." *Journal of Accounting and Economics* 22(1):3–30. doi: https://doi.org/10.1016/S0165-4101(96)00430-2.

Baboukardos, Diogenis, and Gunnar Rimmel. 2016. "Value Relevance of Accounting Information under an Integrated Reporting Approach: A Research Note." *Journal of Accounting and Public Policy* 35(4):437–52. doi: https://doi.org/10.1016/j.jaccpubpol.2016.04.004.

Bai, Xiong, Jinmian Han, Yuanzhi Ma, and Wenrui Zhang. 2022. "ESG Performance, Institutional Investors' Preference and Financing Constraints: Empirical Evidence from China." *Borsa Istanbul Review* 22:S157–68. doi: https://doi.org/10.1016/j.bir.2022.11.013.

Barth, Erling, Sari Pekkala Kerr, and Claudia Olivetti. 2021. "The Dynamics of Gender Earnings Differentials: Evidence from Establishment Data." *European Economic Review* 134:103713. doi: https://doi.org/10.1016/j.euroecorev.2021.103713.

Benlian, Alexander, and Thomas Hess. 2011. "Opportunities and Risks of Software-as-a-Service: Findings from a Survey of IT Executives." *Decision Support Systems* 52(1):232–46. doi: https://doi.org/10.1016/j.dss.2011.07.007.

Borralho, João Miguel, Remedios Hernández-Linares, Dolores Gallardo-Vázquez, and Inna Choban de Sousa Paiva. 2022. "Environmental, Social and Governance Disclosure's Impacts on Earnings Management: Family versus Non-Family Firms." *Journal of Cleaner Production* 379:134603. doi: https://doi.org/10.1016/j.jclepro.2022.134603.

Bose, Ranjit, and Xin Luo. 2011. "Integrative Framework for Assessing Firms' Potential to Undertake Green IT Initiatives via Virtualization – A Theoretical Perspective." *The Journal of Strategic Information Systems* 20(1):38–54. doi: https://doi.org/10.1016/j.jsis.2011.01.003.

Comoli, Maurizio, Patrizia Tettamanzi, and Michael Murgolo. 2023. "Accounting for 'ESG' under Disruptions: A Systematic Literature Network Analysis." *Sustainability (Switzerland)* 15(8). doi: 10.3390/su15086633.

Cortesi, Alessandro, and Luigi Vena. 2019. "Disclosure Quality under Integrated Reporting: A Value Relevance Approach." *Journal of Cleaner Production* 220:745–55. doi: https://doi.org/10.1016/j.jclepro.2019.02.155.

Dmuchowski, Piotr, Wojciech Dmuchowski, Aneta H. Baczewska-Dąbrowska, and Barbara Gworek. 2023.

Corespondence Author; Mey Ayu Lestari

"Environmental, Social, and Governance (ESG) Model; Impacts and Sustainable Investment – Global Trends and Poland's Perspective." *Journal of Environmental Management* 329:117023. doi: https://doi.org/10.1016/j.jenvman.2022.117023.

Fainshmidt, Stav, Anil Nair, and Mark R. Mallon. 2017. "MNE Performance during a Crisis: An Evolutionary Perspective on the Role of Dynamic Managerial Capabilities and Industry Context." *International Business Review* 26(6):1088–99. doi: https://doi.org/10.1016/j.ibusrev.2017.04.002.

Fichman, Robert G., Brian L. Dos Santos, and Zhiqiang (Eric) Zheng. 2014. "Digital Innovation as a Fundamental and Powerful Concept in the Information Systems Curriculum." *MIS Quarterly* 38(2):329-A15.

Ghobakhloo, Morteza. 2020. "Industry 4.0, Digitization, and Opportunities for Sustainability." *Journal of Cleaner Production* 252:119869. doi: https://doi.org/10.1016/j.jclepro.2019.119869.

Hadani, Michael, Maria Goranova, and Raihan Khan. 2011. "Institutional Investors, Shareholder Activism, and Earnings Management." *Journal of Business Research* 64(12):1352–60. doi: https://doi.org/10.1016/j.jbusres.2010.12.004.

Harris, Oneil, J. Bradley Karl, and Ericka Lawrence. 2019. "CEO Compensation and Earnings Management: Does Gender Really Matters?" *Journal of Business Research* 98:1–14. doi: https://doi.org/10.1016/j.jbusres.2019.01.013.

Hayes, Laureen J., Linda O'Brien-Pallas, Christine Duffield, Judith Shamian, James Buchan, Frances Hughes, Heather K. Spence Laschinger, and Nicola North. 2012. "Nurse Turnover: A Literature Review – An Update." *International Journal of Nursing Studies* 49(7):887–905. doi: https://doi.org/10.1016/j.ijnurstu.2011.10.001.

Hichri, Abir, and Ahmad Alqatan. 2024. "Exploring Integrated Reporting's Influence on International Firms' Value Relevance." *International Journal of Ethics and Systems* ahead-of-p(ahead-of-print). doi: 10.1108/IJOES-11-2023-0249.

Howieson, Bryan. 2003. "Accounting Practice in the New Millennium: Is Accounting Education Ready to Meet the Challenge?" *The British Accounting Review* 35(2):69–103. doi: https://doi.org/10.1016/S0890-8389(03)00004-0.

Hu, Jianxiong, Qing Zou, and Qianqian Yin. 2023. "Research on the Effect of ESG Performance on Stock Price Synchronicity: Empirical Evidence from China's Capital Markets." *Finance Research Letters* 55:103847. doi: https://doi.org/10.1016/j.frl.2023.103847.

Khalid, Fahad, Muhammad Irfan, and Mohit Srivastava. 2024. "The Impact of Digital Inclusive Finance on ESG Disputes: Evidence from Chinese Non-Financial Listed Companies." *Technological Forecasting and Social Change* 204:123415. doi: https://doi.org/10.1016/j.techfore.2024.123415.

Konar, Shameek, and Mark A. Cohen. 2001. "Does the Market Value Environmental Performance?" *The Review of Economics and Statistics* 83(2):281–89. doi: 10.1162/00346530151143815.

Kumari, Pooja, and Chandra Sekhar Mishra. 2018. "Value Relevance of Earnings and Book Value in India: Significance of Accounting Reforms and Intangible-Intensity in an Emerging Market." *International Journal of Accounting, Auditing and Performance Evaluation* 14(4):364–87. doi: 10.1504/IJAAPE.2018.095112.

Liu, Felicia H. M., David Demeritt, and Samuel Tang. 2019. "Accounting for Sustainability in Asia: Stock Market Regulation and Reporting in Hong Kong and Singapore." *Economic Geography* 95(4):362–84. doi: 10.1080/00130095.2018.1544461.

Melinda, Anna, and Ratna Wardhani. 2020. "The Effect of Environmental, Social, Governance, and Controversies on Firms' Value: Evidence from Asia." Pp. 147–73 in *Advanced Issues in the Economics of*

Corespondence Author; Mey Ayu Lestari

Emerging Markets. Vol. 27, *International Symposia in Economic Theory and Econometrics*, edited by W. A. Barnett and B. S. Sergi. Emerald Publishing Limited.

Migliavacca, Alessandro. 2024. "Value Relevance of Accounting Numbers and Sustainability Information in Europe: Empirical Evidence from Nonfinancial Companies." *Journal of International Accounting, Auditing and Taxation* 55:100620. doi: https://doi.org/10.1016/j.intaccaudtax.2024.100620.

Ngo, Nguyen-Quynh-Nhu, Mohammad Talha, Mustafa Raza Rabbani, and Gia-Nhi Vu. 2024. "Do Board Friendliness and Economic Development Affect Firm's Abnormal Earnings? An Evidence of Quantile Regression." *Journal of Open Innovation: Technology, Market, and Complexity* 10(1):100193. doi: https://doi.org/10.1016/j.joitmc.2023.100193.

Renneboog, Luc, Jenke Ter Horst, and Chendi Zhang. 2008. "Socially Responsible Investments: Institutional Aspects, Performance, and Investor Behavior." *Journal of Banking & Finance* 32(9):1723–42. doi: https://doi.org/10.1016/j.jbankfin.2007.12.039.

Ricci, Federica, Vincenzo Scafarto, Salvatore Ferri, and Alberto Tron. 2020. "Value Relevance of Digitalization: The Moderating Role of Corporate Sustainability. An Empirical Study of Italian Listed Companies." *Journal of Cleaner Production* 276:123282. doi: https://doi.org/10.1016/j.jclepro.2020.123282.

Shah, Syed Zulfiqar Ali, Maqsood Ahmad, and Faisal Mahmood. 2018. "Heuristic Biases in Investment Decision-Making and Perceived Market Efficiency." *Qualitative Research in Financial Markets* 10(1):85–110. doi: 10.1108/QRFM-04-2017-0033.

Siregar, Sylvia Veronica, and Sidharta Utama. 2008. "Type of Earnings Management and the Effect of Ownership Structure, Firm Size, and Corporate-Governance Practices: Evidence from Indonesia." *The International Journal of Accounting* 43(1):1–27. doi: https://doi.org/10.1016/j.intacc.2008.01.001.

Soufian, Mona, William Forbes, and Robert Hudson. 2014. "Adapting Financial Rationality: Is a New Paradigm Emerging?" *Critical Perspectives on Accounting* 25(8):724–42. doi: https://doi.org/10.1016/j.cpa.2013.08.009.

Sucher, Pat, and Irena Jindrichovska. 2004. "Implementing IFRS: A Case Study of the Czech Republic." *Accounting in Europe* 1(1):109–41. doi: 10.1080/0963818042000262757.

Truant, Elisa, Laura Broccardo, and Léo-Paul Dana. 2021. "Digitalisation Boosts Company Performance: An Overview of Italian Listed Companies." *Technological Forecasting and Social Change* 173:121173. doi: https://doi.org/10.1016/j.techfore.2021.121173.

Vardon, Michael, Peter Burnett, and Stephen Dovers. 2016. "The Accounting Push and the Policy Pull: Balancing Environment and Economic Decisions." *Ecological Economics* 124:145–52. doi: https://doi.org/10.1016/j.ecolecon.2016.01.021.

Wang, Disheng, and Xiaohong Xia. 2024. "The Impact of Digital Transformation on Firms' Value: Examining the Role of ESG Performance and the Effect of Information Interaction." *Business Process Management Journal* 30(4):1236–65. doi: 10.1108/BPMJ-06-2023-0469.

Wang, Zhihong, and Joseph Sarkis. 2017. "Corporate Social Responsibility Governance, Outcomes, and Financial Performance." *Journal of Cleaner Production* 162:1607–16. doi: https://doi.org/10.1016/j.jclepro.2017.06.142.

Wong, Jin Boon, and Qin Zhang. 2022a. "Stock Market Reactions to Adverse ESG Disclosure via Media Channels." *The British Accounting Review* 54(1):101045. doi: https://doi.org/10.1016/j.bar.2021.101045.

Wong, Jin Boon, and Qin Zhang. 2022b. "Stock Market Reactions to Adverse ESG Disclosure via Media Channels." *British Accounting Review* 54(1). doi: 10.1016/j.bar.2021.101045.

Corespondence Author; Mey Ayu Lestari

Xue, Rui, Hongqi Wang, Yuhao Yang, Martina K. Linnenluecke, Kaifang Jin, and Cynthia Weiyi Cai. 2023. "The Adverse Impact of Corporate ESG Controversies on Sustainable Investment." *Journal of Cleaner Production* 427:139237. doi: https://doi.org/10.1016/j.jclepro.2023.139237.

Yang, Jiujie, Zhi Li, Linna Wang, Xiaoyun Yun, Yaling Zeng, Jerome P. L. Ng, Hanghong Lo, Yan Wang, Kaixi Zhang, Betty Yuen Kwan Law, and Vincent Kam Wai Wong. 2022. "The Role of Non-Coding RNAs (MiRNA and LncRNA) in the Clinical Management of Rheumatoid Arthritis." *Pharmacological Research* 186:106549. doi: https://doi.org/10.1016/j.phrs.2022.106549.

Yang, Miying, Mingtao Fu, and Zihan Zhang. 2021. "The Adoption of Digital Technologies in Supply Chains: Drivers, Process and Impact." *Technological Forecasting and Social Change* 169:120795. doi: https://doi.org/10.1016/j.techfore.2021.120795.

Zalata, Alaa Mansour, Venancio Tauringana, and Ishmael Tingbani. 2018. "Audit Committee Financial Expertise, Gender, and Earnings Management: Does Gender of the Financial Expert Matter?" *International Review of Financial Analysis* 55:170–83. doi: 10.1016/j.irfa.2017.11.002.

Zhan, Zehui, Patrick S. W. Fong, Hu Mei, and Ting Liang. 2015. "Effects of Gender Grouping on Students' Group Performance, Individual Achievements and Attitudes in Computer-Supported Collaborative Learning." *Computers in Human Behavior* 48:587–96. doi: https://doi.org/10.1016/j.chb.2015.02.038.

Zhang, Fen, Yating Wan, Tao Zuo, Yun Kit Yeoh, Qin Liu, Lin Zhang, Hui Zhan, Wenqi Lu, Wenye Xu, Grace C. Y. Lui, Amy Y. L. Li, Chun Pan Cheung, Chun Kwok Wong, Paul K. S. Chan, Francis K. L. Chan, and Siew C. Ng. 2022. "Prolonged Impairment of Short-Chain Fatty Acid and L-Isoleucine Biosynthesis in Gut Microbiome in Patients With COVID-19." *Gastroenterology* 162(2):548-561.e4. doi: https://doi.org/10.1053/j.gastro.2021.10.013.

Zhou, Hailing, and Ji Liu. 2023. "Digitalization of the Economy and Resource Efficiency for Meeting the ESG Goals." *Resources Policy* 86:104199. doi: https://doi.org/10.1016/j.resourpol.2023.104199.

Corespondence Author; Mey Ayu Lestari