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FIRM PERFORMANCE: THE ROLE OF DETERMINANT VARIABLES WATER AWARENESS, INTELLECTUAL CAPITAL, AND CORPORATE SOCIAL RESPONSIBILITY

Agustine Dwianika[A], Fitriyah Nurhidayah[B], Yohanes Totok Suyoto[C], Edi Purwanto[D], Naimah Ahmad Yahya[E], Ahmad Saiful Azlin Puteh Salin[F], Ahmad Zoolhelmi Ilyas[G]

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ABSTRACT

Purpose: This study aims to investigate of firm's performance through water awareness, intellectual capital, and corporate social responsibility.

Theoretical framework: The main goal of the signaling theory by Spence (2002) is to reduce the information asymmetry between two parties. Research by Ericson and Call (2008), Shabaati et al. (2010), Helena, Pedro, and Jardon (2010), and others have demonstrated that intellectual capital has a favorable impact on performance. Clacher, Hagendorff, Jo, and Harjoto (2012), as well as Ameer and Othman (2012), discovered a beneficial relationship between CSR and a company's financial performance.

Design/methodology/approach: The present study was conducted on 21 manufacturing companies in Indonesia with a total of 106 samples. The data of the present study were financial reports and sustainability reports which were obtained from the Indonesian stock exchange website and each company's website during the period 2015-2019 by using purposive sampling techniques and multiple linear regression methods.

Findings: The findings revealed that water awareness and corporate social responsibility affect company performance, but not the firm's intellectual capital. However, a firm's sustainability is empirically proven to affect company performance.

Research, Practical & Social implications: This study is useful for managers to examine the effectiveness of water awareness and sustainability practices including intellectual capital towards the company's performance.

Originality/value: The value of the study is useful for managers to examine the affect company performance, but not the firm's intellectual capital. However, a firm's sustainability is empirically proven to affect company performance. This measurement of firm's sustainability model will be very useful for decision makers and policy makers.

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[A] *Doctor in Economics. Universitas Pembangunan Jaya. South Tangerang, Indonesia.*
E-mail: agustine.dwianika@upj.ac.id Orcid: https://orcid.org/0000-0003-2690-3972
[B] *Master of Science. Universitas Pembangunan Jaya. South Tangerang, Indonesia.*
E-mail: fitriyah.nurhidayah@upj.ac.id Orcid: https://orcid.org/ 0000-0001-7950-0371
[C] *Doctor in Economics. Universitas Pembangunan Jaya. South Tangerang, Indonesia.*
E-mail: totok.suyoto@upj.ac.id Orcid: https://orcid.org/0000-0002-4095-8497
[D] *Doctor of Development Studies. Universitas Pembangunan Jaya, South Tangerang, Indonesia.*
E-mail: edi.purwantoro@upj.ac.id Orcid: https://orcid.org/0000-0002-7143-4469
[E] *Doctor of Philosophy. Universiti Teknologi MARA, Perak Branch, Malaysia.*
E-mail: naima713@uitm.edu.my Orcid: https://orcid.org/0000- 0001- 6377- 2110
[F] *Doctor of Philosophy. Universiti Teknologi MARA. Perak Branch, Malaysia.*
E-mail: ahmad577@uitm.edu.my Orcid: https://orcid.org/0000-0001-9652-712X
[G] *Doctor of Philosophy. Universiti Teknologi MARA. Perak Branch, Malaysia.*
E-mail: ahmad006@uitm.edu.my Orcid: https://orcid.org/0000-0002-0585-430X

DESEMPENHO DA EMPRESA: O PAPEL DAS VARIÁVEIS DETERMINANTES CONSCIENTIZAÇÃO DA ÁGUA, CAPITAL INTELECTUAL E RESPONSABILIDADE SOCIAL CORPORATIVA

RESUMO

Objetivo: Este estudo tem como objetivo investigar o desempenho da empresa por meio da conscientização sobre a água, capital intelectual e responsabilidade social corporativa.

Referencial teórico: O principal objetivo da teoria da sinalização de Spence (2002) é reduzir a assimetria de informação entre duas partes. Pesquisa de Ericson e Call (2008), Shabaati et al. (2010), Helena, Pedro e Jardon (2010) e outros demonstraram que o capital intelectual tem um impacto favorável no desempenho. Clacher, Hagendorff, Jo e Harjoto (2012), assim como Ameer e Othman (2012), descobriram uma relação benéfica entre a RSC e o desempenho financeiro de uma empresa.

Desenho/metodologia/abordagem: O presente estudo foi realizado em 21 empresas de manufatura na Indonésia com um total de 106 amostras. Os dados do presente estudo foram relatórios financeiros e relatórios de sustentabilidade obtidos no site da bolsa de valores da Indonésia e no site de cada empresa durante o período de 2015-2019, usando técnicas de amostragem intencional e métodos de regressão linear múltipla.

Resultados: Os resultados revelaram que a conscientização sobre a água e a responsabilidade social corporativa afetam o desempenho da empresa, mas não o capital intelectual da empresa. No entanto, é empiricamente comprovado que a sustentabilidade de uma empresa afeta o desempenho da empresa.

Pesquisa, implicações práticas e sociais: Este estudo é útil para os gerentes examinarem a eficácia da conscientização sobre a água e práticas de sustentabilidade, incluindo capital intelectual para o desempenho da empresa.

Originalidade/valor: O valor do estudo é útil para os gerentes examinarem o impacto no desempenho da empresa, mas não no capital intelectual da empresa. No entanto, é empiricamente comprovado que a sustentabilidade de uma empresa afeta o desempenho da empresa. Essa medição do modelo de sustentabilidade da empresa será muito útil para tomadores de decisão e formuladores de políticas.

Palavras-chave: Desempenho da Empresa, Consciência Hídrica, Capital Intelectual, Responsabilidade Social Corporativa.

DESEMPEÑO DE LA EMPRESA: EL PAPEL DE LAS VARIABLES DETERMINANTES CONCIENCIACIÓN DEL AGUA, CAPITAL INTELECTUAL Y RESPONSABILIDAD SOCIAL CORPORATIVA

RESUMEN

Objetivo: Este estudio tiene como objetivo investigar el desempeño de la empresa a través de la conciencia sobre el agua, el capital intelectual y la responsabilidad social empresarial.

Marco teórico: El principal objetivo de la teoría de señalización de Spence (2002) es reducir la asimetría de información entre dos partes. Investigación de Ericson y Call (2008), Shabaati et al. (2010), Helena, Pedro y Jardon (2010) y otros demostraron que el capital intelectual tiene un impacto favorable en el desempeño. Clacher, Hagendorff, Jo y Harjoto (2012), así como Ameer y Othman (2012), encontraron una relación beneficiosa entre la RSE y el desempeño financiero de una empresa.

Diseño/metodología/enfoque: El presente estudio se llevó a cabo en 21 empresas manufactureras de Indonesia con un total de 106 muestras. Los datos para el presente estudio fueron informes financieros e informes de sostenibilidad obtenidos del sitio web de la bolsa de valores de Indonesia y del sitio web de cada empresa durante el período 2015-2019, utilizando técnicas de muestreo intencional y métodos de regresión lineal múltiple.

Resultados: Los resultados revelaron que la conciencia del agua y la responsabilidad social empresarial afectan el desempeño de la empresa, pero no el capital intelectual de la empresa. Sin embargo, está empíricamente probado que la sustentabilidad de una empresa afecta el desempeño de la misma.

Implicaciones de investigación, prácticas y sociales: este estudio es útil para que los gerentes examinen la efectividad de las prácticas de sostenibilidad y conciencia sobre el agua, incluido el capital intelectual, para el desempeño de la empresa.

Originalidad/valor: El valor del estudio es útil para que los gerentes examinen el impacto en el desempeño de la empresa, pero no en el capital intelectual de la empresa. Sin embargo, está empíricamente probado que la sustentabilidad de una empresa afecta el desempeño de la misma. Esta medición del modelo de sustentabilidad de la empresa será de gran utilidad para los tomadores de decisiones y formuladores de políticas.

Palabras clave: Desempeño de la Empresa, Conciencia del Agua, Capital Intelectual, Responsabilidad Social Empresarial.

INTRODUCTION

The World Resources Institute (WRI) predicts that Indonesia will experience water stress by 2040 and has a limited amount of land available, as illustrated in Table 1. The lack of awareness about planting trees, the rise in home water use, and the exploration and use of industrial water, particularly in industry, are some of the causes of this issue. Biocchi et al. (2015) and Boutera et al. (2012) have both conducted a recent study on water issues in various regions.

Heat waves, another significant effect of climate change, have a significant impact on water supply, particularly in metropolitan areas (Suparta & Yatim, 2019). The likelihood of accounting fraud is now significantly influenced by good corporate governance, and companies with weak governance structures are increasingly vulnerable to fraud as a result of the loss of the ability of the land to absorb water as a result of declining forest cover and rainwater absorption (Brigham et al., 2009).

The largest contributor to the country's economy in Indonesia, the industrial sector accounts for 26.38% of GDP. The six main industries that the Ministry of Industry separates into are agro-industry (such as rubber, palm oil, food and beverage, and paper), transportation, information and communication technology, and creative industry (such as fashion and software), small-medium-sized industries, and manufacturing industry. In Table 2, the water demand of specific industries is further highlighted by accounting for the importance of the industry, its relative size, and the water consumption per ton of product.

The performance of the company is impacted by other elements in addition to those mentioned above. However, at least from the exposure to literacy and data, it is found that stakeholders pay attention to the awareness of water management, intellectual capital, and disclosure of corporately social actions. This study offers theoretical and practical insights that can be used to experimentally explain how this research is involved in the performance evaluation process at the organization. The measuring model that was utilized to seek the best performance is applicable to managers.

LITERATURE REVIEW

Whether two parties are individuals or organizations, the signaling theory is useful for characterizing behavior between them when they have access to various types of information (Ross, 1977). Typically, the sender chooses whether to communicate (or signal) the information, and the recipient chooses how to interpret the signal. As a result, signaling theory is widely used in management literature, including material on strategic management,

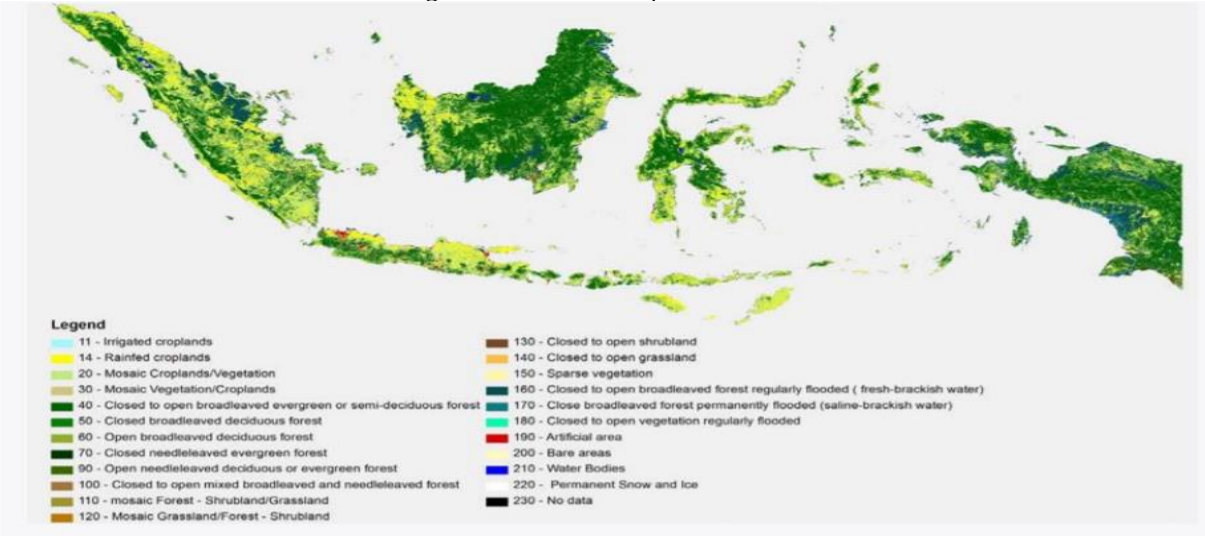
entrepreneurship, and human resource management. The main goal of the signaling theory is to reduce the information asymmetry between two parties (Spence, 2002).

Both the market in which a firm competes and the firm's own efficiency may have an impact on a firm's performance indicator. In the financial sector, this is frequently referred to the financial health or financial stability. A variety of financial metrics can be used to evaluate a company's success. Typical financial measures include things like revenue, return on equity, return on assets, profit margin, sales growth, capital adequacy ratio, liquidity ratio, and share price. Some financial ratios will be more important than others, depending on the industry the company operates.

The most important ratios to monitor in a manufacturing organization might be total unit sales, return on assets, and inventory turnover, for example. Stock prices, cash flow, sales, and operational income may be the key ratios to monitor for financial firms. Additionally, because the consulting industry does not rely substantially on assets, asset returns and inventory turnover may not be important for organizations in this industry.

Since every industry is different, and making cross-industry comparisons can result in a biased interpretation of a firm's performance, it is also important to take into account how valuable a firm's financial measures are in comparison to those of its competitors in the same industry. Water awareness, which refers to 10 indicators found in the Water Disclosure Guidelines (2014), was the variable utilized to analyze the company's performance to attain water sustainability.

Figure 1. Land Use Map of Indonesia



Sources: The Food and Agriculture Organization of the United Nations (2020)

Researchers from Intellectual Capital identified several findings throughout their investigation. Blaise et al. (2007) discovered that intellectual capital had a negative impact on performance. Ericson and Call (2008), Shabaati et al. (2010), Helena, Pedro, and Jardon (2010), and others have demonstrated that intellectual capital has a favorable impact on performance. Chang and Chen (2012) make the case that environmental awareness and the surrounding environment can both help to improve financial performance. This idea is called "green intellectual capital" (Chen, 2008; Chang and Chen, 2012) in various industry. Table 2 shows an overview of water usage for various energy-producing technologies. 2,825 MCM is the expected total amount of water used in the energy industry. As stated in Table 3, this figure includes water used for domestic coal mining but excludes coal mining for export.

Table 2. Industry Sectors With Relative Water Demand

Sector	% Share in Economy	Number of Plants	Water Demand	Number of Workers
Oil and gas	3.81		High	8,700
Agro industry, food, and beverage	7.49	6,000	Very high	832,000
Textile	2.08	2,853	Very high	478,000
Wood	1.43		Low	222,000
Paper and pulp	1.09		Very high	104,000
Chemicals	2.90		High	227,000
Steel	0.48		Medium	
Transport	6.17		Low	
Others	0.17			
Total	**26.38**			**4,335,000**

Sources: Indonesia Bank, (2015)

Businesses need to practice corporate social responsibility (CSR). CSR research yields a variety of findings. Clacher et al. (2012), as well as Ameer and Othman (2012), discovered a beneficial relationship between CSR and a company's financial performance. Laan et al. (2008) and Baird and Pinar (2012), in contrast, discovered a detrimental effect. Additionally, with good corporate governance principles, proactive steps can be done to solve societal problems through adequate society disclosure (Janang, 2020). And some characteristics of CSR can play an influential role in CSR, which would influence the achievement of firms' sustainability goals (Tandoh, 2022), besides proven to influence other factors belonging to the company such as company value (Riyadh, 2022).

The non-executive director (board of commissioners) is another factor that has an impact on performance. Intellectual capital, according to Maki et al. (2009), has a favorable effect on financial success. Moreover, Abidin et al. (2009) found that independent commissioners play a significant role in raising intellectual capital, which affects financial

performance differently. In another hand, water exploration for the manufacturing sector in the production process with related water demand and consumption has become a global concern due to the issue of water stress, which is intimately tied to awareness of the preservation of natural resources for the next generation.

Table 3. Summary of Water Consumption for Power Generation

Fuel	Installed Capacity (MW)	Percentage of Total	Production per Year (MWh/year)	Percentage of Total	Water Consumption (m^3/MWh)	Water Consumption (MCM per year)
Hydropower	2,589	6.30	17.5	8.1	63.0	1,099
Coal	21,124	51.40	111.2	51.6	2.0	222
Oil	5,672	13.80	26.2	12.1	15.2	398
Gas	9,535	23.20	52.4	24.3	2.7	141
Geothermal	1,973	4.80	6.5	3.0	1.7	11
Biodiesel, solar	205	0.50	2.0	0.9	331.0	662
Coal mining (excluding export)						291
Total	**41,098**	**100**	**216**	**100**		**2,825**

m^3 = cubic meter, MCM = million cubic meter, MW = megawatt, MWh = megawatt-hour.
Note: Data from Royal HaskoningDHV projects.

Sources: Asian Development Bank, (2020)

Refers to the findings of the prior literature review, this study aims to explore an overview of water awareness and sustainability reporting in Indonesian manufacturing firms in the context of a growing market. This study investigates the influence of these factors on the adoption of new sustainability reporting techniques (such as SDG reporting) and external assurance statements in order to provide answers to these issues. Additionally, it investigates the relationship between companies' financial success and sustainability reporting.

MATERIALS AND METHODOLOGY

All of the data used in this study were secondary data that were taken from the annual report, financial report, and sustainability report for the observation period, which was from 2015 to 2019. During that time, the report was posted on the Indonesia Stock Exchange. All manufacturing industry segments are used in this analysis, including the basic and chemical, consumer goods, and other industries. In addition, the mining industry sector is also used in this analysis.

The collected data is modified to meet the requirements of 105 samples. In addition, the information on explicit references or implementation of water awareness in sustainability reports was collected from the standards and principles of the Corporate Water Disclosure

Framework (2020) which looks at the Current State aspects in the form of Context, Performance, and Compliance as well as the implications in terms of Business Risk, Business Opportunity and External Impacts. The response was seen in the aspects of Policies, governance and targets, Internal Actions, and External Engagement. Another important thing is by looking at aspects of Lingages across sustainability issues and Connections between sections and subsections.

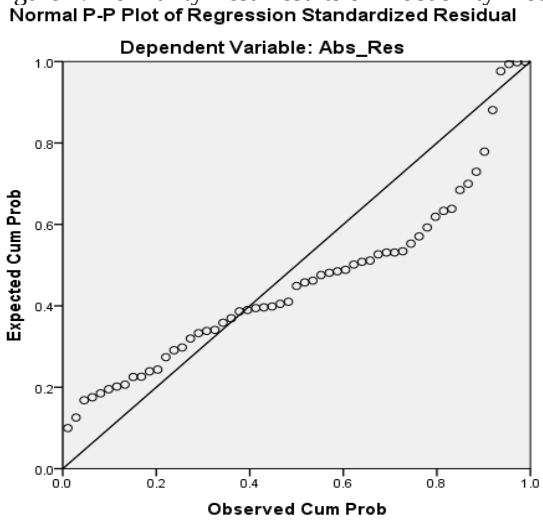
Multilinear regression data processing using SPSS Version 25, with the model:

$FP=\alpha+\beta 1WA+\beta 2IC+\beta 3CSR+e$ 1
$FP= \alpha+\beta 1WA+\beta 2IC*CSR+e$..... 2
Description:
FP: Firm Performance (Y)
WA: Water Awareness (X1)
IC: Intellectual Capital (X2)
CSR: Corporate Social Responsibility Disclosure (CX3)
SR: IC x CSR (X4)

RESULTS AND DISCUSSION

All of the data can be included in this analysis test since descriptive statistics show that their average values are all pretty close to one another. The findings of the traditional assumption test clearly show that the residual value is not normally distributed because the Kolmogorov-Smirnov test has a significant value of 0.000 < 0.05. Contrary to the Probability Plot test findings, which show plotting data (dots) that describe the real data along a diagonal line, it is different from those results. It indicates that the data is normally distributed (Ghozali, 2011). The details can be seen in Figure 4.

Figure 4. Normality Test Results of Probability Plot



Source: Prepared by the authors (2022)

According to the findings of the multicollinearity test analysis, the VIF value for the variables X1 and X2 was less than 10.00, but X3's VIF score is higher than 10.00. It is clear that multicollinearity is present because variables X1 and X2 have tolerance values of more than 0.10, whereas X3 has a value lower than 0.10. The heteroscedasticity test also shows no evidence of data buildup. The following tables 5, 6, and 7 show the outcomes of autocorrelation and hypothesis testing.

Table 5. Autocorrelation Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.621[a]	.385	.338	.04902	1.136

a. Predictors: (Constant), X1, X2, X3
b. Dependent Variable: Abs_Res
Source: Prepared by the authors (2022)

Table 6. Results of t-Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.121	.062		1.945	.057		
	X1	.056	.013	.467	4.251	.000	.977	1.023
	X2	.000	.001	-.054	-.489	.627	.970	1.031
	X3	.386	.122	1.297	3.167	.003	.070	14.186
	X4	-.271	.111	-1.000	-2.440	.018	.070	14.214

a. Dependent Variable: Abs_Res
Source: Prepared by the authors (2022)

Tabel 7. Result of F test

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.078	4	.020	8.155	.000[b]
	Residual	.125	52	.002		
	Total	.203	56			

a. Dependent Variable: Abs_Res
b. Predictors: (Constant), X1, X2, X3, X4
Source: Prepared by the authors (2022)

Table 5 demonstrates that corporate social responsibility (CSR), intellectual capital disclosure (ICD), and water awareness (WA) all have an impact on 33.8% of firm performance (CSR). Additionally, other variables that were not looked at have an impact of 66.2%. Table 6 demonstrates that although hypothesis 4 is rejected, hypotheses 1, 3, and 4 are supported. The

considerable value of 0.627, which is more than 0.50, of the impact of intellectual capital on the firm's performance shows this. The firm's performance is simultaneously impacted by corporate social responsibility disclosure, awareness of water, and intellectual capital. It is clear from the results of the F test, which have a significant value of 0.000 as preseted in Tabel 7.

For managing manufacturing enterprises to continue, water awareness is required not only to discover nature but also to make an effort to preserve water sources. The company's focus on intricate details can be an indication of improved success. Investors and other stakeholders are considered to provide more value for management who pays attention to the environment. This type of stakeholder will tend to be loyal to companies that have the same vision of environmental sustainability.

According to Diorzanora & Priyadi, ICD can have an impact on the financial performance of well-known industry companies listed on the Indonesia Stock Exchange from 2014 to 2017. (2019). They reach the conclusion that companies with excellent intellectual resource management will expand and have a competitive edge. Faradina & Gayatri's (2016) study, which found a relationship between ICD and financial success in 8 businesses that are members of the LQ45 Index from the years 2010 to 2014, lends additional credence to this research. They conclude that companies that actively disclose information voluntarily will receive the trust of stakeholders so that they can maintain viability and gain recognition from various parties. The results of the present study indicate, however, that separately acquired intellectual capital in Indonesian manufacturing enterprises during the observation period was not absorbed and might enhance corporate performance.

Similar research results are found by Marcelia & Purnomo (2016), who claimed that ICD had no effect on the firm value of banking firms listed on the Indonesia Stock Exchange, either positively or negatively. Siregar and Safitri's (2019) study claims that the 84-factor Singh and Zahn's (2007) Intellectual Capital Disclosure Index was used to quantifying ICD. Additionally, this study demonstrates that ICD has no impact on firm value in mining businesses listed on the IDX from 2013 to 2017.

Intellectual Capital (IC) is a representation of the knowledge owned by the company as capital for innovation. As a way to build stakeholder trust, it is essential for companies to provide IC information. The Signal theory states that Intellectual Capital Disclosure (ICD) is an effort made by a firm to show stakeholders and shareholders that it has a competitive advantage in the market for its products or services, hence enhancing the company's reputation (Ardiantini et al., 2020). Due to the fact that a strong company reputation will draw in investors,

this affects the company's value growth. This study's findings, however, do not support any of these viewpoints, demonstrating that ICD has no effect on whether business value rises or falls.

On the other hand, the allocation of CSR costs is obtained from the comparison of CSR costs incurred to the total profit or loss obtained by the company in the previous period. In 2017 it was found that ANTM allocated 386.31 percent of CSR costs because the amount of CSR costs exceeded the amount of profit earned in the previous year. Meanwhile, in the same year, MDKA showed that the allocation of CSR costs was -26.07 percent. This means that the company continues to contribute CSR for financial losses obtained in the previous year. As a result, the community supported businesses that were able to implement CSR initiatives since they were seen as being interested in more than just their own interests. This improved the company's reputation, which is one of its competitive advantages (Nayenggita et al., 2019). The findings of this study support previous studies by Prasetyo & Meiranto (2017), Sari & Azizah (2019), and Rosdwianti et al. (2016) that found a significant correlation between CSR and financial performance.

With regard to information about the company's willingness and care for the environment and society, CSR disclosure demonstrates the company's transparency efforts to the public (Prasetyo & Meiranto, 2017). The company's reputation and image in society may be indirectly enhanced by these actions (Mariani, 2017). Investors will be more interested in investing in companies that have a positive reputation since enhancing the company's reputation will increase consumer loyalty to the goods and services it provides, increasing market share (Rosdwianti et al., 2016).

Implementation of WA, ICD, and CSR simultaneously in the company is considered capable of boosting public trust. Signals of good performance for companies that are serious about presenting information related to the three things above in their financial statements can encourage stakeholder loyalty. Likewise, investors and even consumers do not hesitate to invest in stocks and products of manufacturing companies that are proven to have good governance and display sustainability reports as an effort to moral responsibility.

CONCLUSION

By examining the impact of water awareness, intellectual capital, and corporate social responsibility disclosures in business financial statements, this study contributes to the expanding of literature on sustainability reporting and corporate success in developing countries. However, the implementation of intellectual capital and corporate social

responsibility disclosure, which is a reflection of the sustainability report, is still not optimal. In addition, by exploring the correlation between sustainability reporting and company financial success, this study contributes to the existing literature.

This study contributes to expanding knowledge of sustainability reporting and business strategy in developing countries in general, with an analytical approach to the effects of water awareness, intellectual capital and disclosure of corporate social responsibility. The finding that the application of intellectual capital and disclosure of corporate social responsibility which is a reflection of the sustainability report can be said to be not ideal. The results of this study can help large companies in Indonesia to be more involved in sustainability given the increasing importance of water awareness and sustainability reporting in manufacturing companies.

The limitations of the samples obtained in a limited scope make the results cannot be generalized to represent the actual facts in developing countries such as. Further research is needed that compares various countries with various cultures and business risks such as Malaysia, or Thailand.

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