

# Has Intellectual Capital and Sustainability Report Disclosure Affected the Profitability of Mining Sector Industries in Indonesia?

Mega Norsita<sup>1</sup>, Abdurrahman Maulana Yusuf<sup>2\*</sup>, Irwansyah<sup>3</sup>, Sri Mintarti<sup>4</sup>, Arliyana Revika Zulfa<sup>5</sup>

[abdurrahmanmaulana@feb.unmul.ac.id](mailto:abdurrahmanmaulana@feb.unmul.ac.id)

<sup>1,2,3,4,5</sup> Faculty of Economics and Business, Mulawarman University, Samarinda

**Abstract.** The purpose of this study is to examine how profitability influences intellectual capital and sustainability report disclosure in Indonesia's mining industry. The VAIC measures intellectual capital and evaluates sustainability report disclosure. GRI Standard measures sustainability report disclosure using a content analysis technique. The study's findings reveal that sustainability report disclosure (ROA) has no influence on profitability, but intellectual capital has a negative effect on profitability in Indonesia's mining sector businesses.

**Keywords:** Intellectual Capital, Sustainability Report, Profitability, Sustainability

## 1 Introduction

There are various alternative strategies that can be implemented by the company in order to grow effectively, one of them is by changing a labor-based business to become a knowledge-based business [1] Companies are expected to develop innovations, information systems, good quality organizational management, and other resources such as intellectual capital. High performance of the intellectual capital of a company could affect and develop trust with investors and stakeholders throughout the company [2].

The emphasis on the basis of intellectual capital management supports the creation of sustainable resources, this is supported by Elkington's visionary thinking about future business concepts which is reflected in the sustainability report by carrying out three fundamental pillars namely Triple-Bottom-Line often called 3P (Profit, People, and Planets). Reporting on sustainability activities in the sustainability report has shown a positive correlation with the company's financial performance[3]. This is specifically stated Tarigan by mentioning that the disclosure of sustainability reports can increase financial performance in terms of profitability and company liquidity [4].

According to this research [5]company's high profitability will increase the competitiveness of that company. High-level profit indicates the growth of a company in the future. Company

activities illustrate the level of effectiveness which will indicate the company's growth prospects in the future.

The mining sector generated a significant amount of cash for the Indonesian government; nevertheless, like two sides of a coin, there is a negative contribution that must be addressed at the same time. In 2019, the Ministry of Energy and Mineral Resources (ESDM) reported that non-tax state revenue from the energy and mining sectors was Rp217.5 trillion. This statistic represents 53.4% of the national PNPB. In light of the preceding economic implications, the existence of the mining industry creates numerous job opportunities in both the main region and the area surrounding the mining site; the repercussions include economic, social, and environmental consequences. Based on the development of the above factors, the researcher sees the urgency to measure intellectual capital in the context of a company's innovation strategy in maintaining the company's sustainability through a sustainability report. It is expected that from conducting this research, we will find out whether these two things affect profitability and how significant the effect.

## **2 Research Method**

This research used a causal-comparative method with a content analysis approach in determining the suitability of the data with the research objectives. This research is quantitative causal, which is the analysis of the relationships between variables with other variables or how a variable affects other variable [6]. Data collection used secondary data from financial reports provided by the Indonesia Stock Exchange (IDX) and data tracing for sustainability reports on the company's website. The population of the selected companies were mining sector companies from 2015 to 2020, then the researchers conducted purposive sampling by conducting content analysis techniques to check whether the data was in accordance with the proper conceptual framework. Through the result of data sorting, financial reports, and sustainability reports are generated according to the data criteria within the concepts and theories used in this research.

The focus of this study is a mining firm listed on the Indonesia Stock Exchange from 2018 to 2020. The sample selection criteria are as follows:

1. Mining businesses listed on the Indonesia Stock Exchange from 2018 to 2020.
2. Companies that consistently submit financial and annual reports for 2018-2020.
3. Companies that consistently report on sustainability using the core-based GRI 2016 criteria from 2018 to 2020.

### **2.1 Data Collection Method**

The data collection procedure is as follows:

1. Determine the sustainability report that meets the criteria using the core-based GRI 2016 standard.
2. Determine the financial statement using a purposive sampling approach.
3. Conducting content analysis to ensure sustainability report disclosures align with basic disclosure terms and conditions.
4. Perform content analysis on financial statement according to the VAIC™ calculation formula

5. The final result of data collection is data that is ready to be tested and analyzed using multiple linear regression.

## 2.2 Research Variable

The variables in this study used two independent variables: variable X1 (disclosure of sustainability report). Sustainability reporting is the activity of measuring, disclosing, and holding people accountable [7] for sustainability initiatives that aim to achieve long-term development. This sustainable development includes three aspects, namely economic, social and environmental aspects. Sustainability development is a development concept to fulfil the needs of human life must not interfere with the ability to fulfill them needs in the future. To support sustainable development, Sustainability reports are used as a medium for company information to stakeholders [8] Variable X2 (measurement of intellectual capital using VAIC™), Public [9] developed an indirect measurement tool for intangible assets in the form of intellectual capital utilizing the Value Added Intellectual Capital (VAIC) approach, which is used to assess the performance of a company's intellectual capital. There are three constituent components, namely Value Added Capital Employed (VACA) is an indicator of intellectual capital and plays a role in measuring the level of efficiency in managing physical capital owned by an organization in providing added value to the company [10]. The dependent variable chosen is profitability which is proxied by Return on Assets (ROA), Profitability is measured using return on assets (ROA) to measure the company's ability to earn profits from the total assets used. Return on assets is usually also called return on investment because this ratio is able to see the extent to which the investment that has been invested is able to provide a profit return as expected and the investment invested is actually the same as the company's assets [11].

### a. Variable X1

Disclosure of sustainability reports conducted through content analysis in accordance with the core standard referenced in the sustainability report [12]. The content of the report was observed and adjusted to the applied criteria if it discloses an item in accordance with the 2016 GRI standards and is determined as non-applied if it does not meet the criteria.

The formula for calculating SRD is as follows:

$$SRD = \frac{n}{k}$$

Description:

*SRD* : Sustainability Reporting Disclosure

*n* : applied amount

*k* : non applied amount

### b. Variable X2

The measurement of value added is the sum of wages (employees' salaries), with interest (I), taxes that have been paid (T) and net income (NI).

The formula to calculate VAIC™ is as follows:

$$\begin{aligned} VA &= W+I+T+NI \\ CEE &= VA/CE \\ HCE &= VA/HC \\ SCE &= (VA-HC)/VA \\ VAIC^{\text{TM}} &= CEE+HCE+SCE \end{aligned}$$

Description:

VA : Value added  
 CEE : Capital Employed Efficiency  
 HCE : Human Capital Efficiency  
 SCE : Structural Capital Efficiency  
 VAIC™ : Intellectual Capital Measurement Model

### c. Variable Y

The dependent variable used as a proxy for profitability is ROA.

The ROA calculation formula is as follows:

$$ROA = \frac{\text{Net Income after reduced by Taxes (EAT)}}{\text{Total Assets}}$$

## 3 Research Analysis and Result

The population in this research contains 40 companies in the Indonesian mining sector that have been listed on the Indonesia Stock Exchange (IDX), after applying the purposive sampling method, there are 10 companies who qualified which are shown on the list:

**Table 1:** List of Companies

Number	Company Code	Company Name
1	ANTM	Aneka Tambang
2	BUMI	Bumi Resources
3	ELSA	Elnusa
4	INCO	Vale Indonesia
5	ITMG	Indo Tambang Raya Megah
6	MDKA	Merdeka Copper Gold
7	MEDC	Medco Energi Internasional
8	PTBA	Bukit Asam

9	PTRO	Petrosea
10	TINS	Timah

**Table 2:** Data Result

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig	Tolerance	VIF
	B	Std. Error					
Constant	0.319	1.652		0.193	0.848		
SRDI	8.615	4.385	0.382	1.969	0.060	0.838	1.193
VAIC	-0.232	0.116	-0.387	-0.1993	0.057	0.838	1.193

a. Dependent Variable: ROA

#### *Disclosure of sustainability report on company profitability*

The results of the multiple linear regression test show that there is no influence between the disclosure of the sustainability report on the company's profitability as measured by ROA. This is indicated by the significance level on the X1 variable of  $0.60 > 0.50$ . so that the hypothesis developed in hypothesis 1 is not supported.

The 2016 GRI standard function is to improve the G4 sustainability accounting reporting standard. The 2016 GRI standard was effectively established in early 2018 thus early treatment is highly recommended. But in reality, there are companies who still used the G4 standard in disclosure for 2018 sustainability reporting or even did not make sustainability reports at all, therefore researchers need to remove them from research data. Even though the disclosure standard uses the core version (not comprehensive) in its application, some companies still have not applied the required criteria in the disclosing process.

This affects the SRD variables measured in the study. Law No. 40 of 2007 concerning Limited Liability Companies is proof that companies must carry out their social responsibilities, POJK Number 51 of 2017 issued by the Financial Services Authority (OJK) requires companies, especially those that have a large economic, social, and environmental impact to make a sustainability report. reports. Apart from being a form of accountability, the disclosure of the sustainability report can be used as a means of disseminating the strategy and good values for the company to stakeholders. However, in this study, the obligation to disclose sustainability reports, although it is not an option for yes and no in the reporting process, but mining sector companies do not consider there is a significant relationship to the achievement of company profits. This phenomenon can be seen from the first that there are still many companies that have not disclosed their reports, even if there are still many that have not been applied and the second measure is that there is no significant effect as evidenced by the tests that have been carried out on this opportunity.

### *Disclosure of intellectual capital on company profitability*

The results of the multiple linear regression test indicate that there is a negative influence of intellectual capital on ROA at a marginal level. This is indicated by a significance level of  $0.057 > 0.05$  so hypothesis 2 is not supported.

The results of the analysis show that intellectual capital actually has a negative relationship with the company's profitability, especially on the asset side. This means that mining companies' disclosure of intellectual capital has not been interpreted as a future asset. However, it is still a cost and a liability. There are many conflicts that occur in the dynamics of running a mining business so when companies carry out a cost-benefit comparison process, companies in the traditional realm consider that intellectual capital does not have a significant impact on company profitability.

Inadequate disclosure in several companies is suspected to be an additional factor causing the negative relationship, such as the non-disclosure of employee salary expense data, interest expenses mixed together with royalties and other funding without separation information placed in the notes to the financial statements, income taxes that are not included. its value which is the measurement unit of the monetary unit of contribution in determining capital employed and will have an impact on the aggregation of the value-added calculation.

## **4 Conclusion**

The measurement of sustainability report disclosure using SRD reveals that it has no influence on profitability. The VAIC™ model indicates that measuring intellectual capital has a negative impact on profitability in Indonesian mining businesses between 2018 and 2020.

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