

## COMPANY SUSTAINABILITY, ENTERPRISE RISK MANAGEMENT, INNOVATION, AND INTELLECTUAL CAPITAL EFFICIENCY: EVIDENCE FROM INDONESIA

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### ABSTRACT

*Many factors play a role in company sustainability, including enterprise risk management, innovation and intellectual capital. In order to investigate any possible relationship between many important aspects of company sustainability, we exploit recently panel data designed to provide comparable information on company sustainability in order to assess the impact of enterprise risk management and innovation using a moderating approach of intellectual capital. This study uses 298 data sample of companies listed in Indonesian Stock Exchange that publish sustainability reports from 2014-2019. Data analysis is carried out using multiple regression analysis. The significance of this study is developing a new measurement of innovation for company level in Indonesia. Our results suggest that the implementation of Enterprise Risk Management would be associated with greater company sustainability if supported by an effectiveness of intellectual capital. The results also show that innovation has a positive effect on company sustainability and indicate that innovation is one of the keys to improving company sustainability. The moderating effect of intellectual capital is proven to be able to support company sustainability with their components consisting of human capital, structural capital, and employed capital.*

**Keywords:** Company Sustainability, Enterprise Risk Management, Innovation, Intellectual Capital, Sustainability Reporting.

### INTRODUCTION

The application of the principle of sustainability in business and business management is an important key to the success of a company. The McKinsey & Company survey (2012) shows that there has been an increase in the performance of companies that apply the principles of sustainability in the management of their companies. In addition, according to the Indonesia Business Council for Sustainable Development (IBCSO) (2017) in the last 10 years there has been an increase in companies implementing sustainable development as a strategy to gain long-term benefits.

Corporate sustainability is a relatively new concept as a business strategy by allocating resources from companies for environmental, social and governance practices (Tonello and Singer, 2015). A company that focuses on sustainability should maintain a balance among all stakeholders including owners, while distributing resources. Nonetheless, many companies believe that the greener they are, the more efforts will erode their competitiveness. They believe that efforts to achieve sustainability will add costs and will not provide direct financial benefits (Nidumolu, Prahalad, & Rangaswami, 2009).

On the other hand, Stulz (2015) argues that no company can increase its income, expand its business and be sustainable, without taking the risk of increasing value. Similarly, Faccio et al. (2011) and Bromiley (1991) emphasized that companies must take risks to become more profitable and take opportunities that can increase their business profits. Unhealthy and too much risk taking not only reduces the financial stability of companies but also undermines overall economic growth (IMF, 2016). The Enterprise Risk Management mechanism can be used by a company to understand and control the level of risk it takes within the company and as part of a governance mechanism to maintain the continuity of the company. In every risk that a company will take, of course there are sufficient opportunities to achieve sustainable economic growth, and the role of innovation in helping to transition business opportunities to sustainability has been received as a great deal of interest from academics, managers and policy makers (UNDP 2010). Sustainable Orientation Innovation (SOI) involves changing the philosophy and values of an organization, its products, processes or practices, with the specific aim of creating and realizing social and environmental values in addition to economic returns.

Rantala et al. (2018) investigated the sustainability factors behind the adoption of innovation for Sustainable Development and found that the more an organization values the economic dimension of sustainability, the more likely it is that it will adopt sustainable innovation. Przychodzen and Przychodzen (2018) explore the factors that differentiate and appear to contribute to sustainable innovation at the firm level. They found that sustainable innovation activities are strongly and statistically related to the sectors in which they operate, for example sectors with a high level of environmental footprint tend to innovate for Sustainable Development more frequently.

Innovation and sustainability form an important link in pursuing environmental, economic and social development, but much remains to be done in this area as there is not yet a comprehensive measurement tool to measure the level of corporate innovation. A tool for measuring innovation that is developing and globally recognized is the Global Innovation Index which has just been implemented at the country level. In fact, a country's innovation will develop rapidly if companies in that country are able to innovate. However, to best our knowledge, researchers, especially in Indonesia, have not made a comprehensive measurement of innovation at the company level. As a result, considering the increasing importance of innovation of organizations, we have sought to develop innovation measurement for support the company's sustainability. This study aims to fill the gap in the previous study

by examining the factors that can affect the sustainability of a company by incorporating an element of innovation in it. This is because there has not been found a comprehensive innovation index that can be applied at the company level.

Innovation as a process of introducing and implementing new ideas, processes or procedures, which are designed to significantly benefit individuals, groups, organizations or the wider community cannot be created only by financial investment but also by leveraging intangible assets such as collaboration with partners such as customers, suppliers, competitors, universities (or commercial and other laboratories and research or technology institutions). These intangible assets are also known as intellectual capital (IC). IC has been identified as the primary resource and driver of the organization in the creation of performance and value. Cheng's empirical findings (2010) show a significant relationship between intellectual capital and firm performance, including sustainability performance. Research conducted by Yusoff, et.al (2019) using data from 168 small and medium-sized manufacturing companies (SMEs) in Malaysia shows the results that Structural Capital and Relational Capital as components of IC have a positive relationship with business sustainability. This new understanding shows that the management and development of IC provides a greater competitive advantage, thereby increasing the company's performance, including the company's sustainability performance. A balanced combination of IC components implies the potential for high value creation and future performance (Hermans and Kauranen, 2005). Thus IC, within the RBT framework, improves organizational performance and its sustainability created by its unique resources and capabilities.

Apart from supporting sustainability, previous studies also stated that companies with high IC have a high position to be able to withstand the impact of unexpected changes in the economy and market. These companies can adequately anticipate risk exposure and can handle it in a better way (Sofian et al., 2004). Companies with a higher IC adopt corporate risk management practices to positively influence the company's operating and market performance. Proponents of the resource-based view (Resource Based View) regard ERM and IC as prestigious corporate resources. Thus, consistent with this view, it is proposed that the combined effect of ERM and IC also innovation and IC can enhance corporate sustainability.

## LITERATURE REVIEW

### Stakeholder Theory

(Freeman, 2001) develops stakeholder theory and introduces the concept in two models, namely the policy and business planning model and the corporate social responsibility and stakeholder management model. Freeman (1983) explains that the first model focuses on developing and evaluating the approval of corporate strategic decisions with groups whose support is needed for the company's business continuity. Whereas in the second model, company planning and analysis is expanded to include external influences that may be opposite for the company. These opposing groups include regulatory bodies (government), the environment and / or groups (communities) with special interests who have a concern for social problems (Freeman, 1983).

Stakeholder theory has a very important relationship with the sustainability of the company so that in this study it is used as a basic theory. Where in this research, sustainability performance will be measured based on the information presented in the Sustainability Report. All stakeholders have the right to obtain information on the company's activities within a certain period which can be used to make decisions. Mansell (2013) argues that stakeholder theory assumes that companies need the support of stakeholders to maintain their existence (sustainability).

### Resource-Based View Theory

In the early decades of the 1990s, there was a change in perspective that put organizations closer to the organization's resource factor as a competitive advantage in Resource-Based View (RBV). The RBV aims at the importance of presenting specific organizational resources in achieving supportive competitive advantages (Nurlela, 2008). The main substance of resource-based view is resources that are able to produce sustainable competitive advantages, namely resources that are valuable, rare or unique, difficult to imitate, and have no substitutes (Jahromi, 2014).

Resource Based Theory states that having well-managed resources and knowledge will improve company performance and analyze a company's competitive advantage. Competitive advantage will be achieved if a company has superior resources that are not owned by other companies (Nalal, 2014). Based on the results of previous research, intellectual capital describes the intangible assets of an organization that help the organization to achieve sustainable success (Subramaniam & Youndt, 2005), corporate governance (Chong, Ong, & Tan, 2018) and company performance (Clarke, Seng, & Whiting, 2011).

In the context of this research, intellectual capital, which is the moderating variable in this study, fulfills the criteria as a unique resource that can support the implementation of company innovation. This is in line with research (Dost, Badir, Ali, & Tariq, 2016) which reveals the results that intellectual capital has a significant positive impact on innovation adoption. Apart from having an impact on innovation, quality resources will support the implementation of corporate governance including the implementation of ERM. The implementation of ERM is a form of corporate governance which will also be more effective with the support of these resources.

### Company Sustainability

From a company perspective, being sustainable means being able to survive and maintain a certain level of performance over time. The neoclassical view of corporate performance refers solely to the company's ability to generate shareholder value. Therefore, in this tradition, corporate sustainability will also remain limited to the company's ability to continuously generate economic benefits. In 1987, the World Commission on Environment and Development (WCED) produced a report entitled "Our Common Future", often referred to as the Brundtland report. This document, which emphasizes the interdependence of countries, serves as a call for

multilateral collaboration and action in Indonesia seeking ways towards sustainable development. It also puts forward the definition of sustainable development, which is perhaps the most cited characterization of this concept (Ashby et al., 2012). The report describes it as "development that comes to meet needs without compromising the ability of future generations to meet needs themselves" (WCED, 1987). This definition outlines a change in perspective on the role of companies in society, as well as a reinterpretation of the meaning of performance, from a purely economic measure to incorporate social and environmental considerations (Winter and Knemeyer, 2013).

### **Enterprise Risk Management**

One of the main goals in establishing a company is looking for profit. Every business activity will give rise to opportunities to gain profits that are always side by side with suffering losses, either directly or indirectly. Therefore, one of the most important management functions is to carry out risk management. Risk management was considered a formal part of the decision-making process in companies in the late 1940's and early 1950's. The mid 70s and early 1980s saw the development of risk management in Europe. In 1982, (Crockford, 1982) suggested that risk management is a liaison function, coordinating multiple disciplines and skills to deal with constant and variable risk. Then, there is recognition of a more generalized management thinking: a more holistic approach to risk management is worth taking (Kloman, 1992). Likewise, (Eckles, Hoyt, & Miller, 2014) proposes an integrated risk management framework with the main strength of recognizing the trade-off between exposures to various uncertainties.

### **Innovation**

Innovation is a dynamic process that through a recursive mechanism actively supports new knowledge, which is useful for increasing new creative ideas that bring more innovation in the field (Sarooghi et al., 2015; De Lucia, 2016). Innovative approaches can contribute to achieving sustainability goals and for this it is necessary to reduce inequality gaps within and within nations and generations (De Lucia, Balena, Stufano Melone, & Borri, 2016). The correlation between creativity and sustainability is supported by two concepts: (a) innovation - driven by research related to ecological behavior, and (b) education for sustainable development - driven by continuous improvement of the organization's knowledge management (De Lucia, 2016).

### **Intellectual capital**

According to Stewart (1998) intellectual capital is the sum of all things that are known and given by everyone in a company that gives them a competitive advantage. The definition of intellectual capital put forward by the Organization for Economic Cooperation and Development (OECD, 1999) describes intellectual capital as the economic value of two categories of intangible assets, namely organizational (structural) capital and human capital. IC disclosure is the level of disclosure of intellectual capital owned by a company that has been identified as a set of intangible assets that drive value creation because of its ability to drive organizational performance (Bontis, 1998). In an academic context, intellectual capital has been used to describe, in an integrated manner, all the intangible assets of an institution, including processes, innovation capacity, patents, tacit knowledge of its members and their abilities, talents and skills, community recognition, and their collaborative network (Ramírez & Gordillo, 2014).

## **HYPOTHESIS DEVELOPMENT**

### **Enterprise Risk Management on Company Sustainability**

Enterprise risk management does not only focus on corporate financial risks but also non-financial risks which include environmental and social concerns related to the sustainability of the organization. The non-financial side of risk is basically managing the risks associated with developing sustainable issues (UNEP, 2003). With full disclosure of the risks faced by the company to stakeholders, the company shows its commitment to maintaining its sustainability (Jagoda & Wojcik, 2019). (Shad, Lai, Fatt, Klemeš, & Bokhari, 2019) in his research hypothesizes that sustainability reporting moderates the relationship between ERM Implementation and Business Performance and states that there is a significant relationship between ERM and Sustainability. The argument put forward in this study is that the higher the level of implementation of corporate risk management, the higher the level of possible risk to be detected faced so that the opportunity for sustainability (Corporate Sustainability) becomes even greater. In accordance with this argument, the hypothesis proposed is:

H1: Enterprise Risk Management has a positive effect on Corporate Sustainability

### **Innovation on Company Sustainability**

Innovation is a dynamic process that through a recursive mechanism actively supports new knowledge, which is useful for increasing new creative ideas that bring more innovation in the field. In relation to stakeholder theory, Mansell (2013) argues that stakeholder theory assumes that companies need stakeholder support to maintain their existence (sustainability). Based on previous studies, it is stated that the innovative approach taken by companies can contribute to achieving sustainability goals (De Lucia et al., 2016). This study argues that the greater the innovation made by the company, it will increase chance for the company to achieve a sustainable condition. Thus, the proposed hypothesis is:

H2: Innovation has a positive effect on Corporate Sustainability

### **Intellectual Capital on Company Sustainability**

(Massaro, Dumay, Garlatti, & Dal Mas, 2018) conducted a study to investigate the relationship between intellectual capital (IC) and sustainability using a practitioner's perspective. This research fills the gaps in previous research where in previous studies the assessment of corporate sustainability was more inclined towards disclosing sustainability reports, while Massaro's research (2018) tries to discuss sustainability from the point of view of practitioners. From a practitioner's point of view, IC and sustainability influence each other, they overlap and managing both is something that is beneficial for the company. In addition, research by (Cheng, Lin, Hsiao, & Lin, 2010) which used survey data from 112 manufacturing companies in Malaysia found that IC positively affects the company's sustainability performance.

H3: Intellectual capital has a positive effect on Corporate Sustainability

### **The Moderating Effect of Intellectual Capital on ERM and Company Sustainability**

Previous studies have also suggested that companies with high intellectual capital are better positioned to be able to withstand the impact of unexpected changes in the economy and markets. These companies can adequately anticipate risk exposure and can handle it in a better way (Sofian et al., 2004). Companies with higher intellectual capital adopt corporate risk management practices to positively affect the company's operating and market performance. Proponents of the resource-based view regard ERM and intellectual capital as prestigious company resources. Thus, consistent with this view, it is proposed that the combined effect of ERM and intellectual capital can increase the sustainability of the company.

H4: Intellectual capital strengthens the influence Enterprise Risk Management to Corporate Sustainability

### **The Moderating Effect of Intellectual Capital on Innovation and Company Sustainability**

For more than two decades, firm endogenous factors have been considered the main drivers of a firm's competitive advantage. In particular, there is consensus among researchers regarding Resource Based View (RBV) in signaling intangible factors based on knowledge and information as determinants of sustainable corporate competitive advantage and even corporate innovation (Newbert, 2008). Thus, following this theoretical approach, this study argues that the company's IC, which is accumulated through several levels within the company, namely individuals, organizations, and between organizations, can be considered as determinants of innovation. This study argues that the greater the IC owned by the company, the greater its support for innovation to achieve a sustainable company condition (Company Sustainability). Thus, the hypothesis put forward is:

H5: Intellectual capital strengthens the influence between Innovation and Corporate Sustainability

## **RESEARCH METHODOLOGY**

### **Population and Sampling**

This study uses the population of all companies listed on the Indonesia Stock Exchange (IDX) during the 2014-2019 period. The research sample was obtained using purposive sampling method. Samples were taken based on certain criteria, namely: The sample used by companies listed on the Indonesian Stock Exchange in the Non-Financial Sector and the companies that publish Annual Reports, Financial Reports and Sustainability Reports for 2014 - 2019. The reason for the sampling to begin in 2014 is that the development of the sustainability concept adopted by companies began to develop in Indonesia in 2014 (Lako, 2018).

### **Operationalization of Variables**

Research variables are anything in the form of what is determined by researchers to be studied, so that information obtained about it is then drawn conclusions (Sugiyono, 2009). The type of variable used in this study is the independent variable or independent variable and the dependent variable or dependent variable.

### **Enterprise Risk Management**

To represent ERM this study measures the effectiveness of the ERM process by adopting the ERM index Gordon et al. (2009) because it provides a complex measure of the rate of ERM adoption. There are reasons for applying this index in this study. First, the raw data needed to calculate the Gordon (2009) index consists of financial variables, which make the index usable in this study. Second, the ERM model of the sample companies in this study is focused on the COSO ERM Components (2016) where the COSO ERM framework (2016) itself provides the basis for various ERM programs (Bowling and Rieger, 2005). This is in line with Gordon's (2009) measurement. The internal structure and components of the ERM Index Gordon et al. (2009) are as follows:

Strategy 1 = (Industry-Average Sales) / (Standard Deviation of Industry Sales)

Strategy 2 = (- (Beta stock t-Beta stock t-1) -average Δ industry beta) / (Standard Deviation Δ industry beta)

Operation 1 = Sales / (Total Assets)

Operation 2 = Sales / (Number of Employees)

Reporting 1 = (Material Weakness) + (Auditor Opinion) + (Restatement)

Reporting 2 = ( | Normal Accrual | ) / ( | Normal Accrual | + | Abnormal Accrual | )

Compliance 1 = Companies that have a fine (17)

Compliance 2 = Companies that have lawsuits (18)

The ERM Index (ERMI) comes from the sum of all the indicators discussed above.

## Innovation

In this study, innovation will be measured using content analysis. Content analysis is a scientific method for studying and drawing conclusions on a phenomenon by utilizing documents (Gunawan, 2015). To measure the level of innovation of a company, 53 indicators were developed by researchers where in the first stage of measuring the Innovation Index, scoring each innovation indicator contained in the Annual Report and the Sustainability Report. The company will be given a score of 3 if it discloses more than 2 paragraphs, a score of 2 if it discloses 1 paragraph, is given a score of 1 if it reveals one sentence, and is given a score of 0 if it does not disclose information related to the indicators being assessed (Gunawan and Abadi, 2014). Next, the scores of each of these items are added up to get the total score. The calculation formula is as follows:

$CII = \text{Number of innovation indicators implemented by the company} / \text{Number of items expected (53 indicators)}$

## Company Sustainability

According to (Eastes, Calitz, & Scholtz, 2012), this study measures Company Sustainability with the Sustainability Balanced Scorecard (SUSBAL) for sustainability reporting developed by (Butler, Henderson, & Raiborn, 2011), who introduced sustainability as the fifth perspective of the Balance Score Card and then mapped the five Balance Score Card perspectives with related objectives, measures, and targets related to the selected GRI performance indicators. Based on SUSBAL, there are 20 significant sustainability performance indicators based on GRI mapping and the Balance Scorecard which are divided into Environment, Learning & Growth, Internal Process, Customer, and Financial.

## Intellectual Capital

The moderating variable in this study is intellectual capital which is measured based on the added value created by physical capital Capital Employed Efficiency (CEE), Human Capital (HCE), and Structural Capital (SCE). The combination of the three added values is symbolized by the name VAIC which was first developed by (Fijałkowska, 2014). This approach is relatively easy and very possible to do, because it is constructed from the accounts in the company's financial statements (balance sheet, L/R). The advantage of the VAIC method is that the data required to operate the measurement method is relatively easy to obtain from various sources and types of companies.

## Control Variable

In this study used control variables consisting of Size, Competition Within Industry, Firm Complexity, using these variables adopted the study of Gordon et al., (2009). Leverage and Growth are used based on research by (Beasley, Branson, & Pagach, 2015) and (Eckles, David L., 2014). Size is measured by Log of total company assets, Growth is measured by  $(t\text{-asset} - t-1 \text{ asset} / t-1 \text{ asset}) \times 100\%$ , Profitability Return on Asset, and Age is proxied by the year the company was founded.

## Data analysis methods

The hypothesis in this study was tested by multiple linear regression tests. This interaction test is used to determine the extent of Enterprise Risk Management on Organizational Performance. The MRA equation model used:

$CO\_SUST_{it} = \beta_0 + \beta_1 ERM_{it} + \beta_2 INNOV_{it} + \beta_3 IC_{it} + \beta_4 ERM*IC_{it} + \beta_5 INNOV*IC_{it} + \beta_6 PROFIT_{it} + \beta_7 SIZE_{it} + \beta_8 GROWTH_{it} + \beta_9 AGE_{it} + \text{errorit}$

Where: CO\_SUST: Corporate Sustainability; ERM: Enterprise Risk Management; INNOV: Innovation; IC: Intellectual capital; PROFIT: Profitability; SIZE: Company Size; GROWTH: Company Growth; AGE: Age of the Company

## RESULT AND DISCUSSION

The sample used in this research based on purposive sampling is 54 public companies listed on the Indonesian Stock Exchange in the non-financial sector and those that published Sustainability Reporting during 2014-2019 as many as 54 companies. The number of research observations is as many as 298 company data that meet the criteria can be used as observation data with 6 years of research from 2014 to 2019. The dependent variable in this study is measured by company sustainability performance based on research (Eastes, Calitz, & Scholtz, 2012) using 20 (twenty indicators). Company sustainability has a minimum value of 44, this condition shows that there are sample companies that get a score of 44 from the total ideal score of 80 or about 55%. The independent variable ERM is measured by the ERM Index stated in the study (Gordon, Loeb, & Tseng, 2009). ERM shows the lowest value of 105 and the highest value of 43663 with an average value of 4084,936 and a standard deviation (level of data distribution) of 5732,056.

The innovation variable is measured by the Company Innovation Index (CII) which was developed in this study so that the measurement of innovation in this study is new. CII is measured through 53 indicators in the input, process, and output stages of the company which has the lowest value of 0.25 and the highest value of 1.62 with an average value of 0.884 and a data distribution level of 0.306. The sample companies have a fairly good level of innovation because the mean value exceeds the standard deviation value, and also exceeds the median value of 0.870.

The Intellectual Capital variable, which is a moderating variable, is measured by the Value-Added Intellectual Capital (VAIC) developed by (Pulić, 2008). This method is used to measure how and how the efficiency of intellectual capital and employed capital in creating value is based on the relationship between the three main components, namely human capital, employed capital, and structural capital. The greater the VAIC level, the more efficient the company is in utilizing its IC for value creation for the company, so it can be said that VAIC assesses the performance of the company's IC. IC has the lowest value of -7.68823 and the highest value of 3.77576 with an average value of -0.05687 and a data distribution level of 1.41605. The mean value which is still below the standard deviation value indicates that the sample companies have less good IC performance or less efficient in creating added value for the company.

The first control variable is profitability as measured by Return on Assets (ROA), which shows the lowest value of -0.58000 and the highest value of 0.47000 with an average value of 0.039732 and a level of data distribution of 0.10142. Standard deviation greater than the mean indicates the distribution of large data variables or a large enough gap between the lowest and highest ROA ratios. This is possible because the sample companies come from different industrial sectors. The firm size variable (Size) has the lowest value of 4.95470 and the highest value of 8,53750 with an average value of 7.226892 and a data distribution level of 0.58841. This condition indicates that the sample companies have a low variation value because the mean value is higher than the standard deviation value (data distribution). Another control variable is company age (Age) which has the lowest value of 10 and the highest value of 90 with an average value of 39.93 and a data distribution level of 16,165.

**Descriptive Statistics**  
**Table 1. Descriptive Statistics**

Variable	N	Minimum	Maximum	Mean	Median	Std Deviation
CO_SUS	298	44.00000	76.00000	59.06711	59.00000	4.61102
ERM	298	105.0000	43664.00	4084.936	1925.500	5732.056
INNOV	298	0.250000	1.620000	0.884228	0.87000	0.30670
IC (Raw score)	298	-47.14	26.14	4.85	4.38	5.94619
IC (Z_Score)	298	-7.68823	3.77576	-0.05687	-0.05563	1.41605
PROFIT	298	-0.58000	0.47000	0.039732	0.03000	0.10142
SIZE	298	4.95470	8.53750	7.226892	7.23700	0.58841
GROWTH	298	-1.00000	4.16000	0.345403	0.11000	0.49108
AGE	298	10.0000	90.0000	39.93289	39.5000	16.16483
Description: This table presents the descriptive statistics of each research variable. The purpose of this table is to provide an overview of the conditions of the central tendency and the data dispersion used in estimating the research model. The dependent variable is CO_SUS. The independent variables are ERM, INNOV, and the interaction between ERM, INNOV, and IC. The moderating variable is IC where the regression processing uses IC data (Z_Score). The control variables are PROFIT (ROA), SIZE, GROWTH, and AGE.						

**Panel Data Regression Test**

The results of the model test can be seen in Table 2, which is a regression test conducted to test Hypotheses 1 to 5, namely whether ERM and innovation have a positive effect on Company Sustainability and Intellectual Capital as moderating variables can strengthen the positive influence of Enterprise Risk Management on Company sustainability, and the positive influence of innovation on company sustainability.

The results of the Model test show that H1 rejected because the p-value of ERM greater than 10% and H2 and H3 hypothesis is accepted, which is reflected in the IC p-value lower than 10% of, which means that innovation and IC owned by the company has a positive effect on company sustainability. The innovation and IC variable regression coefficient of are 1.321054 and 0.60386 (positive) means that the addition of one innovation variable will increase company sustainability by 1.321054 and the addition of one intellectual capital variable will increase company sustainability by 0.60386. The model also examines the interaction between IC on the effect of ERM and innovation on company sustainability. Based on Table 2, it is known that the p-value of the IC moderation coefficient is less than 10%, which means that the intellectual capital variable is a quasi-moderating variable, namely the variable that interacts with the ERM predictor variable (as evidenced by the p-value <10% significance level) and is related to the dependent variable (company sustainability) (evidenced by the p-value of IC on Company Sustainability <10% significance level) (Sugiono, 2004). Therefore, the fourth hypothesis (H4) which states that IC strengthens the effect of ERM on corporate sustainability is accepted. The results of this study can prove the effect of IC moderation on the effect of ERM on corporate sustainability in the observed timeframe. Based on Table 2, it is known that the p-value of the IC \* INNOV moderation coefficient is greater than 10%, so it can be concluded that IC is not a variable that can moderate the effect of innovation on company sustainability in a positive and significant way. Thus, Hypothesis 5 (H5) is rejected.

**Table 2. Results of Testing equation model**

$CO\_SUST_{it} = \beta_0 + \beta_1 ERM_{it} + \beta_2 INNOV_{it} + \beta_3 IC_{it} + \beta_4 ERM*IC_{it} + \beta_5 INNOV*IC_{it} + \beta_6 ROA_{it} + \beta_7 SIZE_{it} + \beta_8 GROWTH_{it} + \beta_7 AGE_{it} + error_{it}$			
Variable	Prediction	Coefficient	Prob.
ERM	+	2.39E-06	0.47540
INNOV	+	1.321054	0.02305 **
IC	+	0.60386	0.09340*
ERM*IC	+	5.53E-05	0.08940*
INNOV*IC	+	-0.246979	0.29900
PROFIT	+	-4.716087	0.03220*
GROWTH	+	-1.855617	0.00000
AGE	+	0.004334	0.36645
SIZE	+	0.079365	0.41030
Prob(F-statistic)	0.00000	*** Sig. at level 1%;	The dependent variable is Company sustainability (CO_SUST), the independent variable is Enterprise Risk Management (ERM) and Innovation (INNOV), the Moderation variable is Intellectual Capital (IC), the control variable is ROA, SIZE, Growth, and company age (AGE).
R-squared	0.42603	** Sig. at level 5%;	
Adjusted R-squared	0.40086	*Sig. at level 10%.	
Total Observasi	298		

## DISCUSSION

### Effect of Enterprise Risk Management (ERM) on company sustainability

The results of this study explain that Enterprise risk management has no impact on company sustainability. This means that companies that have implemented ERM properly and with good quality do not necessarily increase the value of their company sustainability. The results of this study are in line with research conducted by (Beasley, Mark, Don Pagach, 2008) which resulted in the finding that ERM does not support company performance. The results of this study indicate that the application of ERM disclosure is still considered by companies only to follow existing regulations and does not have a direct relationship with increasing company sustainability.

### Effect of Innovation on company sustainability

This study shows that innovation is one of the keys to improving company sustainability. Innovations made by companies cannot be measured without adequate measurements and this study provides a measure of innovation that can be applied at the company level which in turn can improve the sustainability of the company. Other studies that are in line with the results of this study include (Islam, Hossain, & Mia, 2018) which found a significant and positive relationship between innovation and sustainability, and (Kuzma, Padilha, Sehnem, Julkovski, & Roman, 2020) who found the same thing, namely that there is a positive and significant influence of innovation on the sustainability of the company.

### Effect of Intellectual Capital on Company Sustainability

These results show that IC has significant effect on company sustainability. These are in line with research conducted by (Hsiao, 2014) which states that there is a significant influence between IC and company performance. Likewise (Yusoff, Omar, Kamarul Zaman, & Samad, 2019) who examined the link between IC and sustainability, also found a significant relationship between the two variables. Related with the Resource Based View Theory, the results of this study support the theory where the RBV theory views that company resources and capabilities are important to the company, because they are the main or basis of the company's competitiveness and performance. The existence of advantages that the company has and success in competing with other companies will improve the performance and sustainability of a company.

### The Moderating Effect of Intellectual Capital

The results of this study can prove the effect of IC interaction on the effect of ERM on corporate sustainability in the observed timeframe, there for H4 is accepted. These findings are in line with research conducted by (S. N. Khan & Ali, 2017). The fifth hypothesis which states that IC strengthens the influence of innovation on corporate sustainability cannot be proven in this study. This finding is in line with (Dost, Badir, Ali, & Tariq, 2016; Subramaniam & Youndt, 2005). A company that already has a good level of innovation, the intellectual capital capacity is likely to be used to its full potential. This is thought to be the cause of the moderating effect of intellectual capital on the influence of innovation on company sustainability to be non-dominant.

## CONCLUSION

Based on the results and discussion conducted previously, the following conclusions can be drawn: first, ERM does not affect company sustainability. Different results may be obtained when being analyzed is in the next measurement period of company sustainability, because the impact of ERM on sustainability may only be felt by companies with a higher ERM maturity level and requires a longer period for its implementation. Second, Innovation has a positive effect on company sustainability. The results of

this study indicate that innovation is one of the keys to improving company sustainability. Innovations made by companies cannot be measured without adequate measurements and this study provides a measure of innovation that can be applied at the company level which in turn can improve the sustainability of the company. Third, Intellectual Capital (IC) has a positive effect on company sustainability. IC is proven to be able to support company sustainability with its supporting components consisting of human capital, structural capital, and employed capital. With the presence of IC, the company can continue to carry out its business processes (company sustainability). For the moderating effect, the research results can prove the effect of IC interaction on the effect of ERM on corporate sustainability in the observed timeframe. These findings are in line with research conducted by (S. N. Khan & Ali, 2017). The results of the study have not been able to prove the effect of IC interaction on the influence of innovation on corporate sustainability in the observed timeframe.

## RESEARCH LIMITATIONS

The number of samples that met the criteria was 54 companies (52%), so the results of this study cannot be generalized and the results of the research are limited to companies that have these characteristics. In addition, this study does not control the type of industry, so there may be industries with good ERM, IC, and Innovation levels that also influence the research results. The third limitation is related to the ERM measurement used, where in this study the measurement uses the ERM Index developed by (Gordon, Loeb, & Tseng, 2009) with the data contained in the Financial Statements, so that the reporting is related to Risk Management. which is usually reported by the company in the Annual Report is not caught. It is necessary to develop an ERM measurement that can combine these things.

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