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Intellectual Capital Disclosure and Firm Value: Does Jokowi's Era Matter?

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Abstract - **The purpose of this study is to observe the impact of Intellectual Capital Disclosure (Human Capital Disclosure, Structural Capital Disclosure, and Relational Capital Disclosure), Firm Size and Leverage towards the firm value (measured by Tobin's Q). This study examines 36 Indonesia's listed companies from infrastructure, utility, and transportation industry in 5 years period, from 2013 to 2017. The periods that have been chosen in order to differentiate the performance of 2 years before and 3 years of Joko Widodo's era (Jokowi, President of Indonesia 2014-2019). Various results are found from the individual tests. None of the components from ICD has an influence on firm value during the pre-Jokowi's era. The negative effect of RCD on firm value is found without differentiating the presidential era. In addition, the negative response from firm value is found when the interaction of ICD and the time period is increasing. This study conducts the content analysis of the IC disclosure in the annual reports, while it may not express the whole quality of IC practice. Furthermore, the company also may use other information channels than annual report to expose its IC performance. The restricted information of this study is driven by the sample size; therefore the extension of the type of industries could bring comprehensive results. Despite these limitations, this study contributes to the discussion about the appreciation of investors on the disclosures of IC and its components.**

Keywords - disclosure; intellectual capital; firm value; Jokowi's era.

INTRODUCTION

As disclosed by ekonomi.kompas.com [1] economy in Indonesia has been stably growing for the past 10 years. In 2013 until 2017 were the years of transmission between Susilo Bambang Yudhoyono's eras to Joko Widodo's eras which was started in 2014. Indonesia's economic growth in 2013 reached 5.56%. In 2014, which was the year of Jokowi's inauguration, the economic growth reached 5.02%. Meanwhile in 2015, 2016 and 2017, Indonesia's economic growth reached 4.79%, 5.02% and 5.01% respectively. The economic growth in Indonesia happened because of the support from all of the economic sectors. In ekbis.sindonews.com [2] stated that there were 128 non-economic public companies and non-state owned companies which positively developed throughout the years of 2013-2017.

The profit growth and value establishment in the organization is not only due to the financial factors, but also the non-financial factors [3, 4]. Several components in the non-financial aspect are experiences, organization technology, and customer's relationship that create companies' competitive advantage in the market. Intellectual Capital is recognized as one of the basic factors to evaluate the company's performance [5]. Intellectual Capital (IC) consists of intangible resources like skill and competency which are possessed by employees in order to create value for the company [6]. In 1998, Pulic formulized value added that generated from Intellectual Capital which was an addition from Human Capital's investment, structural capital efficiency, and capital employed efficiency. VAIC is also one of the factors that increase the company's value [7]. In addition to IC concept from Pulic, IC is also measured through the number of disclosures in the annual report related to the activities in Human Capital, Structural Capital and Relational Capital [8]. Furthermore, IC is also measured using the quality of disclosures in the company's annual report [9].

[10]) Two IC components, human capital and structural capital, are related to organization itself, while relation capital is related to the relationship between the organization and the external parties such as customers, suppliers, investors, and other external stakeholders. IC disclosure is needed because it is a mechanism to cut down the agency cost which arises from the possibility that the manager acts not for the sake of the stakeholders [11].

[12] IC is an addition from all of the knowledge that support company to gain and maintain its competitive advantage continuously. Therefore, IC is needed to improve the utilization of organization's resources in innovation [13]. This study aims to find out the impact of providing the IC disclosure (ICD) in the annual reports to the value of company which is measured by Tobin's Q.

There are several previous studies have examined the influence of IC disclosures to firm's value and supported the positive influence [13-17]. The results also imply that ICD is significantly affecting the company's market value regardless of the type of the company [6]. On the contrary, the influence of intellectual capital disclosure on firm value is negative [18]. Based on the various results from the previous studies, as well as the importance of ICD towards firm value, thus this study tests the effect of ICD, along with its components, toward the company's value. The research objects are companies in service sector which existed in Indonesia on the 2 years of Susilo Bambang Yudhoyono's era and 3 years of Joko Widodo's era. The selection of the years is due to the need to meet the minimum numbers of observations. This study finds that HCD and SCD are not significantly affecting Tobin's Q in the two periods of observations. RCD is negatively affecting Tobin's Q without differentiating before and after Jokowi's regime. In Jokowi's period, ICD is negatively affecting Tobin's Q. Profitability is the variable that consistently increasing company's value. Therefore, this study contributes to complete the studies about ICD and observes any variable that affects Tobin's Q.

THEORY AND DEVELOPMENT OF HYPOTHESES

Referring to the previous studies regarding ICD toward firm value, there are several supporting theories, such as resource-based theory and signaling theory. Resource-Based Theory becomes the basis for the company to use and utilize resources owned by the company such as knowledge and technology optimally so that be able to create company's value [19]. Resource-Based Theory is one of the suitable theories in explaining the relationship of the resources in an organization [20]. Signaling theory as a second theory that supported by [21] state that a company tries to give a positive signal to investors in a way increasing disclosure in the annual report concerning company's activities. By providing the information, company expects it can be a signal for the investors to give a positive respond. The voluntary disclosure voluntarily regarding intellectual capital is able to make the investor's assessment of the company become better [22].

Intellectual Capital Disclosure

Intellectual Capital is a component of the intangible asset that impossible to be measured accurately and fail to appear in the balance sheet of any company [23]. Intellectual Capital is also defined as a non-monetary asset or resources without physical substance, such as innovation, employee training, and customers' satisfaction, which underlines the process of company's value establishment [24].

Human Capital Disclosure

Human capital refers to the number of knowledge, competency, and employees' commitment [25]. [26,27] Human capital is the main and important component to keep the competitive advantage in a company. However, the fact is human capital has become an asset that is often forgotten by the company because companies, in general, see labor as a load for the company, and not as a company's asset.

Structural Capital Disclosure

Structural Capital consists of organizational ability, the company's tradition, process, and other intellectual aspects that are attached to the organization [28]. Structural Capital is permanently attached to a company and fail to vanish as long as the company exists [29].

Relational Capital Disclosure

Relational Capital is an asset which appears in the establishment of a relationship with external stakeholders [12]. Relational capital is a relationship between a company with customers and suppliers, government and business partners in the same industry, along with the company's reputation [27]. Relational capital is believed to be influenced by the sustainability of the company [30].

Company's Value (Tobin's Q)

There are two methods in calculating a company's value which is accounting based measurement and market-based measurement. ROA and ROE are the examples of accounting based measurement, meanwhile, Tobin's Q is implication of market-based measurement. Tobin's Q is able to measure long-term performance which is expected by the company [12]. Tobin's Q is a basic assessment for the company over its assets and it is a good media to reflect company's competitive advantages; it is also able to reveal the profit earned from the investment in intellectual capital [29].

Control Variable

This study makes use of profitability, firm size and leverage as control variables. Profitability is an indicator in assessing the successfulness of management's decision [31]. In this study, profitability is measured by ROE. There is a positive impact from ROE in generating a value for the company, thus the company achieved the desirable return.

Firm size is the company's capacity that is in this study stated in total assets. Big size companies are able to increase their value because they are able to gain fund easily [32]. Meanwhile, leverage is the company's ability in using assets or funds in order to accomplish the company's objectives, as well as to maximize the company's profit.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Intellectual capital has become one of the standards to measure additional economical value that helps investors in the decision-making process [24]. IC is expected to be able to increase the stock market value compared to the exited cost [33]. ICD is proven to be able to increase the market value immediately [34]. IC disclosure is also considered as an effective way for the company to boost its relationship with other stakeholders [35].

Many previous studies that investigate IC components' effects toward firm value in various countries and industries. The majority of studies show the positive influence of each of the IC's component towards Tobin's Q [28,36-39]. IC's components that are widely accepted among the researchers are HC, SC dan RC. Human Capital, concerning in competency, knowledge and employees' innovations, has become the key factor on the company's value [39,40]. By

disclosing the employees' skills, it is believed to be able to increase the company's value in the long run [41].

The previous studies have found that SC disclosure is affecting the company's value in the long run. Structural capital has become important since it consists of strategic assets owned by the company [39-41]. Along with other studies, there is a positive and significant impact from SCD towards firm value [36]. The last component from IC is Relational Capital. The previous studies found that there is a positive correlative between RCD and firm's value [36,12,38,40]. Therefore, the hypotheses in this study are as follow:

H1: ICD in President Jokowi's regime has a positive effect on the company's value.
H2: HCD has a positive effect on the company's value.
H3: SCD has a positive effect on the company's value.
H4: RCD has a positive effect on the company's value.

RESEARCH METHODOLOGY

This study uses a quantitative research method in which the intellectual capital disclosure (ICD) as the independent variable; Firm Size and Leverage as control variables; and firm's value as the dependent variable. This study is an associative causality research. The relationship between variables in this study is shown in the equation model as follows:

Model 1: This model is tested without differentiating the period. Jokowi's regime become the interaction variable in ICD total.

$$\mathbf{TQ = \alpha_0 + \beta_1 HCD + \beta_2 SCD + \beta_3 RCD + \beta_4 ICD*Period + \beta_5 Leverage + \beta_6 Firm\ Size + \beta_7\ Profitability + \varepsilon}$$

Model 2: This model is tested for the period before and at President Jokowi's period.

$$\mathbf{TQ = \alpha_0 + \beta_1 HCD + \beta_2 SCD + \beta_3 RCD + \beta_4 Leverage + \beta_5 Firm\ Size + \beta_6\ Profitability + \varepsilon}$$

The operational measurement of variables are as follow:

1. TQ = Tobin's Q (Firm Value)
(MV + Total Debts) / Total Assets
2. HCD= human capital disclosure is activities which are related to the human resource development exists in the company. There are 30 indicators, which are: Employee training, employee education, appreciate employee, etc. (the annual average of HCD quality of the company)
3. SCD= structural capital disclosure is activities which are related to structure and managerial activity of the company. There are 22 indicators, which are: Research and Development, corporate culture, management structure, etc. (the annual average of SCD quality of the company)
4. RCD= rational capital disclosure is activities which are related to the relationship between the company and external parties, such as customers, suppliers, government and investors. There are 19 indicators which cover corporate image and reputation, brand recognition, goodwill, permission agreement, etc. (the annual average of RCD quality of the company)
5. ICD= intellectual cap disclosure is the whole activities which cover HC, SC and RC [=the average (HCD+ SCD + RCD) per year per company]
6. Firm Size=company's total asset [log Total Asset]
7. Leverage= company's total debt [Total Debt / Total Equity]
8. Profitability= return on equity [Net Income / Total Equity]
9. Period= dummy variable where 0=period before Jokowi's regime; 1=period of Jokowi's regime.
10. α_0 = constants
11. $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$= coefficient of each variable
12. ε = error

In determining the quality of components of ICD, this study refers to [42] who developed the ICD quality assessment into four categories. Category 0 means there is no disclosure of ICD components in any form in the annual report. Category 1 shows there is a disclosure upon ICD components descriptively in the annual report. Category 2 shows there is a disclosure over ICD components which is supported by numerical data in the form of percentage or amount. Category 3 shows there is a disclosure over ICD components which is supported by nominal data in the form of monetary (this study uses Rupiah or Dollar).

The collection method applied is documentary by collecting the data from Annual Report and Financial Statements from 2013-2017. Type of the data used in this study is qualitative data. Data sources are secondary data obtained from website Indonesian Stock Exchange (www.idx.co.id) and Bloomberg.

The method used in this study is the purposive sampling method. Sets criteria are (1) a company in infrastructure, utility, and transportation registered in Indonesia Stock Exchange; (2) has complete annual reports from 2013-2017. Samples in this study are 36 companies with observation periods in 2013-2017. Unit of analysis is the firm-year, with a total observation of 72 firm years before Jokowi's regime and 108 firm-years in the Jokowi's regime, thus 180 firm-years in total. The analytical technique used is multiple linear regression panel data.

EMPIRICAL RESULT AND DISCUSSION

4.1 Statistical Results

Table 1. Descriptive Analysis

	MIN	MAX	MEAN	STD
HCD	0.3	1.9333	0.9880	0.3587
SCD	0.2727	1.6667	0.9302	0.2940
RCD	0.4737	2.1053	1.0720	0.4082
TBQ	0.1744	4.6829	1.1003	0.7012
LEV	-9.2323	11.3431	0.9620	1.7512
ROE	-2.3163	0.8989	0.00897	0.3243

Source: Author Compilation

Based on table 1, it shows the standard deviation value of each variable where if the values approach 0 means that data from these variables are getting similar or alike. Whereas if the value is more than 1, it shows that data from these variables are getting diverse. Table 1 demonstrates that the average HC, SC and RC disclosure quality is still low, proven in table 2 where the quality of the majority disclosures is in the category 0 and 1.

Table 2. Measurement Table

Category	0	1	2	3
HCD	1268	3184	693	255
SCD	1019	2286	566	88
RCD	1032	1586	326	476

Source: Authors' Compilation

Table 3. Ordinary Least Square

Variables	Tobin's Q (All periods)	Tobin's Q (Before)	Tobin's Q (After)
ICDxPeriod (H1)	-0.2453 **		
HCD (H2)	-0.00066	-0.0354	−0.129097
SCD (H3)	0.403867	0.754441	0.143717
RCD (H4)	-0.144920	-0.604613	0.0987464
FirmSize	0.0858694	0.3340 *	−0.04667
Profitability	0.5933 ***	1.0027 **	0.5429 ***
Leverage	0.0416262	-0.003985	0.0825 **
P-Value (F)	0.000740	0.173106	0.008487
Adjusted R-Squared	0.098561	0.045193	0.103809
Hetero	0.227567	0.438084	000

Source: Authors' Compilation

From the table above, P-value is obtained from the combination era and the era of Jokowi as much as 0.000740 and 0.008487 which means this model has the potential to be tested with the OLS approach. Meanwhile, for the eras before Jokowi, the P-value was 0.173106, it shows that this model has the potential to have the data panel effect. However, those three models are still going through the data panel effect test which shows in Table 5.

Table 4. Colinerity Test-Nilai Variance Inflation Factor

Variable	Tobin's Q (All periods)	Tobin's Q (Before)	Tobin's Q (After)
ICDxPeriod	1,256		
HCD	4,020	3,569	4,248
SCD	4,449	3,847	4,800
RCD	4,588	4,161	4,976
FirmSize	2,074	2,045	2,102
Profitability	1,049	1,207	1,055
Leverage	1,187	1,368	1,171

Source: Author Compilation

From the collinearity test, no components containing collinearity since the VIF values of all variables are less than 10.

From table 5, it shows the result from panel data model test. For the Fixed Effect Model, there is a possibility that Weighted Least Square Model (the fixed model that is released from heteroscedasticity potential) is more suitable if it is viewed from the size of R-Square. Therefore, models that contain fixed effects are also tested in a form of WLS Model Panel, with the results in table 6.

From table 6, it is seen that the value of Adjusted R Square from WLS panel for the combination era and the era of Jokowi is bigger than the fixed effect model. Hence, this study tested the hypotheses based on the WLS model panel.

Table 5. Panel Test

	Tobin's Q (All periods)	Tobin's Q (Before)	Tobin's Q (After)
Fixed Effect Estimator	3.01259e-022	3.12105e-007	1.93827e-023
Breusch-Pagan Test	3.41315e-023	2.01339e-005	2.01339e-005
Hausman Test	3.42173e-005	0.198307	0.00163122
Summary	Fixed Effect	Random Effect	Fixed Effect

Source: Author Compilation

Table 6. Fit Model

Within/Adjusted R Square	Total Periods	Jokowi's Period
Fixed Effect Model	0.297799	0.321441
WLS Panel	0.396642	0.475313

Source: Author Compilation

From the table 6 above, it is seen that the value of Adjusted R Square from WLS panel for the combination era and the era of Jokowi is bigger than the fixed effect model. Hence, this study tested the hypotheses based on WLS model panel.

Table 7 shows the coefficients and P-values of each variable. For the combination era, P-value from the independent variable of ICDxPeriod is below the significance level of 10% which shows the significant negative influence of ICD towards Tobin's Q in the Jokowi's era. Since ICD has a negative effect on Tobin's Q, hence hypothesis 1 is rejected.

For HCD and SCD variables in the combination era, era before and following era after Jokowi's are not significantly affecting Tobin's Q, therefore hypotheses 2 and 3 are rejected. Meanwhile, for RCD in the combination era is significantly affecting Tobin's Q, whereas for the era before and the era of Jokowi there is no significant influence. Therefore, hypothesis 4 is rejected. The profitability has a positive effect on Tobin's Q. The firm size fails to influence Tobin's Q in the Jokowi's era. Leverage is failing to influence Tobin's Q in the era before Jokowi.

Discussion and Managerial Implication

The result of this study shows that ICD is negatively affecting Tobin's Q thus hypothesis 1 is rejected. This result contrasts with some previous studies which show the positive influence of ICD on firm value. [28,36-40]. This negative significant result implies the higher the quality of ICD, the lower the firm's value. This study found that disclosure of intellectual capital that is too detailed actually reduced investor's interests since investors gain excessive information about the strengths

	Tobin's Q (All periods)	Tobin's Q (Before)	Tobin's Q (After)
ICDxPeriod (H1a)	−0,219237 ***		
HCD (H1b)	0,0871904	-0.0353637	-0.0815169
SCD (H1c)	0,218435	0.754441	0.0418855
RCD (H1d)	−0,237695 **	-0.604613	0.0305345
FirmSize (H2)	0,157709 ***	0.333959 *	0.0588345
Profitability (H3)	0,625275 ***	1.00271 **	0.495079***
Leverage (H4)	0,0826780 ***	-0.00398467	0.109798***
Panel Model	WLS Panel-Fixed Effect	Random Effect	WLS Panel-Fixed Effect
P-Value (F)	1,13e-17		1.39e-13
Asymptotic Test P-Value		0.891515	
Adjusted R Square	0.396642		0.475313
Corr (y,yhat)		0.104347	

Source: Author's Compilation

Table 7. Hypotheses Test

and weaknesses of the company. The detailed disclosures lead to complicated considerations.

From the test results above, it is found that HCD does not have a significant effect on firm's value, therefore, H2 is rejected. This study's result is similar with the previous study [6]. One of the possible reason of this insignificant influence is the low average quality of HCD compares to RCD. According to Table 2, only 18% of total items in HCD that supported by statistical data (numeric and monetary), meanwhile the majority are limited to descriptive disclosure hence it does not interesting to be red by investors. Thus, the company must improve the quality of HCD by adding numerical data to increase investors' interest.

As well as HCD, it turns out that Structural Capital Disclosure also does not have a significant effect on firm value as measured by Tobin's Q, hence H3 is rejected. This result contrasts with the previous studies [36,39-41]. Table 2 shows that SCD dominated by descriptive disclosures which possibly not interesting for investors.

The result of the fourth hypothesis test states that there is a negative influence of RCD on firm's value regardless to the different era [43].Companies actually disclose relational capital because they hope by providing more information to the stakeholders, they are able to increase the investors' perceived value toward them. However, based on the result, higher RCD decrease the value of the company. Market share price is one of RCD item that has the best quality disclosure. However, the fluctuated stock price value provides a huge risk for investors [44], and thus this decreases the company's TBQ. Profitability, as the control variable, is able to increase the firm's value. Meanwhile, Leverage is failing to affect Tobin's Q in the era before Jokowi's. Firm size is unable to affect Jokowi's era, thus it is a contrast from the study of [45].

Conclusion and Suggestion

This study examines the quality of ICD disclosures and their components by distinguishing the period before President Jokowi's and during the President Jokowi's regime. From those tests then found several results regarding Resource based theory and Signaling theory.

Based on the Resource-based theory, the disclosures of all activities regarding IC in the annual report are companies' resources which can be used to attract the stakeholders' attentions. Company does many IC activities in order to improve the quality of its human resources, to strengthen its structural possessions, and to improve its external relationship. As the conclusion, all of the IC activities are important to elevate the company's value in the market. By the awareness that these resources are becoming more important, the quality of reporting the IC activities must also be improved. Reports that are including the statistical data (numeric and monetary) are certainly more attractive or interesting to the readers. A good quality report also gives a signal to stakeholders that the company has done qualified IC activities. Proven from the negative effects of RCD and ICD on firm value (Tobin's Q), it is saved to say that investors give responds to the disclosures done by the company. It is seen on RCD in this study as the IC component that contains the most statistical data (numeric and monetary) compares to HCD and SCD. One of the concerns of investors in this RCD is the information about market share prices. Related to the nature of this sector, the market share prices of the companies in this sector are volatile, thus imply that investing in those companies are high risks.

The low R-squared value shows that there are many factors other than the variables observed in this study are able to affect TBQ. Future studies may consider adding other variables, such as corporate governance indicators, company age, or type of industry that might be a complementary variable for ICD components in order to influence the value of the company. Future study may also consider using different methods of IC disclosure number or quality. Different measurement methods are able to enrich the empirical results regarding the benefits of intellectual disclosures. Next studies may also use this model or develop models on different objects.

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