

# The Effects of Intellectual Disclosures Capital, Debt to Assets Ratio, Debt Equity Ratio, Company Size And Assets Turnover on Company Profitability

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**Abstract**—This study aims to determine the Influences of Intellectual Capital Disclosure (IC); Debt to Assets Ratio (DTA); Debt Equity Ratio (DER); Company Size (Size); and Assets Turnover (ATO) to Company Profitability (Empirical Study at manufacturing company registered in Indonesian stock exchange in 2011-2015). Data analysis uses multiple linear analyses using SPSS version 22 program. Population are all Manufacturing Companies listed in the Indonesia Stock Exchange in 2011-2015, the sample is determined based on purposive sampling method with number of samples 40 companies. Data uses secondary data. Data collection use documentation method through official Indonesia stock exchange (BEI) website of at [www.idx.co.id](http://www.idx.co.id). The study's result proves simultaneously IC, DTA, DER, Size and ATO influence simultaneously to profitability of company calculated with proxy of return on assets (ROA) sig value. 0,000, F value count > F table (32,485 > 2,24) while partially IC has positive and significant influence sig value. 0,022 and t count 6,566, DTA has negative and significant influence sig value. 0.001 and t arithmetic -3.497, DER has positive and significant effect sig value. 0,032 and t count 2,162, size have positive and significant influence sig value. 0.012 and t count 3.483 and ATO have positive and significant effect sig value. 0.000 and t count 4,518.

**Keywords**—*assets; company size; debt to assets ratio; debt equity ratio; intellectual capital; ROA; turnover*

## I. INTRODUCTION

The globalization impact give influenced on the business or business systems of Indonesia. A company or organization is required to strive to improve business performance through the management of companies or organizations that are effective and efficient. The main principle of business is how to increase profit, minimize cost and company product to be superior and acceptable by market widely.

The various alternatives in improving efficiency and effectiveness in a company has been widely used, one of the alternatives used is the use of information and communication technology. In addition to efficiency and effectiveness run, companies must quickly change its business strategy, to change from a business based on labour (Labour Based Business) to a business based on Knowledge (Knowledge Based Business),

so, the main characteristics of the company into a science-based company. Along with economic changes characterized by science-based economy with the application of knowledge management (knowledge management), the prosperity of a company will depend on a creation of transformation and capitalization of the knowledge itself [1]. The development of companies that are controlled by information and knowledge brings an increased attention to intellectual capital or Intellectual Capital (IC) [2].

In Indonesia, IC began to develop after the emergence of PSAK No. 19 of 2000 on intangible assets which subsequently revised in 2009. According to PSAK No. 19 Edition of 2009, the definition of intangible assets is a non-monetary asset that can be identified without physical form. Cost is the amount of cash or cash equivalents paid or the fair value of the resources issued to acquire the asset at the time the asset is acquired or built, or when available, the value is attributable to the asset when the initial recognition conforms to the specific requirements of PSAK (IAI, 2009). The Company will make every effort to achieve any pre-planned objectives. Intellectual Capital is one of the efforts in achieving company goals. In addition, according to Petty and Guthrie one of the approaches used to assess and measure knowledge assets is with the IC [3]. IC plays important role in maintaining the value of competitive and creation for the company. Intellectual capital is a non-tangible or non-physical asset and resource of an organization, which includes the process, innovation capacity, patterns and invisible knowledge of its members and the network of collaboration and organizational relationships. The results suggest IC has a positive influence on financial performance; even intellectual capital can be an indicator for future financial performance [4]. The financial statements serve as information about the company's performance. The main components expressed in IC are human capital; structural capital and relation capital have not been included in financial reporting. Reports get better because of the ICs provide direction on new rules and obligations for employees, how employees contribute to value creation for the company.

In addition to intellectual capital can affect the financial performance of a company, in general, the company's activities include production activities, distribution and sales activities

can also affect financial performance. Effective management is a management that can manage the company well and able to generate profits for the company. To the efficiency of activity management, corporate profits are also affected by the financial structure (leverage). One of the factors affecting financial performance is leverage. Leverage is another name for the debt ratio. This ratio is used to measure the extent to which a company's ability to cover its obligations in the form of debt to capital owned by the company. In addition to the debt ratio, activity ratios can also measure the level of efficiency performed by firms in using all resources by looking at the level of asset effectiveness. Assets are assets owned by a company that must be managed properly so that the profitability of the company can be maximized. Company size shows the size of a company. Large companies have large total assets, so the company is able to optimize the performance of the company, with assets it has. Therefore, firm size is one of the factors that determine the company's ability to generate profits.

In a study conducted by Ratnasari and Budiyanto proves the leverage measured by the proxy of debt to equity ratio (DER) has a significant effect on profitability as measured by the proxy of return on assets (ROA), while liquidity as measured by current ratio gives results Insignificant influence on profitability measured by ROA, and the last is the size of the company is partially no significant effect on profitability [5]. Based on Astuti study conducted. The results showed ATO had significant effect on profitability with t count value greater than ttable (3,683 > 3,182) with significant level value 0,001 which is smaller than significant level 0,05 (0,001 < 0,05), meanwhile DTA partially influence to ROA, with t counts smaller than t table (-2.089 < 3.182) with a significance level of (0,044 < 0,05). Study on intellectual capital conducted by Katinda (2013) result from this study proves intellectual capital has a significant relationship with profitability measured by return on assets (ROA), productivity as measured by asset turnover (ATO) and market pricing as measured by market To book value (M / B). Another study of intellectual capital conducted by Cahyani et al proves there is a positive effect of intellectual capital measured by the VAIC proxy to financial performance as measured by the proxy of return on assets (ROA) [6].

#### A. Problem of the Study

Based on the background of the problems described above, the researcher propose the problem of the study is "Influence of Intellectual Capital Disclosure, Debt to Assets Ratio, Debt Equity Ratio, Company Size and Assets Turnover against Corporate Profitability". Based on the study discussion above, so the questions arise, as follows:

- Does intellectual capital disclosure affect the profitability of manufacturing companies?
- Does the debt to assets ratio affect the profitability of manufacturing companies?
- Does the debt equity ratio affect the profitability of manufacturing companies?
- Does corporate size affect the profitability of manufacturing companies?

- Does the asset turnover affect the profitability of the manufacturing company?

## II. METHOD

### A. Data and Samples

The data used in this study are all Manufacturing companies listed in Indonesia Stock Exchange (BEI) for 5 years period from 2011-2015, there are 143 companies. There are 40 companies sampled in this study. Selection sample in this study is using purposive sampling method. Sample selection by using purposive sampling method is done with the aim to get representative sample, according to selected data based on certain criterion that appropriate with study purpose. The sample criteria that will be used are:

- Manufacturing companies listed on the BEI for year 2011-2015
- Manufacturing companies that provide financial statements as of December 31, 2011 up to December 31, 2015 are complete with notes to the financial report.
- Manufacturing Companies that have complete data and required in study on the period 2011-2015.
- The financial statements are presented in currency.
- Companies that have not suffered losses during the period 2011-2015.
- Companies that provide data according to variations of study.

### B. Hypothesis Testing

In this study to test the hypothesis of the authors use multiple linear regression analysis done with the help of software SPSS for Windows version 22. Multiple regression equation model can be formulated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon \quad (1)$$

Where:

Y = Profitability

X1 = Intellectual Capital

X2 = Debt to Assets Ratio

X3 = Debt Equity Ratio

X4 = Company Size

X5 = Assets Turnover

A = Constants

$\beta$  = Regression Coefficient

$\varepsilon$  = Error

Regression coefficient value means, if the coefficient  $\beta$  positive value (+) then there can be a direct influence between independent variables to the dependent variable, meaning that any increase in the value of independent variables one unit can lead to the increase of the dependent variable of  $\beta$  unit. Conversely, if the coefficient  $\beta$  is negative (-) it indicates a negative influence where the increase in the value of the independent variable one unit leads to the decrease in the value of the dependent variable  $\beta$  unity.

### C. Operationalization of Study Variables

In this study the researcher used five (5) independent variables, one dependent variable. The independent variables used in this study are intellectual capital (IC), debt to assets ratio (DTA), debt equity ratio (DER), firm size (Size) and asset turnover (ATO). Dependent variable used is company profitability as measured by return on assets (ROA).

### D. Dependent Variables

The dependent variable is a variable that depends on other variables. Dependent variables in this study are:

#### 1) Profitability of the company

Profitability ratio is a ratio that aims to determine the company's ability to generate profits during a certain period and also provides a description of the level of management effectiveness in carrying out its operations.

#### 2) Independent variables

The independent variable is the variable that causes the occurrence of the dependent variable. The independent variable is a variable that stands alone and is independent of other variables. In this study the independent variable is intellectual capital (IC), debt to assets ratio (DTA), debt equity ratio (DER), firm size (Size) and asset turnover (ATO).

#### 3) Intellectual capital

The disclosure of intellectual capital in this study was measured using the Value Added Intellectual Coefficient (VAICTM) method developed by Pulic in 1997 designed to present information about the value creation efficiency of tangible assets and intangible assets of the firm. (VAIC™) is an instrument to measure the company's intellectual capital performance. This approach is relatively easy and very possible to do, as it is constructed from accounts in the company's financial statements (balance sheet, income statement). This model starts with the company's ability due to create value added (VA). Value added is the most objective indicator to assess business success and demonstrate the company's ability in value creation. VA is calculated as the difference between output and input.

Output (OUT) represents revenue and covers all products and services sold in the market, while input (IN) includes all expenses used in generating revenue. The important thing in this model is that the expenses of employees are not included in IN. Because of its active role in the value creation process, intellectual potential (which is represented by labour expenses) is not calculated as cost and is not included in the IN component. Therefore, the key aspect in the Pulic model is to treat labour as a value creation entity.

VA is influenced by the efficiency of Human Capital (HC) and Structural Capital (SC). Another relationship of VA is capital employed (CE), which in this case is called VACA. VACA is an indicator for VA created by a unit of physical

capital. Pulic assumes if 1 unit of CE produces a higher return than another firm, then that means the company is better at utilizing its CE [7]. Thus, better utilization of CE is part of the IC Company. The next relationship is VA and HC. "Value Added Human Capital" (VAHU) shows how much VA can be generated with funds spent on labour. The relationship between VA and HC indicates the ability of HC to create value within the firm. Consistent with views of other IC writers, Pulic argues that total salary and wage costs are indicators of corporate HCs. The third relationship is "structural capital coefficient" (STVA), which shows the structural capital contribution (SC) in value creation. The STVA measures the amount of SC required to generate 1 rupiah of VA and is an indication of how SC's success in value creation is. SC is not an independent measure as HC, SC is dependent on value creation (Pulic, 1999 in Safitri, 2012). That is, the greater the contribution of HC in value creation, the smaller the contribution of SC in that case. Further Pulic states SC is a VA minus HC, which has been verified through empirical study on traditional industrial sectors (Pulic, 2000 in Safitri 2012). The last ratio is to calculate the company's intellectual capability by adding up the previously calculated coefficients. The sum result is formulated in a unique new indicator, VAIC™ [8].

The advantage of the VAIC™ method is that the data required is relatively easy to obtain from various sources and types of companies. The data needed to calculate the various ratios are standard financial figures that are generally available from the company's financial statements. Other IC measurement alternatives are limited to generating unique financial and non-financial indicators that are just to complement the profile of an individual company. Such indicators, in particular non-financial indicators, are unavailable or not recorded by other companies [9]. Consequently, the ability to apply these alternative IC measurements consistently to large and diversified samples is limited [10].

#### a) Leverage

Leverage shows the company's ability to fulfil all its obligations both short and long term.

#### b) Company size (Size)

The size of a company is a characteristic of a company in relation to its structure. A large company has a tendency to require more funds than a small company. The need for a larger fund has a tendency that the company wants significant profit growth. The size of the company is a reflection of the size of the company being measured.

#### c) Total assets turnover

Total assets turnover is a comparison between sales with total assets of a company where this ratio describes the speed of rotation of total assets in a certain period.

TABLE I. OPERATIONAL VARIABLE

Dimension	Formula	Scale
<i>Dependent Variable (Y)</i>		
Return on Assets (Y)	Net profit after Tax / Total Assets	Ratio
<i>Independent Variable (X)</i>		
Intellectual Capital	$VAIC^{TM} = VACA + VAHU + STVA$	Ratio
Debt to Assets Ratio	Total Debt/Total Asset	Ratio
Debt Equity Ratio	Total Debt / Capital	Ratio
Company Size	Ln Total Assets	Ratio
Assets Turnover	Sales /Total Asset	Ratio

III. RESULTS AND DISCUSSION

The test results show how the influence of Intellectual Capital (IC), Debt to Assets Ratio (DTA), Debt Equity Ratio (DER), Size and Assets Turnover (ATO) to profitability as measured by ROA ratio in manufacturing company from 2010-2015 is presented in the following tables.

TABLE II. MULTIPLE LINEAR ANALYSIS

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig
		B	Std. Error	Beta		
1	(Constant)	-.129	.052		-2.467	.014
	IC	.022	.003	.398	6.566	.000
	DTA	-.236	.067	-.477	-3.497	.001
	DER	.039	.018	.293	2.162	.032
	SIZE	.012	.004	.200	3.483	.001
	ATO	.040	.009	.256	4.518	.000

<sup>a</sup>. Dependent Variable: ROA

Source: SPSS 22, data processed by Authors

Multiple linear analyses is used to obtain regression coefficients which will determine whether the result of hypothesis made will be accepted or rejected. Basic acceptance of hypothesis using a significant level of 5% obtained the following equation:

$$ROA = -0,129 + 0,022IC - 0,236DTA + 0,039DER + 0,012SIZE + 0,040ATO + \epsilon$$

Where:

- ROA : Return on Assets
- $\alpha$  : Constants
- IC : Intellectual Capital
- DTA : Debt to Assets Ratio
- DER : Debt Equity Ratio
- Size : Company Size

ATO : Assets Turnover

$\epsilon$  : Error

The multiple linear regression models above can be explained as follows:

- The X1 Intellectual Capital (IC) variable has a value of 0.022. Positive regression value illustrates that if IC has 1% increase with assumption other variable remain, hence will increase disclosure level return on assets (ROA) equal to 0,022%.
- Variable X2 Debt to Assets Ratio (DTA) has a value of -0.236. This regression value illustrates that if the DTA experiences an increase of 1% assuming other variables are fixed, the disclosure of the return on assets (ROA) decreases by 0.236%.
- The X3 Debt Equity Ratio (DER) variable has a value of 0.039. The positive regression value illustrates that if DER rises 1% with the assumption that other variables remain, it will increase the disclosure of the return on assets (ROA) of 0.039%.
- Variable X4 Company Size (Size) has a value of 0.012. The positive regression value illustrates that if the size increases 1% with the assumption that other variables remain, it will increase the disclosure of the return on assets (ROA) of 0.012%.
- Variable X5 Assets Turnover (ATO) has a value of 0.040. The positive regression value illustrates that if ATO rises 1% with the assumption that other variables remain, it will increase the disclosure of the return on assets (ROA) by 0.040%.

TABLE III. RESULT TEST OF COEFFICIENT DETERMINATION

Model	Model Summary <sup>b</sup>				
	R	R - Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.675 <sup>a</sup>	.456	.442	.06077	.814

<sup>a</sup>. Predictors: (Constant), ATO, SIZE, DER, IC,DTA

<sup>b</sup>. Dependent Variable: ROA

Source: SPSS 22, data processed by the author



Based on Table III the results of determination test obtained adjusted R2 of 0.442 which means the dependent variable that can be explained by independent variables of 44.20%. This means that 44,20% variation of profitability disclosure can be influenced or explained by ratio (IC, DTA, DER, Size, ATO) whereas 55,80% disclosure profitability can be influenced by other variable not examined in this study.

TABLE IV. TEST RESULT F

**ANOVA <sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.600	5	.120	32.485	.000 <sup>b</sup>
	Residual	.717	194	.004		
	Total	1.316	199			

<sup>a</sup>. Dependent Variable: ROA

<sup>b</sup>. Predictors: (Constant), ATO, SIZE, DER, IC,DTA

Source: SPSS 22, data processed by the author

Testing the hypothesis test f is used to see whether the overall independent variables have a significant effect on the dependent variable. By using a 95% confidence level,  $\alpha = 5\%$  or 0.05,  $df_1 = 5$  (number of independent variables), and  $df_2 = (n-1) - k = 200-5-1 = 194$  ( $n$  is the number of samples and  $k$  is the number of variables Independent), the results obtained for F table equal to 2.42. The results shows the value of F arithmetic = 32.485 with the value of Sig. 0,000.  $F_{count} > F_{table}$  ( $32.485 > 2.24$ ) and a significant value less than 0.05 ( $0.000 < 0.05$ ) means together (simultaneously) no effect IC, DTA, DER, SIZE and ATO to Profitability in Manufacturing Companies from 2011 to 2015. Thus Intellectual Capital, Debt to Assets Ratio, Debt to Equity Ratio, Assets Turnover and Company Size affect simultaneously (simultaneously) to achieve profitability.

**IV. CONCLUSION**

Based on the results of tests that have been done then can be drawn conclusion as follows:

Partially Intellectual Capital (IC) has a positive and significant impact on Profitability Manufacturing Companies listed on the Stock Exchange 2011-2015. A positive value IC represents the company's ability IS to generate profits using own resources. If the company is able to make efficiency in using resources owned, it will increase the company's profit. This is line with the stakeholder theory's views and knowledge-based theory, if a company can develop and utilize own knowledge as a means to increase profit, it will benefit stakeholders. The increase in net income is influenced by the efficient use of corporate assets. Therefore, if the company can manage and develop the intellectual capital owned well and pay attention to the company's net profit and asset management efficiently, it will increase the value of ROA indicating better financial performance, resulting in profits for the company.

Partially Debt to Assets Ratio (DTA) has a negative and significant impact on Profitability Manufacturing Companies listed on the Stock Exchange 2011-2015. As the DTA increases, the firm will reduce lending to creditors, this is done to increase retained earnings. As the DTA rises, the profitability of the firm will decrease, the greater the debt the company will have to meet the need for funds, the greater the costs incurred for funding such as to pay interest on the loan. If the DTA is higher than the proportion of total assets, it does not change debt owned by the larger company. Total debt is greater means the financial ratio or the ratio of failure of the company to return the loan higher.

Partially Debt Equity Ratio (DER) has a positive and significant influence through Profitability Manufacturing Companies listed on the Stock Exchange 2011-2015. If DER increases, profitability also increases, this can be seen if the amount of current debt is greater than long-term debt, this is still acceptable because the amount of current debt is often caused by short-term operating debt. In addition, the capital obtained by borrowing, can be used by the company to fund a project or production activities, but the company's fund is not sufficient so that borrowing, before the time of borrowing is completed, the company has received a return on capital and the benefits of borrowed funds. So the company can return faster than the time period has been set. This may lead to increased DER if followed by an increase in profitability.

Partially Size of Company (Size) has positive and significant influence through Profitability's Manufacturing Company listed in BEI year 2011-2015. If the size of the company increases then profitability will also increase, this is because the size of the company is not just seen from how big the physical and the company's name stands. Increased corporate size followed by increased profitability indicates that the company is able to run production activities well to generate high profits and gain increased selling. The company is able to perform the effectiveness and efficiency of various activities undertaken so as to minimize the costs incurred on the activity. A company has a high level of productivity, the attraction for shareholders to invest shares in the company.

Partially Assets Turnover (ATO) has a positive and significant impact on Profitability Manufacturing Companies listed on the Stock Exchange 2011-2015. The higher the ratio of ATO means the better and efficient management in managing its assets. The greater the ratio of ATO, which means that the asset can spin faster and faster in getting profit. Assets managed either by the company may increase the useful life or economic life of the asset, so they can be used for a longer period of time, thereby reducing the cost of buying new assets in the fastest period of time.

**A. Limitations and Development of Study**

Studiers' realize in this study still has weaknesses and limitations, as follows:

- Object of study is only examines a study sector that is only studying Manufacturing Companies listed in Indonesia Stock Exchange so that the results cannot be generalized to other sector companies and

Manufacturing Companies are quite often used in other study.

- Observation period in the study only 5 years only in 2011-2015 so, the data that meet for the statistical test is still limited.
- From the results of study coefficient of determination of 44.20% means there are still other factors that affect the profitability of companies that are not described in this study.
- Testing analysis and hypothesis used in this study using statistical program SPSS version 22.

From the limitations of the study described above, it is expected that the development of further study are:

- It is suggested to further study to increase the object of study, from other corporate sectors either from those listed in Indonesia Stock Exchange or from other sources.
- It is recommended to further study be able to use longer timesheet data to make the test results more widely and significantly to be compared.
- Further study can add dependent variables as profitability measurement ratios such as Return on Equity (ROE), Net Profit Margin (NPM) and add independent variable as a benchmark calculation on profitability such as Working Capital, Age of Company or Industrial Type.

In the next study can use other statistical programs such as Smart PLS to see the accuracy of the results of testing.

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