EFFECT OF INTELLECTUAL CAPITAL TO RETURN ON EQUITY (STUDY ON CONSUMER GOODS INDUSTRY LISTED IN INDONESIA STOCK EXCHANGE)

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Abstract: *The objective of this study is to test the effect of Intellectual Capital to Return on Equity (ROE) empirically. Sample of this research is consumer goods industry in Indonesia Stock Exchange (IDX) with the sample period 2009-2012, the Financial Statements, they are income and statement of financial position. Data collected by purposive sampling method. Samples used in this study were 20 companies each year. Measurement model of intellectual capital uses Pulic model using Value Added Intellectual Coefficient (VAIC). The results showed that intellectual capital no significant effect of on ROE company. This research allow the presence of different results if added that the number of sample or a period more long, so that research will come can showing results more accurate. In addition suggested to reëxamine variables on the customer goods industry when conditions economic stable to prove the possibility.*
Keywords: *Intellectual Capital, Value Added Intellectual Coefficient (VAIC), Return On Equity (ROE)*

I. Introduction

The good performance of company can be reached if supported by the Human Resources (HR), which is all good employees from the highest level to the lowest level that manage the company. HR has a very important role for a good company as a member of the company as well as the driving force of the company. Without HR, then surely the company will be hard to walk. So important has the human resources company, as one of the main assets of the company in conducting its business activities due to the potential and intellectual ability possessed by HR. Every organization, public or private sector should have a competitive advantage compared to certain other organizations. These advantages can be formed in various ways, such as creating a product with a unique design, the use of modern technology, organizational design, and use available resources effectively, efficiently and economically.

Formation advantages as described above requires businesses to develop a knowledge-based business (a business based on knowledge) as a foothold in the manufacture company. Therefore increasingly focused on the importance of knowledge assets. One of the approaches and measuring knowledge assets is the intellectual capital that has been the focus of attention in various fields, good management, information technology, sociology and accounting (Petty and Guthrie, 2000) in Ulum (2009; 2). This poses a challenge for accountants to identify, measure and disclose in its financial statements. Pulic (1998; 1999; 2000) does not directly measure the intellectual capital of the company, but filed a measure to assess the efficiency of the value added as a result of the intellectual ability of the company (value added intellectual coefficient - VAIC). The main components of the VAIC can be seen from the company's resources, namely physical capital (VACA - value added capital employed), human capital (VAHU - value added human capital) and structural capital (STVA - structural capital value added).

Intellectual capital is a unique resource that not all companies can emulate. This is what makes intellectual capital as a key resource for companies to create value-added companies and will achieve competitive advantage. Companies that have competitive advantage will certainly be able to compete and survive in a business environment. Pulic (1998) in Ulum (2009: 86) states that the intellectual abilities (later called VAIC) shows how these resources (physical capital and intellectual potential) has been efficiently utilized by the company. The phenomenon began to develop intellectual capital in Indonesia, especially after the advent of Statement of Financial Accounting Standards (SFAS) No. 19 (revised 2009) on intangible assets. Although not stated explicitly as intellectual capital, but more or less intellectual capital has gained attention. According to SFAS No. 19, intangible assets are identifiable non-monetary assets and has no physical form and held for use in the produce or deliver goods or services, rented to other parties, or administrative purposes. Appuhami (2007) states that the greater the value of intellectual capital (VAIC) more efficient use of capital of the company, thus creating added value for the company.

This study investigated the relationship between intellectual capital and its effect on financial performance as measured by return on equity using data from consumer goods companies industry listed in the Indonesia Stock Exchange (IDX), researchers using financial statement data for 4 years (2009-2012). The purpose of this study was to test empirically the influence of intellectual capital developed by Pulic (1998) on firm performance measured by ROE on consumer goods industry. Pulic method used in measure intellectual capital because all the information available in the financial statements.

II. Literatur Review

2.1 Definition of Intellectual Capital

Stewart in Ulum (2009: 19) defines intellectual capital as follows: The sum of everything in your every company knows that gives you a competitive adge bin the market place. It is intellectual material-knowledge, information, intellectual property, experience-that can be put to use to create wealth. Wahdikorin (2010), attention to the company's intellectual capital management in recent years has increased. This is due to the realization that intellectual capital is the foundation for the company to grow and have advantage compared to other companies. Klein and Prusak (in Ulum, 2009) provide a preliminary definition of intellectual capital. According to their intellectual capital is "a material composed, captured and used to generate a higher asset value". From the definition of intellectual capital that has been raised, in general they agree and conclude that the intellectual capital is material composed, captured and used to develop the company and has a value compared to other companies.

Components of Intellectual Capital IFAC (1998) in Ulum (2009:29) classifies intellectual capital into three categories, namely: organizational capital, relational capital, and human capital. Organizational capital includes intellectual property and infrastructure assets. Table 1 presents the classification of the following components.

Table 1. Clasification of Intellectual Capital

Organizational Capital	Relational Capital	Human Capital
Intellectual Property: 1. Patents 2. Copyrights 3. Design rights 4. Trade secret 5. Trademarks 6. Service marks **Infrastructure Assets:** 2 Management philosophy 3 Corporate culture 4 Management processes 5 Information systems 6 Networking systems 7 Financial relation	8 Brands 9 Customers 10 Customers loyalty 11 Blackog orders 12 Company names 13 Distribution channels 14 Business collaboration 15 Licensing agrements 16 Favourable contracts 17 Franchising agrements	18 Know-how 19 Education 20 Vocational qualification 21 Work-related knowledge 22 Work-related competencies 23 Entrepreneurial spirit, innovativeness, reactive abilities, changeability 24 Pschometric valuation

Source: IFAC, 1998 in Ulum (2009:30)

2.2 Value Added Intellectual Coefficient (VAIC)

VAIC is a method developed by the Public (1998, 1999, 2000), to provide information about the value creation efficieny of tangible assets and intangible assets owned by the company. VAIC is a tool to measure the performance of intellectual capital. This model is relatively easy and it is possible to do because it is constructed from accounts in the financial statements (balance sheet and income statement). The calculations begin with the company's ability to create value added (VA). VA is the most objective indicator to assess the success of the business and demonstrate the company's ability to create value (value creation). Value added obtained from the difference between output and input. Value of output (OUT) is revenue and includes all products and services produced by the company to be sold, while the input (IN) covering the entire burden that companies use to produce goods or services in order to generate revenue. However, to keep in mind is that personnel expenses are not included in IN. Personnel costs are not included in IN because employees play an important role in the value creation process. The process of value creation is influenced by the efficiency of Human Capital (HC) Capital Employed (CE) and Structural Capital (SC).

a. Value added of Capital Employed (VACA)

VACA is an indicator for VA created by one unit of physical capital. Public (1998) in Ulum (2009) assumes that if one unit of CE (Capital Employed) produces a greater return than any other company, it means the company better utilize its CE. Measurement is done by comparing VACA by CE, with the value added (VA) is obtained from the difference between total sales and other income (OUT) with load and costs. Value added is an indicator used to assess the success of the business and demonstrate the ability of the company in the creation of value (Ulum, 2009). In other words, value added is the net income of a company. While CE obtained from available funds (equity add up to a net profit). Formulation VACA namely: VACA = VA / CE

b. Human Capital Value Added (VAHU)
VAHU shows how much the VA can be produced with funds spent on labor. VA has relationship with HC. HC indicates the ability to create value in the company. The company can not create knowledge by itself without the initiative of the individuals involved in the organization process. HC is very important because it is a corporate asset and a source of innovation and renewal. Employees with high human capital will be more likely to provide quality service in order to retain and attract new customers. According to Sugeng in Kuryanto (2008), if the information about a company's quality of service provided, level of education and experience can act as an indicator of the ability and competence of the company, which is expected in the next era of human capital better care company owned. VAHU measurements done by comparing the value added by HC, with the VA is obtained from the difference between total sales and other opinion (OUT) with load and costs other than personnel expenses (IN). While the HC were taken from the expenses incurred in improving the ability of the employee. Formulation VAHU namely: VAHU = VA / HC

c. Structural Capital Value Added (STVA)
STVA is an organization's ability to meet the company routines and structures that support employee efforts to produce optimal intellectual performance as well as overall business performance, for example: the company's operational systems, manufacturing processes, organizational culture, management philosophy and all forms of intellectual property of the company (Sawarjuwono, 2003). Companies with strong structural capital will have the support of a culture that allows the company to try something, to learn and to try to return something. STVA measurement is done by comparing the structural capital (SC) against the VA, the value added is obtained from the difference between OUT with weights and costs other than personnel expenses (IN). While SC is taken from the difference between the value added (VA) with expenses incurred in improving the ability of employees (HC). Formulation STVA: STVA = SC / VA

The ratio of the final calculation of the company's intellectual abilities. This is the sum of the coefficients mentioned earlier. This results in a new indicator: VAIC = VACA + VAHU + STVA.

Return on Equity (ROE) is the ratio of net profit after tax measure with their own capital. ROE is used to measure the rate of return the company to profit from the use of equity held by the company. This ratio also indicates the extent to which the company's ability to generate profits that can be obtained by shareholders. The higher the ROE indicates more efficiently the company uses its own capital to generate profits for shareholders (Kasmir, 2008:204). Return on Equity can be formulated as follows:

$$Return\ on\ Equity = \frac{\text{Earning After Tax}}{\text{Total Equity}}\ \text{x } 100\%$$

III. Research Method

The type of research that is used in this research is the type of research associative namely research connecting two or more variables. In this research, variables are consisting of intellectual capital (X) and return on equity (Y). Researchers took population of consumer goods industry registered in Indonesia stock exchange. There is a population of 38 companies will be taken in accordance with the criteria established by researchers. Sampling techniques used in this research is purposive method of sampling. Criteria for selection of the sample to be studied are all consumer goods industry listed in Indonesia Stock Exchange that publish or publish financial statements in the year 2009-2012, have never experienced a loss and eliminate the listing (delisting) in that period as well as the complete financial statements and can be downloaded for general. Data as shown in Table 2.

Table 2. Research Samples

No.	Code	Emiten Name
1	ADES	PT Akasha Wira International Tbk
2	AISA	PT Tiga PilarSejahtera Food Tbk
3	DLTA	PT Delta Djakarta Tbk
4	DVLA	PT Darya Varia Laboratoria Tbk
5	GGRM	PT Gudang Garam Tbk
6	HMSP	PT Hanjaya Mandala Sampoerna Tbk
7	INAF	PT Indofarma Tbk
8	INDF	PT Indofood Sukses Makmur Tbk
9	KDSI	PT Kedawung Setia Industrial Tbk

10	KLBF	PT Kalbe Farma Tbk
11	MERK	PT Merck Tbk
12	MRAT	PT Mustika Ratu Tbk
13	MYOR	PT Mayora Indah Tbk
14	PSDN	PT Prashida Aneka Niaga Tbk
15	PYFA	PT Prydam Farma Tbk
16	SQBB	PT Taisho Pharmaceutical Indonesia Tbk
17	STTP	PT Siantar Top Tbk
18	TCID	PT Mandom Indonesia Tbk
19	TSPC	PT Tempo Scan Pasific Tbk
20	ULTJ	PT Ultrajaya Milk Industry & Trading

Source: Data adapted from the Indonesia Stock Exchange in 2013

Data used in this research is secondary data, data collected by the agency collecting the data and published to the user community, in the form of financial statements of the consumer goods industry listed in Indonesia Stock Exchange. Judging from the time it was collected, then the data type of this research is panel data in the form of financial statements 20 consumer goods industry listed in Indonesia Stock Exchange 2009-2012 period.

3.1 The Definition of Operational Variable

Dependent Variabel

Return on equity (ROE), is a measure of its net profit after tax in the capital. ROE used for measuring the rate of return on equity in profits in producing and using which is owned by the company. This shows the extent to which the company to produce the profit which can be exploited by the shareholders. A more efficient higher ROE the use of own capital to produce profits for shareholders (Kasmir, 2004).

Independent Variables

The independent variables in this study using the method of Value Added Intellectual Capital (VAIC) developed by Pulic (1998). In this research, intellectual capital is a form of knowledge resources such as customers, employees and technological competence which companies can use it in the process of value creation (Ulum, 2009). Intellectual performance as measured by the value added created by the physical, human capital and structural capital. VAIC is a combination of three indicators of value added which can be expressed as follows:

a. Physical capital (VACA - Value Added Capital Employed)
   VACA is the ratio between the value added (VA) to the company's equity (CE), this ratio contribution made by each unit of CE to the value added organization.

$$VA = OUT - IN$$

Output (OUT)	= Total sales and other income
Input (IN)	= Expenses and cost (other than payroll expenses)
Value Added (VA)	= the difference between output and input
Capital Employed (CE)	= Available funds (equity, net income)

   Utilization of the CE is part of the utilization of intellectual capital companies because VACA an indicator of intellectual ability of the company to manage and utilize better capital.

b. Human capital (VAHU – Value Added Human Capital)
   VAHU shows the contribution made by each dollar invested in HC against value added organization. The relationship between VA and HC. HC indicates the ability to create value for the company.
   Human Capital (HC) = Payroll Expenses
   VAHU is an indicator of the quality of human resources of the company.

c. Structural capital (STVA – Structural Capital Value Added)
   STVA measure the amount of structural capital (SC) is needed to produce 1 of dollars of value added (VA) and an indication of how the success of structural capital (SC) in creating value.

$$\text{Structural Capital (SC)} = VA - HC$$

So formulations VAIC calculation is:

$$VAIC = VACA + VAHU + STVA$$

Value Added Intellectual Coefisient (VAIC) indicates the intellectual capabilities of the organization. VAIC can also be considered as BPI (Business Performance Indicator).

3.2 Hypothesis Testing

a. Simple Linear Regression Analysis
Linear regression analysis of this study using simple because the number of the independent variable only one, namely VAIC, so the regression equation formed: Y = a + bX

b. The coefficients determined (R2)
The coefficients determined (R2) test was conducted to measure how far the ability of the model explains variations in the dependent variable.

c. Significance of the parameters of test individual (statistical tests t)
Test statistik-t basically shows how far the influence of one variable individually in explained variations of the dependent variable.

IV. Result and Discussion

Of all the consumer goods industry are listed on the Stock Exchange is not all sampled studies. Because in this study were sampled from is all the consumer goods industry that are listed on the 2009-2012 data is financial data issuing company (Financial Statements and Annual and Annual Report of Listed Companies, www.idx.com2013) to complete and can be downloaded to the public and does not incur a loss. Consumer goods industry is a moving company produces consumer goods. Consists of five industrial sectors, namely food and beverage industry, tobacco industry, pharmaceutical industry, cosmetic industry and household use as well as household appliances industry. Data processing technique used was purposive sampling of five industry sectors that are incorporated in the consumer goods industry sector consists of 38 companies listed on the Indonesian Stock Exchange just 20 companies that meet all the requirements of research to be sampled.

Regression test is used to determine how the dependent variable can be predicted by the independent variables. Table below represents the results of the regression analysis were performed.

Table 3. Simple Regression Testing

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.051	.331		12.233	.000
	VAIC	.006	.009	.071	.630	.531
a. Dependent Variable: sqrt_ROE						

Source: Proceed of SPSS, 2014

Table 3 shows the constants for the regression equation is worth 4.051 and the value for the regression coefficient is 0.006. So the form of the linear regression equation is: Y = 4.051 + 0,006X.

From the equation above, it can be interpreted that:

a. The value of the constant (a) of 4.051 means if VAIC value is zero, then the value of ROE (Y) equal to 4.051

b.Coefficient VAIC 0,006 worth stating that each additional 1 VAIC (X) will cause an increase of 0,006 ROE values

c. From the calculation of partial test is obtained t_{count} VAIC at 0.630 and significant value of 0.531, then Ho is accepted while Ha rejected.

Individual parameter test (t-test) aims to determine whether the independent variables have a significant effect on the dependent variable. This study uses the sample (n) = 80 and the number of independent and dependent variables (k) = 2. Thus obtained df = 78. For the variable X (VAIC) demonstrated t_{table} and t_{count} of 1.66462 and 0.630. Based on the value t_{count} and t_{table} it can be concluded that the value $t_{count} < t_{table}$ (0.630 < 1.66462), which means that these results indicate that the variable VAIC no effect on ROE, then Ho is rejected and Ha accepted.

Test the coefficient of determination (R-square) is used to know correlation values between the X in the form of intellectual capital to variable Y (ROE). The output of the R-Square test were processed using SPSS.

Table 4. Coefficient of Determination Test

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.071[a]	.005	-.008	1.54938
a. Predictors: (Constant), VAIC				
b. Dependent Variable: sqrt_ROE				

Source: Proceed of SPSS, 2014

Based on the results in the table it is known that the coefficient of determination (R-Square) is 0.005 or 0.5%. It means the combination of independent variables can explain the dependent variable (ROE) was 0.5%, while the remaining 99.5% (100% -0.5%) is explained by other variables outside of research. Standard Error of Estimate (SEE) of 1.54938, SEE is a measure of the number of errors in the regression model predicting Y. Smaller value of SEE will make the appropriate regression model in predicting the dependent variable. With SEE only amounted to 1.54938 indicates that the regression model used in this study has been well and mistakes that occur are also relatively small.

This study have not been able to find a strong relationship between intellectual capital with a return on equity from the company. Variable X which is intellectual capital, after testing shows the result of intellectual capital that has no effect on ROE. This is because intellectual capital has t count of 0.630 which is smaller than t table (0.630 <1.66462), and the significant value of 0.531 is greater than 5% or 0.05. It shows that while the acceptable Ho, Ha rejected.

The results of this study do not support the study of Chen et al. (2005) and Tan et al. (2007) Intellectual capital which significantly influence the change in ROE but this study supports the results of research Firer and Williams (2003), that intellectual capital has no significant effect on the change in ROE. The results of this study also contradict the theory that basically says that intellectual capital can help improve the performance of the company. With the increasing performance of the company, trust outside parties (stakeholders) to the company's going concern also increased which helped influence also on stock returns in the company Artinah & Muslih (2011). This occurs because the performance of the consumer goods industry is in a position that is not maximized, thus more precise policies are needed to allocate resources so that the organization can create value for the company.

In addition, the ability of the company to maximize capital owned is still lacking, the management company should be able to do activities that are useful for the company to take advantage of owned capital in order to increase the appreciation of the market to invest in the consumer goods industry. Production of any consumer goods industry that almost all companies equally demanding better innovations compared to its competitors.

The innovation process should be handled carefully by everyone involved as a series of processes, including the development of ideas, screening ideas, concept development and testing, business analysis, development and testing of prototypes, test marketing and commercialization. Companies need to build or acquire competency-competencies required in each step of the process, and should appoint an experienced leader in the innovation process. This is where the importance of intellectual capital in the process of achieving a good performance for the company.

V. Conclusion

a. The influence of intellectual capital on Return on Equity (ROE) is not significant. This occurs because the performance of the consumer goods industry is in a position that is not maximized, thus more precise policies are needed to allocate resources so that the organization can create value for the company.
b. The ability of the company to maximize capital owned is still lacking, the management company must be able to perform useful activities for the company in utilizing capital owned enterprise in order to improve ROE.
c. Limited the result of this research allow the presence of different results if added that the number of sample or a period more long, so that research will come can showing results more accurate. In addition suggested to reëxamine variables on the customer goods industry when conditions economic stable to prove the possibility.

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