

# THE INFLUENCE OF INTELLECTUAL CAPITAL TO THE COMPANY VALUE: THE FINANCIAL PERFORMANCE AS INTERVENING VARIABLE (STUDY AT LQ-45 COMPANY IN IDX IN THE PERIOD OF 2011-2013)

Barbara Gunawan<sup>1</sup>  
Ressa Evans Sanjaya<sup>2</sup>

## Abstract

*The ability of companies to compete is not only in the ownership of intangible assets, but also innovation, information system, organizational management, and resources. The company emphasizes to develop the level of importance of knowledge assets. One of the approaches used to assess and measure the knowledge asset is Intellectual Capital. It has been important focus in the various fields such as management, information technology, sociology, and accounting. One suggested model of measurement to assess the efficiency of value added which is the result of value added intellectual coefficient – VAIC<sup>TM</sup> is apply in the study. The primary components of the VAIC<sup>TM</sup> are Physical capital, human capital, and structural capital. The research aims to determine whether the Intellectual Capital will influence the financial performance and company value. Using the purposive sampling method, the sampling criteria of the research used 72 chosen companies. The hypothesis of the resources is examined with path analysis. The result found that intellectual capital has no impact to the financial performance. Aside of that, intellectual capital has impact to the company value and last but not least, the financial performance as intervening variable mediated the relationship between intellectual capital and company value.*

**Keywords:** Intellectual Capital; Financial Performance; Company Value

2016 GBSE Journal

## Introduction

The knowledge and its management have become major issues of discussion in business as well as in research in the late of nineties. It can be seen from the business management and the determination of competitive strategy. The business realizes that the ability to compete not only in business strategy but also in innovation, information system, organizational management, and human resource. Realizing the global competition is strict, the business needs a paradigm shift from resource-based competitiveness to knowledge-based competitiveness as the competition circumstances that changes continuously and it aims the companies to have innovation in developing of products differentiation. The companies which implement knowledge-based business will create a way to manage the knowledge as

---

<sup>1</sup> Lecturer, Department of Accounting, Faculty of Economics, Universitas Muhammadiyah Yogyakarta. Tel:+685228004245 E-mail: era@umy.ac.id

<sup>2</sup> Department of Accounting, Faculty of Economics, Universitas Muhammadiyah Yogyakarta. Tel: +6281296810736 E-mail: evanssanjaya19@gmail.com

revenue and company value. Therefore, the organizational business more emphasizes the important of the knowledge asset as an intangible asset form (Agnes, 2008).

One approach which is used in the assessment and measurement of knowledge asset is Intellectual Capital (IC) which has been important focus in various field such as management, sociology, information technology, and accounting (Petty & Guthrie, 2000). Resource based view theory states that the IC is the resources of company which holds an important role like physical capital and financial capital (Asni, 2007). Based on the context, the companies need to develop a strategy to compete in the market.

Pulic (1998; 1999; 2000) did not directly measure the IC of company, but he assessed the efficiency of value added as a result of company's intellectual ability (Value Added Intellectual Coefficient - VAIC<sup>TM</sup>). The main component of VAIC<sup>TM</sup> can be seen from the company resources as physical capital (VACA - Value Added Capital Employed), human capital (VAHU – Value Added Human Capital), and structural capital (STVA – Structural Capital Value Added). Pulic (1998) defined the main goal of knowledge-based resources is to create value added and need the exact size of the physical capital and the intellectual potential. Furthermore, Pulic (1998) explained the intellectual ability (VAIC<sup>TM</sup>) shows the existence both of resources (physical capital and intellectual potential) have been used efficiently by the company.

Principally, the sustainable and capability of the company based on IC, so the company's resources can create value added. Edvinson and Malone (1997) in Ulum (2008) state the function of IC is a tool to determine company value and it is also supported by Abidin (2000) that market value occur since the entry of IC concept becomes the main factor to develop company value. Optimizing the company value is the goal of companies which can be seen by the company share price and the difference between share price with book value of asset that show the company hidden value. The bigger of intellectual capital (VAIC<sup>TM</sup>), the more efficient of company capital utilization, so that will give value added contribution for the company. Further, the intellectual capital may also increase the competitive advantages and contribute to the company performance, so that the intellectual capital has impact to the company value and the financial performance improvement (Abdolmohammadi, 2005).

Based on the previous study of Chen *et. al* (2005), the intellectual capital has positive impact to the company value and company performance. The result is similar with Fire and Williams (2003), Belkaoui (2003) that the intellectual capital positive impact to the financial performance. Furthermore, the intellectual capital study has been done by Ulum *et. al.* (2008) which proved the Intellectual Capital has positive impact to the financial performance, but the difference where the assumption about the intellectual capital positive impact to the company value has been proved by Kuryanto and Muchamad (2008) in Ulum *et. al.* (2008) that it was unsuccessful.

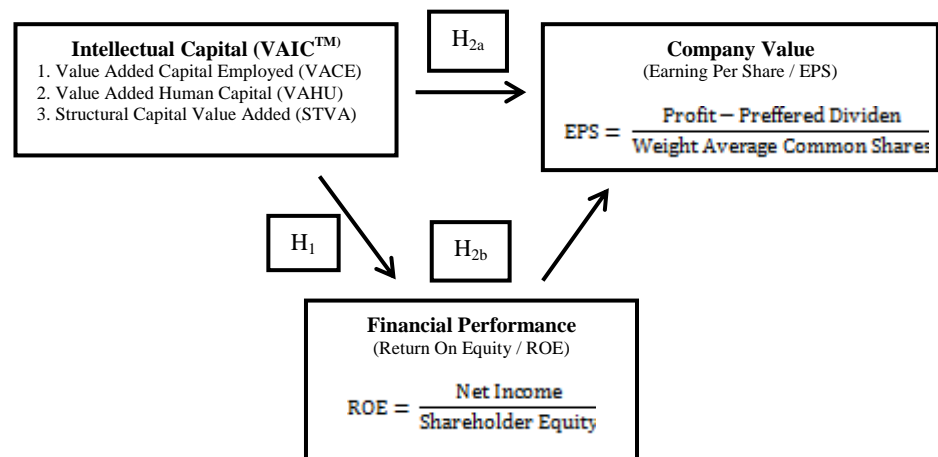
Based on the inconsistency result by Kuryanto and Muchamad (2008) in Ulum *et. al.* (2008) on the intellectual capital and the company value, the researcher will tries to re-examine the impact of the intellectual capital to the company value. There is an existence of presumption that financial performance as the additional variable, impacts the inconsistency between intellectual capital and company value. For the future study, the researcher will use the financial performance as the additional variable becomes the intervening variable and it can be explained that the financial performance improvement due to the effectively and efficiently result of the company intellectual capital utilization. When the financial

performance improved, the market will provide the positive respond and impact to the company value improvement as well.

By using the LQ-45 Index (Liquid-45) as population based on the important and crucial index in the Indonesia Stock Exchange (IDX), it has major difference than the others namely the LQ-45 index has the largest liquidity transaction in IDX and also consider the financial condition and growth prospect. Economically, this index represents 45 companies which have potential in regular market with certain criteria from the transaction activities (value, volume, and transaction frequent), the market capitalization at a certain time period, and the number of trading days in regular market (Situmorang, 2009).

Ultimately, the aims of this study is to measure the influence of the intellectual capital to the company value with the financial performance as the intervening variable at LQ-45 index company in Indonesia Stock Exchange (IDX) 2011-2013.

## Methodology



The resource-based theory states that the company will acquire competitive advantages and optimal performance as acquiring, merging, and utilizing vital assets. The integration of intangible asset and tangible asset is a strategy to improve the performance (Belkaoui, 2003). Conservatism accounting practices emphasizes that the company investment in the intellectual capital which is presented by the financial statement, is resulted by the difference improvement between market value and book value. If the market is efficient, then the investor will provide high value to the company which has a bigger the intellectual capital (Belkaoui, 2003; Firer and Williams, 2003).

The study of Belkaoui (2003), Firer and Williams (2003) showed that the intellectual capital has positive relationship to the company financial performance. In Indonesia, the studies by Ulum *et. al.* (2008) and Sianipar (2009) is also describe the intellectual capital has positive impact to the company performance which is also supported by the Sunarsih and Mendra (2013) that intellectual capital has positive impact to the company financial performance.

Based on the theories and reinforced with some results, so the hypothesis in this study is:

**H<sub>1</sub>: The intellectual capital has positive impact to the financial performance**

Basically, all the entire activities of the company end on the value creation, ownership, and intellectual resource utilization that company enable to achieve competitive advantages and improve value added (Stakeholder Theory). Therefore, it can be said that the IC as the measurement of the company value proved to be effective (Edvinsson and Malone, 1997). The existence of financial performance which is good and always improve each period, can impact to the good value company. Belkaoui and Chen *et al.* (2005) proved the intellectual capital has positive impact to the performance and company value, but totally different with Solikhah et al. (2010) and Yuniasih et al. (2010) study which unsuccessful to prove that intellectual capital has no impact to the company value. Sunarsih and Mendra (2013) also showed the intellectual capital has no directly impact to the company value.

Based on the theories and strengthen by some results, the study add financial performance as intervening variable to find the direct and indirect impact of the intellectual capital to the company value. So, the hypotheses in this study are:

**H<sub>2a</sub>: The intellectual capital has direct impact to the company value.**

**H<sub>2b</sub>: The intellectual capital has indirect impact to the company value.**

There are 45 companies that were registered in the LQ-45 index in Indonesia Stock Exchange (IDX) each year and the entire population was chosen to explore the topic of intellectual capital. The data use financial information as secondary data from annual reports which was collected by using documentation method from journals, books, and trade magazine. Further, the sampling technique is purposive sampling with the LQ-45 annual report in IDX for 3 years listed starting 2011 – 2013 and using Rupiah currency (IDR) as the main currency.

Earnings Per Share (EPS) as the dependent variable defined that the earning per share of the company shows the amount of net profit is ready to be distributed to the all the shareholders of company. The company value is reflected by the share purchasing in the market and the higher of earning per share will affect investor to invest because the shareholder dividend will be bigger. Furthermore, the independent variable which is used the intellectual capital, based on the value added and created by physical capital (VACE), human capital (VAHU), and structural capital (STVA) which were combined to Value Added Intellectual Capital (VAIC<sup>TM</sup>) (Pulic 1998; 1999; 2000). Value Added Intellectual Capital (VAIC<sup>TM</sup>) is developed by Pulic as the instrument to measure the intellectual capital performance of the company. Besides, this model served the value creation efficiency information of the company tangible asset and intangible asset as result of the intellectual capital. Then, Return on Equity (ROE) as the financial performance was used as intervening variable to mediate the relationship between the independent and dependent variable become the indirect relationship and can not be measured.

As intervening variable, the analysis of test data applied path analysis to determine the causal relationship between variable based on the previous study. In path analysis, the multiple role variable as independent variable could be the dependent variable on the other relationship with the gradual causal relationship.

$$\begin{aligned} \text{ROE} &= \beta_1 \text{VAICTM} + e_1 \\ \text{EPS} &= \beta_2 \text{VAICTM} + \beta_3 \text{ROE} + e_2 \end{aligned}$$

## Result and Discussion

The amount of data used is 72 data during three years and is not normally distributed as the presence of outliers' data. Outlier is a case that has different characteristics from the other observation and appeared in the extreme form data (Ghozali, 2011). This study had been trimming 23 samples from 72 samples and become 49 samples.

The normality data is tested by using the one-sample Kolmogorov-Smirnov (KS) and the residual normal distribution if the significance indicated more than 0.05. Among both models of this study, it indicated 0.370 and 0.540 which significance level is more than 0.05, so the residual was normal distribution. Aside of that, the multicollinearity test used Variance Inflation Factor (VIF) by viewing tolerance and Variance Inflation Factor (VIF) value in the collinearity Statistics. Yet, the calculation showed that there is no the independent variable with VIF more than 10 in both research model, so the multicollinearity between independent variabel and regression model had not occur. Then, The Durby-Watson test was used in both of models and described the regression model did not have autocorrelation with Durbin-Watson value around  $-2 \leq 1,563 \leq +2$  and  $-2 \leq 1,310 \leq +2$ . The first model through Glejser test showed the significance correlation between residual value with VAIC<sup>TM</sup> as independent variable 0,434 is more than 0.05. In the second model Glejster test, the heteroskidastity was found with VAIC sig. 0.042 and ROE sig. 0.005 are less than 0.05, so the phenomenon can be caused by the variety net profit on the LQ-45 company.

Path Analysis is using as hypothesis testing to determine intervening impact on the second and third hypothesis. The third hypothesis will prove the influence of VAIC<sup>TM</sup> to EPS and ROE as intervening variable. Based on regression calculation results on the both of table was obtained by following equation:

$$(1) \text{ ROE} = 14.931 + 1.284\text{VAIC} + e$$

$$(2) \text{ EPS} = -165.622 + 56.533\text{VAIC} + 17.168\text{ROE} + e$$

**Table 1**  
**The Direct and Indirect Impact (Path Analysis)**

VARIABEL	VAIC			ROE		
	Direct Impact	Indirect Impact	Total Impact	Direct Impact	Indirect Impact	Total Impact
ROE	0.278	-	0.278	-	-	-
EPS	0.273	4.773	5.046	17.168	-	17.168

Table 1 defines the amount impact level of intellectual capital to the financial performance is 0.278 and the direct impact of intellectual capital to the company value is 0.273. Then, the impact level of financial performance to the company value is 17.168. Amount the impact level of intellectual capital to the company value through the financial performance as the intervening variable is -4.773 (0.278 x 17.168), so the total impact becomes 5.046. The indirect impact of intellectual capital on the company value is 4.773 higher than the direct coefficient relation, therefore it can be concluded that the financial performance as intervening variable is able to mediate the relationship between the intellectual capitals with the company value.

The amount contribution of intellectual capital on the financial performance is  $(0.278)^2 = 0.077$  or 7.70%. The direct contribution of intellectual capital to the company value is

$(0.273)^2 = 0.074$  atau 7.4%, while the contribution of financial performance on the company value is  $(17.168)^2 = 294.740$  or 29.474%. This means the financial performance as intervening variable is significant in giving additional which is 29.474%, so that the impact of contribution of intellectual to the company value through the financial performance is  $(0,278)^2 + (17,168)^2 = 29.481\%$ .

## Conclusion

Based on the result of the first hypothesis, the intellectual capital has no positive impact to the financial performance. It indicates that the market does not provide the higher assessment on the companies with high IC. Widarjo (2011) stated that the absence of the standard IC measurement quantitatively, it becomes problem in Indonesia. So, the IC measurement in the financial statement has not been set and is voluntarily. This study use Return On Equity (ROE) as the measurement of financial performance and support the result of Kuryanto and Safrudin (2008), Sianipar (2009) that IC has no impact to the financial performance, it is because almost all the Indonesia companies have not able to manage and utilize IC maximum to create value added for companies.

Furthermore, the second hypothesis describes the intellectual capital has direct impact to the company value. This result showed that the management and utilization of IC effectively increase the company value which is measured by Earning Per-Share (EPS). Edvinsson and Malone (1997) in their research also stated that IC is the most effective measurement tool of the company value. The intellectual capital is the information and knowledge that is applied in the work to create value (Williams, 2001). Afterward, IC covers all of the employee's knowledge, organizations, and the ability to create value added. It also created the sustainable competitive advantage. The intellectual capital has been identified as a set of intangible (resource, ability, and competence) to move the organizational performance and value creation (Bontis, 1998). The result is consistent with Belkaoui (2003), Firer and Williams (2003), Chen *et. al.* (2005) that IC has positive impact to the company value.

Finally, the third hypothesis indicates the intellectual capital has indirect impact to the company value with the financial performance as intervening variable. The companies have the high IC, create the investor to provide the higher value on the companies by looking at the financial performance. The study is consistent with the result of Sunarsih and Mendra (2012) that the financial performance as intervening variable is able to mediate the relationship between the intellectual capital with the company value, so the market has positive response with the enhancement of the financial performance and also impact to the increase of the company value.

## References

- Abdolmohammadi, M.J. (2005). Intellectual Capital Disclosure and Market Capitalization. *Journal of Intellectual Capital*, Vol.6 No.3.pp.397-416.
- Abidin, (2000). Pelaporan MI: Upaya Mengembangkan Ukuran-ukuran Baru. *Media Akuntansi*, Edisi 7. Thn. VIII, pp. 46-47.
- Agnes, Widyaningsih. (2008), Sebuah Tinjauan Akuntansi atas Pengukuran dan Pelaporan Knowledge, *The 2<sup>nd</sup> National Conference UKWMS*.

- Astuti, Pratiwi Dwi. (2005). Hubungan Intellectual Capital dan Business Performance". *Jurnal MAKSI*, Vol 5, 34-58.
- Astuti, Pratiwi Dwi., Sabeni, Arifi. (2005). Hubungan Intellectual Capital dan Bussines Performance Dengan Diamong Specification: Sebuah Perspektif Akuntansi. *Simposium Nasional Akuntansi VIII*. Solo.
- Asni, Nur. (2007). Pengaruh Kinerja *Intellectual Capital* Terhadap Nilai Pasar Pada Perusahaan Jasa Keuangan. *Jurnal Akuntansi dan Keuangan*.
- Bastian, Indra. (2001). *Akuntansi Sektor Publik di Indonesia*. Edisi 1. Yogyakarta: BPFE UGM.
- Belkaoui, Ahmed Riahi. (2003). Intellectual Capital and Firm Performance of US Multinational Firms: a Study of The Resource-Based and Stakeholder Views. *Journal of Intellectual Capital*, Vol. 4, No. 2, pp. 215-226.
- Bontis, N. (2001). Assessing Knowledge Assets: a Review of the Models Used to Measure Intellectual Capital. *International Journal of Technology Management*, Vol. 3, No.1, pp. 41-60.
- Chen, M.C., et al. (2005). An Empirical Investigation of the Relationship Between Intellectual Capital and firms' Market Value and Financial Performances. *Journal of Intellectual Capital*, Vol. 6, No. 2, pp. 159-176.
- Darmadji, Tjipto., Hendry, M. Fakhruddin. (2001). *Pasar Modal di Indonesia*. Jakarta: Salemba Empat.
- Edvinsson, L., Malone, M. (1997). Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brainpower. *Harper Business*. New York.
- Erawati, Ni Made Adi., Sudana, I Putu. (2008). *Intangible Assets, Nilai Perusahaan dan Kinerja Keuangan*. Retrieved from Universitas Udayana website: <http://ejournal.unud.ac.id>.
- Fakultas Ekonomi. (2008). *Buku Pedoman Penulisan Usulan Penelitian, skripsi dan Mekanisme Pengujian*. Denpasar: Fakultas Ekonomi Universitas Muhammadiyah Yogyakarta
- Firer, S., and S.M. Williams. (2003). Intellectual Capital and Traditional Measures of corporate performance. *Journal of Intellectual Capital*. Vol.4, No.3, pp.348-360.
- Ghozali, I. (2006). *Aplikasi Analisis Multivariate dengan Program IBM SPSS19*. Semarang: Universitas Diponegoro Semarang.
- Kuryanto, Benny., Syafrudin, Muchamad. (2008). Pengaruh Modal Intelektual Terhadap Kinerja Perusahaan. *Simposium Nasional Akuntansi XI*. Pontianak: 23-24 July.
- Petty, P., Guthrie, J. (2000). Intellectual capital literature review: measurement, reporting and management". *Journal of Intellectual Capital*, Vol. 1, No. 2, pp. 155-75.
- Pulic, A. (1998). *Measuring The Performance of Intellectual Capital Potential in Knowledge Economy*. Retrieved from <http://www.measuring.ip.at/OPapera/Pulic/Vaictxt.html>
- Rachmawati, Andri., Triatmoko, Hanung. (2007). Analisis Faktor-Faktor yang Mempengaruhi Kualitas Laba dan Nilai Perusahaan. *Simposium Nasional Akuntansi X*. Makassar: 26-28 July.
- Sawarjuwono, Tjiptohadi., Kadir, Agustine Prihatin. (2003). Intellectual Capital: Perlakuan, Pengukuran, dan Pelaporan. *Jurnal Akuntansi dan Keuangan*, Vol 5, No. 1, pp.31-51.
- Situmorang, M. Paulus. *Pengantar Pasar Modal*. Edisi 1. Jakarta: Mitra Wacana Media.
- Starovic, et al. (2003). *Handbook for Chartered Institute of Management Accountants*. Published by Chartered Institute of Management Accountants.
- Sunarsih., Mendra. (2012). Pengaruh Modal Intelektual Terhadap Nilai Perusahaan Dengan Kinerja Keuangan Sebagai Variabel Intervening Pada Perusahaan yang Terdaftar Di Bursa Efek Indonesia. *Simposium Nasional Akuntansi XV*. Banjarmasin: 20-23 September.

- Suyanto., Danang. (2012). *Analisis Validitas & Asumsi Klasik*. Yogyakarta: Gava Media.
- Ulum, I. (2007). Pengaruh *Intellectual Capital* terhadap Kinerja Keuangan Perusahaan Perbankan di Indonesia. *Thesis*. Semarang: Universitas Diponegoro.
- Ulum, Ihyaul., Ghozali, Imam., Chairi, Anis. (2008). Intellectual Capital dan Kinerja Perusahaan: Suatu Analisis dengan Pendekatan Partial Least Squares. *Simposium Nasional Akuntansi XI*. Pontianak: 23-24 July.
- Wiradinata., Siregar. (2011). Pengaruh Modal Intelektual Terhadap Kinerja Keuangan Pada Perusahaan Sektor Keuangan yang Terdaftar Di Bursa Efek Indonesia. *Jurnal Akuntansi & Manajemen*, Vol.22, No.2, pp.107-124.
- Widarjo, Wahyu. (2011). Pengaruh Modal Intelektual dan Pengungkapan Modal Intelektual Pada Nilai Perusahaan yang Melakukan Initial Public Offering. *Jurnal Akuntansi & Keuangan Indonesia*, Vol. 8, No. 2
- Yuniasih, Ni Wayan., G. Wirama, Dewa., Badera, Dewa N. (2010). Eksplorasi Kinerja Pasar Perusahaan: Kajian Berdasarkan Modal Intelektual. *Simposium Nasional Akuntansi XIII*. Purwokerto: 13-15 October.