# Intellectual Capital Impact on Investment Recommendations:

# Evidence from Indonesia

Dominique Razafindrambinina[1*] and Stephanie Santoso[2]

1.  Binus Business School, School of Accounting, Bina Nusantara University – Jakarta, Indonesia
2.  PT Macquarie Capital Securities Indonesia, Jakarta – Indonesia

*Email: dominique@binus.edu

## Abstract

Do investment advisors and brokers consider Intellectual Capital when providing investment recommendations? The data used are from publicly listed non-financial institutions on the Jakarta Stock Exchange. The 'Value Added Intellectual Coefficient' measures intellectual capital and its components namely human capital, structural capital, and capital employed. Market-to-book value as the dependent variable measures the worth of a company or the amount invested by shareholders.   The study found no significant relationship between intellectual capital and its components with brokers' investment recommendations, however it reinforced that brokers' recommendations are almost invariably based on financial performances. The results reveal that the Indonesian capital market has not capitalized on how intellectual capital might enhance a company's potential. That could be attributed to the low awareness of the importance of intellectual capital by both brokers and investors at large.

**Keywords:** Investment Recommendations, Value Added Intellectual Coefficient, Financial Performances, Intellectual Capital, Investment Advisers

## 1. Introduction

Intellectual capital (IC) is information or knowledge which grants the owner competitive advantage. IC includes intellectual property, human capital, customer capital and structural capital (Shamos 1999). Intellectual capital is also defined as the knowledge about knowledge, knowledge generation and how these processes might be leveraged into some form of economic or social value (Jørgensen 2006). Intellectual capital is often found in the form of intangible assets; however, it is important to note that not all intellectual capital is identifiable, and this inhibits its recognition in financial statements (Kok 2007). Furthermore, International Financial Reporting Standards prohibit the recognition of some types of intellectual capital as they cannot be measured reliably.

Many intellectual capital components are not recorded in financial statements, and yet are perceived to be beneficial to companies that possess them, so much so that the presence of intellectual capital differentiates a company's market value from its book value. Market value is the value the market puts on the company, while book value is the net worth of the company (Keown, Martin, Petty and Scott 2005). Thus, the differences between them can be inferred as the approximate amount of intellectual capital present in a company.

These discrepancies exist because companies that have a greater amount of this capital will be valued by the market as companies which are able to use the capital to create values (Robinson and Kleiner 1996). Sveiby (1997) also found that such discrepancies are more likely to exist in industries that substantially depend on intellectual capital, such as pharmaceutical and business service industries. Whereas industries that mainly depend on tangible assets, for instance, traditional manufacturing and real estate industries, are likely to have market values closer to their book values. However, the best-performing companies still have high market capitalization rates regardless of the industry they are in.

The benefits of ownership of intellectual capital have been proven by Leana and Buren (1999) who studied the link between intellectual capital and a company's performance, and concluded that there is a correlation between them. Low (2000) underlined the importance of non-financial intangible assets and their role in a company's performance. However, Ghosh and Wu (2007) stated that there is still a lack of research on the dynamic of intellectual indicators other than research and development intensity in terms of value creations. In addition, there is little research that studies whether external constituencies, such as brokers and investment advisors, use intellectual capital information in making their recommendations.

For the last couple of decades, intangible assets such as intellectual capital have grown in importance as one of the key factors for firms' performance. The investors should know about any information about firms including intellectual capital so they could maximize their investment. The investors expect investment advisors and brokers

who act as their link between them and the firms to take this information into account when they give their recommendations. This research investigates whether intellectual capital will affect investment recommendations in Indonesia.

The findings of this study could help investors to gain a deeper understanding of the changes that are taking place in Indonesian businesses and to know what to look for in a company. Academically, this study serves as a basis for further study, by both local and international academics. These findings on intellectual capital and investment recommendations in Indonesia should benefit the academic community as a whole.

Section two of the paper introduces a literature review of the theoretical foundations of intellectual capital. The research methodology used in this study is outlined in Section three. The fourth section presents the findings, and the last section offers final conclusions.

## 2.    Literature Review

García-Meca (2007) stated that intangibles have become an important source of corporate value and firm wealth in our era of globalization, technological change, and knowledge-intensive processes. The use of such information by financial analysts could drastically impact investment recommendations.

### 2.1 Intellectual Capital

There are several studies on the relevancy of non financial information such as intellectual on making investment decisions however there is insignificant evidence about the importance of intellectual capital information that is considered by financial analysts.(García-Meca, 2007)Intellectual Capital

Edvinsson and Sulivan (1996) describe intellectual capital as knowledge that can be converted into values. Intellectual capital may be a firm's resources that are not restricted to only technological innovations or legally defined intellectual property for instance, patents, trademarks, licenses and etc. Thus, intellectual capital can be inventions, ideas, general knowledge, designs, computer programs, data processes and publications. Marr and Schiuma (2001) define intellectual capital as knowledge assets that belong to a company and are able to give sustainable competitive advantage to the owning company. In other terms, IC encompasses the activation of available internal and external human, process and IT-based resources with financial and tangible resources for the purpose of creating value (Anne-Laure 2012).

According to Bontis (1996), intellectual capital can consist of assets that cannot be valued, such as expertise, knowledge and the company's organizational learning abilities. Put simply, Bontis (1998) states that intellectual capital can be estimated by calculating the difference between the market value and total book value of the company.

### 2.2 Intellectual Capital Elements

Bose (2004) and Jelčić (2007), elaborate the elements of intellectual capital into human capital and structural capital. Structural capital is then broken down into customer and organizational capitals. Jelčić (2007) defines human capital as consisting of competencies, relationships and values held by a company's employees. Competencies are further divided into professional, social, commercial, and emotional competencies. The better the competencies demonstrated by employees, the better the relationships that are established among colleagues, clients, partners and other professionals. Thus, this will enhance the overall performance of a company. Bontis (1999) stated that one distinctive characteristic of human capital is that it may diminish when an employee exits a company.

Structural capital is described as the resource that supports, directly or indirectly, the transformation process of 'human creativity' into a product. The support given can be either tangible or intangible (Edvinsson and Sullivan 1996). It can be said that structural capital provides the environment for human capital to create values for the company. Yet, human capital also allows for the development of structural capital which also leads to value creation, and thus they both support one another. Structural capital, differentiated from human capital, is the knowledge that belongs to a company as a whole in which the capital stays at the company, although the employees may leave (Brooking 1997). Structural capital can be further broken down into customer capital and organizational capital (Edvinsson 1997; Jelčić 2007).

According to Jelčić (2007), organizational capital enables companies to function in systematic and codified ways. This capital is further defined as consisting of innovation, process, culture and leadership. Customer capital is the

value created from a company's relationships with customers, suppliers, industry associations and markets (Kannan and Aulbur 2004; Jelčić 2007). Roslender and Fincham (2001) mentioned that examples of customer capital are image, customer loyalty, customer satisfaction, links with suppliers, commercial power, negotiating capacity with financial entities and environmental activities.

Stewart (1997) stated that it is inadequate to invest in only one of the intellectual capital elements as they need to support each other in order to create intellectual capital per se. Thus, every company has all three elements of intellectual capital but with differing proportions (Stewart 2001). In his research Andriessen cited Lakoff and Johnson (2006) that IC could be described using three different metaphors. The first two are viewed through the word capital which refers to knowledge as both a resource and as capital. The other metaphor is expressed by the combination of the word intellectual with capital and refers to capital as an organism.

According to Barney (1991), companies are differentiated through their distinctive competencies and resources, and their distinctive characteristics are mostly caused by the intellectual capital they have (Roos *et al.,* 1997; Lev 2001; Marr and Schiuma 2001). Andrews (1971) argued that companies are able to evaluate opportunities by identifying their competitive advantages through intellectual capital. Intellectual capital is therefore essential in formulating strategies which will improve a company's performances (Grant 1991). Andriessen (2004) advocates a clear presentation of intangible assets facilitates the obtaining of financing from investors or banks, especially for knowledge-intensive industries. Furthermore, García-Meca and Martínez (2007) claimed that more often than not, analysts show extensive disclosure of intangibles in the financial statement for firms with high market to book value ratios. Intellectual capital information has a strict objective of generating commission income.

Many empirical studies have also proven that financial performances are positively associated with intellectual capital. Chen *et al.,* (2005) determined that higher intellectual capital efficiency in Taiwanese listed companies leads to better financial performance in the current and following years. Bontis *et al.,* (1999) revealed that intellectual capital has a significant relationship with the business performances of Malaysian companies, regardless of the industry. The study found a significant relationship between financial performance and intellectual capital using 81 American multinational firms, and this implies the utility of intangibles in general and intellectual capital in particular as a sustainable source of wealth creation.

García-Meca (2007) found that the extent of intellectual capital information depends on firm's profitability. Intellectual capital information is used by analysts when the companies have high level of profitability. Bouwman, Frishkoff, and Frishkoff (1987) demonstrated that only financial information is used by analyst as an early method of rejection for less qualified investment firms. Andrews (1971) stated that companies are able to evaluate opportunities by identifying their competitive advantages through intellectual capital. Intellectual capital is therefore essential to be taken into account in formulating strategies which will improve the company's performances (Grant, 1991).

Previs et al. (1994) reported that financial analysts widely used non-financial information, such as company risks and concerns, competitive position, quality of management, and strategy. Breton and Taffler (2001) in their 105 sell-side analyst reports found that when making an investment recommendation financial analysts disregarded intellectual capital and only considered firm management, strategy, and trading environment, and concluded that management issues dominate analysts' rationales for recommendations.

Ghosh and Wu (2007) suggested that the market-to-book value ratio as a good proxy to the investor response. The higher the MBV of a company, the more favorably the market sees them.        Cai, J. & Zhang, Z. (2005) found that firms with high increase in leverage ratio during have lower abnormal returns on average. The negative effect of leverage on returns is supported by the debt overhang theory of Myers (1977). Ghosh and Wu (2007) found that beta is negatively associated with investors' recommendations. Benoit et. al, stated that if the goal is to forecast the contribution of a particular firm to the global risk of the financial system, Beta is one of the most appropriate measures.

## 3.  Methodology

The Indonesian economy has steadily grown due to increase in investment right after the financial crisis. This research uses191 publicly listed companies on the Jakarta Stock Exchange in 2009 and 2010. Prior to 2009, Indonesia was badly hit by the financial crisis which may distort the data and the findings. The publicly listed companies from the Jakarta Stock Exchange could give an insight whether intellectual capital has been considered in investment recommendation in Indonesia.   To provide a homogenous data set which allows a good comparison between companies, the author chose the non financial industries because they would provide a larger sample size

and encompass several industries which offer a better overall picture of the study.

Due to the lack of general acceptance on the elements of intellectual capital explanation, the author quantified them by using the Value Added Intellectual Coefficient (VAIC) approach, which are Capital Employed Efficiency (CEE), Human Capital Efficiency (HCE) and Structural Capital Efficiency (SCE) (Chen *et al*., 1994; Pulic 2000; Chan 2009; Pulic 1998; Sveiby 2005). It was concluded from the study conducted by García-Meca (2005), that intellectual capital information is perceived to be essential for predicting company profitability and prospects by investors/analysts, and that this will eventually affect investment recommendations.

In this study, two hypotheses are used to establish whether intellectual capital or its components affect brokers' investment recommendations:

H1. *Intellectual capital affects investment recommendations.*

H2. *Intellectual capital components affect investment recommendations.*

H3. Return on assets positively affects investment recommendations

H4. Total debt ratio negatively affects investment recommendations

H5. Systematic risk negatively affects investment recommendations

Then the author runs the following regressions:

$$MBV = \beta_0 + \beta_1 \, VAIC + \beta_2 \, ROA + \beta_3 \, TDR - \beta_4 \, BETA \qquad (1)$$

$$MBV = \beta_0 + \beta_1 \, HCE + \beta_2 \, SCE + \beta_3 \, CEE + \beta_4 \, ROA + \beta_5 \, TDR - \beta_6 \, BETA \qquad (2)$$

Where,

MBV – Market to Book Value

VAIC – Value Added Intellectual Coefficient

HCE – Human Capital Efficiency

SCE – Structural Capital Efficiency

CEE – Capital Employed Efficiency

ROA – Return on Assets

TDR - Total Debt Ratio

BETA – systematic risk.

A significant and positive contribution of each of the variables will positively affect market to book value, thus significant values of intellectual capital denoted by VAIC, HCE, SCE, and CEE will influence MBV.

To measure whether intellectual capital affects investment recommendations, market-to-book value (MBV) or price-to-book value ratio is used as the proxy for investment recommendations. MBV measures the worth of a company at a point in time, and compares this worth with the amount invested by the shareholders. MBV is considered to be the best and the most-common method indicating how much value the market places on a given company (Branch, n.d.).

$$MBV = Market\ Value\ of\ Shares\ /\ Book\ Value\ of\ Shares \qquad (3)$$

VAIC will be used to depict the intellectual capital owned by a company (Firer and Williams 2003). VAIC is a simple method in that it easily enables the extraction of figures from the financial statements of companies. Another reason for utilizing VAIC is that the VAIC approach is objective and verifiable (Firer and Williams 2003).

According to the principle of accounting conservatism referring to International Financial Reporting Standards (IFRS) (International Accounting Standards - IAS 38 *Intangible Assets*), expenditure on research is expensed when incurred (paragraph 54) and expenditure on development can be capitalized as an intangible asset if it meets all of the criteria established in IAS 38 paragraph 57 (Alfredson *et al*., 2007). Most R&D expenditures are expensed and therefore are excluded from the calculation of VAIC. R&D and advertising expenses contribute to the creation of values and they should be perceived as asset-like investments (Chen *et al.,* 1994).

As a whole, VAIC is calculated from the sum of all three elements such as Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) and Capital Employed Efficiency (CEE) (Nazari and Herremans 2007; Chen *et al.,* 2005).

Basic Information, (n.d.) outlines VA as the difference between output and input. Output (OUT) represents the total sales generated, while input (IN) represents all expenses needed to generate revenues (Riahi-Belkaoui 2003; Basic Information n.d.).

$$VA = OUT - IN \qquad (4)$$

It can also be calculated by using the equation below (Nazari and Herremans 2007):

$$VA = OP + EC + D + A \qquad (5)$$

Where OP is operating profit, EC is employee costs, D is depreciation and A is amortization.

Firer and Williams (2003) define CE as the total book value of the company's net assets; HC as total investment salary and wages in the company; and SC as everything that is left when human capital leaves the company. The three variables' equations are illustrated below (Chen *et al.,* 2005):

$$CE = \text{Physical Assets} + \text{Financial Assets}$$
$$= \text{Total Assets} - \text{Intangible Assets} \qquad (6)$$
$$HC = \text{Total Expenditures on Employees} \qquad (7)$$
$$SC = VA - HC \qquad (8)$$

The three VAIC components can be illustrated in the following equations (*Basic information* n.d.; Chen *et al.,* 2005; Firer and Williams 2003):

$$HCE = VA / HC \qquad (9)$$
$$SCE = SC / VA \qquad (10)$$
$$CEE = VA / CE \qquad (11)$$

The equation for SCE is different from HCE and CEE, as when HC contains a higher portion of net VA, SC will decrease. When SCE is calculated in a similar way to HCE (which is VA / SC), it implies that when the efficiency of SC increases, the efficiency of HC will decrease. Thus, that is not possible because SCE and HCE should both increase to enhance the efficiency of intellectual capital.

$$VAIC = HCE + SCE + CEE \qquad (12)$$

The control variables used in the regression represent profitability, leverage, and systematic risk.  Investment valuation of a firm's shares is related to the firm's profitability. Return on Assets (ROA), one of the most common measures of profitability, indicates whether the company utilizes its assets efficiently in the business (Keown *et* al., 2005). ROA is computed as below:

$$ROA = \text{Earnings Before Interest and Taxes (EBIT) / Total Assets} \qquad (13)$$

EBIT is used in the formula instead of net income because it enables the comparison of profitability for firms with different debt policies and tax obligations (Hawawini and Viallet 2007). Singhvi and Desai (1971) advocated that higher profitability motivates investment advisors and brokers to provide more information because that will improve their compensation arrangements and increase their personal advantages.

Leverage is another factor that may be assessed by investors. Having optimal leverage is beneficial for a company as it is used to expand and finance its operations. Cai and Zhang (2008) mention that a change in the leverage ratio can affect a firm's financing capacity, risk, cost of capital, investment decision, and ultimately shareholder wealth. The empirical relation between the change in leverage ratio and stock prices may also help investors to understand the stock price dynamics better; and therefore, it may have implications on investors' portfolio allocation decisions. They found that a change in the leverage ratio can affect a firm's financing capacity and an increase in leverage will result in lower stock prices holding other factors equal. In this research, leverage is measured by using total debt ratio (Dimitrov and Jain (2008) stated that a firm could borrow more if its future financial performance is expected to worsen. They advocated that an increase in leverage is a sign of deteriorating performance.

$$\text{Total Debt Ratio} = \text{Total Liabilities / Total Asset} \qquad (14)$$

Brokers and investment advisers also take a share price's volatility into account in making investment

recommendations (Ghosh and Wu 2007). A firm's beta is a measure of its systematic risk as it reflects the sensitivity of a stock's return to the market's overall return. The beta used in this research is obtained from Bloomberg L.P., average of 2009 and 2010.

## 4. Findings and Discussions

From the table 1, it can be inferred that during the sampled period, companies generate human resources assets more effectively than physical and structural assets. It can also be implied that the main contributor

Table 1. Descriptive Statistics

|  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| MBV | 191 | -4.86 | 18.92 | 1.9620 | 2.82416 |
| VAIC | 191 | -5.33 | 20.47 | 4.1459 | 3.12348 |
| HCE | 191 | -5.93 | 19.32 | 3.2868 | 2.96477 |
| SCE | 191 | -1.01 | 5.61 | 0.6513 | 0.58059 |
| CEE | 191 | -0.15 | 1.50 | 0.2079 | 0.20219 |
| ROA | 191 | -0.57 | 0.61 | 0.0730 | 0.11980 |
| Total DTA | 191 | -0.03 | 2.40 | 0.5409 | 0.33047 |
| BETA | 191 | 0.00 | 2.31 | 1.0436 | 0.24223 |
| Valid N (listwise) | 191 |  |  |  |  |

All computed variables are the average of year 2009 and 2010.

MBV – Market to book value, HCE=Human Capital Efficiency, SCE=Structural Capital Efficiency, CEE=Capital Employed Efficiency, ROA=Return on Assets, VAIC=Value Added Intellectual Coefficient, TDR=Total Debt-to-Asset, BETA=Systematic Risk.of VAIC is HCE. The means of CEE, HCE, and SCE suggest that during the examined period the sample firms were generally more effective in generating value from their human capital than from their physical and structural capital. The means of ROA, TDR, and BETA are normally distributed.

Both hypotheses shown in tables 2 and 3 denote that there is no multicollinearity problem. While heteroskedasticity-consistent standard errors and covariance is used to avoid violations of constant variance.

Table 2. H1 Collinearity Statistics[a]

| Model |  | Tolerance | VIF |
|---|---|---|---|
| 1 | (Constant) |  |  |
|  | VAIC | 0.800 | 1.270 |
|  | ROA | 0.691 | 1.353 |
|  | TDR | 0.842 | 1.088 |
|  | BETA | 0.991 | 1.009 |

[a]  Dependent Variable: MBV

Table 3. H2 Collinearity Statistics[a]

| Model | | Tolerance | VIF |
|---|---|---|---|
| 2 | (Constant) | | |
| | HCE | 0.759 | 1.322 |
| | SCE | 0.943 | 1.050 |
| | CEE | 0.729 | 1.372 |
| | ROA | 0.531 | 1.728 |
| | TDR | 0.839 | 1.095 |
| | BETA | 0.987 | 1.014 |

[a]   Dependent Variable: MBV

Overall, the F-statistics and p-values of both regressions are statistically significant. The value of the Durbin-Watson Statistic indicates that there is no autocorrelation among the data for both hypotheses. Table 4 shows evidence that ROA is taken into account when making investment recommendations; whereas the other control variables such as TDR, BETA and VAIC show no relationship with market to book value MBV.  Both brokers and investors seem to focus only on profitability, which is for them the main indicator for a company's performance that is worth to invest in (Keown *et al.*, 2005). The weak p-value of VAIC signifies that there is no evidence to infer that it has a relationship with MBV. The first regression results show that brokers and investment advisers do not take into account intellectual capital when they give investment recommendations to investors.

Table 4. H1 Regression Results [ab1]

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| VAIC | 0.062771 | 0.078834 | 0.796251 | 0.4269 |
| ROA | 9.785633 | 3.870473 | 2.528278 | 0.0123* |
| TDR | -0.442002 | 0.470566 | -0.939299 | 0.3488 |
| BETA | 0.218342 | 0.448470 | 0.519264 | 0.6269 |
| C | 0.998995 | 0.671153 | 1.381310 | 0.1383 |
| DW | 2.105 | | | |
| R-squared | 0.219981 | F-statistic | | 13.11392 |
| Adjusted R-squared | 0.203206 | Prob(F-statistic) | | 0.00000 |

Notes: * indicates significant at 95% level

[a] White heteroskedasticity-consistent standard errors and covariance is used

[b] MBV – *Market to book value,* Dependent Variable

[1]   VAIC=Value Added Intellectual Coefficient, ROA=Return on Assets, TDR=Total Debt-to-Asset, BETA=Systematic Risk.

Table 5. H2 Regression Results[ab1]

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| HCE | 0.031128 | 0.091098 | 0.341698 | 0.7330 |
| SCE | 0.443601 | 0.410244 | 1.081309 | 0.2810 |
| CEE | 0.625662 | 1.040722 | 0.601181 | 0.5485 |
| ROA | 9.863021 | 3.805589 | 2.591720 | 0.0103* |
| TDR | -0.409821 | 0.491187 | -0.834347 | 0.4052 |
| BETA | 0.260438 | 0.433950 | 0.600158 | 0.5491 |
| C | 0.670978 | 0.735398 | 0.912402 | 0.3628 |
| DW | 2.106 | | | |
| R-squared | 0.226818 | F-statistic | | 8.996291 |
| Adjusted R-squared | 0.201606 | Prob(F-statistic) | | 0.000000 |

Notes: * indicates significant at 95% level

[a] White heteroskedasticity-consistent standard errors and covariance is used

[b] MBV – *Market to book value,* Dependent Variable

[1] HCE=Human Capital Efficiency, SCE=Structural Capital Efficiency, CEE=Capital Employed Efficiency, ROA=Return on Assets, VAIC=Value Added Intellectual Coefficient, TDR=Total Debt-to-Asset, BETA=Systematic Risk.

Table 5 displays significant substantiation that ROA affects MBV. ROA is thoroughly considered when brokers make investment recommendations. The other variables such as HCE, SCE, CEE, TDR and BETA do not have any effect on investment recommendations. Since none of the VAIC components has a significant value in the results means that intellectual capital elements do not affect brokers and investment advisers' recommendations. In both regressions, only ROA has a significant influence on investment recommendations. VAIC and its components HCE, SCE, and CEE did not show any relationship with MBV. In brief, intellectual capital does not influence investment advisers when they perform their investment recommendations.

Only financial information is considered by investment advisors which could be due to the unavailability of data on intellectual capital. Another plausible reason is that there might not be any specific request from investors about such information since they don't know their effect on their investment. The investors are only concerned about immediate gain without worrying about the firm's future performance. In their research, Garcia-Meca and Martínez (2007) have not found any evidence that internationally listed firms expose more information on intangible assets than nationally listed ones. Their research has also not factually verified differences by firm size, risk, and analyst recommendation.

## 5. Conclusion and Recommendations

By using the Value Added Intellectual Coefficient (VAIC) approach to measure the intellectual capital possessed by the companies in this study, this research examines whether intellectual capital affects investment recommendations. Even though the study found that there is no relationship between intellectual capital and its components and brokers' investment recommendations, the findings did show that brokers' recommendations are mostly based on financial performances, such as return on assets. The most plausible reason of the findings is that Indonesian investors are not totally knowledgeable about companies' performance, thus heavily rely on their investment recommendations. That would allow the latter not to consider intangible factors in their decisions.

The author also argues that investors in the Indonesian capital market have not capitalized on how intellectual capital might enhance a company's potential. Firstly, investment advisers in the Indonesian capital market considered R&D and IT as intellectual capital rather than adopting a VAIC approach for calculating intellectual capital. Secondly, investors/analysts may not be aware of the importance of intellectual capital in a company. Thirdly, the VAIC approach may be an unpopular method for depicting intellectual capital among brokers and investment advisers in the Indonesian capital market.

The finding that intellectual capital and its components have been disregarded when making investment

recommendations means that all companies are considered uniformly in regard to assessment of company worth. Companies investing in other non-financial areas that are capable of creating added value will not be given additional consideration in the eyes of brokers. This lack of relationship could be attributed to the low awareness of the importance of intellectual capital by both brokers and investors at large. Brokers and investment advisers in the Indonesian capital market may see employee costs, human capital, as expenses rather than investments. They may also perceive intellectual capital to be unimportant in regard to a company's performances, which justifies the lack of significant relationship between structural capital and investment recommendations. Investment advisers perceive financial performance, ROA, to be a more accurate profitability measure which therefore results in weak relationships between capital employed and investment recommendations. Another reason for the lack of intellectual capital consideration is due to a short term investment culture in the country.

A further possible reason for not considering intellectual capital in investment recommendations might be related to the commission-based payment system of investment advisors. Recently a shift of the payment system of investment advisors from commission based to fee-only is expected to increase the information on intellectual capital given to clients. Furthermore, that will reduce the conflict of interest between advisor and client.

The insignificance of the relationship between intellectual capital and investment recommendations is an opportunity for improvement for Indonesian capital market performance. Indonesia, as a developing market economy driven by strong domestic consumption, recently became a member of the G-20 economies. Therefore, the recognition and exploitation of intellectual capital could enhance its financial growth and improve its economy in line with overall G-20 growth. Thus, besides financial performance, intellectual capital should be considered in firm assessment as it can also enhance company profitability in the long run, thus enabling prospective and profitable investments for investors.

## References

Abeysekera, I. (2006). The project of intellectual capital disclosure - Researching the research. *Journal of Intellectual Capital*. Vol. 7 No.1, 61-77.

Alfredson, K. Leo, K. Picker, R. Pacter, P. Radford, J. & Wise, V. (2007). *Applying international financial reporting standards*. John Wiley & Sons Australia, Ltd: Milton.

Al-Ali, N. (2003). Comprehensive intellectual capital management: step-by-step. John Wiley & Sons, Inc. Retrieved April 5, 2009.

Andrews, K.R. (1971). *The Concept of Corporate Strategy*. Dow Jones-Irwin, Homewood, IL.

Andriessen, D. (2004). IC valuation and measurement: classifying the state of the art. *Journal of Intellectual Capital,* Vol. 5 No. 2, 230-242.

Andriessen, D. (2006). On the metaphorical nature of intellectual capital: a textual analysis Journal of Intellectual Capital Vol. 7 No. 1, 2006, 93-110

Anne-Laure, M. (2012). Intellectual capital, innovation and performance: a systematic review of the literature, *Business and Economic Research,* vol. 2, No. 1

Barney, J. B. (1991). Firm resources and sustainable competitive advantage. *Journal of Management*, Vol. 17 No. 1, 99-120.

*Basic information on VAIC^{TM}* (n.d.). Retrieved March 11, (2009), from http://www.vaic-on.net/downlaod/VAIC-calculation.pdf

Benoit, S. Colletaz,G. Hurlin,C. Pérignon, C. (2012). "A Theoretical and Empirical Comparison of Systemic Risk Measures," Working Papers halshs-00746272, HAL.

Bontis, N. (1996). There's a price on your head: managing intellectual capital strategically. *Ivey Business Journal (Business Quarterly)*.

Bontis, N. (1998). Intellectual capital: an explanatory study that develops measures and models. *Management Decision.* Vol. 36, No. 2, 63-76.

Bontis, N. (1999). Managing organizational knowledge by diagnosing intellectual capital: framing and advancing the state of the field. *International Journal of Technology Management*. Vol. 18, No. 5/6/7/8

Bontis, N. Dragonetti, N. C. Jacobsen, K. & Roos, G. (1999). The knowledge toolbox - A review of the tools available to measure and manage intangible resources. *European Management Journal*, Vol. 17 No.4, 391-402.

Bose, R. 2004. Knowledge management metrics. *Industrial Management & Data Systems*. Vol. 104, No. 6, 457-468.

Branch, B. Sharma, A. Gale, B. Chichirau, C. & Proy, J. (n.d.). A price to book model of stock prices.

Brooking, A. (1997). *Intellectual Capital*. International Thomson Press, London.

Cai, J. Zhang, Z. (2005). Capital structure dynamics and stock returns, The university of Iowa, Department of finance, working paper (January) WWW.FMA

Cai, J. & Zhang, Z. (2008). Leverage change, debt capacity & stock prices.

Cardoza, K. Basara, J. Cooper, L. & Conroy, Rick. (2006). The power of intangible assets: an analysis of the S&P 500. *Ocean Tomo*.

Chan, K. H. 2009. Impact of intellectual capital on organisational performance: an empirical study of companies in the Hang Seng Index (Part 1). *The Learning Organization*, Vol. 16, No. 1, 4-21.

Chen, J., Zhu, Z. H., & Xie, H. Y. (1994). Measuring intellectual capital – A new model and empirical study. *Journal of Intellectual Capital*, Vol. 5 No. 1, 195-212.

Chen, M. C., Cheng, S. J. & Hwang, Y. C. (2005). An empirical investigation of the relationship between intellectual capital and firms' market value and financial performance. *Journal of Intellectual Capital*, Vol. 6 No. 2, 159-176.

Dimitrov, V. Jain, P.C. (2008). The value-relevance of changes in financial leverage beyond growth in assets and GAAP earnings. J. Account. Audit. Financ. 191–222.

Edvinsson, L. Sullivan, P. 1996. Developing a model for managing intellectual capital. *European Management Journal*, Vol. 14 No.4, 356-64.

Firer, S. Williams, S. M. (2003). Intellectual capital and traditional measures of corporate performance. *Journal of Intellectual Capital*, Vol. 4, No. 3.

García-Meca, E. (2005). Bridging the gap between disclosure and use of intellectual capital information. *Journal of Intellectual Capital*, Vol. 6 No.3, 427-440.

García-Meca, E. & Martínez, I. (2007), The use of intellectual capital information in investment decisions: An empirical study using analyst reports. *The International Journal of Accounting,* Vol.42, No.1. 57-81.

Ghosh, D. Wu, A. (2007). Intellectual capital and capital markets: additional evidence. *Journal of Intellectual Capital*, Vol. 8, No. 2, 216-235.

Grant, R. M. (1991). The resource-based theory of competitive advantage - implications for strategy formulation.

Hawawini, G. Viallet, C. (2007). *Financial for Executives: Managing for Value Creation*. Third Edition. South-Western Cengage Learning.

Jelčić, K. (2007). Intellectual capital: handbook of IC management in companies. *Intellectual Capital Centre Croatia*.

Jørgensen, K. M. (2006). Conceptualising intellectual capital as language game and power. *Journal of Intellectual Capital*, Vol. 7 No. 1, 78-92.

Kannan, A. & Aulbur, W. G. (2004). Intellectual capital: measurement effectiveness. *Journal of Intellectual Capital*, Vol. 5, No. 3, 389 -413.

Keown, A. J., Martin, J. D., Petty, J. W. & Scott, D. F. (2005). *Financial management for business*. Prentice Hall.

Kok, A. (2007). Intellectual capital management as part of knowledge management initiatives at institutions of higher learning. *The Electronic Journal of Knowledge Management*, Vol. 5 No. 2, 181-192.

Leana, C. R. Van Buren, H. J. (1999). Organizational social capital and employment practices. Academy of Management Review, 24(3), 538–555.

Lev, B. (2001). Intangibles: management, measurement and reporting. Brookings Institution Press.

Low, J. 2000. The value creation index, *Journal of Intellectual Capital*, Vol. 1, No. 3, pp.252–262.

Marr, B. Schiuma, G. (2001). Measuring and managing intellectual capital and knowledge assets in new economy organisations. *Handbook of Performance Measurement*, M Bourne (ed), Gee, London.

Myers, S. (1977). The Determinants of Corporate Borrowing, *Journal of Financial Economics* 5, 147-175.

Nazari, J. A. Herremans, I. M. (2007). Extended VAIC model: measuring intellectual capital components. *Journal of Intellectual Capital*, Vol. 8 No. 4, 595-609.

Pulic, A. 1998. Measuring the performance of intellectual potential in knowledge economy. *Croation-IC Centre*.

Pulic, A. (2000). VAICTM – An accounting tool for IC management. *International Journal Technology Management,* 20(5/6/7/8), 702-714.

Riahi-Belkaoui, A. (2003). IC and firm performance of US multinational firm. *Journal of Intellectual Capital*, Vol. 4 No. 2, 215-226.

Robinson, G. Kleiner, B. H. (1996). How to measure an organization's intellectual capital. *Managerial Auditing Journal,* Vol. 11 No. 8, 36-39.

Roslender, R. Fircham, R. (2001). Think critically about intellectual capital accounting. *Accounting, Auditing & Accountability Journal*. Vol. 14, No. 4, 383-399.

Roos, G. Roos, J. Dragonetti, N. & Edvinsson, L. (1997). Intellectual Capital; Navigating in the New Business Landscape. New York University Press.

Shamos, M. I. (1999). *Intellectual capital glossary.* Stanford University (n.d.). *Critical values for the Durbin-Watson test*.

Singhvi, S. and Desai, H. (1971) An empirical analysis of the quality of corporate financial disclosure, The Accounting Review, 46(1), pp. 129–138.

Stewart, T. A. (1997). Intellectual capital: the new wealth of organizations. *Nicholas Brealey Publishing*.

Stewart, T. A. (2001). *You think your company's so smart? Prove it*. Fortune, vol. 143, no. 9, p. 188

Sveiby, K. E. (1997). The *new organizational wealth: managing and measuring intangible resources*. San Francisco: Berrett – Koehler.

Sveiby, K. E. (2005). *Method of measuring intangible assets.* Retrieved April 6, 2010, from http://www.sveiby.com/articles/IntangibleMethods.htm