



The Influence of Intellectual Capital to Financial Performance at Insurance Companies in Jakarta Stock Exchange (JSE)

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Abstract

To overcome the competition, a company not only focuses on physical capital, but also focuses on intellectual capital. Company can achieve a competitive advantage and earn profit by owing intellectual capital. Intellectual capital rests on a potential link between intellectual capital on one hand and corporate performance on the other hand. A company will grow up if a growing number of physical capitals in the same line with a growing number of intellectual capitals.

The purpose of this empirical study is to investigate the influence of intellectual on insurance company's performance, especially financial performance. This study uses empirical data from Indonesia Capital Market Directory 2005 that issued of Jakarta Stock Exchange (JSE). This research use quantitative analysis. The population of the research is insurance companies at listed in JSE. The hypothesis test conducted by regression analysis model with the degree of significant at 0.05. The main conclusion from this particular study is intellectual capital has influence on bank's performance.

Keywords: Intellectual capital; Insurance companies; Financial performance

1. Introduction

Human being is a central attention in twentieth century. It relates to the progress of the economic development sciences and sociology. The experts of those sciences agree on one thing that human capital takes a significant role or even more important than technological factor driving the economic growth. Human capital concern not only on quantity sector but more importantly is qualification sector. The new perspectives of the productivity growth started at the end of 1980's lead by the pioneers like Paul Roomer and Robert Lucas who emphasized on the development of human capital aspects (Roos and Rylander, 2000). Human capital refers to the individual knowledge and skill. Education is one the ways to increase human capital. It is expected that the higher an individual takes the education, his human capital also increases.

In modern economic perspectives, the progress of economic growth refers to knowledge-base economic and the implementation of knowledge management. This system shares opinion that conventional capitals such as natural resources, financial resources, and other tangible assets resources are meaningless without knowledge-base and technological base capital. The implementation of knowledge-base and technological-base capital in a company will accelerate the efficiency

and effectiveness of the implementation of other resources, so that they will affect to the competitive advantage of the company.

The great gaps between market value of the company and its book value have successfully drawn the researchers attention to study and investigate the missing value which have not been reported in the financial reports (Daniel and De Jonge, NY)

Monetary industry is a knowledge intensive industry where its activity more using intellectual capital compared to physical asset in manufacturing business. One of the monetary industries is the Insurance companies companies. Because of the importance of intellectual capital, companies need information about it. Beside that, management of intellectual capital effectively will push growth of performance which is on finally will be able to improve market value.

The intellectual-base companies will have totally different financial structures with tangible asset-base companies. The comparison of IBM and Microsoft can be used to convince the opinion. Eventhough IBM selling was greater, Microsof was a company with higher value. Since November 1996, total market capitalization owned by IBM was \$ 70,7 billion, while Microsoft was \$ 85,5 billion. The assets served as a basis of those capital is totally different. In early of 1996, net value of asset of IBM was \$ 16,6 billion

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while net value of asset Microsoft was \$ 930 million (Steward, 2002)

2. Literature Review and Hypothesis

2.1. Financial Performance

Company performance is very essential to management as it is an outcome which has been achieved by an individual or a group of individuals in an organization related to its authority and responsibility in achieving the goal legally, not against the law, and conforming to the morale and ethic. Performance is the function of the ability of an organization to gain and manage the resources in several different ways to develop competitive advantage. There are two kinds of performance, financial performance and non-financial performance (Hansen and Mowen, 2005). Financial performance emphasizes on variables related directly to financial report. Company's performance is evaluated in three dimensions. The first dimension is company's productivity, or processing input into output efficiently. The second is profitability dimension, or the level of which company's earning is bigger than its cost. The third dimension is market premium, or the level of which company's market value is exceeding its book value (Walker, 2001).

2.2. Profitability

In this study, financial performance only focused on one dimension as stated by Walker (2001), profitability. The reason choosing the standard are:

- a. The implementation of net profit before tax eliminates the effects of converting of tax structure to profitability level.
- b. Identifying of the company's effectiveness in managing the resources.

In SFAC No.1 is stated that the profit information is prime attention in appraising performance or responsibility of the management, and profit information helps the owner of stake holders appraise the company's profitability in the long run. In financial report, profits also functions as parameter to evaluate management performances, so that the investor's attention only on profit information without paying attention the procedure which is applied by the company to produce profit. This concern urges managers in maximizing the ratio of profitability.

2.3. Intellectual Capital

Intellectual capital is also known as intellectual property, intellectual assets, and knowledge assets. However, the concepts are different among them (McConnachie, 1997). Intellectual capital is considered

as a potentially valuable knowledge. When the intellectual declared for the proprietorship as the same time it turns into intellectual property which value can be measured depends on its implementation. Knowledge with definite value and specific implementation for definite goal has become intellectual assets to the proprietor. Intellectual capital reveals transformed knowledge into valuable one to company, while intellectual asset is the changing form for knowledge transformation product. Therefore, in accounting terms the intellectual asset is on the debit side such as patent, while intellectual capital is on the credit side which is total capital invested in intellectual asset.

Society of Management Accountants Canada (SMAC) defines intellectual capital as item of knowledge held by individuals which then joining to the company to gain for future benefit. According to Stewart (1997), intellectual capital is as follows:

1. Intellectual capital is wholly things known and given by individuals to the company which result the competitive advantage.
2. Intellectual capital is intellectual material such as knowledge, information, intellectual proprietary right, and experiences which creating wealth. Intellectual capital is essential for it is affirming that:
 - a. The transformation from industrial era to information era,
 - b. The main contributor to the company's value is intangible asset, and
 - c. Knowledge and information keep growing.

Intellectual capital possesses different uniqueness refers to its core business and core competency. The value which is assembled from the intellectual elements shown in the financial report will reflect the uniqueness of the company.

2.4. The Intellectual Capital Measurement and Disclosure.

The effort to develop intellectual capital measurement and disclosure has long time treated with several approach. According Stewart (1997) there are three methods to measure intellectual capital that is:

- a. *Market-to-book value* (MBV)
The Market to book value is deference between market value and book value. The disadvantage are: (1) obey external factor can influence market value, (2) The book value and market value sometimes not represent real value of firms, caused of the difference of accounting method which used by the firms.

- b. *Tobin's "q"*
The method compare between market value of assets with replacement cost. The advantage of this method is has inflation factor.
- c. *Calculated Intangible Value (CIV)*
The CIV method count the return over from tangible assets, than used it for based for certain effect return portion from intangible assets.

According Rodov and Leliaert (2002) and Pablos (2003) intellectual capital measurement can calculate by the following methods:

- a. *The invisible balance-sheet (IBS)*
The invisible balance sheet divided intellectual capital in individual capital and structural capital. The indicator individual capital is professional competition, company strategy, education, experience, size of worker which related by customer and stated project.
- b. *The intangible assets monitor (IAM)*
The IAM purpose to measure intangible assets in similar model with the balanced scorecard, that is used three indicators to measure intellectual capital. The indicator are client (external assets structure), organization (internal assets structure), and human being (worker competition assets).
- c. *The balanced scorecard (BSC)*
The balanced scorecard is measurement system which show how far company strategy has implemented in four perspectives. The perspective is financial, customer, business internal, and innovation and growth.
- d. *Economic Value Added (EVATM)*
EVA is a comprehensive performance measurement which uses capital budgeting variable and financial, goal setting, performance measurement, stock holder communication, and incentive compensation which get to improve or decreasing company value.
- e. *IC-index*
The IC-index tries to consolidate among individual indicator in single index. Beside that, the IC-index tries to correlate intellectual capital change in the market. This approach combine strategy, non financial size, and management value added.

- f. *Technology broker (TB)*
The model explains that market value of company consists of two elements, there are: tangible assets and intangible assets. The TB approach perform split in intellectual capital practice because company possibility to count dollar value intellectual capital.
- g. *The return on assets (ROA) method*
The ROA is ratios between average company's incomes divided by average tangible assets during five average years. This ratio compare with industry average to count the difference. If the different are zero or negative, than the company have no over intellectual capital, therefore the company intellectual capital is zero. If the difference is positive, company assumption have over intellectual capital from industries.
- h. *Market capitalization method (MCM)*
The MCM method gives market size of intellectual capital. The assumption of this method is market capitalization over stock holder's equity as intellectual capital. This method based on market premium and quote stock price.
- i. *The direct intellectual capital method (DIC)*
The DIC method focus on value of intellectual capital measurement which identification several part and further evaluation. The component of market asset such as: customer loyalty, intellectual property (such as: patent, copyright), technology assets, human being assets (such as: education, training), and structural capital (such as: information system) as focus of the DIC. After measure all component, will obtain total intellectual capital.
- j. *Skandia AFS Business Navigator (SBN)*
The SBN's model explains value of component which performs intellectual capital. It's consisting of the role and development report method. Design of SBN used for balance visualization from financial capital and intellectual capital. The Skandia monitor its performance based on 30 key predominance indicators in several areas.
- k. *Financial method of intangible assets measuring (FiMIAM)*
According this model, the company intellectual capital consists of human being, customers, and structure. It's method to make

possible somebody to estimate monetary value part of relevant intellectual capital and to estimate the company balance sheet.

In this research, Intellectual capital counted by market to book value. The advantage this method that is:

- a. the information to count intellectual capital prepared for public
- b. suitable for management decision
- c. Suitable for external user because the indicator which used common know and the information easy to obtain.

2.5. *The Influence of Intellectual Capital to Organization Performance*

Several research indicate significant prove if intellectual capital influence to organization performance. In globalization era, all organization effort has to competitive advantage. To achieved competitive advantage needs both physical capital and intellectual capital. The study result of Hitt *et al.* (2001) proved the role intangible capital more dominant compare with tangible capital. Another research indicate that intellectual capital recognized as important resources which give use for create organization efficiency, effectively, productivity, and innovative better than physical capital and financial capital (Najibullah, 2005).

The research result by Pulic (1999) show that intellectual capital can create value added for organization. Its study support the idea if intellectual capital as very important resources for organization. Consistent with research before, intellectual capital has potential as wealth creator in business organization (Walker, 2001; Usoff *et al.*, 2002; and Karp, 2003). The ability intellectual capital as strategic resources can see through its role as a driver in increasing business performance. In this case, the intellectual capital is an important key to achieve competitive advantage. The opposite research result before, studied by Iswati (2007) show that no influence between intellectual to bank's performance in Jakarta Stock Exchange.

Interest for depth further, the Peña (2002) result proved his hypothesis, that the new organization performance depend on intellectual capital management which achieved by entrepreneur in preparation period. This result strongly support about intellectual capital role in business life cycle, start from preparation stage till maturity stage.

Breman (2001) has test the influence of intellectual capital to business performance for organization which go public in Ireland. The

performance variables consist of productivity, skill, and organization profitability. Its result show that the influence of intellectual influence profitability variable. Besides that, Walker (2001) did research the relation between intellectual capitals with three dimension of organization performance; there are profitability, productivity, and market price. Walker's result there is significant positive relation between human being capital and organization performance in both yang low knowledge base organization and high knowledge-base organization. Based on literature review which explains before, this leads to the following hypothesis.

Hypothesis: "*Intellectual Capital has influence to organization performance in Insurance companies in Jakarta Stock Exchange*".

3. Research Methodology

3.1 Research Framework

According to the description at the literature review, the hypothesis perform is "Intellectual Capital has influence to organization performance in Insurance companies in Jakarta Stock Exchange". This research uses the quantitative paradigm. To examine the hypothesis used simple regression analysis. All test conducted by software SPSS version 11.5 for Windows program. The degree of significant is 5%. The prime research which used model is Brennan (2001). It's test the influence of intellectual capital to business performance which goes public in Ireland. The result of this research is intellectual Capital has influence to organization performance. Beside that, in this study combined research which conduct by Walker (2001). Its result there is significant positive relation between human being capital and organization performance in both yang low knowledge base organization and high knowledge-base organization.

3.2. *The Research Population and Sample*

The research population is all companies which go public in Jakarta Stock Exchange (JSE), totally 10 units. All companies processed in statistical model, without sample. All companies use same fiscal period.

3.3. *The Variables and Operational Definition*

The research analyzes the relationship between independent variable and dependent variable. There are:

- a. Intellectual Capital (IC) is a independent variable
Intellectual capital as a market value which above tangible asset value in the balanced sheet. IC determined by *market-to-book value formula* (Stewart, 2002:247)

IC = the average from five years of market value – The average from five years of book

Market value = the price of per-piece of stock X outstanding stock

- b. Financial Performance (FP) is a dependent variable. Financial performance is achievement insurance companies which measured by profitability. The profitability used to measure effectively measurement of asset.

3.4. Analysis Model

The analysis model which used by this research is:

FP = **b₀** + **b₁** **IC** + **e**, which:

FP = Financial Performance of Insurance Companies

IC = Intellectual Capital

b₀ = constant

b₁ = slope, the score of intellectual capital influence to Financial performance

e = error, the score of error factor out of model

4. Research Results, Findings and Discussion

The data which process is 10 insurance companies. From 10 companies be evident three companies experience deficit (negative income) in 2004 and 2005 there are Asuransi Bina Dana Artha Company and Asuransi Bintang Company. Further, in 2003 Lippo General Insurance companies, there for three companies expelled from that statistical process.

The Insurance companies which used in this research namely:

- a. PT. Asuransi Dayin Mitra
- b. PT. Asuransi Harta Aman Pratama
- c. PT. Asuransi Jasa Tania
- d. PT. Asuransi Ramayana
- e. PT. Maskapai Reasuransi Indonesia (Marein)
- f. PT. Panin Insurance
- g. PT. Panin Life

Table 1. Insurance Companies with Negative Income Year 2001-2005

The Name Insurance Companies		Negative Income (in billion Rupiah)		
		2005	2004	2003
1	PT. Asuransi Bina Dana Arta	14,228	6,097	-
2	PT. Asuransi Bintang	1,358	965	-
3	PT. Lippo General Insurance	-	-	20,346

Source: *Indonesian Capital Market Directory* 2005, processed

Table 2. Regression Coefficient and Level of Significant for Financial Performance as Independent Variable, and Intellectual Capital as Dependent Variable.

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.640	.276		11.741	.000
	Intellectual capital	.126	.076	.169	1.907	.077

Depended Variable: Financial Performance

Source: Regression result

4.1. The Reliabilities and Validities test

Cronbach's alpha was used to test the reliability and validity of data. The results show that all *alpha* scores more than 0.05. Its mean, that all the data were reliable. The validity testing used the *rank spearman's rho correlation*. The results show that all variables have the significant less than 0.05. Its mean, that all the data were valid. The results of normality, multicollinearity, and heteroscedasticity test show that

model preparations comply with the classic assumption (the data didn't included in the article).

4.2 Analyses and Hypotheses Test

The data test use SPSS version 11.5 for window program. The results of data preparation can be seen at Table 2. At the level of significant 0.05, Table 2 shows that the intellectual **capital** has influence to financial performance in insurance companies. Based

on the estimation from regression model, the regression model was:

$$Y = 3.640 + 0.169X + 0.276,$$

Or

$$\text{Financial Performance} = 3.640 + 0.169 \text{ Intellectual capital} + 0.276$$

The regression coefficient 3.640 means the relation between intellectual capital and financial performance is positive. The model indicated every added of intellectual capital which added positively significant of financial performance. Every increasing one point of intellectual capital value will increase 0.169 point of financial performance. Based on regression output show that value of significance less than 5% ($p < 0.005$), its mean intellectual capital influence to financial **performance**. The R value 0.637 mean there are correlation among variables. The R-square value 4.058 mean intellectual can used to predict financial performance 4% among variables which influence profitability. Based on statistically result the level of influence intellectual capital to financial performance only four percent, and 96% which predict profitability determined by another variables. Although the influence small relatively but significant, so the organization can obey this finding.

There are many methods to measure financial performance such as the level of profitability, earning after taxes, residual income, return on assets, return on earning, return on investment, **economic** value added, etc. All method which a mention before is financial perspective. Until now, profitability as often used by researcher cause of very famous and common measurement for external user's although has no accounting background. So, this indicator can understood for every body in business society.

4.3. Discussion

Based on data analysis which explained above, we know that the research hypotheses approved. Its mean intellectual capital has influence to financial performance in insurance industries in Jakarta's Stock Exchange (JSE).

This research supports the Brennan (2001) research. It's statistically proved has influence to financial performance in insurance industries in Ireland. Besides that, the research result also supports Walker (2001) which uses three dimensions to measure financial performance. The one's is corporate profitability. There is positive relationship between human capital and financial performance for both low knowledge based corporate and high knowledge based corporate. In other side, the research result also

supports Bontis (2000) and Belkaoui (2002). In their research proved that intellectual capital as important component to support organization wealth.

Interest for depth further, the Peña (2002) result proved his hypothesis, that the new organization performance depend on intellectual capital management which achieved by entrepreneur in preparation period. This result strongly support about intellectual capital role in business life cycle, start from preparation stage till maturity stage.

Intellectual capital which used in this study was market to book value (MBV). The advantages of this method are easier to use, data can be access from capital market and the cost relatively cheap. In other side, the disadvantages of this method are obey external factor can influence market value. The book value and market value sometimes not represent real value of firms, caused of the difference of accounting method which **used** by the firms. The explain above we know several method to measure intellectual capital, Stewart (1977) besides market to book value over Tobin's "q" and Calculated Intangible Value (CIV). RodovandLeliaert (2002) and Pablos (2003) offer several method for intellectual capital measure, there are the invisible balance-sheet (IBS), The intangible assets monitor (IAM), the balanced scorecard (BSC), Economic Value Added (EVATM), IC-index, Technology broker (TB), The return on assets (ROA) method, Market capitalization method (MCM), The direct intellectual capital method (DIC), Skandia AFS Business Navigator (SBN), and Financial method of intangible assets measuring (FiMIAM). Although no perfect method, we necessary to prove several methods to make confidence with research result.

5. Conclusion and Recommendation

The research result can prove that intellectual capital influence to insurance's financial performance in Jakarta Stock Exchange. Notice to the method that used to count capital intellectual, therefore necessary developed other research that used different method.

The intellectual capital concept is new relatively, not only in Indonesian but in global business environment. Therefore only the developed countries have applied apply those concepts in business. The business society facing suitable measurement problem of intellectual capital therefore it's make challenge for science society.

In traditional paradigm, economic science only emphasis and examine physical capital. Human capital as main resources in an organization for support productivity and economic activity often abandon (Nahapiet and Ghosal, 1998). Several

researches which done by researcher in intellectual capital sector can give enlighten specially in human being side (McConnachie, 1997; Roos and Roos, 1997; Roos and Rylander, 2000; Bontis, 2000; Brennan, 2001; Pablos. 2002; Rodov, Irena and Leliaert. 2002; Belkoui 2002; Tseng and James, 2005). As it's found by several disadvantages from accounting measurement side which focus on monetary, the study about intellectual capital gives a new inspiring. It's can explore and appear if intellectual capital as a most important capital in all business for both profit oriented and non profit oriented. In turns, the more human studies will appears.

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