

Value Creation of Intellectual Capital: Financial Performance Analyses in Indonesian Publicly-Listed Consumer Goods Industry

Elisabeth Feimianti
British Petroleum Indonesia, Ltd
Jakarta, Indonesia
Email: efeimianti@gmail.com

Samuel PD Anantadjaya*
Faculty of Business Administration & Humanities
Swiss German University, BSD City, Serpong, Tangerang, Indonesia
Email: ethan.eryn@gmail.com

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ABSTRACT

A paradigm to knowledge-based economy has encouraged companies to increase their quality of employees to respond to the market transformation. Employees are often forgotten as valuable assets since employees are often only represented by wages and salaries, including other related employees' expenses. A trend topic for the upcoming event on ASEAN Free Trade Area (AFTA) in 2015 has increased influenced to many people to upgrade themselves as a way to compete with residence/citizens of other neighboring countries. For these reasons, this research stipulates to discover the importance of intellectual capital for any financial evidence toward the companies' performance and market value. Since human capital is a part of intellectual capital, this research also analyzes the importance of structural capital and capital employed for companies.

This research ascertains co-relational studies between intellectual capital towards companies' performances, both from the perspectives of accounting and market values. The data is solely obtained from independently-audited financial statements of the Indonesian publicly-listed consumer goods companies. This study expects to provide financial evidence of intellectual capital within companies in Indonesia, including noting the ingredients in maximizing the most potential capitals toward survivability.

Keywords: human capital, intellectual capital, market value, accounting value, financial performance, consumer goods industry

I. INTRODUCTION

There has been a paradigm shift to the new economy, or the knowledge based economy, which relies more on information technology, skill and knowledge from employees rather than tangible assets. This has encouraged many companies to be concerned about their intellectual capital (Muhammad & Ismail, 2009).

Intellectual Capital is an intangible asset that plays an important role in today's knowledge based economy (Gigante & Previati, 2011). Intellectual Capital is important because it creates sustainable competitive advantage, and formulates corporate identity like nothing else. Moreover, in a knowledge based economy, soft skills such as capabilities, expertise, and leadership are considered more important than tangible assets. Businesses that understand the concept of intellectual capital are more likely to be successful since they realize that intellectual capital is very valuable, and they continually update their knowledge and abilities to compete with others (Huffman, 2012).

The importance of intellectual capital is increasing due to the Asean Free Trade Area (AFTA) that will be implemented in 2015, which is trying to gather all ASEAN economies as a community (Verico, 2012). It is hoped AFTA will allow citizens of member nations to be free to choose any country to work in within the AFTA membership. As a result, the competition among human resources and business competition will be much stronger. Hence, a qualified employee

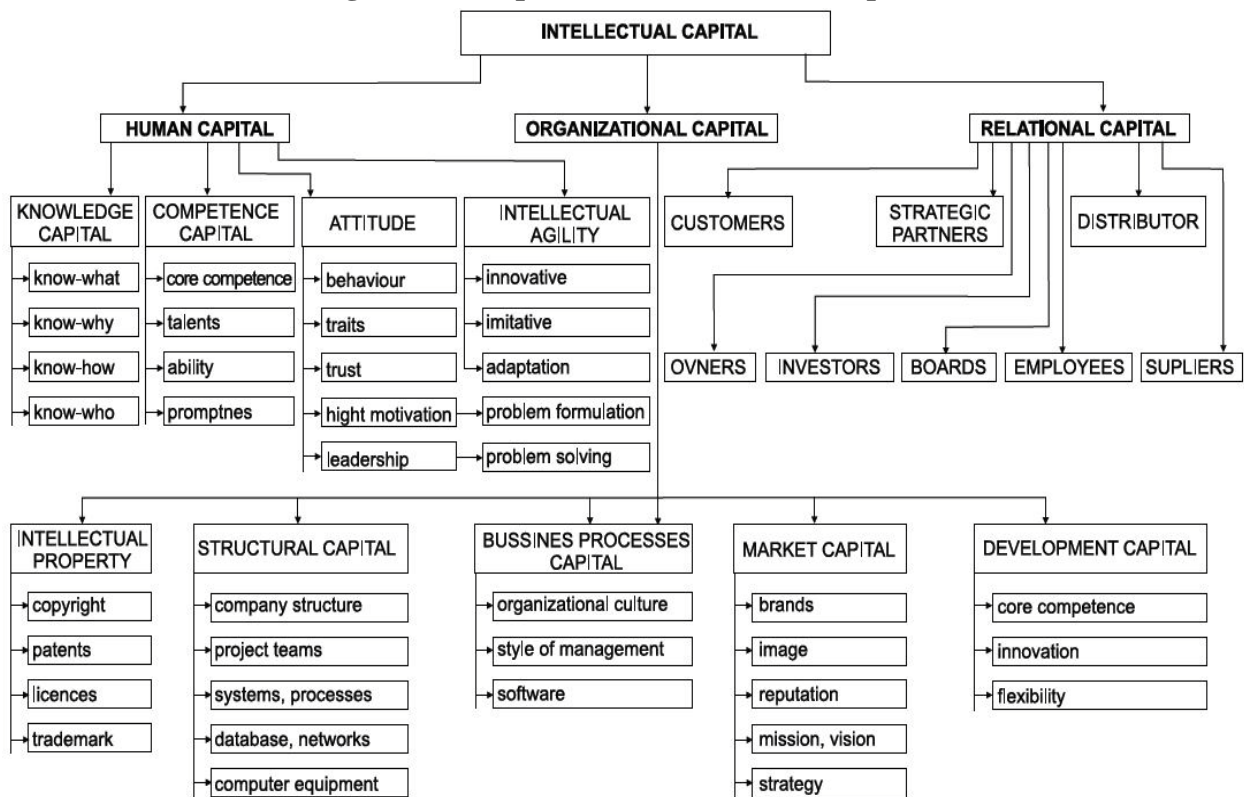
that is skillful, competent, and has extensive knowledge will be in high demand.

II. THEORETICAL REFERENCES

II.1. DEFINITION AND SCOPE OF INTELLECTUAL CAPITAL

Intellectual Capital has different kind of definitions over decades. Among many types of definitions, intellectual capital can be defined as economic value from three types of intangible assets which are human capital, organizational capital and social capital (Choudhury, 2010). According to Khanhossini, et al. (2013), Intellectual Capital is the intangible value in the company that is created by human resources through their skills, knowledge, innovation, motivation, in accordance with company’s resources to increase profitability and value creation for the company. Even though most of them has different definitions, however, the definition of intellectual capital is about knowledge capital or capital that is derived from knowledge (Jurczak, 2008).

Figure 1: Components of Intellectual Capital



Source: Jurczak (2008)

Intellectual Capital consists of three types of elements: Human Capital, Structural (Organizational) Capital, and Social (Customer) Capital. Human Capital is the basic resources of the organization that encompasses knowledge, motivation, innovation and competencies to support the business performance and solving any problems exist in organization. On the other hand, Structural (Organizational) Capital is the company resources that will optimize employee’s performance, such as Information Technology, policies and procedures, and control in the company. Lastly, Social (Customer) Capital is business relationships between company and external parties for instance suppliers, clients, partners, banks, government, and other parties or institutions. (Charles & Adelman, 2010; Khanhossini, Nikoonesbati, KHeire, & Moazez, 2013). The details of each components of intellectual capital is presented on the above diagram.

II.2. MEASURING INTELLECTUAL CAPITAL

Intellectual Capital is often considered as an intangible asset. However, Intellectual Capital can never be found on any financial statement of the company. Additionally, Intellectual Capital can be managed, but it is difficult to consider Intellectual Capital as assets since it is very intangible, difficult to be assessed and cannot be owned by the company (Gigante & Previati, 2011).

Even though the intellectual capital is not easy to be measured, the intellectual capital can be valued by using value added measurement in order to make it more visible. Value added is a measurement that reflects employee's and management's contribution to value creation. In addition, value added is used to lead to wealth creation of the company (Pulic, 2008).

The method of analysis of intellectual capital that would be used in this research is VAICTM that was introduced by Ante Pulic in 1998 to measure intellectual capital efficiency. VAICTM is different compare to others, and it is more detailed. It also has links between activities of the company, resources and financial outcome (Jurczak, 2008).

According to Khanhossini, Nikoonesbati, Kheire, & Moazez (2013), there are four reasons why Pulic's model is much better than others for measuring intellectual capital:

1. VAICTM is very simple and transparent and provides a basis for standard measurement.
2. It is easier to calculate intellectual capital since it can easily be derived from audited financial statements and therefore its calculation is also approvable.
3. This model is based on both performance evaluation and creation value of tangible and intangible assets of a company.
4. This model has been used in foreign valid studies and researches.

The relationship between customers and product or services only determines value, while the value added and resources is engaged in value creation. Moreover, due to limited space, therefore, Pulic's model excludes social or customer capital and only involves two basic components which are human and structural capital (Pulic, 2008). However, there are three types of efficiency or variables that would be used for measurement, which are human capital efficiency, structural capital efficiency, and capital employed efficiency (Muhammad & Ismail, 2009).

Value added is a parameter of business success since input and output are taken from the market. Intellectual capital cannot be separated from financial capital in order to get more accurate result on business. According to Pulic (2008), the sum of STVA and VAHC are represented overall efficiency of a company in value creation and its intellectual ability while VACA is represented financial capital efficiency.

There are five steps to calculate intellectual capital using VAICTM model (Muhammad & Ismail, 2009):

1. Calculation of Value Added (VA)

VA = OUT – IN, where, OUT refers to total income from all products and services sold during period of t, and IN refers to all expenses (except labor, taxation, interest, dividends, depreciation) incurred by firm for period of t. According to Pulic (2008), VA can also be calculated by using this equation:

$$VA = P + C + D + A = \text{operating profit} + \text{employee cost} + \text{depreciation} + \text{amortization}$$

2. Calculation of Value Added Capital Employed Coefficient (VACA)

VACA = VA / CA, where CA refers to Capital Employed, which equals to Total Tangible Assets at the end of t period, and VACA signifies the value created by one unit of capital

employed during t period

3. Calculation of Value Added Human Capital Coefficient (VAHC)

$VAHC = VA / HC$, where HC refers to Total salaries, wages and all incentives for the company during the period of t, and VAHC denotes the value created by one unit of Human Capital invested during period of t

4. Calculation of Value Added Structural Capital Coefficient (STVA)

$STVA = SC / VA$, where SC equals to Structural Capital = $VA - HC$, and STVA represents the proportion of total VA accounted by structural capital

5. Calculation of Value Added Intellectual Coefficient (VAICTM)

$VAIC = VACA + VAHC + STVA$, where VAIC indicates corporate value creation efficiency on firm resources

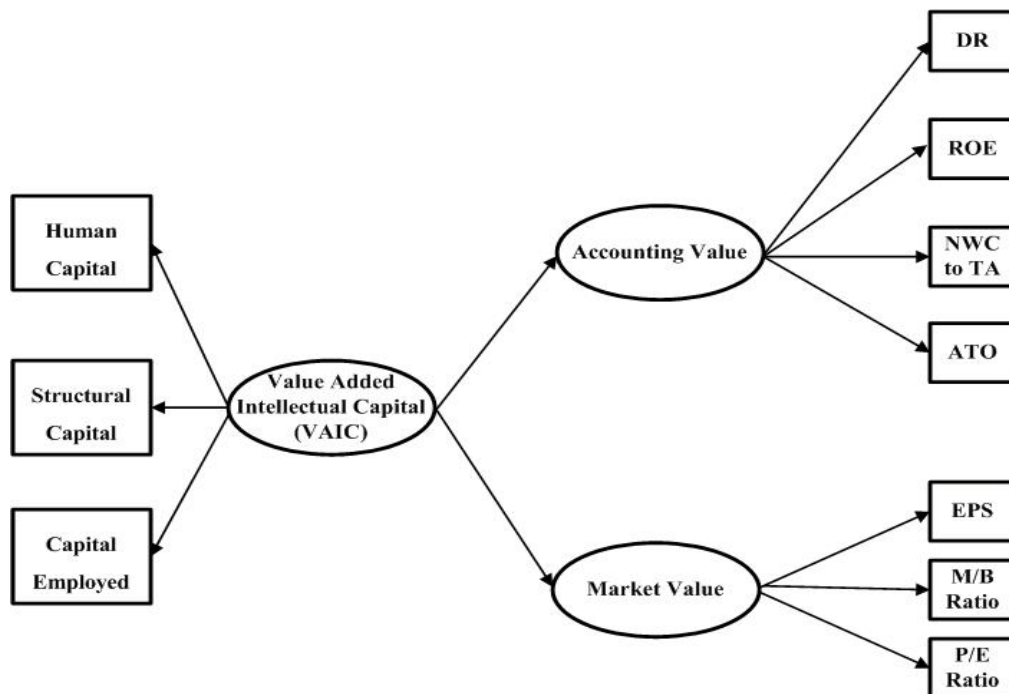
II.3. LIMITATION

Due to broad discussion of intellectual capital calculation, this study will focus on VAICTM Method to measure intellectual capital. Moreover, the data analysis is derived from 28 companies listed on BEI (Indonesia Stock Exchange) and eligible to be examined from consumer goods industry. The time period of data analysis is five years period from 2008 until 2012.

II.4. RESEARCH MODEL

The framework of thinking in this study is illustrated in the following diagram.

Figure 2: Framework of Thinking



The diagram above shows the research model in this study. In order to assess Intellectual Capital, all three elements of Intellectual Capital should be evaluated without any exceptions. On the other hand, this research attempts to find the correlation between intellectual capital which is represented by VAIC towards accounting value which relates to book value and market value which relates to stock price of the firm to get the big picture how much it is worth in the market. In addition, financial ratios are used to determine the firm's performance because it is

quantifiable, as tools to determine company's health, and also it is much easier to compare with previous years or other companies in same industries to evaluate the performance (Häcker, 2008).

III. RESEARCH METHODOLOGY

A causal research is conducted for this study because this study has clear and structured research problem and deals with 'cause-and-effect' problems (Ghauri & Gronhaug, 2010). Additionally, this study is going to find the correlation between two variables which are intellectual capital and firm's performance, therefore, this study is categorized as causal research.

Research was conducted by gathering data from secondary sources due to inefficient and extremely difficult access to get permission to know details about company. Audited financial statements that available on www.idx.co.id and stock price data from BEI's library are the reliable sources to support this research.

Variables chosen in this research are: Debt to Ratio (DR)¹, Return on Equity (ROE)², Net Working Capital (NWC to TA)³, and Asset Turnover (ATO)⁴ from accounting value side. The selection of indicators for each type of financial ratios is in accordance with the main indicators that are usually chosen by investors to measure the company's performance and in line with several previous studies.

On the other hand, not only from accounting value measurement, market value measurement is also used in this research. Market value measurement is more dedicated to a company that is publicly traded because this value cannot be found if the company is not issuing shares to the public to be traded (Ross, Westerfield, & Jordan, 2010). The share price determines the market value of a company. Therefore, if the company is listed, people can know exactly how much it is worth in the market without estimating the value of the company. The variables chosen are: Earnings per Share (EPS)⁵, Market-to-book Ratio (M/B Ratio)⁶, and Price Earnings Ratio (P/E Ratio)⁷.

IV. RESULT AND DISCUSSION

IV.1. OVERVIEW OF STUDY

According to BEI, there are 464 companies that are publicly listed which are divided into 9 sectors. However, after sampling process has been taken, only 1 sector that would be examined which is consumer goods industry and total 28 companies that are eligible to be analyzed. Under consumer goods industry, there are 5 subsectors that is included for instance food and beverage, pharmaceuticals, tobacco manufacturers, cosmetics and household, and houseware.

Consumer goods industry is chosen because the companies are expected to grow rapidly in the future in line with the increase of people in the world. For this reason, therefore, many people need more consumer products. On the other hand, according to Badan Pusat Statistik Republik Indonesia (Badan Pusat Statistik Republik Indonesia, 2013a), manufacturing sector has the biggest contribution for Indonesia's Growth Domestic Product (GDP). Consumer Product Industry is categorized as manufacturing industry since all subsectors of consumer product

¹ DR equals to TL/TA; where "TL" refers to total liabilities, and "TA" refers to total assets.

² ROE equals to NI/BV Equity; where "NI" refers to net income, and "BV Equity" refers to book value of equity.

³ NWC to TA equals to NWC/TA; where "NWC" refers to net working capital, and "TA" refers to total assets

⁴ ATO equals to Sales/TA; where "Sales" refers to net sales in the period, and "TA" refers to total assets.

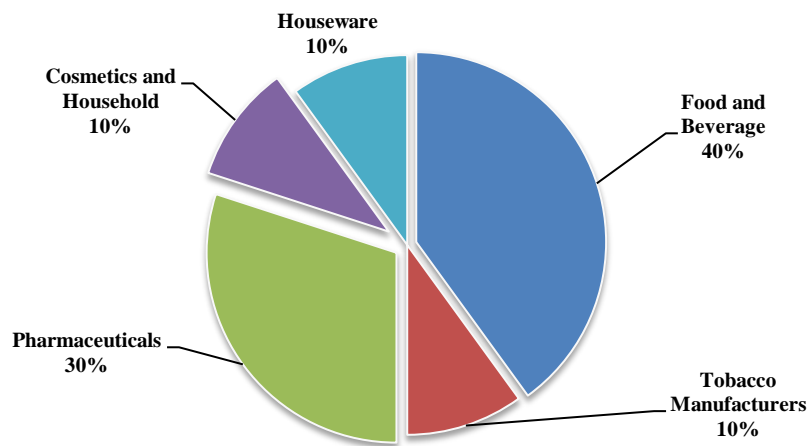
⁵ EPS equals to NI/shares outstanding; where "NI" refers to net income, and "shares outstanding" refers to price per outstanding share in the market.

⁶ M/B Ratio equals to Market Value per share/Book Value per share; where "Market Value per share" refers to stock price, and "Book Value per share" refers to common equity divided by number of common shares outstanding.

⁷ P/E Ratio equals to Price per share/EPS; where "Price per share" refers to stock price, and "EPS" refers to Earnings per Share.

industry are part of the components of non-oil and gas manufacturing industry. Additionally, majority industry that has biggest contribution under non-oil and gas manufacturing industry is part of Consumer Product Industry which is food, beverages and tobacco industries. Moreover, the other 3 subsectors are classified under fertilizers, chemical, rubber products and industries for cosmetics and pharmaceutical subsectors, and iron and steel basic metal industries for houseware and households.

Figure 3: Total Consumer Goods Companies



Source: Bursa Efek Indonesia, 2013

The above figure shows the percentage of total consumer goods companies listed and eligible to be analyzed. From those percentages, total consumer goods companies are dominated by food and beverage companies with 40%, followed by pharmaceuticals with 30% then propped up by cosmetics and household, house ware, tobacco manufacturers all with 10%.

Figure 4: Summary of Line of Business of each sector



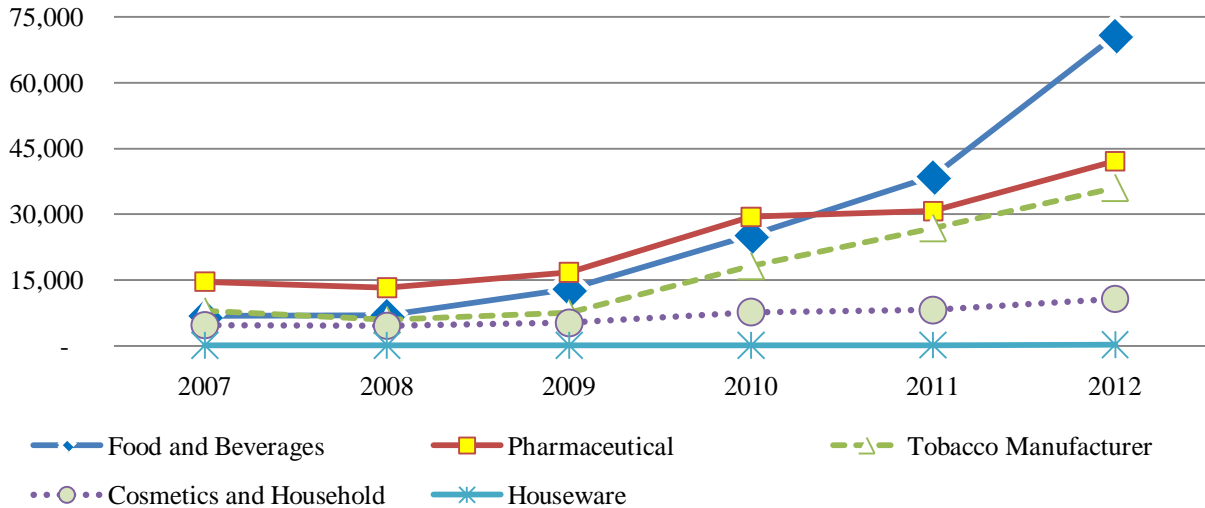
Source: Bursa Efek Indonesia, 2013

Even though all consumer goods companies listed in BEI have various lines of business, they have similar type of business that is summarized in Figure 4: Summary of Line of Business of each sector.

According to data from BEI, the trend from 2007 up to 2012, food and beverages sector has the biggest increase of stock price among consumer goods companies. However, amongst all, house

ware industry has stable increase of stock price compare to others because it has no significance increase. The comparison summary of consumer goods industry stock price is shown on the following figure.

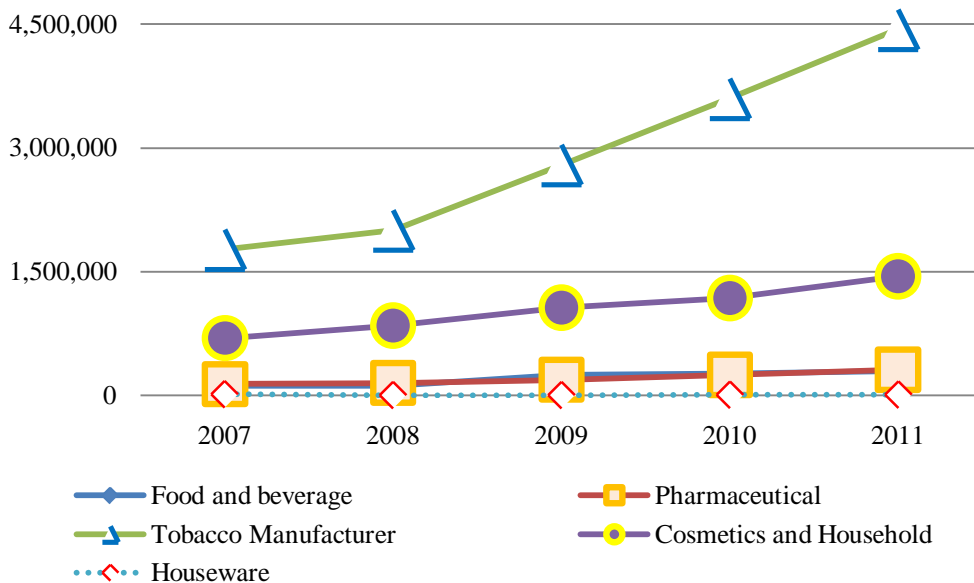
Figure 5: Graph of Stock Price Consumer Goods Industry 2007 – 2012



Source: Bursa Efek Indonesia, 2007; 2008; 2009; 2010; 2011; 2012

On the other hand, the following figure, Figure 6: Average Net Income of Consumer Goods Industry 2007-2011 below shows the trend of net income in consumer products industry. On the first position, tobacco manufacturer is the winner since it has the biggest increase of net income compare to others. As same as stock price, houseware industry has the lowest income amongst all.

Figure 6: Average Net Income of Consumer Goods Industry 2007-2011



Source: Bursa Efek Indonesia, 2007; 2008; 2009; 2010; 2011; 2012

IV.2. DESIGN AND PROCEDURES OF STUDY

A total of 140 data, which is derived from 28 companies of consumer goods industries times 5 years period. The case processing summary table indicates that all 140 data are considered valid. The validity of data is 58.4% which is represented on the following table:

Table 1: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.584
Bartlett's Test of Sphericity	Approx. Chi-Square	503.629
	Df	45
	Sig.	.000

Source: SPSS

On the other hand, from reliability measurement through Cronbach's Alpha Based on Standardized Items has shown that the data is 56% reliable. In addition, all data that is used for this research are taken from audited financial statement which is recognized as trusted sources because all financial data has been reviewed by the third party.

Table 2: Reliability Test

		N	%
Cases	Valid	140	100.0
	Excluded ^a	0	.0
	Total	140	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.026	.560	10

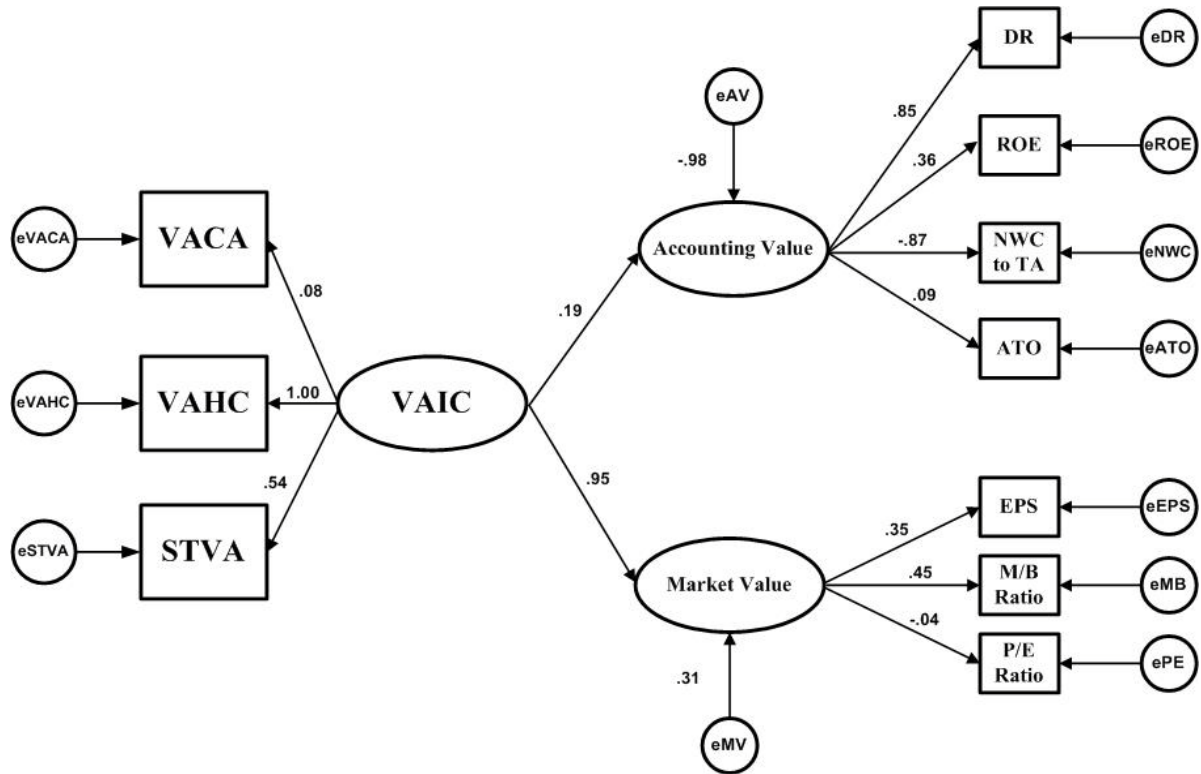
Source: SPSS

In order to find the correlation between intellectual capital and variables chosen, this research is using AMOS to generate the results:

1. Debt to Ratio (DR) has contributed 85% towards accounting value. This result is in line with previous study that was tested by Liu & Wong (2009) in U.S. Firms that concluded intellectual capital positively affects leverage ratio. However, the company also has debt limit capacity in order to maintain the liquidity of the firm. On the other, DR must have positive relationship towards VAIC since the components of VAIC, which are employee cost, depreciation and amortization, tangible assets, and operating profit will cause expense for the company if those are increasing. As a result, it will increase DR if the company have no adequate assets or income to cover the cost incurred.
2. Return on Equity (ROE) contributes 36% relationship towards Accounting Value. This result is in accordance with previous study that ROE resulted in positive value and ROE is the most significant compare to other profitability ratios which are Return on Assets and Growth Revenues (Madinios, Chatzoudes, Tsairidis, & Theriou, 2011). In addition, in line with result from Maditinos, Chatzoudes, Tsairidis, & Theriou (2011), ROE is mostly affected by human capital. The reason is because human resources can encourage the economy of the company due to its performance and innovation.
3. Net Working Capital to Total Assets (NWC to TA) and DR almost have similar influence in terms of number. However, the influence is different since NWC to TA contributed negative value towards accounting value. A possible reason is because the liquidity ratio is

reciprocal with leverage ratio (Liu & Wong, 2009). Furthermore, a relatively low value of NWC to TA indicates relatively low levels of liquidity (Ross, Westerfield, & Jordan, 2010). It is because when all cost incurred increase in VAIC, then, it will reduce NWC to TA and impact to the company because it will diminish its reserve. As a result, the company will not have high liquidity as earlier.

Figure 7: AMOS Diagram Result



Source: AMOS

4. Asset Turnover (ATO) obtained only 9% towards Accounting Value and it is the weakest correlation amongst all. This result is line with previous study from Latif, et al. (2012) that had positive result but no significant value between intellectual capital and productivity. In addition, according to (Chu, Chan, & Wu, 2011), ATO has no impact by intellectual capital since it is more affected by capital employed not human capital or structural capital. Moreover, the impact of capital employed is small towards intellectual capital. As a result, there is no significant influence towards ATO.
5. Earnings per Share resulted positive correlation towards market value amounted to 35%. This result is supported by previous study from Latif, et al. (2012) and Rehman, et al. (2011) that found EPS has a positive correlation towards intellectual capital and most affected by capital employed. The reason is because in order to get EPS, financial capital is very essential. Without existence of financial capital, then the company cannot calculate the Earnings per shares of firm’s equity holders. Furthermore, if the EPS of the company is satisfactory for the shareholders’, then, it will be automatically increase the market price.
6. Market-to-book Ratio (M/B Ratio) has the highest relationship towards Market Value amounted to 45% positive value. This condition has ever been tested in previous study that hidden value of M/B Ratio contributed 40.96% towards market value of 96 companies listed in Athens Stock Exchange (Madininos, Chatzoudes, Tsairidis, & Theriou, 2011). The

existence of M/B Ratio has underlied the increasing gap between book value and market value for years (Wang, 2008).

7. Price-earnings Ratio (P/E Ratio) has negative value which amounted to 4% towards market value. This result is consistent with previous study from Frozanfar, et al. (2011) that was tested in public companies listed on Tehran Stock Exchange which concluded that there is no significant value between intellectual capital and P/E Ratio and has indirect relationship. In addition, negative value result is in line with the theories that stated the investor should be sensitive towards companies that have P/E more than its industry average to avoid over value that will obstruct its growth in the future (Ross, Westerfield, & Jordan, 2010). If the P/E ratio increase, then market value will decrease, because the share price is overrated, therefore, the company's share price cannot grow in the future.
8. Value Added Intellectual Capital (VAICTM) has been influenced by human capital for 100% and it is the most important capital in intellectual capital (Muhammad & Ismail, 2009; Maditinos, et al., 2011; Śledzik, 2012). The reason is because human resources might affect the growth for the companies in the future by keep innovating to create the business still survived in the middle of increasing of competitiveness in business. Afterwards, in the second place, structural capital is also giving positive value towards firm's performance that amounted to 54% and the last is capital employed for 8%. This result is also in accordance with previous result from Rehman, et al. (2011) that shows structural capital and capital employed is in the second and third position. A possible reason is because consumer goods companies need many labors to operate its business, then, it is followed by the systems and equipment required to help the employees work better and faster. At last, adequate financial capital is needed to support the other 2 elements of intellectual capital.

Even though correlation analysis has been conducted using AMOS, however, correlation matrix from SPSS can be used as an additional reference to strengthen the correlation from path analysis in AMOS that has not been covered yet.

Table 3: Inter-Item Correlation Matrices

	VACA	VAHC	STVA	DR	ROE	NWC to TA	ATO	EPS	MB ratio	PE ratio
VACA	1.000	.076	.105	-.437	.222	.501	.190	.398	.140	.003
VAHC	.076	1.000	.541	.150	.390	-.128	.174	.333	.429	-.052
STVA	.105	.541	1.000	-.069	.287	.119	.155	.207	.192	.097
DR	-.437	.150	-.069	1.000	.262	-.744	.161	.007	.189	.037
ROE	.222	.390	.287	.262	1.000	-.328	.226	.612	.481	.014
NWC to TA	.501	-.128	.119	-.744	-.328	1.000	.029	-.014	-.365	-.109
ATO	.190	.174	.155	.161	.226	.029	1.000	.091	.325	-.080
EPS	.398	.333	.207	.007	.612	-.014	.091	1.000	.176	-.060
MB ratio	.140	.429	.192	.189	.481	-.365	.325	.176	1.000	.157
PE ratio	.003	-.052	.097	.037	.014	-.109	-.080	-.060	.157	1.000

Source: SPSS

From the above table, the significance correlation can be summarized as follows:

1. VACA has inverse correlation amounted to 43.7% towards DR because VACA involves tangible asset to assess the value. Moreover, if the company would like to increase number of assets, therefore, DR should increase due to company must increase the debt to buy assets. In contrast, VACA has positive correlation towards NWC to TA, ATO and EPS amounted to

50.1%, 19%, and 39.8% respectively. NWC to TA is understood if it has positive correlation since the components of this variable is almost as same as VACA, therefore, what happened in VACA will be happened too for NWC to TA. In addition, for ATO, this result means that in order to enhance productivity, the company should concern more on physical and financial assets instead of human assets. At last, EPS is in line with VACA since when EPS increases, investors tend to invest their money. Thus, the company might have more capital to buy more assets.

2. VAHC has high correlation towards ROE and M/B Ratio for 39% and 42.9% respectively. The underlying reason is because human capital can enhance net income due to their ideas, innovation and ability that encourages people to buy more products towards their company, so, boosts up their income. On the other hand, this situation is also correlates with M/B Ratio. If ROE is good, it means the firm's performance is well managed. As a result, many investors tend to invest their money and increase their market price from its share price.
3. STVA only has significant correlates with P/E Ratio for 9.7%. Even though P/E Ratio is related to M/B Ratio, however, the significant component of VAIC is different because P/E Ratio does not involve book value of the company. Therefore, it is only significant for P/E Ratio since investors try to invest in companies that still have future growth.
4. DR and NWC to TA have inverse correlation for -74.4%. It is explainable because when debt increase, then it will reduce reserve that is coming from current assets minus current liabilities (NWC) in order to cover the debt. Therefore, the correlation between DR and NWC to TA are reciprocal.
5. EPS and ROE have positive correlation for 61.2%. It is understandable since EPS and ROE resembles from its essential component which is net income. Thus, no doubt if both has high correlation each other.
6. ATO correlates 32.5% with M/B Ratio. High value of indicates high productivity of the company, and it means the company is effective to manage its resources. As a result, it will attract investor to acquire their shares since the company is having high quality performance.
7. P/E Ratio is 15.7% correlates with M/B Ratio. The essential components of both of them are same, which is coming from the share price. When P/E Ratio increases, M/B Ratio has likelihood to increase similar to P/E Ratio. Therefore, P/E Ratio and M/B Ratio have linear correlation.

V. CONCLUSION AND RECOMMENDATION

Based on research findings and analysis, this research can have three conclusions as follows:

1. VAIC has positive correlations towards accounting value (Chu, et al., 2011; Latif, et al., 2012).
2. VAIC has positive correlations towards market value and the result is very significant (Murale, et al., 2010; Frozanfar, et al., 2011). However, market value correlation is much higher towards VAIC compare to accounting value. This condition indicates that VAIC is very important to stimulate companies' value in the market. Additionally, M/B Ratio has the highest correlation since it measured the real time value of the company in comparison of its book value.
3. In comparison of three components of VAIC, the result has shown that VAHC has the biggest contribution for VAIC (Muhammad & Ismail, 2009; Choudhury, 2010; Murale, et al., 2010; Rehman, et al., 2011; Yu, et al., 2011; Śledzik, 2012). This concept is because

under consumer goods industry, the existence of employees are very important since they need many labors to operate their day to day operations. Moreover, this condition means that a company can be said as successful from the people inside the company. Additionally, the people inside will imply to company's market value through their performance by increasing productivity, creativity and effort to achieve higher profit and growth levels (Pardo & Moreno, 2009).

On the other hand, there are several recommendations that can be drawn for the industry:

1. The company should concern about the welfare of employees because they are very essential to run their business. Moreover, no matter how sophisticated your technology is, how luxurious your company is, without employees, the company will not be successful. A satisfaction compensation and benefits becomes the most effective tools to encourage employees to give positive impact towards company performance and motivate them to strive to achieve corporate goals (Madhani, 2011).
2. Start to concern on the things that is not visible clearly or can be said as intangible because even though it is difficult to be measured, the existence of them are very important.
3. Provide additional skill for the employees to strengthen the company. The company can provide seminar, trainings, additional certification or even send the employees to school to have higher degrees in order to support their performances to be effective.
4. According to statistical result, debt is one of the indicator that has the biggest result. It indicates that the used of debt is relatively high that is usually spent for financing. A high level of debt will affect liquidity ratio which has impact to going concern issue. The going concern assessment will consider short term liquidity and long term solvency. If there is any problems occurred on both perspectives, therefore, it will bother the stability and effectiveness of the entity. When an entity is not stabilize enough, then, it will reduce confidence level of shareholders(Deloitte Development LLC., 2013). As a result, the investor will think twice to invest in such particular company since the going concern of the company is doubtful to be foreseeable in the future.

It should be noted that this study might contain imperfection. Moreover, this study still possible to be continued to get better result and analysis in the future through expanding the period of analysis to get better trend analysis, adding up or modifying the variables that has been used in this study in order to get any other perspective towards firm's performance, change the industry of analysis to get the comparison between one industry and another.

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