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The Intervening Role of Value Added Intellectual Capital on The Relationship between Corporate Governance and Firm Value

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Abstract: The purpose of this research is to analyze the direct impact of board structures on intellectual capital and firm value. The intellectual capital has a role as the mediating variable between corporate governance and firm value. Corporate governance is indicated by board size, gender diversity, and managerial ownership. Intellectual capital and firm value are measured by VAICTM and Tobin's Q approximation respectively. Specifically, this study is conducted in the consumer goods sector during 2010-2015 in Indonesia and Malaysia. Total samples gathered from Indonesia Stock Exchange and Bursa Malaysia are 25 Indonesia companies (150 firm-year) and 106 Malaysia companies (636 firm-year). Partial least square is applied in order to examine the research model. The findings support all the proposed hypothesis, that corporate governance in both Indonesia and Malaysia have a positive significant impact on intellectual capital and value. In both countries, intellectual capital also has a positive significant impact. However, the main driver of significance on intellectual capital is different. Furthermore, intellectual capital in Malaysia is successfully intervening in the relationship between board structures and firm value.

Keywords: Board Structure; Firm Value; Intellectual Capital; Managerial Ownership

Introduction

In the year of 2015, ASEAN was achieving a major milestone by the establishment of ASEAN Economic Community (AEC) that promotes free movement of goods, services, investments, skilled labor, and the free flow of capital (ASEAN, 2017). Every company in ASEAN has to prepare themselves to be ready in facing the new economic culture. From the economic perspective, corporate governance is crucial in achieving an efficiency of the movement scarce funds to investment project with the highest return (Zabri, Ahmad, & Wah, 2016). The researchers generally categorize corporate governance into two mechanisms; internal mechanism and external mechanism (Filatotchev & Nakajima, 2010; Zabri et al., 2016;).

Because of the availability of data and the most corporate governance research conducted on internal mechanism, this study focuses on internal corporate governance mechanisms (gender diversity, board size and managerial ownership). The reason for increasing interest of corporate governance is highlighted as propagation and the complexity of companies; it is also becoming a problem of ensuring adequate accountability and corporate responsibility in an increasingly global business world (Keenan & Aggestam, 2001). Since there is an increasing growth of understanding of the creation and leveraging corporate value and wealth, which is not only considered physical resources, yet human and other relatively hidden assets, there is an increasing concern of intellectual capital in many firms. The construct between both corporate governance and intellectual capital are connected become apparent. Corporate board is the one, who was responsible for managing the investment of resources on intellectual capital (Keenan & Aggestam, 2001).

Knowledge-based economy, which is known as intellectual capital (IC), is also increasingly being recognized as an important strategic resource for the operation of organizations (Appuhami & Bhuyan, 2015). Some researchers have proven the significant impact of on intellectual capital on firm value or performance. In response to the need for IC valuation, several methods for IC measurements have been developed by various researchers (Ho & Williams, 2003; Hidalgo, García-Meca, & Martinez, 2011; Makki & Lodhi, 2014). IC management can transform various intangible resources to create or maximize companies' value (Kweh, Chan, & Ting, 2013). The most common approach is the Value-Added Intellectual Capital Coefficient (VAICTM) method by Pulic. VAICTM measures the quantity and efficiency of intellectual capital and capital employed in creating value based on the three relationships to three major components; capital employed, human capital and structural capital (Jurczak, 2008). This approach has been tested on several studies to investigate the relationship between the components of corporate governance and intellectual capital (Swartz & Firer, 2005; Cerbioni & Parbonetti, 2007; Saleh, Hassan, & Ridhuan, 2009; Noradiva, Parastou, & Azlina, 2016).

Iazzolino and Laise (2013) reviewed the criticism of VAIC formulated by Pulic, and argue that Pulic's formula is in the correct place in the perspective of accounting principles theory. They also argue that VAIC is able to be the measurement in a multicriteria performance evaluation. For Pulic, Human Capital is not a capability, skills or other characteristics held by employees, but the total of capital invested in employees' knowledge, which in turn should give return to the company. Accordingly, Structural Capital is proposed as the value-added obtained by human resources. Pulic's VAICTM also is widely adopted by academics and practitioners to measure IC and reflect the market value of corporations. This method can provide a standardized and integrated measure, which allow cross-organizational or cross-national comparison and analysis (Nimtrakoon, 2015). In addition, Nimtrakoon (2015) also argues four advantages of deploying VAICTM in the study. First, VAICTM is straightforward and simple in determining the value of the IC. Second, the acquisition of data required is feasible, because all data are obtained from corporate financial report. Third, VAICTM is more objective and veri-

fiable, because the data used are audited. Fourth, VAICTM is a comparable method to cross-organizational or cross-national.

As mentioned the theory that intellectual capital can create value added for the company, intellectual capital can increase investor confidence (Nuryaman, 2015). The positively significant relationship between intellectual capital and the company's value have been investigated and proven by some researches (Daryae, Pakdel, Easapour, & khalafu, 2011; Berzkalne & Zelgalve, 2014; Nimtrakoon, 2015). The result of an investigation on ASEAN-related to corporate governance, intellectual capital, and firm value is varied, depend on the industry, macroeconomic factor (country), type of company and the indicator used (Shamsuddin, Mun, Ahmad Danial, Yusn, Mohd Adham, & Mat Din, 2017). In creating a more meaningful result, there is a suggestion to make a comparative analysis between two countries (Abidin, Kamal, & Jusoff, 2009). The first country chosen as the object of this study is Indonesia, where this study is conducted. Malaysia showed the highest score for their effectiveness and efficiency of corporate governance practice compared to other most hit countries by the financial crisis. Although Malaysia seems to have a better corporate governance practice compared to Indonesia, both are quite similar in some ways; geographical proximity and cultural similarities (Ramadania, Gunawan, & Rustam 2015). They have Melayu ethnicity background (Yaakub, 2009), and the companies in those countries are still dominated by family control – conglomerates (Haan, 2016). Thus, Malaysia is chosen as the comparison country.

The largest growth market among ASEAN member states, which are Indonesia, Malaysia, Philippines, Thailand, and Vietnam, is underpinned by optimistic consumers and growing demand (HKTDC, 2016). As a projection of Asian retail sales in 2018, there is an increasing amount by almost half of the total sales of the world's 60 largest economies and as much as twice of North America's sales. The main global growth in consumer good will be food, beverages, and tobacco. By 2018, those categories will be around 60% of global consumer good. Because of the outlook for the retail sector including consumer goods is at the bright spot, this sector is becoming more attractive for the investors. The similarity of market demand growth for food, beverage, and tobacco exist between Malaysia and Indonesia among all Asian states for the year 2011 until 2018 (PWC, 2015). Consumer good industry seems to be highly attractive by more investors, thus this study focuses on the consumer goods industry in Malaysia and Indonesia.

Lastly, the role of women in the business of both countries shows similarity. According to one of the masculinity perspective of Hofstede theory, the level of masculinity can distribute to the emotional gender roles and reflects the importance of value-stereo by culture, such as ambition, power and materialism, and stereotypically feminine values (Banon & Lloret, 2016). Both Malaysia and Indonesia have a similar level of masculinity (ITIM, 2017).

Based on the stated background, there have been many studies discussed the impact of corporate governance on either intellectual capital or firm value, and the impact of intellectual capital on firm value. However, none of them investigates the relationship

between components of corporate governance and intellectual capital that includes the firm value as one model analysis. As the value-added point from this study, this study wants to compare the effect of different quality of corporate governance, yet they have similar characteristics. Therefore, this study analyzes the relationships between those three variables directly in two countries simultaneously, which are Indonesia and Malaysia. The statements of the problem are; a. do corporate governance in both Indonesian and Malaysian firm, which are represented by board size, gender diversity, and managerial ownership, have any effect on the performance of intellectual capital?; b. do corporate governance in both Indonesian and Malaysian firms, which are represented by board size, gender diversity, and managerial ownership, have any effect on the company value?; c. do intellectual capital, in both Indonesian and Malaysian firms, have any direct or indirect effect on the company value?

In order to the statement of problems from this study, thus this study's purposes are to obtain valid data and to examine: a. the relationship between corporate governance in both Indonesian and Malaysian firm, which are represented by board size, gender diversity, and managerial ownership, and the performance of intellectual capital; b. the relationship between corporate governance in both Indonesian and Malaysian firms, which are represented by board size, gender diversity, and managerial ownership and the company value; c. either direct or indirect relationship between intellectual capital and the company value, in both Indonesian and Malaysian firms. Practically, this study can highlight the importance of efficiency and effectiveness of corporate governance in improving, measuring and performing the value of the company through the performance of company's intellectual capital. The management could be more aware of the essentiality of intellectual capital value in creating the company value and image to other shareholders, especially in order to attract investors. This study also contributes to the investigation of corporate governance and intellectual capital by applying the concept in Indonesia and Malaysia as two large developing countries in ASEAN.

Literature Review and Hypotheses Development

Agency theory, stewardship theory, human capital and resources dependence theory are some theories, which relate and support the presence of corporate governance. Agency theory explained about agency problem, caused by contrary motives between shareholders and its agents (Souster, 2012). This theory explained that the treatment of information and risk implication of a person could help companies reduce agency problems (Eisenhardt, 1989). In contrast with agency theory, stewardship theory explained the alignment objectives between management and the shareholder (Davis, Schoorman, & Donaldson, 1997). The management motivation is supported by the intrinsic satisfaction, such as achievement, self-actualization and the fulfilment of higher need according to Maslow's Hierarchy (L'Huillier, 2014; Jenkins, Ambrosini, & Collier, 2016). Human capital and resources dependence theory are complemented each other that support gender diversity indicator in this study. They more focus on the exploration of companies' resources to facilitate companies' success (Isidro & Sobral, 2015). According to resource dependence theory, board diversity in a company can expand the

company's critical resources, such as communication and customer's relationship (Kılıç & Kuzey, 2016). While according to human capital theory, gender diversity is a unique resource that can improve firm valuation (Isidro & Sobral, 2015).

Since the Asian financial crisis in 1997-1998, Indonesia and Malaysia government pushed more effort to establish good corporate governance code. Even more, Malaysia has advanced its corporate governance regulatory before the financial crisis (IFC & OJK, 2014; Bhatt, 2016). Indonesia corporate governance motivates on ethical driven and regulatory-driven. Good corporate governance supports the ethically driven motivation in creating checks and balance to support the transparency, accountability and the realization of responsibility to ensure the company's performance (KNKG, 2006). While Malaysia corporate governance code sets out the principles and the best practices to an optimal governance framework. The latest revision of code is more focus on strength of BOD, audit committee and internal audit function, aim to encourage progression and provide greater utility for companies and their stakeholders (Bhatt, 2016). Both Indonesia and Malaysia rule companies to decide their own number of board size. Both agree to the flexible number, which is adjusted on the company needs to work as a team effectively and efficiently.

The evolution of the economy which is now becoming a knowledge era, intellectual capital increasingly become more important as a key resource for the enterprise to retain and improve competitive advantage (Svanadze & Kowalewska, 2015). The investment of intellectual capital is higher compares to physical and financial asset investment in many successful companies, such as Google and Microsoft (Noradiva et al., 2016). Especially within South East Asia, which has introduced AEC in 2015, IC becomes more valued in this highly competitive global economy (Nimtrakoon, 2015).

The most popular method for measuring intellectual capital is VAICTM, developed by Pulic. This method is widely used by researchers to measure intellectual capital in relation to corporate governance (Appuhami & Bhuyan, 2015; Clarke, Seng, & Whiting 2011; Jurczak, 2008). VAICTM links between the activities of the company, the resources used and the financial outcomes (Jurczak, 2008). This measurement is considered to be the universal indicator which can show the abilities of companies in value creation and represent a measure of business efficiency in a knowledge-based economy (Pulic, 2000). The VAIC consists of Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) and Capital Employed Efficiency (CEE) (Pulic, 2000). HCE is the skills, experiences, productivity, innovativeness, attitude, commitment, knowledge and fit of all employees within the workplace. SCE is the innovation; patents, copyright and process capital; operating system and IT system. CEE is the value added by the company for each monetary unit invested in total assets.

Company value is highly related to the investor, which the value depends on how the investors set the company's success based on the share price (Soebiantoro & Sujoko, 2007). As the firm value can contribute to the long-term growth of the company, many researchers have conducted a lot of investigation between companies' attributes and firm value. The most valuation used as the calculation is the proxy of Tobin's Q (Liang, Huang, & Lin, 2011; Darmadi, 2013; Berzkalne & Zelgalve, 2014; Kamardin, 2014).

Tobin's Q proxy is believed to have significant benefit for either the financial practitioner or most researchers in order to understand the relationship between the company's attributes and firm value.

Hypotheses Development

Corporate governance, which characterizes by a legal entity, profit maximization and separation of ownership and control (Malik & Makhdoom, 2016), has increased attention to the role of corporate governance in recent years after the many corporate scandals that emerged lately (Susanti & Nidar, 2016). If it specifically looks at ASEAN countries, the presence of ASEAN Economic Community forces most companies in preparing the best practices in order to ensure the transparency, responsiveness, effectiveness, and efficiency to allocate scarce of a fund to the investment with the highest return (Zabri et al., 2016). Applying effective corporate governance, companies can be directed to improve their managerial performance and maximize corporate value (Makki & Lodhi, 2014).

Recently, PWC has done an investigation about the importance of board characteristics. The result shows that women are on the seven 7 positions, below the financial, operational, industry, risk management, international and IT expertise (PWC, 2016). Ralph Norris, the former CEO of Commonwealth Bank of Australia said, "Women in leadership. It is just good business. There is no difference in leadership potential between women and men; making sure you can capture a better share of high-performing women is better for the organization." (McKinsey, 2012). The fact of gender diversity truly attracted the interest of many researchers and became most widely investigated compared to other board demographic diversity attributes (Darmadi, 2013).

Human capital theory agrees with the importance and the benefit of board diversity on corporate governance since women have a better monitoring ability and can do a better record, while agency theory is doubt the direct impact on corporate governance (Carter, D'Souza, Simkins, & Simpson, 2010; Isidro & Sobral, 2015). Some studies concluded that there is no significant relationship between gender diversity and firm value (Darmadi, 2013; Carter et al., 2010; Isidro & Sobral, 2015).

Board size is another corporate governance mechanism, which defined as the number of directors includes both independent and executive directors, present on the board of a firm. A larger member can create a non-cohesive environment among group member, which can lead to a lack of agreement on the core decision for the firms (Malik & Makhdoom, 2016). The oversized board will create a higher number of decision-maker, which can reduce member effort and give rise to some degree of free riding. Therefore, an insufficient number of the board can result in a less effective board (Horváth & Spirollari, 2012).

Kusnadi and Mak (2005), Zabri, et al. (2016) found a significant negative relationship between board size and firm value. Those studies also stated that larger board generally costing more in term of director's remuneration. Not only consume more resources, but

the larger board also hamper the coordination and communication and become easier to be controlled by a dominant director due to associated increased director shirking and free riding (Ntim et al., 2015). However, some results show a positive relationship between board size and Tobin's Q (Kamardin, 2014; Ntim et al., 2015; Malik & Makhdoom, 2016). A larger board can also bring two advantages for the company. First, more director can indicate more independent member, which can result in better advice, monitor and discipline management. Second, a larger board can bring more diverse experiences, ideas, and skills and a greater opportunity to secure critical resources (Ntim et al., 2015).

Managerial ownership is one of corporate governance mechanism, which can help the company to solve agency problem. Since the managers hold some substantial number of company's share, they will become more motivated to increase firm performance, ultimately help to maximize firm value. Therefore, many firms promote the holding shares for managers, so they can act in the best interest of the firm's shareholders (Park & Jang, 2010). The greater number of shares, the more likely the manager will focus on maximizing shareholder's wealth (Kamardin, 2014). Insider board ownership can give a powerful incentive mechanism and limit the issues related to information asymmetry between the manager and the owner (Horváth & Spirollari, 2012). The first hypothesis, which investigates the relationship between corporate governance and firm value is:

H₁. Corporate Governance has a positive impact on firm value.

Since there is an increasing growth of understanding of the creation and leveraging corporate value and wealth, there is an increasing concern of intellectual capital in many firms. The construct between both corporate governance and intellectual capital are connected become apparent. Corporate board is the one, who is responsible for managing the investment of resources on intellectual capital (Keenan & Aggestam, 2001). Currently intellectual capital becomes more crucial for the growth and development of the company in general. The growing recognition of the value brought by diverse members in the boardroom also become the priority improvement area for board diversity. Board diversity is believed could influence intellectual capital in some ways. First, board diversity can promote greater innovation and flexibility in the decision-making process. The broader knowledge within the board also can improve the firm's understanding of the perceptions and need of either employee or customer (Al-Musali & Ismail, 2015). The board diversity can be defined by variety characteristics; expertise, managerial background, personality, learning style, age, education and value (Mitchell, 2000).

Mitchell (2000) stated that there is a positive significant relationship between women percentage on board and intellectual capital performance. The competitiveness of women could bring competitive advantage in managing the company's product and labour market (Swartz & Firer, 2005). Women can serve in unique ways, which are as a role model, as a mentor, and champions on high-performing women in the organization, as advocates on the board's agenda. Board diversity can assist a company in generating

more original approaches to intellectual capital and decision-making task (Swartz & Firer, 2005).

According to agency theory, a larger board can be a big problem due to a lack of communication and result in inefficiency of controlling and monitoring the management (Ho & Williams, 2003). The lack of monitoring by a larger board could make suboptimal decisions about intellectual capital, which can destroy corporate value (Appuhami & Bhuyan, 2015). However, a too-big board size can offset the benefit by the incremental cost of poorer communication and increased decision-making time (Hidalgo et al., 2011). There are also two investigations result in a significant negative relationship between board size and intellectual capital (Oba, Ibikunle, & Damagum, 2013; Cerbioni & Parbonetti, 2007). From the theories and researches, optimal board size can give a positive influence on intellectual capital, thus a too-big number of people can decrease in value.

La Porta, López-de-Silanes, Shleifer, and Vishny (1998) classified ownership concentration and managerial ownership as the most effective mechanism of corporate governance. Managerial ownership is believed can help the company to align the interest of managers and shareholders and increase the long term value of the company, by increasing firm value, such as intellectual capital (Noradiva et al., 2016).

The first literature of positive relation between CG and IC conceptually was developed by Keenan and Aggestam in 2001. A study showed that managerial ownership has a significant but negative effect on the firm value (Noradiva, et al., 2016). However, there is a result in accordance with the theory, which said that managerial ownership could reduce agency problem within the company. Ho and Williams (2003) mentioned that corporate governance has a significant impact on intellectual capital.

H₂. Corporate Governance has a positive impact on intellectual capital.

Nowadays there is a shifting from traditional corporate valuation method to the off-balance-sheet valuation, which considers the possible growth (Berzkalne & Zelgalve, 2014). Intellectual capital management is one of the resources, which is about managing and transforming resources in creating company value (Kweh et al., 2013). Intellectual Capital also can be an instrument to observe organizational hidden value (Daryae et al., 2011). Both corporate governance and intellectual capital have a relationship to company value, therefore it can be concluded that corporate governance can be the mechanism who affect company value through the management of intellectual capital (Wang, 2008; Nimtrakoon, 2015). Pangestu and Wijaya (2014) found that SCE and CEE are able to influence the market value in Indonesian manufacturing companies. In contrast, Aida and Rahmawati (2015) initiated that intellectual capital, in Indonesian manufacturing companies, has no direct impact on firm value.

Kweh et al. (2013), Maditinos, Chatzoudes, Tsairidis, and Theriou (2011), Tanideh (2011) found a non-significant relationship between VAIC and both Tobin's and ROA. In spite of the insignificant relationship between VAIC to the firm value, human capital efficiency

shows the most significant relationship (Maditinos et al., 2011). There are also some which result in a positive significant relationship (Berzkalne & Zelgalve, 2014; Daryae et al., 2011; Makki & Lodhi, 2014).

H₃: Intellectual Capital has a positive impact on firm value.

The ability of corporate governance to increase company value has been proven in several studies that have been discussed previously, and then become the first hypothesis in this study. Similarly, the ability of corporate governance to increase the value-added of investment in intellectual capital has been proven by several previous studies. The third hypothesis in this study is based on several studies that prove that intellectual capital can increase the value of the company. This positive influence of intellectual capital on firm value is then the basis of this research to examine the ability of intellectual capital as a mediating variable in the relationship of corporate governance with firm value. Moreover, several previous studies also examined the existence of intellectual capital as mediation in the relationship of corporate governance with corporate financial performance. Liang et al. (2011) tested the intellectual capital as the mediating variable in the relationship of ownership structure and firm value (Tobin's Q). Nkundabanyanga, Ntayi, Ahiauzu, and Sejjaaka (2014) examine intellectual capital as a mediator of board governance and firm performance. Therefore, the fourth hypothesis is formed as follows:

H₄: Intellectual Capital can mediate corporate governance and firm value.

Research Method

Model Analysis and Operational Variable Definitions

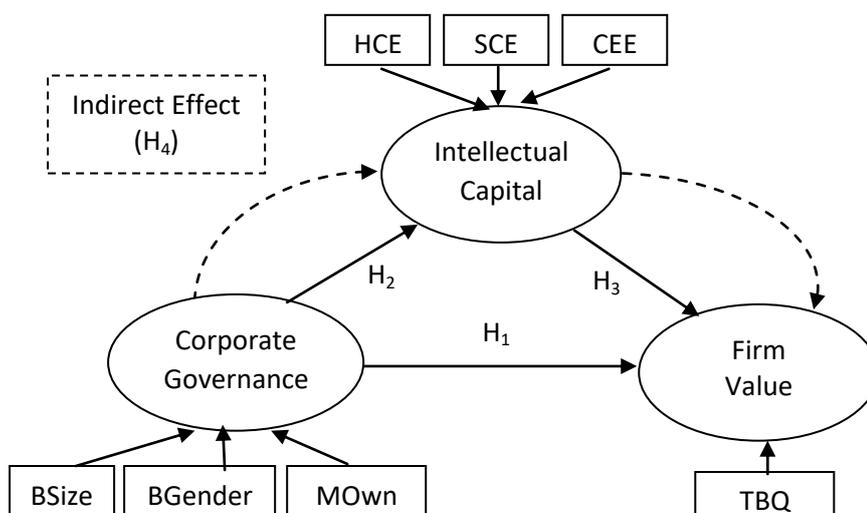


Figure 1 Model Analysis

The purpose of this study is to discover the impact of corporate governance mechanism on firm value, with the intellectual capital as the intervening variable. For hypothesis testing, the relationship between variables will be tested according to Figure 1.

Table 1 shows the list of variables used in this research along with their measurement scale.

Table 1 Operational Definitions of Variables

Variables	Operational Definition and Scale of Measurement	Source of Data
Corporate Governance as the independent variable	<ul style="list-style-type: none"> Board size (BODSize) refers to the number of the organization's board. It is using nominal measurement. Gender diversity (BODGender) refers to the proportion of women in the management board. It is a ratio measurement. Managerial ownership (BODmown) is measured by the ratio of the executive director's shareholding both direct and indirect. Due to Indonesia's two-tier board system, the calculation of the board size, and gender diversity ratio will be separated between BOD and BOC 	Hand collection data from Annual report in Indonesia Stock Exchange and Bursa Malaysia websites
Value Added Intellectual Capital (VAIC) as the Mediating Variable	<ul style="list-style-type: none"> The component of VAIC consists of Human Capital Efficiency (HCE), Structural Capital Efficiency (SCE) and Capital Employed Efficiency (CEE) Value Added (VA) $VA = OP + EC + DP + A$. Where OP is operating profit, EC is total employee expense, DP is depreciation, A is amortization. Human Capital Efficiency (HCE) $HCE = \frac{VA}{HC}$. Where HC is human cost or total salaries and wages. Structural Capital Efficiency (SCE) $SCE = \frac{SC}{VA}$. Where SC is structural capital or value-added minus human cost. Intellectual Capital Efficiency (ICE) $ICE = HCE + SCE$ Capital Employed Efficiency (CEE) $CEE = \frac{VA}{CE}$. Where CE is capital employed or book value of net assets. Value Added Intellectual Coefficient (VAIC) $VAIC = ICE + CEE$ 	Bloomberg and processed by authors
Tobin's Q, the indicator of Firm Value as the dependent variable	<ul style="list-style-type: none"> The firm value will be calculated using the proxy of Tobin's Q. $TBQ = \frac{MVE+PS+Debt}{TA}$ Where: MVE = Market Value of Equity (Closing Price of Stock at the end of the year x Number of Outstanding Shares); PS = Preferred Stocks; Debt = Short-Term Debt; TA = Book Value of Total Assets. 	Bloomberg and Yahoo Finance, then processed by authors

Based on the model analysis, there will be two regression models, as follow:

$$VAIC = \alpha + \beta_1CG + \varepsilon \quad \text{(model 1)}$$

$$TBQ = \alpha + \beta_1CG + \beta_2 VAIC + \varepsilon \quad \text{(model 2)}$$

Population, Sampling and Data Analysis Techniques

The population of this study is all company in sub-sector of consumers goods sector listed on Indonesia Stock Exchange and Bursa Malaysia, respectively during 2010 – 2015. The sub-sectors in Indonesia Stock Exchange (IDX) are namely food and beverage, cigarettes, pharmacy, cosmetics, housewares, and others. The sub-sectors in Bursa

Malaysia are namely food and beverage, apparel shoes, automobiles and parts and personal and household goods.

The sampling technique used in this study is purposive sampling. The sample is chosen based on certain criteria. (1). Listed on Indonesia Stock Exchange (IDX) in the consumer goods sector for Indonesia companies, and Bursa Malaysia in the consumer goods sector for Malaysia companies. (2). The Initial Public Offering (IPO) before 2010. (3). Published a complete annual report during 2010-2015. (4). Its share price data in Yahoo Finance during 2010-2015.

The unit analysis in this study that meets the criteria are 786 firm-years of companies (25 Indonesia; 106 Malaysia; each for 6 years). This study is quantitative research, which will generate objectivity as the type of knowledge. This study also uses latent variables with intervening variables and formative model indicators to test the influence of corporate governance indicators; managerial ownership, board size and gender diversity on firm value through intellectual capital as the intervening variable. This study used a statistical software, named WarpPLS. This software is a graphical user interface software for both variance-based and factor-based structural equation modeling (SEM) by combining both partial least squares (PLS) and factor-based methods. Shahriar, Samuel, and Saif (2017) reveal that PLS-SEM is suitable to assess a complex and hierarchical model in the area of big data.

Result and Discussion

Descriptive Analysis and Model Fit

Table 2 Detail Descriptive Analysis of Indicator

Country	Indicators	Criteria			
		Std. dev	Mean	Min.	Max.
Indonesia	BODSize	2.402	5.307	2.000	15.000
	BOCSize	1.503	4.287	2.000	8.000
	BODmown	0.057	0.020	0.000	0.231
	BOCmown	0.025	0.006	0.000	0.126
	BODgender	0.173	0.123	0.000	0.750
	BOCgender	0.181	0.110	0.000	0.670
	Tobin's Q	3.755	3.133	0.241	18.055
	HCE	13.969	5.561	0.147	148.749
	SCE	0.708	0.514	-5.308	0.993
Malaysia	CEE	1.574	0.630	0.022	19.032
	BODsize	2.097	7.535	4.000	18.000
	BODmown	0.184	0.153	0.000	0.637
	BODgender	0.126	0.106	0.000	0.500
	Tobin's Q	1.591	1.161	0.018	14.764
	HCE	4.640	2.820	-21.982	76.535
	SCE	1.226	0.543	-8.168	19.980
	CEE	0.298	0.289	-4.023	1.628

As shown in Table 2, the number of directors in Malaysia is more than in Indonesia. Likewise, with share ownership of members of the board of directors, the portion is greater in Malaysia than in Indonesia. Apparently, the number of female directors in Indonesia is greater than in Malaysia. Corporate values (Tobin's Q), HCE and CEE in Indonesia are higher than in Malaysia. However, the value of SCE in Malaysia is higher than in Indonesia.

Table 3 is the result of the model fit and quality indices from both Indonesia and Malaysia consumer good companies. Table 4 shows that all indicators are valid. The higher weight of the indicators, show a higher contribution to that variable. As shown in Table 3, the strongest indicator of corporate governance in Indonesia is BODsize, with a weight of 0.378. Malaysia does have the same strongest indicator of corporate governance, which is BODsize, with a weight of 0.735. SCE is the strongest indicator compares to HCE and CEE in Indonesia companies. The weight of SCE is 0.654. Malaysia had a different result. The strongest indicator is CEE, compared to HCE and SCE. CEE has a weight indicator for 0.646.

Table 3 Model Fit and Quality Indices

No.	Model fit & Quality Indices	Fit Criteria	Indonesia		Malaysia	
			Result	Conclusion	Result	Conclusion
1	Average Path Coefficient (APC)	p<0.05	0,230, p<0.001	Passed	0.302, p<0.001	Passed
2	Average R-Square (ARS)	p<0.05	0.114, p=0.039	Passed	0.219, p<0.001	Passed
3	Average Adjusted R-Square (AARS)	p<0.05	0.105, p=0.047	Passed	0.218, p<0.001	Passed
4	Average Block VIF (A VIF)	Acceptable if ≤5, ideally ≤ 3.3	1.100	Ideal	1.03	Ideal
5	Average Full Collinearity VIF (AFVIF)	Acceptable if ≤5, ideally ≤ 3.3	1.080	Ideal	1.253	Ideal
6	Tenenhaus Gof (Gof)	Small ≥0.1 medium ≥0.25 large ≥0.36	0.258	Medium	0.357	Medium
7	Sympson's Paradox Ratio (SPR)	Acceptable if ≥0.7, ideally =1	1.000	Ideal	1.000	Ideal
8	R-Square Contribution Ratio (RSCR)	Acceptable if ≥0.9, ideally =1	1.000	Ideal	1.000	Ideal
9	Statistical Suppression Ratio (SSR)	Acceptable if ≥ 0.7	1.000	Acceptable	1.000	Acceptable
10	Nonlinear Bivariate Causality Direction Ratio (NLBCDR)	Acceptable if ≥ 0.7	0.833	Acceptable	1.000	Acceptable

Table 4 Indicators Weight

Country	Corporate Governance				Intellectual Capital			
	Indicator	Weight Indicator	P-Value	VIF	Indicator	Weight Indicator	P-Value	VIF
Indonesia	BODsize	0.378	<0.001	2.397	HCE	0.653	<0.001	1.029
	BOCsize	0.288	<0.001	1.319				
	BODmown	-0.251	<0.001	1.286	SCE	0.654	<0.001	1.029
	BOCmown	0.293	<0.001	1.995				
	BODgender	-0.115	0.075	1.102	CEE	-0.042	0.032	1.000
Malaysia	BODsize	0.735	<0.001	1.017	HCE	0.615	<0.001	1.01
	BODmown	-0.404	<0.001	1.011	SCE	-0.32	<0.001	1.002
	BODgender	0.451	<0.001	1.011	CEE	0.646	<0.001	1.011

Hypothesis Test (Direct Effect, Mediating Variable, and Total Effect)

Table 5 shows the hypothesis results along with the mediating effect. Indonesia’s corporate governance and VAIC have a significant influence on firm value (TBQ). Both of their relationships have p-value lower than 5% significant level, thus it can be concluded that the higher value of corporate governance and intellectual capital in the Indonesia companies, the higher firm value achieved by those companies. Other than firm value, corporate governance also has an impact on the intellectual capital of the companies. It means that the higher value of corporate governance can result in the higher intellectual capital of the company, which may drive to the higher firm value. Because of the relationship between corporate governance and firm value shows a positive and significant direct relationship, hypothesis 1 is accepted. Hypothesis 2 and 3 are accepted since the corporate governance on intellectual capital and intellectual capital on firm value also have a positive significant direct relationship.

The higher corporate governance score in Malaysia companies can lead to higher intellectual capital value and firm value within the companies. It means that corporate governance has a positive significant direct relationship to either intellectual capital or firm value. Thus, hypothesis 1 and 2 are accepted. The mediating variable, which is intellectual capital, has a coefficient value of 0.598 with $p < 0.001$ to firm value. The higher value of intellectual capital may be the reason for the increasing value of the company. Because the intellectual capital and firm value show a positive significant direct relationship, hypothesis 3 is accepted.

The effect of corporate governance and firm value, which measured by Tobin’s Q approximation have indirect effect coefficient of 0.030 and $P = 0.298$, which is higher than 5% significant level. It means that corporate governance does not have an indirect effect on firm value, hypothesis 4 is rejected in Indonesia. The result of Malaysia consumer good companies showed that corporate governance and firm value have an indirect coefficient for 0.087 and $P < 0.001$. Therefore, there is an indirect effect of corporate governance and firm value, hypothesis 4 is accepted in Malaysia.

Both Indonesia and Malaysia data in Table 4, showed that board size is the most important indicator in the corporate governance compared to managerial ownership and

gender diversity. None of Indonesia and Malaysia corporate governance code restrict the size of its board. They prefer flexible size therefore, the company can adjust its board size in more effective ways. The company can explore more members with a mixture of skills and experiences. Asian cultures tend to value collectivism relatively more than individualism. They also have a more long-term orientation in managing company's strategies. Those two contexts suggest that Asian countries may be more conducive to emerge of stewardship behaviours (Cossin, Ong, & Coughlan, 2015).

Table 5 Summary of Hypothesis

Country	Type of Variable			Type of Effect			Explanation	Hypothesis Accept/Reject
	Independent	Dependent	Mediating	Direct	Indirect	Total		
Indonesia	Corporate Governance	VAIC	-	0.121 (0.065)	-	0.121 (0.065)	CG has significant & positive effect on VAIC ($\alpha = 10\%$)	H ₂ is accepted
	VAIC	TBQ	-	0.251 (<0.001)	-	0.251 (<0.001)	VAIC has significant & positive effect on TBQ ($\alpha = 5\%$)	H ₃ is accepted
	Corporate Governance	TBQ	VAIC	0.319 (<0.001)	CG → VAIC → TBQ 0.030 (0.298)	0.349 (<0.001)	The model has an insignificant indirect effect	H ₁ is accepted H ₄ is rejected
Malaysia	Corporate Governance	VAIC	-	0.145 (<0.001)	-	0.145 (<0.001)	CG has significant & positive effect on VAIC ($\alpha = 5\%$)	H ₂ is accepted
	VAIC	TBQ	-	0.598 (<0.001)	-	0.598 (<0.001)	VAIC has significant & positive effect on TBQ ($\alpha = 5\%$)	H ₃ is accepted
	Corporate Governance	TBQ	VAIC	0.163 (<0.001)	CG → VAIC → TBQ 0.030 (0.298) 0.087 (<0.001)	0.250 (<0.001)	The model has a positive significant indirect effect	H ₁ is accepted H ₄ is accepted in partial mediation

Even though either Indonesia or Malaysia has characteristic of ownership concentration, it may not apply for public listed companies. The Malaysia data also indicated that managerial ownership is a negative indicator because 31% of data are on the decline range of impact (Ruan, Tain, & Ma, 2011). The fact of gender diversity in Asian countries may become a comprehensive fact, why gender diversity is less important than board size. Women representation in ASIA is strikingly low compared to Europe and the United States (McKinsey, 2012). Especially in Indonesia, the data indicated that gender is a negative indicator of corporate governance.

VAIC in Indonesia mostly is contributed by HCE and SCE. Food and Beverage industry has the highest contribution of the total contribution of the manufacturing industry to Indonesia GDP (Hidayat, 2016; Munandar, 2017). The high contribution of manufacturing industry especially on consumer goods product showed that the need for human capital and structural capital must be growing until now. In 2015, the government also implement Economic Policy Package, which mostly affects food and beverage companies to support domestic industrialization - especially for export-oriented. Furthermore, that policy is expected can attract labour-intensive in the manufacturing sector to combat unemployment rate (Hidayat, 2016; Munandar, 2017). According to McKinsey and Company, Indonesia has unique facets of the consumer market. They said that "Indonesia attach more importance to brands than do the customers of any nation we've seen at this development stage" (GBG Indonesia, Manufacturing, 2013). The importance of brand image boosts many manufacturing industries to increase their innovation. National Innovation Committee (KIN) Indonesia wants to boost the innovation performance of many sectors in order to be more competitive in the ASEAN market. Now the government and the KIN is emphasizing science, technology, and innovation (SIT) to highlight the importance of quality of human resources, science, and technology (OECD, 2010). This fact strengthens the reason for minus score CEE and high scores of HCE and SCE.

Data showed that VAIC in Malaysia mostly is contributed by HCE and CEE. It is mostly caused by the fact that many manufacturing companies in Malaysia do not see the future benefits from research and development activities, thus they reported research and development activities as expenses rather than as an investment. The lack of improvement in innovation and unreliable report on R&D affects the structural capital employed of the companies (Shamsuddin et al., 2017). Furthermore, in 2014, FIFA World Cup 2014 season and festivities and school holiday had a lot of contribution to the increase of food and beverage consumption. On that year there was an increase HCE and CEE, which can be caused by the increase of human contribution and investment on equipment or machine (Hooi, 2016).

In both Indonesia and Malaysia, all indicators of corporate governance have a positive and significant impact on firm value. Thus, hypothesis 1 is accepted. Gender diversity in the board becomes increasingly important by adding some value-added within the companies. The importance of gender diversity is supported by human capital theory (Isidro & Sobral, 2015), agency theory (Carter, Simkins, & Simpson, 2003), stewardship theory (Prihatiningtyas, 2012; L'Huillier, 2014), competence-based theory and resource

dependency theory (Al-Musali & Ismail, 2015). The current fact in Indonesia and Malaysia demographic and the represented of women on board also agree on the importance of gender diversity on the board. The increasing percentage of women on board in Indonesia (Putri, 2016) and the development of Women Director's Registry (Deloitte, 2013) support the positive impact of women on board.

Board size is mentioned as the most important indicator of corporate governance in Indonesia and Malaysia. According to agency theory, the corporate member should provide expert advice, supervise or monitoring role to other members and seek discipline from management to ensure that all managers pursue the interest of shareholders. According to resource dependence theory, having larger board member means can diverse the member in experiences, ideas, and skills as well as greater opportunity to secure critical resources, contact and contracts (Ntim, et al., 2015). All sample companies used in this study are limited liability companies, which are big and have a higher complexity. Higher complexity can mean the higher diversification, larger assets and more relying on debt financing. Thus, the context of Indonesia with larger board size, it is expected that board of commissioners has more member with specific experiences and expertise in order to increase the quality of advice and their monitoring role on the board of directors. The larger board directors itself is expected to increase the capabilities in dealing with business complexity and undertake various strategic actions. In Malaysia, a company with unitary board system, a larger board can be interpreted as companies have bigger outsider companies, thus can increase the pooling of expertise and experiences to monitor the managers in day-to-day activities (Darmadi, 2013).

The managerial ownership significantly positive affect firm value of the companies. According to agency theory, ownership structure within the companies can lead in solving the separation of ownership and issues in who should be in control (Nadarajan, Chandren, Bahaudinb, Elias, & Halim, 2016). Because the shareholder must want to enhance the long-term value, as their wealth assurance, now the board member might also want to enhance the long-term value of the company, such as intellectual capital (Saleh, et al., 2009). Even though, the percentage of Indonesia managerial ownership is low and the percentage of Malaysia managerial ownership is not really big, they still have a positive response that positively affects intellectual capital. Especially in Malaysia, the strategy is mostly focused on intellectual capital, which finally drives to higher firm value. Generally, members of the board who have a substantial fraction of a firm's equity may have enough voting power or influence to guarantee theory employment with the firm at an attractive salary (Bohdanowicz, 2014). That attractive salaries may interest the better quality of human capital in order to increase the company's human, structural and capital employed. According to stewardship theory, there are situational and psychological factors that incline individuals' decision to be steward or agents. Through the rational process, the agents as individuals have the capability to learn and change their preferences as they interact throughout time (Pastoriza & Ariño, 2008).

Previous explanation supported by several previous research to both intellectual capital and firm value. Corporate governance is positively impacting firm value (Kamardin,

2014; Ntim, Opong, & Danbolt, 2015; Kamardin & Haron, 2011; Carter et al., 2003). Corporate governance also has positive impacts on intellectual capital (Ho & Williams, 2003; Hidalgo et al., 2011; Williams, 2000). The supported theories and previous research supported the result data, thus H_1 and H_2 are accepted.

The result of hypothesis 3 test showed that both in Malaysia and Indonesia, intellectual capital is positively significant to the firm value, which measured by Tobin's Q. The result is supported by the economic condition currently in ASEAN. Intellectual capital can provide companies with a competitive edge in the market because of intellectual capital consists of knowledge, applied experience, organizational technology, customer relationship and professional skills (Daryae et al., 2011). By maximizing the intellectual capital, companies can maximize the exploitation of available resources more effectively and efficiently, especially in the knowledge-based economy nowadays (Berzkalne & Zelgalve, 2014). This maximization of intellectual capital is in accordance with the competence-based theory. According to resource dependence theory, intellectual capital is a resource of the company as the core of value creation and competitive advantage for companies. Human Capital as the employee capabilities is considered as the most important, that can create an intangible asset and has a direct impact on firm performance or valuation. Structural capital also seen as a foundation stone in the organization can provide a supportive environment for the employee. Thus, the employee can increase productivity and decrease the total cost of production, and eventually increase companies' profit (Makki & Lodhi, 2014). The perspective is supported by some prior researches as well (Berzkalne & Zelgalve, 2014; Daryae et al., 2011; Makki & Lodhi, 2014).

Intellectual capital failed to mediate the relationship between corporate governance and firm value in Indonesian consumer goods companies. Then, intellectual capital in Indonesia is treated as a predictor variable, which is used in regression to predict another variable. Moreover, Malaysia's corporate governance has a positive significant relationship with intellectual capital, while intellectual capital has a positive significant relationship to firm value. As the conclusion in Malaysia's model, intellectual capital can be a partial mediation between corporate governance and firm value. When an independent variable has both direct and indirect effects on a dependent variable, then the intervening variable is only able to partially mediate the dependent variable to the independent variable (Edwards & Lambert, 2007; Hayes, 2013).

Conclusion

The analysis of corporate governance, intellectual capital, and firm value are varied, depend on the variables or indicators, countries and object of the study. From the analysis, it can be concluded that corporate governance in both Indonesia and Malaysia positively affect intellectual capital and firm value. The intellectual capital in both countries also has a significant and positive impact on firm value. Even more, the intellectual capital in Malaysia can partially mediate the relationship between corporate

governance and firm value. However, the significant impact of both countries is affected by a different phenomenon, which is reflected in their countries.

As the important role of board size, gender diversity and managerial ownership, companies still have to consider the amount of board size. They have to ensure that the incremental cost of each member of the board should be offset with the increment benefit for companies. Malaysia companies should be more concern about their managerial ownership. Indonesia companies should be more focused to improve the recognition of women on their board. Data statistically conclude that women bring a positive impact on firm value and intellectual capital. Focusing strategy to increase the intellectual capital of the company can help a company to boost firm valuation. Even more, intellectual capital can mediate board size, gender diversity, and managerial ownership to firm value in Malaysia.

The theoretical contribution has two dimensions, which are originality (incremental or revelatory) and utility (scientific or practical). This study contributes to both incremental contribution and practical contribution. As an incremental contribution, this study can become proven or additional literature for further research. The composition of the indicator of corporate governance is new for this topic. This study combine board structure, board characteristic, and managerial ownership. The previous model mostly was about; corporate governance and intellectual capital, corporate governance and firm value, intellectual capital and firm value, and corporate governance, intellectual capital and firm performance. Some of them have been tested in Indonesia and Malaysia. This study creates a model, which is about corporate governance, intellectual capital, and firm value. The result strengthens the existing theories and researches. Thus, it contributes to the incremental knowledge related to this topic.

As the practical contribution to enhance the usefulness of this study, hopefully, it can give more deep understanding to both management of the companies and the investors. Management might use variables used in this study as the further consideration to increasing company's performance, while the investor can see the real impact of those variables, which can be traced on companies annual report and take it as consideration regarding where to invest in.

This research did not carry out a different test on the amount of intellectual capital in consumer goods companies in Indonesia and Malaysia. Therefore, further research can consider conducting a more in-depth test of the practices of corporate governance, intellectual capital and corporate value between Indonesia and Malaysia. The result of Tenenhaus GoF (GoF) test in both Indonesia and Malaysia show on medium ranges, which are 0.257 and 0.358 respectively. It means that the formative model of this study only provides a medium measurement of overall fit or overall prediction performance of the model.

Researches results are varied depends on the variable or indicators used. This research has added an incremental contribution, by providing a set of indicator that could have a positive impact on onward Intellectual capital and firm value. Specifically, the

Intellectual capital is measured by VAIC, while the firm value is measured by Tobin's Q. As to add another incremental contribution, further research may combine another indicator of corporate governance or maybe more specific on, for example, board diversity. This study specifically tested on developing countries, where currently becomes the investor's destination. Further research can be tested in under-performed countries or another developing country.

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