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### The Influence of Intellectual Capital towards Firm Value with Independent Commissioner and Audit Committee as Moderating Variables

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**Abstract:** This research investigates whether intellectual capital have an influence on firm's value, with independent commissioner and audit committee as the moderating variables. This research uses several control variables: capital structure, size, leverage, and audit quality. The sampling technique used was purposive sampling method, with 258 observations being drawn from 86 manufacturing companies listed on the Indonesia Stock Exchange between 2010 and 2012. This research uses multiple regression analysis, namely Moderating Analysis Regression. The result indicates that intellectual capital has a significant effect on firm's value. As for the moderating variables, there are mixed findings. Audit committee strengthens the influence of intellectual capital on firm's value, while independent commissioner does not have any significant influence. The control variables also suggest mixed findings. Capital structure, size, and audit quality have a positive significant effect on firm's value, while leverage has an insignificant effect.

**Keywords:** Intellectual Capital, Independent Commissioner, Audit Committee, Firm's value.

#### I. Introduction

Globalization leads to a rapid change, where firms must strive to enhance their values by expanding the use of resources and their most important assets from tangible into intangible assets. One component of intangible assets is intellectual capital which contained one crucial element, i.e. a person's intellectual capacity or knowledge. Realizing the importance of intellectual capital for the firm's growth, firms put a growing attention to the intellectual capital management.

Intellectual capital is one of the main ingredients for the firms to create the added value needed to boost their competitiveness. Firms that have excellent competitiveness will be able to compete and survive in the business environment. Guthrie and Petty (2000) stated that intellectual capital strengthens firms' competitiveness in achieving their goal (i.e. optimizing the firm's value). The firm's value is reflected in its stock price, where the difference between the stock price and the book value of the assets owned by the firm indicate the presence of a hidden value. The hidden value is believed to be the intellectual capital which is recognized and valued by the market. Therefore, there is a growing recognition of the intellectual capital in boosting the firm's market value. As stated by Chen et al. (2005), intellectual capital gives the positive influence to the firm's market value. Intellectual capital measurement has been introduced by Pulic (2000) by using the *Value Added Intellectual Coefficient* (VAIC<sup>TM</sup>), a measure for assessing the efficiency of added value as a result of the firm's intellectual abilities.

The other factor that affect the firm's value is the good corporate governance. Corporate governance possesses a controlling ability that can accomodate the different interests between principal and agent, so that a financial report with qualified information can be produced (Jansen and Meckling, 1976), which in turn will reflect a better firm's value. Corporate governance sets the firm's goal optimally, effectively, and efficiently, through the usage of the supervisory and the risk mitigating roles. Therefore, an effective supervision is needed by the concerned sections in the management of the firm. One of the most important aspects to implement the concept of good corporate governance is to ensure the availability of independent commissioner and audit committee. Based on the description above, the research purpose is to asses the following: (1) the influence of intellectual capital towards firm's value; (2) the independent commissioners as a moderating variable can strengthen the influence of intellectual capital towards firm's value; and (3) the audit committee as a moderating variable can boost the influence of intellectual capital towards firm's value.

#### II. Literature and Hypothesis

Intellectual capital is the information and knowledge applied to the work so that it will produce value (Williams, 2001). Intellectual capital covers all the workers' knowledge, organization, and their ability to produce the added value and lead to the sustainable competitive advantage. Bontis (1998) said that intellectual capital can be identified as an intangible asset (resources, capabilities, and competencies) which will drive the organizational performance as well as the value creation. Further, Bontis et al. (2000) explained the fundamental elements of the intellectual capital, i.e. human capital, structural capital, and physical capital.

Independent commissioner is a commissioner who is not a member of the management, the main stakeholders, or any officials related both directly and indirectly to the main stakeholders of a firm. National Committee on Corporate Governance Policies (2006) issued guidelines about the independent commissioner of a public company. The guideline stated that independent commissioner is responsible in overseeing the policy and actions of the board of directors, as well as giving them advice when necessary.

Audit committee is formed to help the board of directors by undertaking the responsibility to check the financial information of a firm for the purposes of the stakeholders or other parties. Based on the regulation of the capital market supervisory board in Indonesia (BAPEPAM No.Kep-29/PM/2004 on 24<sup>th</sup> September 2004), audit committee members are required to be independent and should have at least one person competent in the fields of accounting and finance.

High firm's value can make the markets believe in the firm's performance and its prospect in the future. Maximizing the firm's value is very important, because the prosperity of the stakeholders will also be maximized. However, according to Jansen and Meckling (1976), conflict between management and principal (agency problem) may cause share value to be corrected and decrease the firm value.

Capital structure is a permanent expenditure which reflects a balance between the long-term debt and capital owned. As stated by Modigliani and Miller (1958), increasing the use of debt will provide benefits in the form of tax payments and the increase in the profits of shares to be received by a shareholder, so that the ultimate goal of a firm to maximize the prosperity of shareholders will be achieved.

Leverage ratio is the comparison between total of debt and total of capital. A low leverage value indicates a better ability for the firm to pay the total debt using the total funds owned by the firm (Copeland T.E dan J.F. Weston, 1992). Therefore, the decrease of leverage will increase the firm value.

Firms with larger assets will invest a greater amount of capital. Also, a larger amount of sales implies a more frequent turnover in the firms and also a bigger market capitalization, which in turn will make the firm better known to the public. The larger a company is, the more competitive that company is, compared to the other main competitors. Thus, the investors will give positive responses to the firm's value.

The audit quality can be seen from the size of the public accounting firms. The big four of public accounting firms perceived better audit quality compared to the non big four. In general, a better audit quality reflects a better firm's value. Krishnan and Schauer (2000), Kim et al (2003), and Khrishnan (2003) use the size of the public accounting firms to measure audit quality, treating it as a dichotomous variable and a dummy assuming 1 and 0 each for the large and the small public accounting firms.

### III. Formulating Hypothesis

In the theory of stakeholder, all firm activities will end up at the creation of value. The concerned parties (stakeholders) will respect the firm that creates value; because with the creation of a good value, the firm will become more capable to fulfill the interests of the concerned parties (Belkaoui 2003). In the context of intellectual capital, the creation of value can be done by maximizing the utilization of each elements of intellectual capital (human capital, physical capital, and structural capital) (Bontis et al, 2000). As one of the concerned parties, investors in the stock market will show appreciation for the excellence of intellectual capital owned by the firm by investing in the firm. The increase in investment will, in turn, raise the firm's market value. According to Firer and Williams (2003) and Chen et al, (2005), intellectual capital gives a significantly positive influence to the firm's value. Based on the description above, the proposed hypothesis is:

**H<sub>1</sub>: Intellectual capital will positively influence firm's value.**

Audit committee provides a supervision mechanism which will improve the quality of current information between the firm's owner and manager, especially in a financial reporting that allows a variation in information disclosure (Barako, 2007). Further, Barako (2007) stated that there is a positive relationship between the presence of audit committee and the firm's disclosure. As emphasized by Li et al. (2008), a firm with a larger size of audit committee tends to provide a greater intellectual capital disclosure in its annual report. The market reaction would be different between a firm which forms an audit committee and a firm without audit committee. Audit committee is the independent party who is assigned to supervise the process of financial reporting. Hence, the market will react stronger to the annual report of firm which has an audit committee. According to Harjoto et al, (2007), a firm's value could increase by the application of corporate governance. Further support can be found from several research, e.g by Siallagan and Machfoedz (2006) and Black (2001), where the audit committee gives a significantly positive influence to firm's value. Based on the description above, the proposed hypothesis is:

**H<sub>2</sub>: Audit committee will strengthen the influence of intellectual capital towards firm's value.**

Independent commissioner is the neutral party in a firm who is expected to bridge the information asymmetry between owner and manager by encouraging the other members of the board of commissioners to do a better supervisory duty. If the supervision is done effectively, it would lead to a better firm's management, where the

management will disclose all the information, including the information about intellectual capital (White et al., 2007). Cerbioni and Parbonetti (2007) found out that independent commissioner may positively influence the disclosure of intellectual capital. White et al. (2007) and Li et al. (2008) also mentioned that there is a positive significant relationship between independent commissioners and the disclosure of intellectual capital. Furthermore, Li et al. (2008) explained that the expertise and extensive experience of an independent commissioner will encourage the management to increase the value of intellectual capital disclosure to the stakeholders. This is in accordance with the stakeholder theory; investors will appreciate a firm which is able to create an added value, where one way to create it is by applying the intellectual capital. Thus, independent commissioner as the neutral party is needed to help in arranging the strategy to apply the intellectual capital optimally in order to increase the firm's value. According to Harjoto et al., (2003), the firm's value may be increased due to the presence of corporate governance that runs properly. The study is supported by the results from Barnhart and Rosenstein (1998) which proved that a higher representation of independent commissioner causes a higher effectiveness of the corporate board, so it can increase the firm's value. Based on the elaboration above, the proposed hypothesis is:

**H<sub>3</sub>: An independent commissioner will strengthen the influence of intellectual capital towards firm's value.**

#### IV. Research Methodology

The data used in this study is a secondary data from the Indonesian Stock Exchange and the Indonesian Capital Market Directory. The research sample is a group of industrial/manufacturing company registered during the period 2010-2012. During the period, 86 companies are compatible with the criteria based on the purposive sampling. This method resulted in a pooled data consisting of 258 observations.

The hypotheses test is conducted using the analysis of multiple regression, namely *Moderating Analysis Regression*. The model equations are as follows:

**1<sup>st</sup> Regression Model** to test hypothesis 1:

$$\text{FIRM VALUE} = \alpha_0 + \alpha_1\text{IC} + \alpha_2\text{CS} + \alpha_3\text{LEV} + \alpha_4\text{FS} + \alpha_5\text{AQ} + e$$

**2<sup>nd</sup> Regression Model** to test hypothesis 2 and 3:

$$\text{FIRM VALUE} = \gamma_0 + \gamma_1\text{IC} + \gamma_2\text{InC} + \gamma_3\text{AC} + \gamma_4\text{IC*InC} + \gamma_5\text{IC*AC} + \gamma_6\text{CS} + \gamma_7\text{LEV} + \gamma_8\text{FS} + \gamma_9\text{AQ} + e$$

note:

IC is Intellectual Capital, InC is Independent Commissioner, AC is Audit Committee, CS is Capital Structure, LEV is Leverage, FS is Size of Firm, AQ is Audit Quality.

#### V. Result and Discussion

The descriptive statistics in Table 2 suggest that the mean value of intellectual capital has a considerable distance from the maximum value, meaning that the mean value of intellectual capital of the manufacturing firms is good enough. The frequency tests in Table 3 suggest that, of the total 258 observations, a majority of the firms (65,1%) have an independent commissioner with an accounting or finance as the educational background, while 95% of the firms have an audit committee with an accounting or finance as the educational background. Also, 62,4% of the firms are using the non big four – public accounting firms.

The data normality in this research is tested with the *Kolmogorov-Smirnov*. The test result showed that *asympt.sig* is smaller than  $\alpha=0.05\%$ , where the first regression model is 0,610 and the second regression model is 0,381. Thus, it can be concluded that the regression of residual is normally distributed.

The classical assumptions tests is also conducted to test: (i) the homoskedasticity assumption using the *Glejser and bivariate* tests; (ii) the no-multicollinearity assumption using the *VIF* test; and (iii) the no-autocorrelation assumption using the *Durbin-Watson* test. The test results show that the regressions do not experience heteroskedasticity and autocorrelation. However, the VIF test on the second regression model suggests that a substantial degree of multicollinearity is present. According to Gujarati (2009), the occurrence of multicollinearity in *Moderating Regression Analysis (MRA)* is not a serious problem, as long as a high *R-Squared* value is achieved. He suggested that it is due to the interaction between the independent variable  $\chi_1$  and  $\chi_2$  in the moderating variable ( $\chi_1*\chi_2$ ).

The regression results in Table 4 suggest several things. First, intellectual capital has a positive and significant effect towards firm's value. This implies that any firms who can manage their intellectual resources to the full potential will be able to create a greater added value and a more competitive advantage, which then will converge to the increase of firm's value. This research results supports the findings in Firer and Williams (2003) and Chen et.al. (2005).

Second, based on interaction ICxAC, the audit committee is proven to strengthen the influence of intellectual capital towards firm's value. This result is consistent with the previous research (e.g. Li et al., 2008), which stated that the audit committee has a positive influence on the intellectual capital disclosure. This result also showed that the presence of the audit committee will give a greater pressure to the management to disclose intellectual capital in the firm's annual report. Similar to other research (e.g. Siallagan and Machfoedz, 2006), the audit committee may provide a significant positive influence to the firm's value. Hence, the result of this study indicates that the audit committee possesses an important and strategic role in maintaining and supervising the credibility of the process of preparing the financial reports.

Third, based on interaction ICxInC, the independent commissioner could not strengthen the influence of intellectual capital towards firm's value. This may happen due to the existence of a practice among some independent commissioners in Indonesia, whereby the independent commissioner delegates the responsibility of overseeing the financial report to the audit committee. Thus, the role of the independent commissioner in the intellectual capital disclosure is very low. Hence, the presence of the independent commissioner could not strengthen the influence of intellectual capital towards firm's value.

Last, the results on the control variables are as follows. The effect of capital structure to firm's value is positive and significant. This result is consistent with the trade off theory, where debt utilization at the specified amount will increase the firm's value. Size of the firm and audit quality also show positive and significant effects, while the leverage shows insignificant results on both regression models.

## VI. Conclusion

Based on the analysis in the previous section, it can be concluded that:

1. Intellectual capital shows a positive and significant influence towards firm's value. It means that a higher institutional capital will cause a higher value of the firm. This result conforms to past research conducted by Firer and Williams (2003) and Chen et.al. (2005).
2. Audit committee strengthens the influence of intellectual capitals towards firm's value. This result is consistent with the previous research conducted by Li et al., (2008), which stated that the audit committee has a positive influence to the intellectual capital disclosure.
3. Independent commissioner could not strengthen the influence of intellectual capitals towards firm's value. This result differs from previous research conducted by Cerbioni and Parbonetti (2007) as well as White et al., (2007). It may be caused by the role of independent commissioner in the intellectual capital disclosure of Indonesian firm is very low, hence the independent commissioner is not able to strengthen the relationship between the intellectual capital with the firm's value.
4. Among the control variables, capital structure, size of the firm and audit quality have positive and significant effects as predicted, while leverage shows an insignificant result on both regression models.

The managerial implications that can be summed up from this research:

1. For the investors, this research results can give an insight in analyzing the factors which influenced the firm's value, so that it can be used as the basis of making an investment decision.
2. For the firms, this research results can give an insight to the firm's management; that the presence of effective independent commissioner and audit committee may push forward the disclosure of intellectual capital in the financial report, which eventually will increase the firm's value.

Limitations of this research:

1. This research only samples manufacturing firms, so the results can not be generalized.
2. This research only uses the independent commissioner and the audit committee in proxying the corporate governance, so the results are less comprehensive.
3. Limitations in the number of control variables used in this research, so it may influence the result of this research.

Suggestion for future research:

1. Widens the sample to include not only the manufacturing industry and extends the research period.
2. Adds other variables which is derived from other components of corporate governance such as the managerial ownership, the public ownership, as well as the need to add the control variables, since omitted variables may cause a biased result.

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**Table 1 : Variable and Measurement**

| Variable                |                                            | Measurement                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dependent</b>        |                                            |                                                                                                                                                                                                                                                                                                                                                                              |
| 1.                      | Firm's Value                               | $Q = \frac{MVE + D}{BVE + D}$ Q = Firm's Value ; MVE = Equity Market Value ; D = Book Value of Total Debt ; BVE = Equity Book Value                                                                                                                                                                                                                                          |
| <b>Independent</b>      |                                            |                                                                                                                                                                                                                                                                                                                                                                              |
| 1.                      | ValueAdded Intellectual Coefficient (VAIC) | VAIC = VACA + VAHU + STVA<br>VACA = Value added divided by capital employed (available funds: equity)<br>VAHU = Value added divided by human capital (employees' expenses, i.e. total of salary and the employees recorded in financial report)<br>STVA = Structure capital (value added - human capital) divided by value added<br>Value added= total revenue-total expense |
| <b>Moderating</b>       |                                            |                                                                                                                                                                                                                                                                                                                                                                              |
| 1.                      | Audit Committee                            | Dummy variable (1 = firm has a member of audit committee with accounting background; 0 = no member of audit committee with accounting background)                                                                                                                                                                                                                            |
| 2.                      | Independent commissioner                   | Dummy variable (1 = firm has a member of independent commissioner with accounting background; 0 = no member of independent commissioner with accounting background)                                                                                                                                                                                                          |
| <b>Control Variable</b> |                                            |                                                                                                                                                                                                                                                                                                                                                                              |
| 1.                      | Capital structure                          | Debt to Equity Ratio= $\frac{\text{Total Liabilities}}{\text{Total Equity}}$                                                                                                                                                                                                                                                                                                 |
| 2.                      | Leverage                                   | Leverage = $\frac{\text{Total Debt}}{\text{Total Assets}}$                                                                                                                                                                                                                                                                                                                   |
| 3.                      | Size of firm                               | Log Asset is used to measure size of firm                                                                                                                                                                                                                                                                                                                                    |
| 4.                      | Audit quality                              | Dummy variable (1 = for a firm which is audited by the <i>big four KAP</i> ; 0 = a firm which is audited by the non <i>big four KAP</i> )                                                                                                                                                                                                                                    |

**Table 2. The results of descriptive statistics**

|                      | N   | Minimum | Maximum | Mean    | Std Deviation |
|----------------------|-----|---------|---------|---------|---------------|
| Firm Value           | 258 | .22     | 54.98   | 21.131  | 422.136       |
| Intellectual Capital | 258 | -11.26  | 16.14   | 38.328  | 301.234       |
| Capital Structure    | 258 | .04     | 7.17    | 10.889  | 104.094       |
| Leverage             | 258 | .04     | 1.47    | .4471   | .21242        |
| Size of firm         | 258 | 10.02   | 14.26   | 120.838 | .68840        |
| Valid N (listwise)   | 258 |         |         |         |               |

**Table 3. Frequency test results**

| Description                                                 | Independent Commisioner |      | Audit Committee |     | Audit Quality |      |
|-------------------------------------------------------------|-------------------------|------|-----------------|-----|---------------|------|
|                                                             | Freq                    | %    | Freq            | %   | Freq          | %    |
| Do not have an academic background in accounting or finance | 90                      | 34.9 | 13              | 5   | -             | -    |
| Have an academic background in accounting or finance        | 168                     | 65.1 | 245             | 95  | -             | -    |
| Non big four- Public Accounting Firm                        | -                       | -    | -               | -   | 161           | 62.4 |
| Big four- Public Accounting Firm                            | -                       | -    | -               | -   | 97            | 37.6 |
| Total                                                       | 258                     | 100  | 258             | 100 | 258           | 100  |

**Table 4. Results of 1st and 2nd regression model test**

| Dependent Var: Firm's Value<br>Independent Variable : | 1st Regression |        | 2nd Regression |         |
|-------------------------------------------------------|----------------|--------|----------------|---------|
|                                                       | Coeff. (B)     | Sig.   | Coeff. (B)     | Sig.    |
| Intellectual Capital (IC)                             | 0.028          | 0.044* | -0.295         | 0.059** |
| Audit Committee (AC)                                  |                |        | -2.188         | 0.012*  |
| Independent Commisioner /InC                          |                |        | -0.07          | 0.963   |
| Interaction IC x AC                                   |                |        | 0.368          | 0.085** |
| Interaction IC x InC                                  |                |        | 0.015          | 0.734   |
| Capital Structure (CS)                                | 0.085          | 0.035* | 0.648          | 0.030*  |
| Firm Size (FS)                                        | 0.364          | 0.000* | 0.450          | 0.000*  |
| Audit Quality (AQ)                                    | 0.221          | 0.004* | 0.161          | 0.047*  |
| Leverage (Lev)                                        | -0.250         | 0.113  | -0.202         | 0.145   |
| F-test                                                |                | 0.00   |                | 0.00    |
| Adjusted R-squared                                    |                | 0.392  |                | 0.543   |

Note:\*\* = significant 10%, \* = significant 5%