A new decade for social changes
Capital and sustainability on performance: The Mediating Effect of Governance

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Abstract. This article is to analyze the impact of intellectual capital and triple bottom line toward the dependent variable, using governance as moderating variable in order to strengthen the impact or otherwise. Current research regarding to this topic has grown broadly. Nevertheless, just a few researchers imply the whole component of the Good Corporate Governance as their moderating variable. This research utilizes the entire component (TARIF) in conjunction with the intellectual capital index, three bottom line indexes with ROA and number of awards, all these disclosures are essentials for this research. Gathering all the companies who publishes their sustainability report on their company website showed that there are limited resources to analyze. The results of this research demonstrated that triple bottom line does not impact both dependent variables; meanwhile intellectual capital has an impact to the non-financial performance. Governance showed that this variable has no role as a moderating variable to the effect of both dependent variables. The implication of this research is the companies should focus on intellectual capital to promote company’s performance and longevity.

Keywords. Intellectual Capital, Triple Bottom Line, Financial Performance, Non-Financial Performance, Good Corporate Governance

Introduction

Research on intellectual (IC) has been so developed; for example, the research conducted by Chandra (2019) is research on IC, which not only enriches knowledge but plays a role in the integration of several sciences such as management accounting and CSR. Using the listed companies with the outcomes of the study show that IC positively influences the company's financial performance, and transparency can function as a moderating variable. In Indonesia, the arch conducted by Alfraih (2018) in his research in Kuwait also produced the same test results that IC positively impacted the company's financial performance.

Not only IC, but Corporate Social Responsibilities (CSR) is also very important to the Company's performance. Research shows that CSR carried out by the company affects the company's sales growth, Return on Assets (ROA), EBIT and cash flow (Ameer, 2011). Research conducted by Beretta (2020) also shows the same result that Intellectual Capital Disclosure (ICD) is closely related to Environmental Social and Governance (ESG).
Research using variable governance with Good Corporate Governance (GCG) as a moderating variable only uses one of the components of Transparency, Accountability, Responsibility, Independence and Fairness (TARIF) yet has not used the entire GCG component index so that it cannot answer the question of how all of these components play a role in GCG research. Does this study intend to examine whether Intellectual Capital (IC) disclosures, triple bottom line influence both dependent variables? Does governance moderate the impact of the intellectual capital index and triple bottom line on the company's variable research?

**Literature Review**

This research based on the stakeholder theory which a management theory and business ethics based on business decisions that have an impact on employees, suppliers, local communities and others. Corporate morals and values are brought to life in the daily operations of the organization. Theory of legitimation also combined in this research that connects the relationship between the Company and society. This theory believes that an organization will carry out its operational activities in compliance with the norms and that apply in the society where the organization is located.

Research on intellectual capital, Good Corporate Governance (GCG) and sustainable reporting has developed to date, for example, Chandra (2019) for 213 public listed companies, showing that IC significantly affects financial performance and transparency can function as a moderating variable. Research conducted by Lubis (2020) for 66 listed companies shows that IC significantly affects the financial performance of essential and chemical industry companies. Studies by Li (2008), Liao (2013), Melloni (2015), Oliveira (2010) and Siew (2013) are demonstrating similar results. Research conducted by Andriani Tisna (2016) on the banking industry during 2010-2014 shows that governance affects the company's financial performance, especially transparency (Oino, 2019). The research generated by Faradina (2016) during 2010-2014 shows that IC positively affects the company's financial performance. Research conducted by Gogan (2016) from 2010 to 2014 shows a significantly impact between Intellectual Capital and organizational performance for companies in Romania. This study looks at the company's financial performance and uses other variables than financial performance to see the effect of the IC disclosures. Discussing specifically the company's non-financial performance, the researcher uses the awards index as Wang (2017) for companies in Taiwan to test results that social responsibility awards are also considerations for investors in forecasting (Wang, 2017).

**Hypothesis Development**

The goal of a company doing CSR activity is to achieve long-term and sustainable operating stability because it involves many people's lives so that research on how to measure and disclose company sustainability will continue to grow. The method for analyzing the disclosure of sustainability reports can use the three essentials component in sustainability development, which reveals human, environmental, and governance characteristics (Aras & Crowther, 2013). This study continues previous research that states that governance and sustainability are crucial for companies in the FTSE100 stock index (Aras & Crowther, 2008).

The research on the impact of IC in 2017 proves a significant impact on the financial performance of companies in Kuwait (Alfraih, 2018) using the Intellectual Capital Index Chen's research (2004) through this study aims to prove that IC also has an influence on business performance that publish sustainability reports in Indonesia. This will lead us to the first hypothesis as follows:
H1a: Intellectual Capital disclosures impact on the company’s financial attribute.
H1b: Intellectual Capital disclosures impact on the company's non-financial attribute.

Companies in Australia that report their Economic, Social & Governance (ESG) well show better both dependent variables than firms that do not report their ESG reports (Carmichael, 2013), research in China also shows that there are positive association between good ESG reporting and company financial performance (Weber, 2017). This study aims to prove what if the research is applied in Indonesia, so that the following research hypotheses are created:

H2a: The sustainability report impact on the company's financial attribute.
H2b: The sustainability report impact on the company's non-financial attribute.

The study on the role governance in companies showed that one of its components, namely transparency and disclosure, is proven to have an influence on financial performance (Oino, 2019). Research conducted by Ratmono, Nugrahini and Cahyonowati (2021) also shows that GCG will make a sustainability report the better it is presented, with it the higher the company's performance because it gets support from its stakeholders. The objective of the previous study was to prove whether governance is a variable that strengthens or weakens the impact of IC and sustainability reports on both dependent variables, and then the next hypothesis is:

H3a: Company’s governance strengthens the impact of IC on financial attribute.
H3b: Company’s governance strengthens the impact of IC on non-financial attribute.
H3c: Company’s governance strengthens the effect of sustainability reports on financial performance.
H3d: Company’s governance strengthens the effect of sustainability reporting on non-financial performance.

Research Method

This is a quantitative type of research that describes the sample and tabulates the information in the sample data using statistical software processed in cross-section at a particular period.

The statistics information were collected from the company’s annual report and sustainability report from 2017-2019. Initially, there were 57 companies included in this study with total of 171 data samples.

The population and sample in this study used information for the 2017-2019 periods with the selection criteria and conditions in order to be included as a research sample as follows:

<table>
<thead>
<tr>
<th>No</th>
<th>Criteria</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sustainability Report Companies</td>
<td>96</td>
</tr>
<tr>
<td>2.</td>
<td>Not-fit with this research</td>
<td>-39</td>
</tr>
<tr>
<td>3.</td>
<td>Number of Companies</td>
<td>57</td>
</tr>
<tr>
<td>4.</td>
<td>Total 2017-2019 Data Samples</td>
<td>171</td>
</tr>
</tbody>
</table>

Table I-Samples & Criteria

Data sample collection is based on the information contained in the company pages included in the research sample. If the criteria needed in the study are not available, they will be excluded from the research sample.

The Measurement
The Intellectual Capital (IC) variable measures according to the IC index published by Chen’s research (2004) on each indicator of IC. The indicator will be analyzed based on the content of the annual report published by the family company and give a value of 1 for “fulfilling” and a value of 0 if “none”. The scores are collected and compared with the overall score.

This approach is part of the development of sustainability, which has been proven effective in an effort to achieve operational sustainability (Granados, 2010). Social sustainability, environmental sustainability and economic sustainability will be carried out by content analysis based on the sustainability report published by the Company and analyzed based on the GRI standard where a value of 1 is for “Available” and a value of 0 is “Not Available”. The scores are collected and compared with the overall score.

Based on the principles of company’s governance, one of which is transparency, then based on the sustainability report issued by the company, the researcher will examine the completeness of the index based on the ASEAN Corporate Governance Scorecard where a value of 1 is for "Available" and a value of 0 is "Not Available". The scores are collected and compared with the overall score.

The company's capability to create assets/profits as measured in the company's performance variable. This study uses ROA (Return on Assets) in measuring company performance. The non-financial performance measures with the awards index. Awards index by collecting the awards obtained by the company compared to the total number of awards received during the span of the research year (Augustine, 2019).

Extending the above explanation, the research models are as follow:

Model 1a: Financial Performance

\[ Y_1 = \beta_0 + \beta_1 IC + \beta_2 TBL + \varepsilon \]

\( Y_1 \): Financial Performance
\( IC \): Intellectual Capital Disclosures
\( TBL \): Triple Bottom Line
\( E \): Error

Model 1b: Financial Performance with Governance as a moderating variable:

\[ Y_1 = \alpha + \beta_1 IC + \beta_2 TBL + \beta_3 (IC \times GCG) + \beta_4 (TBL \times GCG) + \varepsilon \]

\( Y_1 \): Financial Performance
\( IC \): Intellectual Capital Disclosures
\( TBL \): Triple Bottom Line
\( GCG \): Good Corporate Governance
\( E \): Error

Model 2a: Non-Financial Performance

\[ Y_2 = \alpha + \beta_1 IC + \beta_2 TBL + \varepsilon \]

\( Y_2 \): Non-Financial Performance
\( IC \): Intellectual Capital Disclosures
Model 2b: Non-Financial Performance with Governance as a moderating variable:

\[ Y_2 = \alpha + \beta_1IC + \beta_2TBL + \beta_3(IC\times GCG) + \beta_4(TBL\times GCG) + \varepsilon \]

**Y2**: Non-Financial Performance  
**IC**: Intellectual Capital Disclosures  
**TBL**: Triple Bottom Line  
**GCG**: Good Corporate Governance  
**\varepsilon**: Error

As we can see at the both models are described without (a) and with (b) the effect of the governance as a moderating variable that will be tested in this research whether it will strengthen or weaken the impact of the intellectual capital disclosures and triple bottom line to finance or non-finance performance.

**Findings**

The variable descriptive on the variables of financial attribute, non-financial attribute, Intellectual Capital and Triple Bottom Line show as follows:

<table>
<thead>
<tr>
<th></th>
<th>V</th>
<th>N</th>
<th>Mn</th>
<th>Mx</th>
<th>Me</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1</td>
<td>171</td>
<td>0.01</td>
<td>44.7</td>
<td>5,5620</td>
<td>6.7052</td>
<td></td>
</tr>
<tr>
<td>Y2</td>
<td>171</td>
<td>2</td>
<td>100</td>
<td>23,3450</td>
<td>15.146</td>
<td></td>
</tr>
<tr>
<td>X1</td>
<td>171</td>
<td>0.57</td>
<td>0.91</td>
<td>0.7537</td>
<td>0.0721</td>
<td></td>
</tr>
<tr>
<td>X2</td>
<td>171</td>
<td>0.14</td>
<td>0.94</td>
<td>0.4341</td>
<td>0.1354</td>
<td></td>
</tr>
</tbody>
</table>

Note: Y1 represents Financial Performance, Y2 represents Non-Financial Performance, X1 represents Intellectual Capital and X2 represents Triple Bottom Line.

Based on descriptive statistics, it shows that a sample of 171 for the variable Y1 (Financial Performance) has the smallest 0.01 and 44.7 the largest with an average of 5.562. Based on descriptive statistics, it shows that a sample of 171 for the variable Y2 (Non-Financial Performance) received the smallest 2 awards and 100 awards the most with an average of 23 awards. For the X1 variable, namely the Intellectual Capital index, based on the content analysis carried out, there are companies that provide 91% complete indicators. Variable X2 (Triple Bottom Line) also has a high score, where the presentation of the 2019 Sustainability Report reached 94% of the completeness of the indicators.

The following paragraph will extant the marks of analysis grounded on observant several variables used in the regression statistical model. The dependent variable is namely ROA and award received by the company. The independent variables are intellectual capital, the triple bottom line with governance as the moderating variable. This research also uses size as the control variable towards the dependent variables.

The multicollinearity test intention is to find a correlation between independent variables. The fit model for research should not demonstrate this syndrome. Based on the results of multicollinearity whereas the X1 (1.079), X2(1.067), and K1(1.015), therefore, it can be
concluded that there is no correlation between independent variables in the regression model or multicollinearity did not occur.

The heteroscedasticity test is to prove whether there is dissimilarity of variance from the residuals of an observation to other in the regression model. The best fit for the model is the absent of heteroscedasticity. To detect the existence or absence of heteroscedasticity by looking at the plot graph between the predicted by ZPRED and the residual SRESID. The Scatter-Plot concluded that there is no specific pattern, and they spread, resolved an absence of heteroscedasticity. Thus, all independent variables are conceded from testing classical assumptions so that they do not need to be excluded from the regression model.

Normality test aims to prove whether, in the regression model, confounding or residual variables have a normal distribution. In principle, normality can be detected by looking at the spread of data (points) on the diagonal axis of the graph or by looking at the histogram of the residuals and shows that the data spread around the diagonal line and follows the direction of the diagonal line or the histogram graph shows the normal distribution pattern, the regression model used meets the normality assumption.

The autocorrelation test aims to test whether in the linear regression model there is a correlation between the error of the intruder in the t period and the error of the intruder in the t-1 period (before). A good regression model is a regression that is free from autocorrelation.

Based on table below:

<table>
<thead>
<tr>
<th></th>
<th>Std Err Est</th>
<th>DW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>4,0622</td>
<td>1,892</td>
</tr>
<tr>
<td>Model 2</td>
<td>12,3203</td>
<td>2,101</td>
</tr>
</tbody>
</table>

Note: Model 1 represents the effect to financial performance and model 2 represents the effect to non-financial performance.

Table 3 – Autocorrelation Test

The DW table above, value obtained from the regression model 1 is 1,892 while the DW table with the significance of 0.05 and the amount of data (n) = 171 and k = 2 (k is the number of independent variables) obtained dL value of 1.7262 and dU of 1.7735 (see DW table). Because the DW model 1 value of 1,892 is in the area above dL and dU it means that there is no autocorrelation. Particularly for DW model 2 value of 2,101 is in the same area as model 1 than it means both model 1 and model 2 are free from autocorrelation.

Model 1 Testing Results: Financial Performance

This first model tests the first dependent variable, namely financial performance as measured by ROA with Intellectual Capital and Triple Bottom Line as the independent variable for this research. The statistical test using multiple regressions analysis (model 1a is without the moderating variable, Good Corporate Governance) will be shown at the table 5 below:

\[ Y = 15,614 -4,05IC+4,07TBL-0,56Size + e \]

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Expectation</th>
<th>Uns B</th>
<th>t</th>
<th>Sig</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constanta</td>
<td></td>
<td>15,614</td>
<td>3,153</td>
<td>0,002</td>
<td></td>
</tr>
<tr>
<td>X1</td>
<td>+</td>
<td>-4,059</td>
<td>-0,974</td>
<td>0,331</td>
<td>insignificant</td>
</tr>
<tr>
<td>X2</td>
<td>+</td>
<td>4,073</td>
<td>1,312</td>
<td>0,192</td>
<td>Insignificant</td>
</tr>
</tbody>
</table>
The F test shows that the model can be used for research (P.0.026 <0.05), this indicates that model 1a can be used in research. The T-test on model 1a shows that Intellectual Capital (P. 0.331 > 0.05) and Triple Bottom Line (P. 0.192 > 0.05) attested no impact on the company's financial performance. The firm size control variable shows an effect on the ROA (P. 0.007 < 0.05). The higher the company's size, the lower the Return On Assets (ROA) and vice versa. This result is accepted with research conducted by Juliana (2019) were shown a significant negative effect on profitability. This can happen because the enlarged company size is not followed by resource management within the company itself. Based on the table above, many other independent variables still affect the dependent variable (adjusted R square of 4%).

The results of the statistical test on model 1b by including the role of governance as a moderating towards the research variables as described in the table 6 (Statistical Test Result-Model 1b).

The F test shows that the model can be used for research (P.0.005 <0.05), this indicates that model 1b can be used in research. The T-test on the variables by obtaining the role of the moderating variable, namely Triple Bottom Line with Good Corporate Governance (P. 0.384 > 0.05) and Intellectual Capital with Good Corporate Governance (P. 0.072 > 0.05) showed results that did not influence financial performance. company. The firm size control variable shows an effect (P. 0.009 < 0.05) on financial performance. Based on the table 5, there are many other independent variables that affect the dependent variable (adjusted R square of 10.2%). Based on the model 1a and model 1b (please see table 6 below), it can be seen that GCG does not have a role as moderating variable to influence of the Triple Bottom Line and IC on the Company's financial performance.

\[ Y = 10,097 -9,47IC+47,44TBL+16,29ICGCG-56,46TBLGCG-0,56Size+ e \]

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Expectation</th>
<th>Uns B</th>
<th>t</th>
<th>Sig</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constanta</td>
<td></td>
<td>10,097</td>
<td>2,237</td>
<td>0,027</td>
<td></td>
</tr>
<tr>
<td>X1</td>
<td>+</td>
<td>-9,476</td>
<td>-0,583</td>
<td>0,561</td>
<td>insignificant</td>
</tr>
<tr>
<td>X2</td>
<td>+</td>
<td>47,445</td>
<td>2,006</td>
<td>0,047*</td>
<td>(+) significant</td>
</tr>
<tr>
<td>K1</td>
<td>+</td>
<td>-0,544</td>
<td>-2,656</td>
<td>0,009*</td>
<td>(+) significant</td>
</tr>
<tr>
<td>X1X3</td>
<td>+</td>
<td>16,294</td>
<td>0,873</td>
<td>0,384</td>
<td>Insignificant</td>
</tr>
<tr>
<td>X2X3</td>
<td>+</td>
<td>-56,466</td>
<td>-1,813</td>
<td>0,072</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Anova</td>
<td></td>
<td>0,005*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R2</td>
<td></td>
<td>0.102</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Data Processing Results. Notes: * Significant rate at 5%. X1 represents Intellectual Capital, X2 represents Triple Bottom Line and K1 represents the company’s size as control variable. X1X3 represents the effect of the variable Governance (GCG) moderating the impact of IC on Financial Attribute and X2X3 represents the effect of the variable Governance (GCG) moderating the influence of the Triple Bottom Line on ROA.

Table 5 – Statistical Model 1b
The results of statistical tests between model 1a and model 1b which show that Intellectual Capital and the Triple Bottom Line on financial concern, this is meet with research conducted by Muallifin (2016) for all public listed companies from 2010-2014, Sejati (2015) for companies that publish Sustainability Reports during 2006 to 2013. Research conducted by Friandi (2018) also shows that almost all measurements of Intellectual Capital unaffected on the company's financial attribute.

Model 2 Testing Results: Non-Financial Performance

This second model tests is using the non-financial performance (dependent variable) as measured by the number of awards received. The statistical test result showed at the table 7 below:

$$Y_2 = -48,731 + 25,84IC + 2,267TBL + 2,84Size + e$$

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Expectation</th>
<th>Uns B</th>
<th>t</th>
<th>Sig</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constanta</td>
<td></td>
<td>-48,731</td>
<td>-3,7797</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>X1</td>
<td>+</td>
<td>25,840</td>
<td>2,021</td>
<td>0,045*</td>
<td>(+) significant</td>
</tr>
<tr>
<td>X2</td>
<td>+</td>
<td>2,267</td>
<td>0,290</td>
<td>0,772</td>
<td>insignificant</td>
</tr>
<tr>
<td>K1</td>
<td>+</td>
<td>2,840</td>
<td>4,483</td>
<td>0,000*</td>
<td>(+) significant</td>
</tr>
</tbody>
</table>

Source: Data Processing Results. Note: * 5% significant rate. Statistical data processing uses samples that pass the test so that it reduces again from 171 samples to 169 samples. Model 2a for multiple regression analysis without Good Corporate Governance as a moderating variable. X1 represents Intellectual Capital, X2 represents the Triple Bottom Line and K1 represents company size.

The T test on model 2a shows that Intellectual Capital (P. 0.045 < 0.05) has an effect on non-financial performance and the Triple Bottom Line (P. 0.772 > 0.05) shows no influence on the company's ROA. The firm size control variable shows an effect (P. 0.00 < 0.05) on financial performance. The higher the disclosure of IC, the higher non-financial performance of the company. This is in line with research from Simamarta (2015) who conducted research on various industrial companies located in Jakarta, Tangerang and Bekasi which showed that there was an influence between IC and non-financial attribute. The conclusions of this exploration are also accepting with the research directed by Ramadhani & Agustin (2021) which showed a substantial influence between IC and the company's financial attribute based on research on state-owned public listed companies during 2015-2019. The table 7 (statistical model 2a) above, it can also be seen that there are many other independent variables that can affect the dependent variable (adjusted R square of 10.8%).

The results of the R Square calculation by including the role of governance as a moderating variable are as follows:

$$Y = -55,484 + 57,131IC + 7,491TBL - 23,605ICGCG - 5,294 TBLGCG + 2,843Size + e$$

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Expectation</th>
<th>Uns B</th>
<th>t</th>
<th>Sig</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constanta</td>
<td></td>
<td>-55,484</td>
<td>-4,026</td>
<td></td>
<td>Insignificant</td>
</tr>
<tr>
<td>X1</td>
<td>+</td>
<td>57,131</td>
<td>1,335</td>
<td>0,184</td>
<td>Insignificant</td>
</tr>
</tbody>
</table>
Table 7 – Statistical Test Result (Model 2b)

The F test shows that the model can be used for research (P < 0.005 < 0.05), this indicates that model 2b can be used in research. T-test on the variables by obtaining the role of the moderating variable, namely Triple Bottom Line with Good Corporate Governance (P > 0.05) and Intellectual Capital with Good Corporate Governance (P > 0.05) shows results that do not affect financial performance company. The firm size control variable shows an effect (P < 0.05) on financial performance. There are many other independent variables that affect the dependent variable since the adjusted R square showed 10.8%. Through the statistical test between model 2a and model 2b, it can be seen that GCG does not appear to have a role in strengthening or weakening the influence of the TBL and IC on the non-financial attribute of the Company. Based on this research, IC has no impact on ROA and has an affect the company's award.

The disclosure of the triple bottom line displays that there has no effect on the company's both dependent variables and rejected the research by Wang and Chen (2017) which showed a significant impact.

The statistical test on the control variables specify that the total asset of the company has an influence on the ROA and award of the company, this result embraced the research from Tisna (2016) which shows the same thing, where company size has an important impact on the company's financial attribute for banking listed companies during 2010-2014.

This study also shows that governance (GCG) has no role impact of the IC and TBL variables on the both dependent variables.

Conclusion

IC has an effect on non-financial performance and governance (GCG) did not have a role as a moderating variable in the influence of independent variables toward both dependent variables. Company size affects the financial and non-financial performance of the company.

The next researcher uses the IFRS adoption approach in the disclosure of IC. This element is important because public companies are currently implementing IFRS so that they can increase knowledge of long-term asset management strategies (Liao, 2013).

Companies that publish sustainability reports are very limited; this cannot be denied due to the lack of strict regulators. Companies that do not publish the report are only given an appeal letter without any material sanctions so that it seems as if it is still an option (optional).

The implication of this research is that companies must focus on the IC development to advance the performance and sustainability of the company. The suggestion for regulators, especially those overseeing public companies, is that it is important that the issuance of
integrated reports is required to be accompanied by severe penalties/fines so as to encourage all issuers to issue it.

References


