

The Effect of Intellectual Capital and Revenue Growth on Firm Value

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Abstract: The purpose of this research is to re-examine the effect of intellectual capital (IC) and revenue growth on Indonesian construction firms' value. Furthermore, this study aims to determine whether this labor-intensive industry benefits from the development of intellectual capital. Using purposive sampling, the empirical data was drawn from 45 construction firms listed on the Indonesian Stock Exchange (IDX), observed over a five-year period (2010-2014). Multiple regression models were examined in order to test the hypotheses, and the results show that IC has a positive effect on firm value.

1 INTRODUCTION

The development of information technology and corporate globalization has led to firms shifting from physical to knowledge-based assets. A firm's ability to manage and increase its intangible assets has increased in recent years. In this regard, firms have shifted their strategies from labor-based businesses to intellectual-based businesses (Sawarjuwono & Agustine, 2003). Further, to improve their competitiveness, knowledge-based businesses rely more on knowledge assets than physical assets.

According to Marr and Schiuma (2004), knowledge assets include innovation, information systems, organizational management, and human resources. Knowledge assets, or intellectual capital (IC), are believed to add value to a firm. Intellectual capital itself relates to the possession of knowledge, applied experience, information technology, customer relationships, and professional skills that can enhance a firm's competitive advantage. This definition refers to more than just human, structural, and relational resources – it is also related to how resources are used to create firm value (Edvinsson, 2013).

Many studies have found an association between intellectual capital and firm value. Gozali and Hatane (2014), Oktavia (2014), Prasetyanto (2013), and Son (2012) found that the performance of intellectual capital positively affects firm value, as measured by Tobin's Q, EPS, and PBV. Such results

are in contrast to Laksana (2013) and Lestari (2015), who have suggested that there is no significant effect between IC and firm value, as measured by PBV and Tobin's Q.

The Indonesian construction industry is a labor-intensive industry, where human resources are vital, despite the use of tools and machinery. Findings on this specific industry may shed light on whether such an industry benefits from the latest shift in corporate strategy, and, in this regard, re-examining the connection between intellectual capital and firm value is deemed necessary. Furthermore, the construction industry experienced positive growth during the five years from 2010 to 2014. Firms within the industry also experienced an increase in their gross incomes (Central Bureau of Statistics, 2015).

Based on research conducted by Sofyaningih and Hardiningsih (2011) and Sujoko and Soebiantoro (2007), market growth has a significant effect on firm value. Increased business revenues give investors confidence that a firm will deliver high stock returns. However, different results were found by Deitiana (2011) and Rosy (2013), who stated that a firm's revenue growth does not affect firm value.

In some studies, it was found that investment decisions are also affected by firm size. The size of a firm can be seen from the size of its assets. A large asset size indicates that the firm is relatively more stable than small firms and more able to generate income and profit, in addition to providing more certainty about growth opportunities in the future.

The research conducted by Sofyaningsih (2011) suggests that the control variable in the form of firm size has a positive effect on firm value.

This section is followed by an overview of the literature and an outline of the research methods and research results, after which concluding comments will be made.

2 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Literature Review

2.1.1 Resource-Based Theory

According to resource-based theory (RBT), there are three types of corporate resources: physical resources (e.g. factories, offices, warehouses, buildings, and machinery), human resources (e.g. performance, knowledge, and employee experience), and structural or operational resources (e.g. information systems and internal and external relationships). These three resources are believed to contribute to a firm's efforts to achieve competitive advantage in the market. Resource-based theory stresses that firms should be able to acquire and manage their resources, especially those in the form of intangible assets, so as to create competitive advantage for the firm (Wigati, 2013).

2.1.2 Signaling Theory

Signaling theory illustrates the importance of information disclosures from internal to external parties. The disclosed information will be responded to by investors in a way that will signal positive or negative intentions. Further, this signal will affect the value of the firm in the eyes of investors, in that a good signal will be responded to positively by investors and effect their decision whether to invest in the firm. One source of information that can represent a firm's future prospects is revenue growth. In this sense, increased revenues are usually a signal that the firm will continue to grow (Yudhanti, 2011) and will be responded to positively by investors. Such a positive response will increase stock prices and further increase the value of the firm.

2.1.3 Intellectual Capital

Intellectual capital (IC) refers to the intangible value of a firm and the firm's future profit-making capability based on human capital, structural capital, and customer capital (Edvinsson, 2013). In addition, IC can be understood as the knowledge, applied experience, information technology, customer relationships, and professional skills owned by the firm that can enhance competitive advantage. IC consists of three components: structural/organizational capital, relational capital, and human capital (Sawarjuwono & Agustine, 2003). Several methods of measurement are appropriate for IC, including the Direct Intellectual Capital Approach (DIC), Market Capitalization Approach (MCM), Return on Assets Approach (ROA), and Scorecard Approach (SC).

2.1.4 Revenue Growth

The growth of a firm is very important for both internal and external parties. On the internal side, a firm's growth is a benchmark for corporate success and a good indication of future corporate prospects. For external parties (especially investors), a firm's growth is seen as a favorable sign for investors as it will be expected to provide a good rate of return for their investment. According to Deitiana (2011), firm growth, as measured by the change in income levels, is one of the indicators for assessing the prospects of a firm in the future. Firms that exhibit low income levels will potentially experience a decrease in profits, which indicates that the potential for growth is poor (Sofyaningsih & Hardiningsih, 2011).

2.1.5 Firm Value

Firm value relates to the perception of investors regarding a firm's level of success, and it is closely related to the stock price (Sujoko & Soebiantoro, 2007). The higher the stock price, the higher the value of the firm in the eyes of investors. In this sense, the market will believe in the performance and growth potential of a firm in the future if the firm's value is high. There are several methods to measure the value of a firm, one of which is Tobin's Q, which provides a description of a firm's value from an investor's perspective (Gozali & Hatane, 2014). This ratio is considered to provide the most useful information because it demonstrates that the firm does not only focus on investors in the form of shares (capital) but also on its creditors, considering that operating finance also comes from loans granted

by creditors. The greater the value of Tobin’s Q, the greater the potential for firm growth.

2.2 Hypotheses Development

2.2.1 The Effect of Intellectual Capital on Firm Value

Highly skilled and competent human resources represent a competitive advantage for the firm if they can be well utilized and managed, thus affecting the firm’s performance and productivity. Increased productivity will increase a firm’s profit and value.

According to Pulic and Kolakovic (2003), each firm has intangible resources that can be used to create ‘value’ in the market. Resource management can help firms to achieve competitive advantage and increase productivity and market value. Intellectual capital (IC) is an intangible resource that is believed to be part of a firm’s prime resources and is influential in the creation of competitive advantage. The first hypothesis in this study is as follows:

H1: Intellectual capital has a positive effect on firm value.

2.2.2 The Effect of Revenue Growth on Firm Value

Increased revenues indirectly signal a firm’s growth in terms of production and marketing (assuming no significant cost increases). In accordance with signaling theory, firms should disclose information about the firm to external parties in order to avoid asymmetric information, and this disclosure will be responded to by investors. One important disclosure is the firm’s revenue. In this sense, increased corporate revenues indicate good prospects in the future, which will be responded to positively by investors. A positive response from investors will increase the stock price and also the value of the firm. Based on the above, the second hypothesis in this study can be formulated as follows:

H2: Revenue growth has a positive effect on firm value

2.3 Conceptual Framework

Intellectual capital has a significant effect on corporate value because it is an intangible resource that is believed to be included in a firm’s prime resources and influential in the creation of competitive advantage. Positive growth in income represents good future prospects, and therefore the

value of the firm will increase. Firm size is also considered to have a role in the formation of corporate value in that a large asset size will signal the firm’s future prospects. In accordance with this explanation, the conceptual framework in this study is as follows:

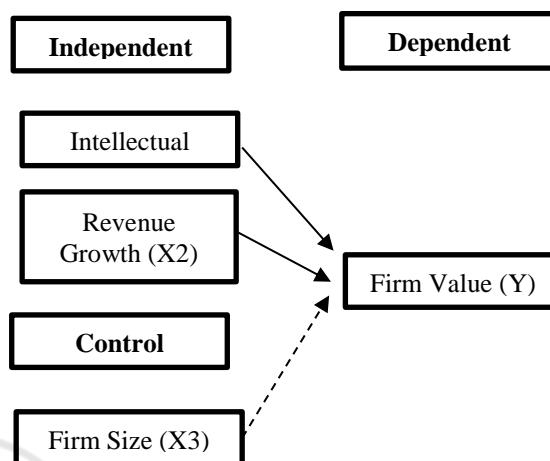


Figure 1: Conceptual Framework

3 METHODOLOGY

3.1 Identification and Definition of Operational Variables

This study uses three types of variables, i.e. independent variables, a control variable, and a dependent variable, all of which can be outlined as follows:

1. Independent variables: Intellectual Capital (X1) and Revenue Growth (X2)
2. Dependent Variable: Firm Value (Y1)
3. Control Variable: Firm Size (X3)

3.1.1 Intellectual Capital (X1)

According to Edvinsson (2013), IC relates to the ownership in knowledge, applied experience, information technology, customer relationships, and professional skills that can enhance competitive advantage for a firm. Intellectual capital in this research is measured by the market-to-book value using the following formula:

$$IC = \text{Market Value of Equity} - \text{Book Value of Equity}$$

$$IC = MVE - BVE \dots\dots\dots (1)$$

Explanation:

MVE = market share price x number of common shares outstanding

BVE = total assets – total liabilities = total equity

3.1.2 Revenue Growth (X2)

Revenue is the income incurred during a firm’s normal business activities (Statement of Financial Accounting Standard No. 23 [Revised, 2009]). According to Laurensia (2015) and Pouraghajan (2013), the calculation for revenue growth is as follows:

$$Growth = \frac{(Revenue_t - Revenue_{t-1})}{Revenue_{t-1}} \dots\dots\dots (2)$$

3.1.3 Firm Value (Y1)

Firm value relates to the perception of investors regarding the level of success of a firm, which is closely related to the share price (Sujoko & Soebiantoro, 2007). There are several methods to measure firm value, one of which is Tobin’s Q, which has the following formula:

$$Tobin's Q = \frac{MVE + Debt}{BVE + Debt} \dots\dots\dots (3)$$

Explanation:

MVE = market share price x number of common shares outstanding

BVE = total assets – total liabilities = total equity

Debt = total liabilities

3.1.4 Firm Size (X3)

According to Pradipta (2011), firm size is a scale that describes the size of a firm. In this regard, the size of a firm can be seen from the total assets owned because the total assets can describe the amount of the firm’s wealth. Firm size can be calculated using the following formula:

$$Firm Size = Ln \text{ of Total Assets} \dots\dots\dots (4)$$

3.2 Population and Sample

The population in this study was all the construction firms listed on the Indonesian Stock Exchange, while the sample was selected using purposive sampling. In this sense, the sample selection was based on the criteria that the firms had published annual reports for the years 2010-2014. Nine firms were sampled in this study, and therefore the total sample size was 45.

3.3 Analytical Technique and Hypotheses Testing

The analytical technique used in this research was multiple regression analysis, while hypothesis testing was performed using a determinant coefficient test and a significance test of individual parameters (t-test), with a significance level of <0.05.

4 RESULTS AND DISCUSSION

4.1 Analysis Model and Hypothesis Testing

The data analysis technique used in this research was a multiple regression test, which was performed on two independent variables (IC and GROWTH), one control variable (SIZE), and one dependent variable, i.e. Value (NILAI). The multiple regression equations for this study are as follows:

$$NILAI = -1,282 + 0,202 IC - 0,024 GROWTH - 0,102 SIZE \dots\dots\dots (5)$$

The independent variable IC has a regression coefficient of 0.202, with a significance level of 0.000. The value of the significance is smaller than 0.05, so it can be said that IC has an effect on NILAI. The regression coefficient shows a positive result (0.202), meaning that the effect of IC on NILAI is positive. In this sense, the first hypothesis, i.e. intellectual capital has a positive effect on firm value, is accepted.

Table 1: Results of the Multiple Regression Calculations

Variable	Regression Coefficient (β)	T	Significance
(Constant)	1,282	-	0,403
IC	0,202	0,845	0,000
GROWTH	-0,024	7,6	0,876
SIZE	-0,102	56	0,079
		-	
		0,157	
		-	
		1,799	
R	0,772		
R²	0,596		

Source: Results of the Data Processing

The independent variable GROWTH has a regression coefficient of -0.024, with a significance level of 0.876. The value of significance is greater

than 0.05, so it can be said that GROWTH has no significant effect on NILAI. The regression coefficient shows a negative result (-0.024), meaning that the effect of GROWTH on NILAI is negative. Thus, the second hypothesis, i.e. income growth has a positive effect on firm value, is rejected.

4.2 Determinant Coefficient

The determinant coefficient shows how big of an effect the independent and control variables have on the dependent variable. If the coefficient is close to 1, then the independent and control variables strongly affect the dependent variable, whereas if the coefficient value is close to 0, then the independent and control variables have less or no effect on the dependent variable. The value of the determinant coefficient (R²) is 0.596, meaning that the independent and control variables are strong enough to affect the dependent variable; in other words, 59.6% of NILAI is affected by IC, GROWTH, and SIZE, while the remaining 40.4% is affected by other factors or by variables that have not been examined.

4.3 The Effect of Intellectual Capital on Firm Value

The results of this study are consistent with the research conducted by Hatane (2014), Oktavia (2014), Prasetyanto (2013), and Son (2012), which found that intellectual capital has a significant positive effect on firm value. However, the results of this study are contrary to those of Laksana (2013) and Lestari (2015), who found that IC has no effect on firm value.

The existence of a positive effect of IC on construction firms' NILAI indicates that firms are very concerned not only about the quantity but also the quality of the human resources owned. In addition, the firms also invest heavily in intellectual capital, such as the development of technology and information, continuous learning, and strong relationship between firms and their business partners, so as to increase firm value.

Based on the above calculations, intellectual capital has a significant effect on the establishment and improvement of firm value. In this sense, a firm wishing to improve its value would be expected to further improve and develop its intellectual capital. This can be done by organizing employee training programs as well as supporting the certification process of experts for employees in their respective

fields. The firm would also be expected to improve the technology used, establish and maintain good relationships with customers and suppliers, and carry out development and learning in all areas and aspects of sustainably.

4.4 The Effect of Revenue Growth on Firm Value

The results of this study are consistent with the research conducted by Pantow (2015), which examined 20 firms, including LQ45, in the period 2009-2013. Pantow (2015) found that sales growth (revenue) has no significant effect on firm value. This results of this study are also consistent with those of Rosy (2013), who found that sales growth has no significant effect on the value of manufacturing firms listed on the Indonesian Stock Exchange.

Revenue growth has no significant effect on firm value because prospective investors assume that this information is not important to making investment decisions. In this sense, they believe that revenue itself does not reflect a firm's net results due to the fact that it still has to be reduced by operational costs, so it does not reflect the activities and effectiveness of the firm with regard to its overall operation (Dramawan, 2015). The calculation of revenue growth (positive or negative) from year to year is thus allegedly unable to contribute to the establishment and improvement of value for the firm (Hermansyah, 2013).

The results of the hypothesis testing in this study are different from those of Sofyaningsih and Hardiningsih (2011), who found that firm growth measured by means of revenue growth had a significant positive effect on the value of manufacturing firms listed on the Indonesian Stock Exchange during the period 2007–2009.

4.5 The Effect of Firm Size on Firm Value

Hypothesis testing for the control variable in the form of firm size (SIZE) shows a regression coefficient of -0.102 and a level of significance of 0.079. This significance value is greater than 0.05, so it can be concluded that the size of the firm has no significant effect on firm value.

5 CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH DIRECTION

Based on the results of the analysis, it can be concluded that intellectual capital has a positive effect on firm value, whereas revenue growth has no significant effect on firm value; therefore, firms are expected to further develop their intellectual capital and conduct development and learning in all aspects of sustainably. This study used a control variable in the form of firm size, and the results show that firm size has no significant effect on firm value.

A limitations of this study is that the sample size was limited to nine firms and five reporting periods, so the results cannot be generalized to other industries. In addition, the measurements for intellectual capital, firm growth, and firm size were selected for certain reasons, so the results found would be different if other measurements were used. In this regard, future research should increase the number of research samples by examining other industries with a larger number of firms or by focusing on the industrial sector. With regard to the measurement of intellectual capital, firm growth, and firm size in future research, it would be advantageous to use other measurement methods, which may possibly provide better results.

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