Exploring Property & Real Estate Firm’s Value in Indonesia: 
An Intellectual Capital Perspective

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Abstract: Firm’s value known as an important thing to increase simultaneously for business continuity. Especially for property & real estate sector in Indonesia which contributed more to the whole of infrastructure development. This research has an aim to examine the property & real estate firm’s value based on intellectual capital perspective. The intellectual capital consists of organizational capital, structural capital and human capital which tested to know its effect on property & real estate firm value. This study uses property and real estate sector listed in Indonesia Stock Exchange from 2016-2020. The research’s sample used 109 companies selected by purposive sampling technique. To test the data, this research using multiple linear regression analysis. The results of the study concluded that only organizational capital and structural capital which have affect on property & real estate firm value, while human capital have no effect on property & real estate firm value.

Keywords: Firms value; Human capital; Intellectual capital; Organizational capital; Structural capital

1. Introduction

The development of today's business competition is increasingly stringent, demanding the Indonesian economy to be more active in carrying out economic operations so that it can compete in the global market (Sihombing et al., 2020). Business competition in the use of technology and human resource innovation brings increasingly sophisticated technology that requires businesses to adjust their operations (Imaningati & Vestari, 2016). The company seeks to be consistent with the times in order to maintain corporate value. Corporate value is the main object that is very important for companies to continue to increase corporate value as an effort for current and future business continuity (Rivandi, 2018). The value of the company is reflected in the performance of the stock price, the higher the stock price, the greater the profit for investors (Chandra & Djajadikerta, 2018). Investors use company value to make investment decisions because it shows the company's financial success (Ayuningsih et al., 2019).

The Indonesia Stock Exchange (2021) revealed that the performance of the company's share price in the 4th quarter of 2021 in all industrial sectors weakened, including the
property and real estate sector indeed. Whereas, property and real estate sector is an industry engaged in infrastructure development which has a role in driving the economy (Herosian et al., 2021).

Technological developments have had a major impact on business management systems and competitive tactics in business processes (Ginting & Nainggolan, 2021). Business competition requires companies to consider equality of human resource knowledge in order to compete with other companies (Rivandi, 2018). The MAKE (Most Admired Knowledge Enterprise) Award which is given to business people, both commercial and non-profit, who are admired in knowledge management, is one of the interesting events related to the management of intellectual capital in organizations (Wahyuni et al., 2017). Knowledge considered as a strategic resource is believed to be a complex resource. Business people are increasingly realizing that the transition to a knowledge-based business from a workforce-based business is necessary because the factors of competitiveness lie in knowledge, technology, innovation, management and human resources (Thaib, 2013).

Intangible assets are considered intellectual capital which is a company's competitive advantage. Intellectual capital as a key resource and driver for performance and value creation (Chen et al., 2005). Intangible assets in PSAK No. 19 are company assets that can be classified but do not have a physical form and are held for use in producing or providing goods or services, renting them out, or for administrative purposes (IAI, 2011). The use of science and technology-based capital in organizations will increase the efficiency and effectiveness of resource utilization, thereby increasing the company's competitive advantage (Ferdiansyah & Faisal, 2020).

Intellectual capital is considered an element driving company value, so it becomes an interesting issue. Intellectual capital consists of three types of organizational capital, human capital, structural capital in terms of knowledge, and technology that can bring value to the company (Utami, 2018). Intellectual capital refers to a company's intangible assets such as knowledge, experience, invention, and technology (Anjani & Dillak, 2019). Intellectual capital does not only cover employee abilities and skills but also includes customer relations, company infrastructure, innovation capabilities, and use of technology (Susanti, 2016).

Organizational capital is resource efficiency in the form of capital assets that can be managed optimally which will increase firm value (Kartika & Hatane, 2013). Organizational capital is obtained from the company's ability to interact with stakeholders to improve welfare by increasing structural capital and human capital (Gonzalez-Loureiro & Teixeira, 2011). Organizational capital assists companies in obtaining optimal profits, so that increased profits can improve company performance (Feimianti & Anantadjaya, 2014).

Human capital or human resources shows the ability of employees to provide solutions, innovation, and change in a competitive work environment (Kartika & Hatane, 2013). Management views that human resources and other production factors such as machines are the same, so if they cannot carry out their work optimally they will be replaced by new employees (Fariana, 2014). Companies are involved in human resources by increasing employee value through training and long-term development (Kianto et al., 2017).
Human capital is often seen as a burden or cost that must be reduced, but it would be better if it was seen as an investment where the potential of employees can be optimized, so that it becomes an advantage for the company (Vithana et al., 2021).

Structural capital supports the company's ability to establish human resource processes to optimize intellectual performance and overall company performance (Gonzalez-Loureiro & Teixeira, 2011). In addition, structural capital is a collection of mutually supportive knowledge, and infrastructure that will continue to exist in the company, even if there is employee rotation or resignation (Yaseen et al., 2016). Increasingly stringent company competition results in the need for optimally managed structural capital to increase firm value (Hsu & Wang, 2012).

Companies with high performance in various countries have accommodated knowledge-based capital exploration programs by investing fantastic amounts of funds (Feimianti & Anantadjaya, 2014). This is done in the hope that their knowledge-based capital can increase competitive advantage to increase performance and even firm value (Gonzalez-Loureiro & Teixeira, 2011). However, this concept has not been widely applied in Indonesia because many companies tend to run their business conventionally (Sumiati et al., 2022). Property and real estate sector companies in Indonesia are always in contact with technology and knowledge, where investment funds in knowledge infrastructure can improve the quality of human resources. Product-oriented companies have more limited human capital than service-oriented companies have more innovation capital, human capital, and focus more on intellectual capital (Kianto et al., 2010).

Previous research on the components of intellectual capital consisting of working capital, human capital, and structural capital on firm value has been carried out a lot, but still shows inconsistent results. Many research shows that organizational capital, human capital, structural capital have a positive impact on firm value (Juwita & Angela, 2016; Wijaya et al., 2020). Different results were found indicating that structural capital has a negative impact on firm value (Mohammad et al., 2018; William et al., 2019). However, other research shows that organizational capital, human capital, structural capital has no effect on firm value (Dewi & Isynuwardhana, 2014).

Based on cases that are currently developing and the inconsistencies in the results indicate that the research is still interesting to study and needs to be reviewed. The difference between this research and previous research is the uses of property and real estate as a sample while previous research use Index Kompas 100 company or mining sector (Juwita & Angela, 2016; Wijaya et al., 2018). According to the Global Industry Classification Standard, companies in the property and real estate sector were chosen because the industry is one of the categories of high IC intensive industries. Industries with high intellectual capital intensive are industries that have the ability to make good use of intellectual assets to optimize company performance (Septiani & Taqwa, 2019). Companies with high intellectual capital contributions are also known as high IC intensive industry companies, which are basically knowledge-based industries or knowledge-based industries, which are companies
consisting of communities with knowledge, expertise and skills (Septiani & Taqwa, 2019; Widyaningrum, 2004).

2. Literature Review and Hypothesis Development

2.1. Stakeholder Theory

Stakeholder theory is built on the concept of managerial freedom within the scope of management responsibilities, originally oriented only to shareholders, to focus on the diversity of stakeholders (Freeman, 1999). According to stakeholder theory, a company exists not only for its own sake, but also for the benefit of all stakeholders (Ghozali & Chariri, 2007). Devi et al. (2017) state that stakeholders have the right to obtain information related to company operations and also those that affect the company. The main objective of stakeholders is to reduce and minimize the negative impact of the company's operations on the internal and external environment (Aida & Rahmawati, 2014). Stakeholder theory explains that the entire company's operating activities lead to value, where the more optimal the company is in maximizing the potential of tangible and intangible assets, the more optimal the added value that can be generated by the company (Herdyanto & Nasir, 2013). Value creation can also improve the company's financial performance and as a result, also generate profits for shareholders, but to be able to achieve that management needs to manage all company resources (Ulum, 2013).

2.2. Firms Value & Intellectual Capital

According to (Keown et al., 2010) company value is an investor's assessment of the company's ability to manage and control resources that reflects stock price performance. Increased stock performance will increase the value of the company showing its current and future prospects (Fombrun et al., 2000). Public companies have the main goal of increasing market value (Salvatore, 2005). High corporate value equals greater shareholder wealth, corporate value is very important (Brigham & Daves, 2014). High corporate value encourages the market to not only believe in the company's current performance, but also in its future potential (Rudangga & Sudiarta, 2016). Firm value is influenced by financial (Pratiwi & Pamungkas, 2020) and non-financial factors (Harahap et al., 2018; Hu et al., 2018). Intellectual capital is information, intellectual material is used to create optimal profits (Ulum, 2013). Intellectual capital is the company's main asset besides physical assets and financial assets (Kartika & Hatane, 2013). The concept of intellectual capital refers to intangible capital or non-physical capital related to human experience and knowledge and the use of technology (Budiarto & Putuyana 2018). Companies that survive must be able to change their business philosophy from being a labor-oriented company to a knowledge-based company (Thaib, 2013). This is a transformation of knowledge in the form of corporate intellectual property and resources for companies in creating value.

Organizational capital describes how much increase is generated from the physical capital used. Organizational capital efficiency can increase the company's ability to earn higher profits (Féimianti & Anantadjava, 2014). Organizational ability to connect well with the environment of suppliers, customers, competitors, shareholders, and society to improve welfare by expanding human capital and structural capital is known as organizational capital
The company's harmonious relationship with partners, both from the quality of suppliers, customer loyalty, and the company's cooperation with the surrounding community and government are part of organizational capital (Welly et al., 2021). The findings of Entika & Ardiyanto (2012) prove that organizational capital has a positive relationship to firm value. Organizational capital generates greater returns for a company, so that companies can make better use of organizational capital (Ulum, 2013).

**H1: Organizational capital has a positive effect on firm value**

Human capital is considered the most important factor in a competitive business environment (Vithana et al., 2021). Human capital includes human resources including competence, education, creativity and innovation (Bontis, 1998). The company's human resources make employee excellence able to generate future income. Hsu & Wang (2012) revealed that human capital has influence in most industries. The findings of Hamidah et al. (2015); Fajarini & Firmansyah (2012); and Wahyuni et al. (2017) proved organizational capital has a positive relationship to firm value. Human capital as an investment, supports employees’ future service potential for the company (Jafaridehkordi & Rahim, 2014). Employee productivity will provide high competitive value for companies that budget high staff costs, thereby enabling them to increase company value (Utami, 2018).

**H2: Human capital has a positive effect on firm value**

Structural capital shows the contribution of structural capital in value creation (Sumiati et al., 2022). Structural capital reflects the company's capabilities that come from systems, strategies, structures, processes, policies, culture, and the company's ability to innovate (Fajarini & Firmansyah, 2012). Structural capital includes corporate structure and business processes, research and development, management style and corporate culture as well as information systems and databases (Bontis, 1998). Efficient structural capital is one of the company's competitive advantages in taking investment opportunities (Jafaridehkordi & Rahim, 2014). The findings of Chen et al (2005) and Entika & Ardiyanto (2012) prove that structural capital has a positive effect on firm value. Structural capital efficiency is needed to increase firm value (Yaseen et al., 2016).

**H3: Structural capital has a positive effect on firm value**

3. Research Methodology

Property and real estate sector companies are the population in this study. The sample was selected using a purposive sampling method with the following criteria:

- a. Companies in the property and real estate sector in Indonesia that continuously report annual reports for the period 2016 to 2020 on the official website of the Indonesia Stock Exchange (www.idx.co.id) and the official website of each company;
- b. The annual report is presented using rupiah currency
- c. The company presents the completeness of the data related to the variables used.

Based on data tabulation, 25 property and real estate sector companies were identified that met the three criteria above so that the total number of data was 125. Based on the results
of the z-score value analysis proposed by Hair et al. (1998) there were 16 data deviations. According to Hair et al. (1998) if there is data that totals less than 80 then the standard score with a limit of more than 2.5 is declared an outlier. The final data sample after removing the outliers is 109 data. The measurement indicators for each research variable, both independent and dependent, are based on relevant previous research and are shown in Table 1 below:

<table>
<thead>
<tr>
<th>No</th>
<th>Variable</th>
<th>Measurement Indicator</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Firm value</td>
<td>PBV = closing share price/share book value</td>
<td>Ratio</td>
</tr>
<tr>
<td>2</td>
<td>Organizational capital</td>
<td>VACA = value added / total equity</td>
<td>Ratio</td>
</tr>
<tr>
<td>3</td>
<td>Human capital</td>
<td>VAHU = value added / human capital</td>
<td>Ratio</td>
</tr>
<tr>
<td>4</td>
<td>Structural capital</td>
<td>STVA = structural capital / value added</td>
<td>Ratio</td>
</tr>
</tbody>
</table>

Source: compiled from various sources (2023)

From table above, organizational capital can be described by dividing value added (VA) with total equity. VA can be found by deducting total income with total expense (exclude salary expense). The formula can be shown below:

\[
VA = \text{Out} - \text{In} \tag{1}
\]

Which,
\[
\text{Out} = \text{Total income}
\]
\[
\text{In} = \text{Total expense exclude salary expense}
\]

The total expense should except salary expense because salary expense has been calculated as human capital. To find structural capital the value added amount should be deducted by human capital, so it can be shown as follow:

\[
\text{Structural Capital} = VA - HC \tag{2}
\]

Which,
\[
VA = \text{Value added}
\]
\[
HC = \text{Human capital}
\]

### 4. Results and Discussions

After being tested using the multiple linear regression method, the results are obtained as shown in the table 2. Due to table 2, the results prove that the more organizational capital will increase the value of the company. Organizational capital will affect the increase in the company's ability to create higher profits, so that it can improve the firm value (Sumiati et al., 2022). Organizational capital can increase operational efficiency, because efficient organizational capital will increases productivity and reduces costs with the same result, so as to increase company profits which allows investors to trust the management of the company's working capital (Siti et al., 2020). Organizational capital also create competitive advantage (Dewi & Isynuwardhana, 2014). Then, organizational capital can attract investor and shareholders, increasing product and services quality and also minimalized risk.
Table 2. Hypotheses Testing

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational Capital</td>
<td>1.950</td>
<td>0.464</td>
<td>4.199</td>
<td>0.000**</td>
</tr>
<tr>
<td>Human Capital</td>
<td>0.012</td>
<td>0.007</td>
<td>1.795</td>
<td>0.076</td>
</tr>
<tr>
<td>Structural Capital</td>
<td>1.714</td>
<td>0.480</td>
<td>3.571</td>
<td>0.001**</td>
</tr>
<tr>
<td>F Value</td>
<td>22.253</td>
<td></td>
<td></td>
<td>0.000**</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.371</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Sig < 1%

Based on table 2, human capital has not been able to increase the value of the company. Costs that have been sacrificed for efforts to improve employee competence are considered as unexpected costs because they reduce company profits. It is possible that the property and real estate sector companies have not utilized the knowledge of their employees optimally so that they have not been able to produce optimal profitability. The results of this research are caused because companies in Indonesia have not utilized their knowledge and are still focused on tangible assets. Even though currently the global economy is undergoing changes where added value is no longer only created by quantity but through quality created by knowledgeable employees (Siti et al., 2020).

The last hypothesis prove that more structural capital can increase firm value. The company uses sophisticated technology and is supported by competent resources capable of optimally managing structural capital. Company value will be maximized by determining the best capital structure through debt financing (Hamidah et al., 2015). Structural capital owned by property and real estate companies such as organizational structure, work procedures, and operational systems are effective and efficient and are able to increase company value. Structural capital is considered to assist employees in developing and generating ideas that are created to achieve higher performance and added value, so that the company can be superior to other companies, resulting in optimal corporate value.

5. **Conclusion**

Based on the research results, it can be concluded that organizational capital and structural capital have a positive influence in determining firm value, while human capital is not able to determine firm value. Therefore, the intangible asset approach to the property and real estate sector has begun to become the basis for consideration in investment decision making and company valuation in Indonesia. Like other research, this research has limitations. This research only raises variables that come from internal companies. Future research is expected to add research variables originating from external pressure (government pressure and community pressure,). Government ownership in a firm can have an impact since it gives the government the power to shape corporate policy to meet its needs (Nugr ahani et al., 2022). Pressure from the government can encourage firm to provide information about employment-related difficulties and the connection between government ownership and the community (Qisthi & Fitri, 2021). The central and regional governments can be forced to provide the public with information on how the government is run by encouragement, requests, and ambitions from the community as well as the current law (Jatmiko & Setiawan, 2020).
References


Fariana, R. (2014). Pengaruh value added capital employed (VACA), value added human capital (VAHU) dan structural capital value added (STVA) terhadap kinerja keuangan


