CHARACTERISTIC BOARD OF DIRECTORS AND INVESTMENT OPPORTUNITY SET ON FIRM VALUE

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ABSTRACT

The purpose of this study was to examine the effect of the characteristics of the directors and the Investment Opportunity Set (IOS) on firm value. The characteristics of the directors consist of age and gender. The sample used in this study is the Property, Real Estate, and Building Construction sectors listed on the Indonesia Stock Exchange (IDX) since the 2014-2018 period with purposive sampling method. The valid sample in this study is 218 observations for the CEO Age proxy, 219 observations for CEO Gender, and 220 observations for the Investment Opportunity Set. The data analysis technique used in this study used multiple linear regression analysis. Hypothesis testing is done by t-statistical test, F-statistical test, and the coefficient of determination (R2) test. The results showed that the age of the directors and the gender of the directors had no significant effect on firm value, while the Investment Opportunity Set (IOS) had a significant effect on firm value.

Keywords: CEO Age, CEO Gender, Investment Opportunity Set, Firm Value

INTRODUCTION

The post-pandemic economic recovery condition requires companies to give their best performance to increase company value. The economy in Indonesia, which is experiencing a downturn due to the Covid-19 pandemic, has made it difficult for entrepreneurs to manage their companies in Indonesia, starting from companies managed by foreign parties and companies managed by the Indonesian people. One management that must be considered is the financial problem which is very important for a company because if it can manage the company's finances well then the company's survival can last a long time, on the contrary, if it cannot manage the company's finances well then the worst possibility is that the company can go bankrupt as a result of less it is better to manage the company's finances (Ferdian and Panjaitan, 2021).
Financial reports are one of the sources of accountable financial information in the capital market which is prepared by internal parties to account for the results of the company's operational activities during a certain period to stakeholders both internal and external parties in decision making. Financial statement information is expected to be useful for predicting company performance and value.

The separation between the board of directors and the board of commissioners makes the board of directors as an organ of the company a key factor in carrying out its functions by the duties and authorities given to supervise as an effort to increase the value of the company (Astuti, 2017). The characteristics of the board of directors in this study discuss the age of the members of the board of directors and the gender of the board of directors.

The age of the board of directors can be one that will affect the value of the company. This illustrates that the older people are, the wiser they will be to make effective and efficient decisions because of the experience they have had (Rumapea and Silitonga, 2020). The level of the proportion of women in Indonesia who serve in top management also has an opportunity, although the proportion is not comparable to that of men. The proportion of women is only 23% with a description of 13.1% for the position of the board of directors and 9.9% for the position of the board of commissioners. When compared with the proportion of men in top management which is 88.4%, the proportion of women is still relatively small. The same thing happened in other developed countries in Asia such as Hong Kong with the proportion of women in top management at 10.3%, China 8.5%, Singapore 7.3%, and Japan 1.1% (Hamdani and Hatane, 2017).

Investment Opportunity Set (IOS) is a value that can affect the perspective of managers, owners, investors and creditors of the company. Investment opportunities are an important component of company value from the point of view of market value. The use of the investment opportunity set for the company is the main factor of thought as a growth prospect for the company (Fauziyanti and Astuti, 2018).

The value of the company is contained in the company's financial statements, especially in the company's statement of financial position which contains past financial information and income statements to assess the company's profits from year to year. Hidayah, (2015) states that the value of the company is not only based on financial statements but the value of the
company is assessed based on the present value of the assets owned by the company and the value of the company's investment that will be issued in the future. Assessment of the company's performance can be seen from several factors, one of which comes from the increase in profit which shows an indicator of the company's ability to fulfill its obligations to investors, shareholders, and others (Ismawati, 2021).

Before investing, shareholders must first analyze whether there are good prospects in the company they want to invest in by looking at the value of the company (Mauliddah, 2020). Shareholder perceptions can change in line with the high and low company value that describes the company's performance and financial condition (Sukarya and Baskara, 2019).

Tobin's Q is generated from the sum of the market value of equity and the book value of total debt compared to the book value of the company's total assets. The market value of equity is obtained from the share price multiplied by the outstanding shares. The stock price used is the price at closing (Sudana and Dwiputri, 2018).

Based on the above background, this study was conducted to determine whether there is an effect of the characteristics of the directors and the Investment Opportunity Set on firm value.

THEORETICAL REVIEW AND HYPOTHESES

Agency Theory

Jensen and Meckling, (1976) state that in agency theory, agency relationships arise when shareholders (principals) assign tasks to managers (agents) to provide services and provide authority in the decision-making process. The separation between ownership and management of the company has the potential to cause conflict. The occurrence of a conflict called agency conflict is caused by differences in interests between the agent and the principal. Managers (agents) are morally responsible for optimizing the profits of the owners (principals), but on the other hand, managers also have an interest in maximizing the welfare of the owners of the company. This concludes that there are two different interests in the company where each party tries to achieve or maintain the desired level of prosperity, so there is a high possibility that the agent does not always act in the best interests of the principle (Hidayah, 2015)
Signal Theory

Signal is the action of the company's management in giving a signal to shareholders how the company's management sees the company's growth opportunities (Brigham and Houston, 2017). The signal sent by the company to shareholders is done by disclosing the company's internal information to reduce uncertainty and assumptions about company opportunities and to increase company value. Signal theory explains the signals given by internal companies to users of financial statements, especially for every shareholder who wants to invest (Sinaga et al., 2020). The positive signal given by the company is the disclosure of company information such as the presentation of financial and non-financial information that can be considered by shareholders in determining their investment decisions because if the company gives a signal of an increase in financial performance, shareholders are confident of good prospects for sustainability. On the other hand, if the company's financial performance declines, shareholders need to reconsider their investment decisions whether the company can survive and provide a return on their investment or not.

Firm Value

Firm value is an investor's perception of the company, which is often associated with stock prices. The shareholder's perspective on company value is the level of capability of a company in managing resources to maximize the company's main goal, namely company profits as reflected by the company's share price (Purwanti, 2020). High stock prices make the value of the company increase (Alamsyah, 2018). The stock price represents the value of the company because the movement of the company's share price can indicate a signal to shareholders about the company's performance (Setyowati et al., 2020). Dahar, et al., (2020) the company value factor can be represented by two main factors, namely micro-economic factors including the company's financial ratios and macroeconomics including inflation, interest rates, taxes, government policies, foreign exchange rates, economic cycles, money circulation, and international economics (Maldina et al., 2021).

Board of Directors

Indonesia uses a two-tier system, where there is a clear separation between the board of directors and the board of commissioners so that the effectiveness of the board of directors
is a key factor in its function for supervision which can have an impact on increasing company
value (Astuti, 2017). Financial Services Authority Regulation Number 29 /POJK.04/2016
concerning Annual Reports of Issuers or Public Companies Article 2 paragraph (1) states that
the party obliged to prepare an annual report is the Board of Directors. Furthermore, article 4
explains that the annual report must contain an overview of important financial data, share
information, reports from the Board of Directors, reports from the Board of Commissioners,
profiles of Issuers or Public Companies, management analysis and discussion, governance of
Issuers or Public Companies, social and environmental responsibilities of Issuers or Public
Companies. Public Company, audited annual financial reports, statement letters from
members of the Board of Directors and members of the Board of Commissioners regarding the
responsibility for the Annual Report.

**Investment Opportunity Set (IOS)**

The Investment Opportunity Set (IOS) views the value of a company as a combination
of assets owned with investment options in the future (Mauliddah, 2021). Investment options
are an opportunity for growth, but often companies are not always able to implement all
investment opportunities in the future. For companies that cannot take advantage of
investment opportunities, they will experience higher expenditures compared to the value of
lost opportunities. Future investment options are not only indicated by the existence of projects
that are supported by research and development activities, but also by the company's ability
to explore more opportunities to take advantage of other equivalent companies in an industry
group (Alamsyah, 2018).

**Hypothesis Development**

**CEO Age and Firm Value**

The grouping of the board of directors based on age can be seen from the young and
old age groups. Rumapea and Silitonga, (2020) there are stages of development in adulthood,
namely the development of early adulthood (18-40 years), middle adulthood (40-60 years), and
late adulthood (over 60 years). The development of middle adulthood is divided into two
parts, namely early middle age (40-50 years) and late middle age (50-60 years). So that in the
development of early and middle adulthood, those who have an age range of 50 years and below are the category of the board of directors of young age, while for the development of advanced middle adulthood and late adulthood who have an age range of over 50 years are the category of the board of directors of old age. Sproten dkk., (2018) states that in a situation full of uncertainty, an old person will withdraw if there is a greater risk. That young people feel more pressure both in terms of emotional or social in the decisions they take than older people. The structure of the board of directors is diverse, one of which comes from the age of the different directors according to agency theory. Agency conflict can lead to agency costs, namely costs that must be borne by shareholders to supervise the company's management to ensure that management will not make decisions that are detrimental to shareholders (Jensen and Meckling, 1976). Putri, (2020) and Hassan and Marimuthu, (2016) there is a significant positive effect of the age diversity of the board of directors on firm value.

**H₃: CEO Age significant effect on Firm Value.**

**CEO Gender and Firm Value**

Gender diversity or gender diversity within a company will affect various aspects of the company's fields (Fauziah, 2018). The board of directors is generally the most influential person in determining strategy, direction, and decisions within the company (Ramdhania et al., 2020). The presence of women on the board of directors indicates that the company provides equal opportunities for everyone (non-discriminatory), has a broad understanding of the company's market and consumers, so that in the end it will increase the reputation (legitimacy) and value of the company.

Women in general have more detailed thinking involved in decision-making analysis. They tend to analyze problems before making a decision and process the decisions that have been made, resulting in a more thorough consideration of problems and alternative solutions (Astuti, 2017). A diverse board of director structure can minimize agency conflict, which is a conflict due to differences in interests between shareholders and company management. This is because the diverse structure of the board of directors can better align the interests of the company's management with the company's shareholders (Handayani & Panjaitan, 2019).

**H₄: CEO Gender significant effect on Firm Value.**
Investment Opportunity Set (IOS) and Firm Value

Investment Opportunity Set describes the breadth of investment opportunities for a company, but it is very dependent on the company's expenditure or expenditure in the future (Hidayah, 2015). When viewed from the signal theory, the occurrence of spending on investment by the company will give a positive signal about the company's growth in the future, so that it will increase the stock price which is an indicator of company value (Suartawan and Gerianta, 2016). This is due to the perception of capital market players who see that spending on investment shows the seriousness of management in developing the company. With the investment policy carried out by the company, it is expected that within a certain time the company will get a return from the investment results so that the company will grow. This will be responded to positively by the market and the stock price as an indicator of the company's value will increase. Therefore, with the increase in investment activities carried out by the company, it will increase the value of the company. Sudiani and Wiksuana (2018) found that the Investment Opportunity Set (IOS) has a positive and significant effect on firm value. Hidayah, (2015) finding that IOS has a positive and significant effect on firm value.

H₃: Investment Opportunity Set (IOS) significant effect on Firm Value.

Conceptual Framework

![Conceptual Framework](image)

Figure 1. Conceptual Framework
RESEARCH METHOD

1. Sample

The population in this study is the Property, Real Estate, and Building Construction sector companies listed on the Indonesia Stock Exchange (IDX) from 2014 to 2018, totaling 220 companies. Determination of the sample in this study using purposive sampling method.

2. Data Types and Sources

The type of data used in this research is documentary data. The source of data in this study is secondary data. The data sources in this study were obtained from the official website of the Indonesia Stock Exchange (IDX), namely www.idx.co.id and other necessary websites.

3. Data analysis technique

The steps in analyzing the data in this study use descriptive analysis to interpret the data on the average (mean), minimum value, and maximum value and use the analytical method used are multiple linear analysis by conducting model tests such as the coefficient of determination test (R2), F-test (simultaneous), and t-test (partial).

The regression analysis model of this research is Multiple Linear Regression Analysis (Multiple Linear Regression). Multiple Linear Regression Analysis explains the relationship between the dependent variable which is influenced by several independent variables. The following is a multiple linear regression model:

\[ Y = \alpha + \beta X_1 + \beta X_2 + \beta X_3 + \varepsilon \]

With:
- \( Y \) = Firm Value
- \( \alpha \) = Constant
- \( X_1 \) = CEO Age
- \( X_2 \) = CEO Gender
- \( X_3 \) = Investment Opportunity Set
- \( \varepsilon \) = Standard error
- \( \beta_1, \beta_2, \beta_3 \) = regression coefficient of \( X \)
4. Research and Measurement Variables

Dependent Variable

Firm Value

Firm value means the shareholder's perspective on the level of success of a company in maximizing the use of resources to gain profits which are reflected in the company's share price (Maldina et al., 2021). Firm value is measured using Tobins'Q.

\[
\text{Tobins'Q} = \frac{\text{Market value of equity} + \text{Total debt}}{\text{Total assets}}
\]

Market value of equity = price per share x number of shares outstanding

Independent Variable

CEO Age

The age of the Board of Directors is measured by using the age of the Board of Directors up to the reporting period. The measurement scale uses nominal.

CEO Gender

CEO Gender was measured using the gender of the CEO (1 for female CEOs and 0 for non-female CEOs). The measurement scale uses nominal.

Investment Opportunity Set

Investment Opportunity Set is measured by market to book value of equity. This ratio uses the number of outstanding shares multiplied by the closing price of the shares as the market valuation divided by the company's total equity. The MVBVE formula is:

\[
\text{MBVE} = \frac{\text{Asset - Total Equity} + (\text{Number of shares outstanding} \times \text{closing price})}{\text{Total Equity}}
\]

RESEARCH RESULTS AND DISCUSSION

Research Results

<table>
<thead>
<tr>
<th>Table 1. Descriptive Statistical Result</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO Age</td>
<td>24</td>
<td>80</td>
<td>53.22</td>
<td>.746</td>
</tr>
<tr>
<td>CEO Gender</td>
<td>0</td>
<td>1</td>
<td>.07</td>
<td>.017</td>
</tr>
<tr>
<td>Investment Opportunity Set</td>
<td>-2</td>
<td>41</td>
<td>2.77</td>
<td>.258</td>
</tr>
</tbody>
</table>

Source: Research Data, 2021
Based on Table 1, CEO Age has an average value (mean) with a statistic of 53.22 and a standard error of 0.746. The age of the Board of Directors ranges from 24 to 80 years. This shows that the age of the directors is very diverse, which indicates that to serve as directors, there are opportunities from young to old. This diversity is expected to help the company to provide the latest information and can be combined with experienced directors.

CEO Gender has a drinking value of 0 and a maximum value of 1. The mean (mean) of the statistic is 0.07 and the standard error is 0.017. This shows that the presence of women also plays a role in decision making. The detailed nature can provide benefits for the company which is expected to play a role in increasing the value of the company.

The Investment Opportunity Set has a statistical mean value of 2.77 and a standard error of 0.258. This shows that the Investment Opportunity Set has a minimum value of -2 and maximum value of 41 which indicates the company's return on investment from its equity. The company has the opportunity to develop its company.

Table 2. Coefficient Determination Test Results (R²)

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.741a</td>
<td>.548</td>
<td>.542</td>
<td>1.939</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), CEOGENDER, CEOAGE, MBVE
b. Dependent Variable: TOBINSQ
Source: Research Data, 2021

The coefficient of determination is used to determine how much the independent variable can explain the overall independent variable. Based on the test results as contained in Table 2, the value of Adjusted R Square is 0.542. This shows that 54.2% of the firm value variables can be explained by the characteristics of the directors, namely CEO Age and CEO Gender, and the Investment Opportunity Set variable.

Table 3. Simultan Test Result

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>977.091</td>
<td>3</td>
<td>325.697</td>
<td>86.620</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>804.656</td>
<td>214</td>
<td>3.760</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1781.746</td>
<td>217</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: TOBINSQ
b. Predictors: (Constant), CEOGENDER, CEOAGE, MBVE
Source: Research Data, 2021
The F-test aims to determine whether the independent variable simultaneously affects the dependent variable. The significant level used in the study is 0.5 or 5%, if the significant value is \( F < 0.05 \), it indicates that the independent variables simultaneously (together) affect the dependent variable or vice versa (Ghozali, 2016). Anova testing is a form of hypothesis testing which can draw conclusions based on data or statistical groups that are concluded. Decision making seen from this test is done by looking at the F value contained in Table 3, the significance level used is 0.05.

Based on Table 3 shows that the calculated F value is 86.620 and the resulting significance value is 0.000, which is smaller than 0.05. It can be concluded that the multiple regression model in this study is feasible to use, and the independent variables which include Investment Opportunity Set, CEO Age, and CEO Gender have a simultaneous influence on firm value as the dependent variable.

### Table 4. Partial Test

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.557</td>
<td>.809</td>
<td>.420</td>
</tr>
<tr>
<td>CEO Age</td>
<td>-.007</td>
<td>-.565</td>
<td>.573</td>
</tr>
<tr>
<td>CEO Gender</td>
<td>-.252</td>
<td>-.483</td>
<td>.629</td>
</tr>
<tr>
<td>MBVE</td>
<td>.546</td>
<td>15.572</td>
<td>.000</td>
</tr>
</tbody>
</table>

Source: Research Data, 2021

Based on the results of Table 4 from multiple regression analysis, here are the equations:

\[
Y = 0.557 + 0.546X_1 - 0.007X_2 - 0.252X_3 + \epsilon
\]

Based on the results of the equation, it is explained that the constant value is 0.557 which means that if the independent variables in the form of CEO Age, CEO Gender, and Investment Opportunity Set are constant and the value of the company can increase by 0.557.

**Discussion**

**CEO Age Negative and Insignificant Influence on Firm Value**

CEO Age has a negative and insignificant effect on firm value. The coefficient is -0.565 with a significant level of 0.573. This shows that CEO Age does not affect the value of the company.
The Board of Directors as the company's organ has the duty and responsibility in managing the company's operational activities. The age of the board of directors is considered capable of having an impact in determining the value of a good company. Age is considered to influence the attitude of wisdom in the decision-making process. At the age of <40 years, the level of health that is considered not to monitor management, and neglect of duties cannot prevent management from taking actions that can harm shareholders due to the lack of a monitoring function for managers.

The age factor has the potential to improve the performance of the Commissioners and Directors because members of the board of different ages will have different backgrounds, skills, experiences, and social networks. Rumapea and Silitonga (2020) some examples of the advantages of the age of modern board members today in the generation group that grows and develops with computers and the internet, with the younger generation on board members allowing a lot of information and better experience in various ways. In contrast to the senior generation group, they have a lot of hands-on fieldwork experience but competitiveness with increasing technology is not good due to health conditions. The results of this study are in line with research conducted following Eni, (2011) and Hassan and Marimuthu, (2016) that the age of the board of directors has no significant effect on firm value.

CEO Gender Negative and Insignificant Influence on Firm Value

CEO Gender has a negative and insignificant effect on firm value with a coefficient value of -0.483 and a significant level of 0.629. This shows that CEO Gender does not affect firm value.

The small number of female board members in Indonesia compared to men is something that cannot be measured significantly (Suharti et al., 2020). The absence of influence of the proportion of women on the board of directors is thought to be caused by the characteristics of women themselves who generally are less likely to like the occurrence of risk than men. Therefore the proportion of women on the board of directors has a lower percentage in some male positions. In addition, because the proportion of women on the board of directors who are active in the public sphere have a dual role, namely as housewives and career women, so that this dual role can affect the company's performance which affects the value of the company (Pradana & Khairusoalihin, 2021).
**Investment Opportunity Set Positive and Significant Influence on Firm Values**

Investment Opportunity Set has a positive and significant effect on firm value with a coefficient value of 15.572 and a significant level of 0.000. The higher the Investment Opportunity Set produced by the company, the higher the value of the company.

Firm value is formed from several stock market value variables which are strongly influenced by the Investment Opportunity Set (IOS) (Alamsyah and Malanua, 2021). IOS relates to the company's investment decisions to internal and external parties. Plans on future management expenditures and current expenditures are expected to have a higher return than the capital already issued by management (Rini and Mimba, 2019). Research conducted by (Hamidah and Umdiana, 2017) states that there is a positive influence from IOS on the value of the company's stock. The results of this study, it means that the increase in wealth or assets in the company tends to occur in companies that invest a lot. Investment opportunities provide a positive signal for the company's growth in the future so that it will increase stock prices as an indicator of company value (Sriwahyuni and Wihandaru, 2016).

This shows that IOS is information for investors in their investment decisions. Investors assume that with IOS they will also receive large profits. This also shows that most investors in Indonesia who rely on fundamental analysis usually see the company's growth and development (Alamsyah, 2018). When viewed from the signal theory, the occurrence of spending on investment by the company will give a positive signal about the company's growth in the future, so that it will increase the stock price which is an indicator of company value (Suartawan and Gerianta, 2016). The results of this study are in line with (Fauziyanti and Astuti (2018) which states that the Investment Opportunity Set (IOS) has a significant positive effect on firm value.

**CONCLUSION**

Based on the results of multiple linear regression, it can be seen that the influence between the characteristics of the directors has no effect on firm value. The age of the board of directors is considered capable of having an impact in determining the value of a good company. Age is considered to influence the attitude of wisdom in the decision-making
process. At the age of <40 years, the level of health that is considered not to monitor management, and neglect of duties cannot prevent management from taking actions that can harm shareholders due to the lack of a monitoring function for managers.

The small number of female board members in Indonesia compared to men is something that cannot be measured significantly (Suharti et al., 2020). The absence of influence of the proportion of women on the board of directors is thought to be caused by the characteristics of women themselves who generally are less likely to like the occurrence of risk than men.

Investment Opportunity Set as an increase in wealth or assets in a company tends to occur in companies that invest a lot. Investment opportunities provide a positive signal for the company's growth in the future, so that it will increase stock prices as an indicator of company value (Sriwahyuni and Wihandaru, 2016).

**Suggestion**

Suggestions that can be used as input for several parties, such as for companies, should encourage and motivate the board of directors to continue to develop their character, knowledge, and competencies. For further researchers, these results can be a reference for further research by adding wider research objects to be used as research samples and a longer observation period so that the results of the study more generalize the data.

**Research Limitations**

There are several limitations to this study, namely, the limited availability of more detailed information related to the data to be obtained. In addition, the limited number of research samples where not all of the population became the research sample due to not meeting predetermined criteria, and the object of this research only focused on property, real estate, and building construction sector companies for the 2014-2018 period.

**REFERENCES**


