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Female Directors Network, External Financing, and Earnings Quality

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Abstract
Earnings management is an activity that damages the quality of company earnings. This results in distrust of users of financial statement information on earnings information. In the case of Indonesia, during 2019-2020 more than 10 cases of accounting scandals threatened investors confidence in companies listed on the Indonesian stock exchange, and interestingly the scandal was dominated by male directors. This condition strengthens the hypothesis that it is necessary to have women on the board of directors. Many studies have shown that the presence of women can reduce the likelihood of corporate fraud, improve earnings quality, and reduce the likelihood of restating financial statements. The purpose of this study was to empirically determine the influence of female directors networks (interlocked female directors, kinship with other directors (BoD), board of commissioners, and/or majority shareholders, and membership of female directors in social organizations), external financing, on earnings quality in public companies on the Indonesia Stock Exchange for the period 2015-2018. The test tool of this research is multiple linear regression with the classical assumption test to test the data. The results of the study found that (1) interlocked female directors had a positive relationship with earnings quality; (2) the relationship of the female director with other directors, the board of commissioners, and/or the majority shareholder is positively related to earnings quality; (3) membership in the social organization of female directors has a positive relationship with earnings quality; (4) external financing strengthens the relationship between female directors networks and earnings quality

Keywords: Female Directors Networks, Interlocking Directorship, Kinship, Members of Social Organizations, External Financing, Quality of Earnings

Introduction
Earnings information in financial reports is a very important parameter for company performance (Sarun, 2015). Earnings information is used by users (such as investors, creditors and other users) to make good decisions. For example, in a situation where investors do not have access to good quality information about company earnings, they tend to compensate for the risk by charging high capital costs which will ultimately affect the overall firm value. Therefore, all efforts are
directed at increasing the level of openness and transparency of financial reporting and improving the quality of earnings (Komalasari, 2016; Persakis & Iatridis, 2015).

Although the usefulness of financial information requires quality earnings, it often happens otherwise. Accounting scandals (such as Enron, WorldCom) have drawn public attention towards managers’ opportunistic utilization of earnings management. In the context of companies in Indonesia, during 2019-2020 more than 10 cases of corporate accounting scandals occurred and were dominated by male directors happened (see: table 1). This suggests that presence of women on board has strong implications for the quality of financial reports and minimizes the incidence of financial fraud, especially in Indonesia condition.

Table 1: Corruption Cases in Indonesia
(Source: the author’s work, 2020)

<table>
<thead>
<tr>
<th>Company</th>
<th>Name of Directors</th>
<th>Position</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT. INTI (2019)</td>
<td>Darman Mappangara</td>
<td>President</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director</td>
<td></td>
</tr>
<tr>
<td>PT. PLN (2019)</td>
<td>Sofyan Basir</td>
<td>President</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director</td>
<td></td>
</tr>
<tr>
<td>PT. Jasindo (2019)</td>
<td>Budi Tjahjono</td>
<td>President</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Director</td>
<td></td>
</tr>
<tr>
<td>PT. Krakatau Steel (2019)</td>
<td>Wisnu Kuncoro</td>
<td>Director</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Dolly Pulungan</td>
<td>President</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>I Kadek Kertha Laksana</td>
<td>Director</td>
<td>Male</td>
</tr>
<tr>
<td>PT. Garuda Indonesia (2019)</td>
<td>Ari Askhara</td>
<td>President</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Iwan Joeniarto</td>
<td>Director</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Mohammad Iqbal</td>
<td>Director</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Heri Akhyar</td>
<td>Director</td>
<td>Male</td>
</tr>
<tr>
<td>PT ASABRI (2020)</td>
<td>Sonny Widjaja</td>
<td>President</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Herman Hidayat</td>
<td>Director</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Hari Setianto</td>
<td>Director</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Adiyatmika</td>
<td>Director</td>
<td>Male</td>
</tr>
<tr>
<td>Perum Perindo (2020)</td>
<td>Risyanto Suanda</td>
<td>President</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Andra Y Agussalam</td>
<td>Director</td>
<td>Male</td>
</tr>
</tbody>
</table>

Research on female directors is a research that is never end discussed. This research is interesting because the issue of gender equality continues to be echoed by all levels of the organization to position women in positions that are equal to men. Research on the existence of
women was shown by several world researchers; that find female directors tend to have high caution in business decision makings (Levi et al., 2014; Huang & Kisgen, 2013); decreased probability of fraud (Capezio & Mavisakalyan, 2016); tend to adopt more conservative accounting policies (Arun et al., 2015), and associated with higher earnings quality (Darmayanti and Md Kassim, 2020; Lara et al., 2017). Morgan Stanley Capital International (MSCI), an investment research firm emphasizes that promoting gender diversity among their boards of directors tend to experience fewer governance-related issues (e.g. instances of bribery, corruption and fraud) than average.

Related to the existence of female directors in the company, many factors are thought to affect the quality of company earnings, one of which is female directors networks. The network in our context focuses on (1) multiple positions held by female directors in more than one company; (2) there is a kinship relationship (because more than 95% of companies in Indonesia are family companies); (3) social networks: women directors who have extensive social networks, such as being members of social organizations, are thought to increase the quality of company profits.

Focusing on the first issue on the relationship between interlocking directorship and earnings quality. Many studies in the world have conducted research on this subject (Shu et al., 2015; Chiu et al., 2013; Hashim & Rahman, 2011; Geletkanycz & Boyd, 2011). In Indonesia, its implementation is limited by Law of the Republic of Indonesia Number 5 of 1999 concerning "Prohibition of Monopolistic Practices and Unfair Business Competition" Article 26 states that "a person who is a director or commissioner of a company is prohibited from holding concurrent positions as a director or a commissioner in another company. This is to prevent companies engaging in monopolistic practices so as to create unfair competition between businesses engaged in the same field, this technique has been explained in the Regulation of the Business Competition Supervisory Commission (KPPU) number 7/2010 concerning “Guidelines for Implementation of Multiple Positions.” So that in practice, multiple positions occur in family companies that have many subsidiaries (whether they are engaged in the same industry or not) and these positions are filled by family members themselves.

Recent research in Indonesia found that interlocked directorship has an effect on earnings predictability (Dewi, 2013); negative effect on earnings management (Azzahra, 2020; Nahomy, 2019). On the other hand, Angeline (2019) found that interlocking directorship has no effect on earnings management.

The kinship relationship between the board of directors, the board of commissioners, and the majority shareholder in Indonesia is natural because almost 95% of companies in Indonesia are family companies. This means that founders can determine who will be placed in this important position in order to secure their assets. Several studies have found that there is an attempt by majority shareholders (in this case family ownership) to maximize their wealth by ignoring minority shareholders (Chi et al., 2015; Dignah et al., 2016; Darmadi & Sodikin, 2013), so this is considered detrimental minority shareholders. However, other studies have found an alignment of the interests of management and principals by determining which parties have family relationships to management and the commissioners. Thai & Sen (2019) found the family firms tend to have better earnings quality, especially in first generation family companies.

The third independent variable examined in this study is members of social organizations. Directors who join social organizations have the possibility to meet and interact with many parties. This network will benefit the company through the membership of the board of directors, because the social organization is a place where the flow of information changes, a means of conveying information to the public, reducing uncertainty, and indirectly increasing company profits (Mrizak,
Shu et al. (2015) also reinforce the previous statement that board experience also increases if they are externally connected with other company executives. Their experience can guarantee the effectiveness of monitoring and improve earnings quality.

Although previous studies have found that the presence of female directors can improve earnings quality, many studies have found that the use of external financing can encourage company managers to be involved in earnings management (Wang et al., 2018; Hyun et al., 2016; Shu et al., 2015; Braswell, and Daniels, 2018; Papanastasopoulos et al., 2011). When incentives, including salaries and high bonuses become an option, indirectly the company's financial performance will deteriorate. The earnings management hypothesis holds that managers will manipulate earnings upward before implementing financial policies (Papanastasopoulos et al., 2011) and tend to use both earnings management methods in practice (real and accrual earnings management) in managing their profits.

We propose two research objectives. First, we examine the relationship between female directors networks (interlocking directorship, kinship with other board of directors, board of commissioners, and/or majority shareholder, and members of social organizations) and earnings quality in Indonesia. Second, we examine the relationship between female directors networks and earnings quality, and external financing as moderating variables. The paper is organized as follows. Section 2 reviews female directors networks (interlocking directorship, kinship with other board of director, board of commissioner, and/or majority shareholder, and member of social organization) and earnings quality in Indonesia. Second, we examine the relationship between female directors networks and earnings quality, and external financing as moderating variables. The paper is organized as follows.

Theoretical Background and Hypothesis

Interlocking Directorship and Earnings Quality

Interlocking directorship is constituted by persons or directors who are affiliated with one firm while sitting on the board of directors of another firm (Abdul Wahab et al., 2020). Multiple positions are permitted as long as the companies being led are not competing companies, because it will hinder fair competition between companies.

Despite the many opportunities for collusion through this activity, recent research has found that interlocking directorship has a positive impact on corporate governance, due to the transfer of knowledge, experience and breadth of the company's network, which in turn has an impact on improving company performance. Shu et al. (2015) found that directors who have relationships with other parties will increase their ability to detect and reduce the level of earnings management in the companies they lead. This finding is reinforced by the results of research by (Hashim & Rahman, 2011) which found that interlocking directorship can improve income quality.

In a special case, Chiu et al. (2013) found that directors in companies with earnings management behavior tend to practice the same activities in other companies they lead. Geletkanycz & Boyd (2011) found that companies that have interlocking directorship tend to experience a decline in company growth. However, if viewed from another perspective, if a female director also becomes a director in another company, her experience will increase and she will be able to improve her monitoring and supervision abilities. Recent research conducted by Darmayanti and Kassim (2020) also found that interlocking directorship can improve the earnings quality of public companies listed on the Indonesian stock exchange.
Hypothesis 1 (H1): Interlocking directorship of female directors is positively related to earnings quality.

Kinship of Directors and Earnings Quality

According to Boston Consulting Group (BCG), almost 95% of the companies listed on the Indonesian stock exchange are family companies and contribute around 40% of the market capitalization in Indonesia. These family enterprises have a sizable influence in central industries, such as property (91% market share), agriculture (74%), energy (65%), and consumer goods (45%). This condition ensures that family members will play an important role in the company, such as the board of directors and commissioners.

There are several studies that show conflicting results regarding the role of family ownership on company boards of directors. The interest alignment hypothesis states that the involvement of shareholders in the position of director has an impact on the alignment of interests between owners and management. Management will optimize the resources in the company to maximize owner's wealth. In contrast, the entrenchment hypothesis shows that directors who come from the majority shareholder will have an impact on the exclusion of the interests of minority shareholders, because of the controlling power possessed by the director.

Several Asian studies have found companies led by families tend to have low earnings quality (Chi et al., 2015); has a high risk and cost of equity capital (Dignah et al., 2016); tend to disclose a limited of voluntary information (Darmadi & Sodikin, 2013). Apart from agency issues, companies run by family members tend to show superior performance and are vulnerable to the dispossession of minority shareholders' wealth (Boonlert-U-Thai & Sen, 2019; Taras et al., 2018).

However, Wu (2019) found that companies run by family members tend to have an increase in internal control and the quality of accounting information is getting better; which can be concluded to have high earnings quality.

Therefore, researcher hypothesize that:

Hypothesis 2 (H2): Kinship of female directors with BoC/BoD/majority shareholders is positively related to earnings quality.

Members of Social Organizations and Earnings Quality

Relationships among executives outside the company can be grouped in the "class hegemony model" formed by emotional closeness (Drago et al., 2015). Generally, this relationship is formed because they have the same hobbies, beliefs, and values, such as playing golf together, or being a member of the same country club, an executive gathering both female directors, or having the same political views.

A board of directors establishing a connection aims to guarantee access to external power source. Therefore, directors who have social network are seen as a means of transferring information to the community, adding information to the company, reducing uncertainty and increasing profits (Mrizak, 2011). Directors who join social organizations have the possibility to meet and interact with directors of other companies, which allows information flow between groups, and may coordinate group actions.
Drago et al. (2015) found that firm performance decreases if the company depends on its connectivity. Khanna et al. (2015) found directors networks can minimize fraud caused by information asymmetry. It means that if female directors have a social network, it can be concluded that the quality of the company's earnings will increase.

Therefore, researcher hypothesize that:

**Hypothesis 3 (H₃):** Female directors that members of social organizations is positively related to earnings quality.

**External Financing**

Earnings management problems arise when managers choose to put their personal interests ahead of the company during business decisions making at the company. When incentives, including salaries and high bonuses become an option, indirectly the company's financial performance will deteriorate. Reason being, earnings management produces false information that affects the investment performance of investors and capital market efficiency.

Previous studies found that the use of external financing can encourage corporate managers to engage in earnings management (Wang et al., 2018; Hyun et al., 2016; Shu et al., 2015; Braswell and Daniels, 2018; Papanastasopoulos et al., 2011). Papanastasopoulos et al. (2011) found that managers tend to manipulate profit figures before making external financing, which resulted in investors re-evaluating the value of the company after knowing the manipulation.

Shu et al. (2015) found that when executives from the same industry made connections, the level of earnings management decreased. This means sharing information and experience teaches them to improve the course of the company, including when the company has an external financing plan. They found directors tended to improve their monitoring function, when the company had an external financing plan.

Pappas et al. (2019) found that when company needed a large amount of funds, then their alternative choice fell on offering new shares or adding debt. In conditions of high demand for fresh funds, companies have strong motives for engaging in earnings management to get the funds they want. They also asserted that the external financing plan strongly dominates earnings management activities, compared to other factors.

As the conclusion, companies that have a good governance structure (one of which is a board of directors) tend to have low earnings quality if they have high external financing. Therefore, researcher hypothesize that:

**Hypothesis 4a (H₄a):** External financing weaken the effect of interlocking directorship of female directors on earnings quality.

**Hypothesis 4b (H₄b):** External financing weaken the effect of kinship of female directors with BoD/BoC/majority shareholders on earnings quality.

**Hypothesis 4c (H₄c):** External financing weaken the effect of member of social organizations of female directors on earnings quality.
Methodology

Sample Selection and Data Source

To explore the impact of female directors’ networks and financing external towards earnings quality of public listed companies in Indonesia from 2015 to 2018, few procedures were taken: 1) we eliminate financial companies because such companies have different nature of capital structure and reporting systems from those of ordinary listed companies; 2) we exclude listed companies in financially distressed; 3) We exclude companies that do not publish annual reports at the end of the year; and 4) We use companies listed on the Indonesian stock exchange.

Model Design and Variable Descriptions

This paper uses the following model to test the relationship between female directors’ networks, external financing, on earnings quality of listed companies.

$$EQ_{i,t} = \alpha + \beta_1INTERLOCK + \beta_2KINDSHIP + \beta_3MEMBERSOC + \varepsilon_{i,t}$$  \hspace{1cm} (1)

$$EQ_{i,t} = \alpha + \beta_1INTERLOCK + \beta_2KINDSHIP + \beta_3MEMBERSOC + \beta_4EXTFINANCING + \beta_5INTERLOCK*EXTFINANCING + \beta_6KINDSHIP*EXTFINANCING + \beta_7MEMBERSOC*EXTFINANCING + \varepsilon_{i,t}$$  \hspace{1cm} (2)

In empirical analysis, we deal to eliminate the interference of extreme value, and use a significance level of 5%.

1. Earnings Quality

According to existing literatures, earnings quality in this study was measured using measurements introduced by Dechow (2002). This model is based on the extent to which working capital accrual map into cash flow realisations, where a poor match means highly risky (which indicate high information risk and hence low earnings quality). Thus, working capital accrual is regressed on prior, current, and future cash flow from operations. The accrual quality for this model is measured as the standard deviation of residuals ($\varepsilon_{i,t}$) obtained from the following regression model:

$$WCA_{i,t} = \beta_0 + \beta_1 CFO_{i,t} + \beta_2 CFO_{i,t-1} + \beta_3 CFO_{i,t+1} + \varepsilon_{i,t}$$

Where $WCA_{i,t}$ is the working capital accruals for firms $i$ in year $t$; $CFO_{i,t}$, $CFO_{i,t-1}$, dan $CFO_{i,t+1}$ represent the cash flow from operations for firm $i$ in year $t$ (current year), $t-1$ (prior year) and $t+1$ (future year) respectively. All variables are scale by total assets at the beginning of the year.

Working capital accruals for year $t$, $WCA_{i,t}$ is computed using the following equation:

$$WCA_{i,t} = \Delta CA_{i,t} - \Delta CL_{i,t} - \Delta CASH_{i,t} + \Delta DEBT_{i,t}$$

Where $\Delta CA_{i,t}$ is the change in current assets of firm $i$ between year $t$ and $t-1$; $\Delta CL_{i,t}$ is the change in current liabilities of firm $i$ between year $t$ and $t-1$; $\Delta CASH_{i,t}$ is the change in cash of firm $i$
between year $t$ and $t-1$; and $\Delta DEBT_{i,t}$ is the change in debt in current liabilities of firm $i$ between year $t$ and $t-1$.

Cash flow from operations for year $t$, $CFO_{i,t}$ is computed using the following equation:

$$CFO_{i,t}=NI_{i,t}-(\Delta CA_{i,t}-\Delta CL_{i,t}-\Delta CASH_{i,t}+\Delta DEBT_{i,t}-DEP_{i,t})$$

Where $NI_{i,t}$ is net income before extraordinary items of firm $i$ in year $t$ and $DEP_{i,t}$ is depreciation and amortisation expenses of firm $i$ in year $t$. If the value of high accrual discretionary indicates low earnings quality. Earnings is derived from the amount of accrual and cash flow. The cash flow component is considered objective, not manipulated, while high accruals indicate low earnings quality.

2. Female Directors Networks
   a. Interlocking Directorship
   Interlocking directorship is a membership on the boards of directors of two or more firms by the same individual (Shu et al., 2015). Interlocking directorate is defined as the percentage of board members serving more than one firm (Shu et al., 2015).

   a. Kinship of Female Directors with BoD/BoC/majority shareholders
   In countries where the country’s economy is dominantly controlled by family businesses, it is certain that the business will be managed by family members or a small number of families or dominant coalitions (Drago et al., 2015). This kinship has the potential to lead to policies taken by companies that are dominated or controlled by members of "emotional kinship groups" (Huang et al., 2009). Researcher modified the Thai and Sen (2019) measurement, by dividing the sample into two groups and taking measurements with a dummy; a company managed by the founding family/majority shareholders of female directors is 1 and the other is 0.

   b. Member of Social Organizations
   Shu et al. (2015) indicate that externally connected board members could learn experiences form their outside sitting boards. Members of organization considered as integrative ties, can be viewed as phenomena of class consolidation or elite integration (Mrizak, 2011). We use the dummy measurement, the value of 1 if the female board director has at least become the member in any social organization and 0 otherwise.

3. External Financing
   The combination of debt and equity is the key strategic importance for firm competitiveness and profitability (Gallo, 2015). Gerayli et al., (2011) and Alves (2013) state that highly leveraged firms employed more conservatism. A positive association is expected between leverage and earnings quality. External financing is defined as total debt divided total equity (Gallo, 2015).

Data Analysis Technique
   This study employed panel data methodology to examine the relationships between female directors networks and earnings quality. Before testing the hypothesis, the researchers test on the classic assumptions, multicollinearity, heteroscedasticity, and autocorrelation issues. The classical
assumption test is performed to ensure that the data conditions meet the requirements for statistical techniques.

After confirming that there are no problems in testing classical assumptions, the researchers examine the hypothesis using SPSS version 16.

Research Result
Sample and Observations Result
Table 2 provides the summary of 467 final usable data. For each of the four calendar years, there was no full firm observation available. This condition is due to the limited number of women on the board of directors of companies listed on Bursa Efek Indonesia. So that throughout the observation year, if the company has female directors in a certain year it is still used as the sample.

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of firms listed on IDX 2015-2018</td>
<td>448</td>
</tr>
<tr>
<td>Financial related firms</td>
<td>(30)</td>
</tr>
<tr>
<td>Firms without female directors and data incompleteness</td>
<td>(272)</td>
</tr>
<tr>
<td>Selected firm sample</td>
<td>146</td>
</tr>
<tr>
<td>Final firm-year observations</td>
<td>467</td>
</tr>
</tbody>
</table>

In table 2, after we remove the missing observations, we obtain 467 observations of 448 listed companies during the sample period. The data comes mainly from the Indonesia Stock Exchange (idx.co.id).

Statistic Descriptive
Table 3 reports the descriptive statistics of the 467 firm-year observations. The analysis is classified into three categories of variables, namely: (1) interlocking female directorship, kinship female directors with other board of directors, board of commissioners, and/or majority shareholders, members of social organizations as independent variables; (3) external financing as moderating variables; and (4) earnings quality as dependent variable.
Out of 467 observations, it can be seen that interlocking directorship of female directors for all years is averaged at 1.1190; with the highest value, lowest value, and standard deviation of 0.00, 28.50, and 2.50460 respectively.

The kinship of female directors with other board of directors, board of commissioners, and/or majority shareholders for the 467 pooled data shows an average of 0.3084, with a maximum value of 1.00 and a minimum of 0.00. The standard deviation for the data is 0.46231.

Member of social organization of female directors shows an average of 0.5546, with a maximum value and a minimum value of 1.00 and 0.00. The standard deviation for the data is 0.49754. While external financing, the averaged at 1.0462; with the highest value, lowest value, and standard deviation of 11.35; -3.17, and 1.29616 respectively.

Earnings quality (EQ) is measured based on discretionary accruals model developed by Dechow (2002). As observed in Table 3, the mean value of EQ for all the 467 observations is estimated at 0.0003. The maximum value is 0.03 and the minimum is 0.00 of the pooled data, with a standard deviation of 0.00315.

### The Result of Hypothesis 1 to 3

Table 4 focus to describe the result of hypothesis 1 to 3. The hypothesis focus to investigate the following relationship: (1) relationship between interlocking directorship of female directors and earnings quality; (2) relationship between kinship of female directors with other BoD, BoC, and/or majority shareholders; and (3) relationship between member of social organizations of female directors and earnings quality.

After ensuring that there were no problems in testing the classic assumptions, the researcher tested the hypothesis and found the result as shown in table 4.
Table 4: Summary of the Result of Hypothesis Testing 1 to 3

<table>
<thead>
<tr>
<th></th>
<th>β</th>
<th>t</th>
<th>Sig</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.001</td>
<td>3.526</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>InterlockFD (X1)</td>
<td>0.000</td>
<td>2.637</td>
<td>0.009**</td>
<td>Accepted</td>
</tr>
<tr>
<td>KinshipFD (X2)</td>
<td>0.000</td>
<td>-1.855</td>
<td>0.064*</td>
<td>Accepted</td>
</tr>
<tr>
<td>MemberSoc (X3)</td>
<td>0.000</td>
<td>-2.927</td>
<td>0.004**</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

R-Square = 3.3%
Adjusted R Square = 0.03%
F = 5.240
Sig = 0.001***

Dependent Variable: EQ (Y)
Note: (*) corresponds to 10% level of significance; (**) corresponds to 5% level of significance; (***) corresponds to 1% level of significance

The results presented in table 4, using working capital accrual (WCA) as earnings quality measurement, show the R-square value is 3.3%, meaning that interlocking directorship, kinship female directors, and member of social organizations of female directors affect earnings quality by 3.3%; while 96.7% is influenced by other factors.

Meanwhile, seen from the F-test value of 5.240 and a significance of 0.001, it can be interpreted that the independent variables (interlocking directorship, kinship, and member of social organizations) simultaneously affect earnings quality at alpha 1%.

**Interlocking Directorship of Female Directors**

Hypothesis 1 examines the effect of female directors' interlocking directorship on earnings quality. It shows a positive regression coefficient of 0.00, t value of 2.637; and p value 0.009 (less than 5% alpha). These results conclude that interlocking female directors have an effect on earnings quality (hypothesis 1 is accepted).

We found that more female directors in interrelated director positions improved earnings quality. The experience she gets from concurrent positions will have an impact on her ability to oversee the functioning of the organization. The connections that are built with various parties will have an impact on the strength of the company's network as a whole. Our finding support the results of previous studies, that found connections with other parties will increase its ability to be able to detect and reduce the level of earnings management of the companies they lead (Shu et al., 2015); increase earnings quality (Hashim & Rahman, 2011); and pursue growth strategies (Singh & Delios, 2017).

**Kinship of Female Directors**

Hypothesis 2 examines the effect of kinship of female directors with other director, board of commissioners, and/or majority shareholders on earnings quality. It shows a positive regression coefficient of 0.00, t value of -1.855; and p value 0.064 (less than 10% alpha). These results conclude that kinship of female directors have an effect on earnings quality (hypothesis 2 is accepted).

Affiliated parties between the board of directors, the board of commissioners and the majority shareholder is believed to reduce the problems of type I agencies, through managerial entrenchment problems between owners and managers can be suppressed (Shleifer & Vishny, 1997). However, with
the dominance of the family in ownership of shares has the potential to transfer wealth from minority shareholders (Jia et al., 2020) which causes type II agency problems (Ratnawati et al., 2016).

However, the results of this research found that the existing kinship relationship between directors and special parties (such as boards of commissioners and majority shareholders) can improve earnings quality. The results of this research support the findings of previous researchers, who found that companies run by founding family members tend to show superior performance (Taras et al., 2018) and the internal control is increasing and the quality of accounting information is getting better (Wu, 2019). If a company is controlled by directors who are not owners, then the company's internal control tends to be weak, so a strong board of commissioners is needed (Lisic et al., 2019).

**Member of Social Organizations**

Hypothesis 3 examines the effect of member of social organizations of female directors on earnings quality. It shows a positive regression coefficient of 0.00, t value of -2.927; and p value 0.004 (less than 1% alpha). These results conclude that member of social organizations of female directors have an effect on earnings quality (hypothesis 3 is accepted).

The result support the findings of previous researchers who found that female directors who have extensive social networks, will get a lot of external knowledge and experience; improve the ability to monitor, supervise, and advise management; that needed in leading a company (Connelly & Van Slyke, 2012); minimize fraud committed due to information asymmetry (Khanna et al., 2015).

**The Result of Hypothesis 4**

Hypothesis 4 examines the effect of external financing as a moderating variable on the relationship between interlocking directorship, kinship, member of social organizations of female directors and earnings quality.

To see whether the moderating variable strengthens or weakens the relationship between the independent variable and the dependent variable, it can be seen from the comparison of the R² value obtained from the regression results of the independent variable and the dependent variable versus the regression results of the relationship between the independent, moderated, and dependent variables. If the value of R² after the moderation variable is greater than the value of R² before the moderating variable exists, then the moderating variable strengthens the relationship between the independent variable and the dependent variable, and vice versa.

The results of hypothesis 4 can be seen in table 5 below:
Table 5: The Result of Hypothesis 4

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Moderate Variable</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>InterlockFD (X1)</td>
<td>0.007</td>
<td>Weaken (Rejected)</td>
</tr>
<tr>
<td>X1*X4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KinshipFD (X2)</td>
<td>0.005</td>
<td>Weaken (Rejected)</td>
</tr>
<tr>
<td>X2*X4</td>
<td>0.007</td>
<td></td>
</tr>
<tr>
<td>MemberSoc (X3)</td>
<td>0.014</td>
<td>Weaken (Rejected)</td>
</tr>
<tr>
<td>X3*X4</td>
<td>0.018</td>
<td></td>
</tr>
</tbody>
</table>

Moderating variable: External Financing

Hypothesis 4a states that external financing weakens the relationship between interlocking directorship and earnings quality. This statement arises because previous studies have found that funding activities from outside parties will affect management activities, including company leaders such as female directors who have multiple positions in other companies in making decisions. Pappas et al. (2019) said in conditions of high demand for fresh funds, companies have a strong motive for carrying out earnings management in order to get the desired funds. They also emphasized that external financing plans dominate earnings management activities compared to other factors.

Seen from the R^2 value obtained from single regression and with moderation variable, it can be seen that the R^2 value with the moderating variable is higher (from 0.7% to 1.6%). This indicates that external financing strengthens the relationship between interlocking directorship and earnings quality, or it can be concluded that hypothesis 4a is rejected.

While for hypothesis 4b which examines the effect of external financing on the relationship of kinship of female directors with other directors/BoC/and or majority shareholders and earnings quality, it is found that the influence of external financing strengthens the relationship of kinship of female directors with other directors/BoC/and or majority shareholders and earnings quality. This can be seen from the value of R^2 after including the external financing variable which is higher than before (from 0.5% to 0.7%).

Finally, hypothesis 4c examines the effect of external financing on the relationship of member of social organization of female directors and earnings quality. The results of this study found that the value of R^2 after the moderation variable was higher than before (from 1.4% to 1.8%), meaning that the 4c hypothesis was also rejected.

From the results of this research, it can be concluded that female directors’ networks have a strong influence on the quality of reported earnings. The network they have provides experience and knowledge to strengthen company performance. Including when there is planning for external financing. Directors tend to improve their supervisory function than before.
Conclusion and Recommendations

This paper aims to investigate the effects of interlocking female director, kinship with other board of directors, board of commissioners, and/or majority shareholders, and members of social organizations of female directors on earnings quality in public companies in Indonesia Stock Exchange 2015-2018 period. We find that interlocking female director positively influence earnings quality. It can be concluded that our findings support the research finding by Shu et al. (2015); Hashim & Rahman (2011); and Singh & Delios (2017).

Also, this paper finds that kinship with other board of directors, board of commissioners, and/or majority shareholders positively influence earnings quality. The results of this research contradict the findings of previous studies, which found this relationship resulted in abnormal returns and low earnings quality (Chi et al., 2015); resulting in high risk and increasing the cost of equity capital (Dignah et al., 2016); tends to cover a lot of voluntary information so that the market has limited information regarding the company (Darmadi & Sodikin, 2013).

For the members of social organizations membership, we find that female directors that member of social organization influence earnings quality. Our finding support the research finding by Connelly & Van Slyke (2012); Khanna et al. (2015).

However for hypothesis 4a, 4b and 4c, we find that external financing strengthens the relationship of female directors networks and earnings quality. The results of this study found that the female directors networks made management better, the level of earnings management decreased, even though the company had an external financing plan. This statement supports the findings of Shu et al. (2015) which states that directors tend to increase their supervision when they have an external financing plan.

The low R-square value shown by the test results indicates that many other variables influence earnings quality. This is an opening for future researchers to develop this research. Future researchers may examine other factors such as demographic characteristics and statutory its influence on the quality of company earnings.

References


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