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Board diversity and financial reporting quality: does firm size matter?

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Abstract

This study scrutinises how the diversity of a board of directors (BOD) determines the financial reporting quality (FRQ) and how firm size may act in a moderating role. FRQ has two measurements, which are faithful representation and relevance. Faithful representation has one proxy, which is financial restatement. Relevance has two proxies, which are the predictive value and confirmatory value. Moreover, a board's diversity includes its members' gender, age, expertise and educational level. The research sample consists of companies listed on the Indonesia Stock Exchange from 2016 to 2020; this produced 377 firms, resulting in 1,885 observations; we used panel data. Boards are homogeneous, except for boards with accounting expertise. Male directors can reduce the potential for financial restatements, but when moderated by firm size, they cannot guarantee the predictive value. Moreover, old directors can also reduce financial misconduct, but unqualified opinions are difficult to obtain when moderated by firm size. Further, a BOD without a member holding a doctoral degree can have a significant adverse effect on financial restatements and agency conflict. Agency conflict is the ultimate result of a negative predictive value. Meanwhile, board expertise boosts the fairness of financial reporting, resulting in obtaining an unqualified opinion and providing a predictive value. The fundamental qualitative characteristics of financial reporting must offer a relevant and faithful representation, while the previous studies employed this separately; this study tackles that gap. The previous research that tested corporate governance on FRQ is still very limited and tends to focus on one topic (e.g. gender), so our research is more comprehensive since BOD diversity was investigated. The FRQ worsens because the BOD is homogeneous. Based on the findings, the FRQ can be improved if there are female directors, younger directors, and directors who hold PhDs serving on the boards. This means that their presence/proportion must increase.

Introduction

The quality of financial reporting has been the focus over the past decade, and it will continue to be the primary focus in the future (Temprano & Gaité, 2020; Kaawaase et al., 2021; Mohsin et al., 2015). An organisation's responsibility is to prepare financial statements that reflect its financial condition (Alzoubi, 2014; Collis et al., 2012). Alzoubi (2014) argues that financial statements should always provide reliable information to assist users in making decisions. An essential aspect of reliability is the quality of the financial information, which plays a significant role in influencing users to reach decisions, and in evaluating corporate performance (Davis & Cestona, 2021; Mohsin et al., 2015). Inferior quality financial information is detrimental to its users, and causes the investors to relinquish their faith in the reliability and relevance of the financial information (Pathak

et al., 2021). Consequently, companies are encouraged to provide higher quality financial information (Alzoubi, 2014).

The International Accounting Standards Board (IASB) has regulated that the conceptual framework requires relevance and faithful representation to be the fundamental characteristics for quality reporting (Collis et al., 2012; Davis & Cestona, 2021; Mohsin et al., 2015). Furthermore, the IASB demonstrates relevance and faithful representation as being the absolute minimum requirements for high quality financial reporting (Davis & Cestona, 2021; Krismiaji et al., 2016). The relevance of the financial information must depict the predictive and confirmatory values (Mohsin et al., 2015). The predictive means the users could predict and anticipate a company's financial circumstances in the future; thus, financial statements need to be guaranteed by their materiality and not open to being misinterpreted when used for investment decision-making (Kaawaase et al., 2021). The investor's and creditors' decisions should be based on the information provided, which should help users to confirm or adjust their previous forecasts (Mohsin et al., 2015). In contrast, the confirmatory value meets the requirement of high relevance, where the information provides evidence that the external auditor has given an unqualified opinion, thus evading material misstatements (Collis et al., 2012).

Moreover, the financial statement must also be strengthened by a faithful representation that is complete and free from errors (Collis et al., 2012). Unfortunately, directors tend to post financial restatements whenever there are material errors in a financial statement, indicating that the previous report contained errors and was possibly fraudulent (Pathak et al., 2021). This practice causes users to lose faith in the quality of the financial reporting, since the firm is assumed to be trying to commit fraud. Therefore, the lack of business certainty causes investors to shift their attention to the firm's competitors (Pathak et al., 2021).

Meanwhile, it is challenging to find literature that thoroughly examines the financial reporting quality's level. The conceptual framework of relevance and faithful representation, established by the IASB, was not tested in previous studies. Those studies (Abbott et al., 2012; Davis & Garcia-Cestona, 2021; Srinidhi et al., 2011; Wahid, 2019) only tested the board gender on financial restatements, so they ignored the relevance value. Meanwhile, Srivastava & Muharam (2022) and Abdollahi et al. (2020) tested the relevance but did not investigate financial restatements and board attributes. The gap above provides an opportunity to observe directors and FRQ thoroughly, contributing to the literature on corporate governance.

Directors are responsible for the issues mentioned above. In order to provide high-quality financial reports, board diversity is imperative. Diversity enhances the effectiveness of boards by providing competence, experience, knowledge, and networking opportunities (Pathak et al., 2021). Consequently, a board will be able to work harmoniously to provide reliable financial statements, thereby reducing asymmetry. Throughout the article, the authors examine the board's behaviour as if they are stewards who prefer to adhere to a pro-organisational perspective (Chrisman, 2019). Management and investors experience information asymmetry, which leads to principal-agent conflicts (Temprano & Gaité, 2020). As stewardship behaviour is inherent in directors, their goals are to prioritise the interests of their investors and companies (Madison et al., 2016). As a result, there is a fundamental question regarding whether BOD diversity reduces asymmetric information. This study makes several noteworthy contributions, as board diversity is represented by the members' gender, age, educational level, and expertise.

Further, Pathak et al. (2021) find that the bigger the firm size, the more straightforward it is for people to obtain information. Therefore, it is potentially helpful for a board to detect and prevent data input errors. In contrast, Buallay & Hamdan (2019) discover that the greater the firm size, the bigger the information gap is, leading to more significant agent conflicts. As a result, there is a fundamental question regarding whether firm size can ultimately affect its board's behaviour. Further, previous studies involving firm size as the moderating variable can refer to Li & Chen (2018), who test firm size as a mediator between a board's gender diversity and firm performance.

Githaiga et al. (2022) treat firm size as mediating between board characteristics and earnings management. Moreover, Githaiga et al. (2022) has tended to evaluate relevance; however, it could not be found to indirectly represent a boost to the quality of the financial reporting. Hence, this provides an opportunity for the author to enrich the empirical test of board diversity and financial reporting quality, moderated by firm size.

The rest of the paper is as follows. The second part discusses the theories and hypotheses. The third part discusses the population, sample, and the variables' measurement. Results and discussions are in the fourth section. The last part is the conclusion, limitations, and suggestions for future research.

Literature Review and Hypotheses

Stewardship Theory

The stewardship theory proposes that agents serve their principals by prioritising the entity's and principal's interests over their own interests (Chrisman, 2019; Taufik & Chua, 2021). Essentially, this theory depicts the board as a steward. The directors believe and behave in a manner in which they are responsible for the corporate goals. Since directors tend to be pro-organisational (Madison et al., 2016), they often view the corporation as an extension of themselves. Further, the existence of diversity in a boardroom provides a heterogenous view (Pathak et al., 2021). By utilising different skills and experiences, management can increase performance effectiveness, thereby achieving the organisation's goals (Chrisman, 2019). In this paper, board diversity is captured by regarding the BOD as stewards who prefers the pro-organisational approach to governance (Madison et al., 2016). Board diversity includes its members' gender, age, expertise, and education level.

Agency Theory

The agency theory constructs the relationship between the principal and the agent through a contract in which the principal delegates accountability to the agent to act on the principal's behalf (Pucheta-Martínez et al., 2018). However, the adverse selection and moral hazard lead to the separation of ownership and control, where the principal does not have full decision-making rights, and the agent's behaviour is unobservable, leading to misalignment of the incentives between the principal and the agent (Madison et al., 2016). This issue is addressed through the demand for financial information as a monitoring tool (Pucheta-Martínez et al., 2018) that aids in reducing the information gap caused by information asymmetry and principal-agent problems (Chrisman, 2019). Furthermore, the agency theory is extended by the possibility that board diversity provides better management monitoring, leading to a balanced board that is likely to prevent the emersion of information asymmetry. When combined with the stewardship theory, the overall proxies of BOD diversity, such as gender, age, expertise and education can be considered to be pro-organisational (Madison et al., 2016), thus they tend to reduce agency conflict (Chrisman, 2019).

BOD Gender and Financial Reporting Quality

Gender diversity shows the presence of females on the board of directors. Firms with a gender-diverse board tend to have a higher quality financial reporting than firms with no gender-diverse boards (Davis & Cestona, 2021). Female directors tend to be ethical; thus, they are more likely to report any financial manipulation and they decrease the occurrence of financial misconduct (Wahid, 2019). Female boards are also more able to meet the stakeholders' expectations. The reasoning behind this view is based on their ability to reduce the occurrence of agency conflicts by producing higher quality levels of financial reporting. Thus, a female director has a more effective board-controlling ability (Srinidhi et al., 2011). However, many developing countries, including Indonesia, do not pay attention to the issue of gender equality in the boardroom (Taufik & Chua,

2021). This problem is consistent with Temprano & Gaité (2020), in that the limited proportion of female directors leads to the inability of the females on boards to influence the quality of the financial reporting. Due to this, Temprano & Gaité (2020) could not demonstrate a significant impact from gender diversity. In contrast, Manita et al. (2020) found that female directors tend not to provide innovative decision-making. Female directors tend to avoid and do not dare to take risks, compared to male directors, who are known as aggressive, independent risk-takers. Thus, this study proposes the following hypothesis:

H1: Diversity in the gender of the directors affects the quality of the financial reporting.

BOD Age and Financial Reporting Quality

Age diversity shows the average director's age, which combines the ages of the older and younger members of the BOD. Age can be a proxy for determining an individual's cognition, experience, and motivation (Xu et al., 2018). Board members are expected to gain extensive knowledge, experience and skills as they age (Pathak et al., 2021). As a result, they are viewed as more reliable for handling unexpected problems and wiser in making decisions (Xu et al., 2018). However, as directors age, they tend to experience a decline in their cognitive abilities (Waelchli & Zeller, 2013) and a loss of productivity (Temprano & Gaité, 2020), leading to lower quality financial reporting. Further, younger directors tend to have broader networks (Waelchli & Zeller, 2013), enabling them to bring more innovations to their boards, which enhance the quality of the financial reporting. Consequently, the combination of older and younger board members complement each other and improve the board's control of the business (Temprano & Gaité, 2020). Thus, this study proposes the following hypothesis:

H2: The diversity in the age of board members affects the quality of the financial reporting

BOD Education Level and Financial Reporting Quality

The diversity in the level of education shows that some board members hold doctoral degrees (PhDs). It has been found that directors with higher education levels are more likely to develop their potential and make better decisions (Pathak et al., 2021). According to Akpan (2014) and Call et al. (2017), board members with high levels of education tend to possess a deeper understanding of the business risk, which facilitates their ability to work effectively. The result is that they make fewer unintentional errors in the accounting system, thereby reducing information asymmetry. In contrast, Mahadeo et al. (2012) and Temprano & Gaité (2020) found that educational diversity does not guarantee a higher quality of financial information. BOD with different educational backgrounds are more likely to process and respond differently to issues they confront, which leads to cognitive conflict (Temprano & Gaité, 2020). Thus, this study proposes the following hypothesis:

H3: The diversity in the education level of a board affects the quality of its financial reporting.

BOD Expertise and Financial Reporting Quality

Diversity in the expertise of a board's members can include the presence of directors who are professionals in the accounting and finance fields. By bringing financial expertise onto their boards, companies can enhance the quality of their financial reports and reduce the likelihood of financial restatements (Pathak et al., 2021). In addition, financial knowledge can contribute to a deeper understanding of financial matters, resulting in more accurate accounting estimates and comprehensive views and opinions (Habib & Bhuiyan, 2016). As a result, directors with financial expertise can control their organisation more efficiently, reducing information asymmetry (Almaqtari et al., 2020). In addition, directors who did not major in finance tend to lack knowledge and skills for making decisions regarding the quality of the financial reporting (Alzoubi, 2014). Thus, this study proposes the following hypothesis:

H4: Diversity in the expertise of the members of a BOD affects the quality of the financial reporting.

Firm Size Moderates the Relationship between BOD Diversity and Financial Reporting Quality

Larger companies typically have more sophisticated and comprehensive information systems. Their managements enable the tracking and obtaining of information quickly and accurately, to prevent data entry errors and falsification, thus decreasing information asymmetry (Pathak et al., 2021). Further, the directors tend to be under intense pressure from stakeholders to produce high-quality financial reports, which encourages them to improve the quality of the reports (Li & Chen, 2018). Larger firms, on the other hand, are likely to provide fewer accommodations for their principals (Buallay & Hamdan, 2019). As management behaviour is less observable, it leads to a misalignment of the incentives between the principals and agents, resulting in a decreased quality of financial reporting. As a result, small firms have a greater chance of improving the quality of their financial statements by allowing their principals to fully monitor their agents' performance (Li & Chen, 2018). H5: The size of the firm moderates the quality of the financial reporting and board diversity

Research Method

Population and sample

All the companies listed on the Indonesia Stock Exchange were used as the population for this study. The sample was selected using a purposeful sampling method. First, we chose companies that issued annual reports and audited financial statements from 2016 to 2020. Second, we checked that the reports contained the necessary information for this study. As a result, the authors obtained a sample of 377 companies containing 1,885 items of data. Finally, Stata 17, utilising multiple regression techniques, was used to examine the panel data.

Variable Measurement

The dependent variable for this paper was financial reporting quality. Financial reporting quality was measured by its relevance and faithful representation. In order to determine the relevance, both predictive and confirmatory values were used. A predictive value (PV) helps users to predict and anticipate a company's financial condition in the future. The predictive value was obtained from the book value per share (BVPS) and earnings per share (EPS) (Srivastava & Muharam, 2021). A company's financial circumstances are better when the predictive value is higher.

As a result of the confirmatory value, users are given the option of confirming or changing their decision. This confirmatory value was obtained from an audited financial statement and measured by the audit opinion (Abdollahi et al., 2020). The weighted score for the confirmatory value (RCV) was in the range of 1 to 5, it was '1' if the auditor stated a disclaimer opinion, '2' if the auditor stated an adverse opinion, '3' if the auditor stated a qualified opinion, '4' if the auditor stated a modified unqualified opinion and '5' if the auditor stated an unqualified opinion.

The numbers and descriptions must correspond to what occurred, to be faithfully represented. The accuracy of the information must be represented faithfully since most users do not possess the necessary expertise or time to evaluate the factual accuracy of the information. Thus, the free from error requirement was employed to measure the faithfulness of the representation. Financial items should be represented with data that were free from errors in order to be more accurate (faithful). Statistically, free from error is measured by the restatement of financial reporting, demonstrating that a previous financial statement has been revised to correct a mistake. The weighted score for restatement (FRR) ranged from 0 to 1, it was '1' if the company had restated, '0' if there had not been a restatement (Davis & Cestona, 2021).

This research had four independent variables: gender diversity, age diversity, educational level diversity, and expertise diversity. Gender diversity was measured by the percentage of female directors on a board (Davis & Cestona, 2021; Srinidhi et al., 2011; Wahid, 2019). Age diversity was

measured using the most popular measurement in corporate governance, the average age of the board of directors (Li & Chen, 2018; Pathak et al., 2021; Xu et al., 2018). Educational diversity was measured by the percentage of directors who held a PhD (Akpan, 2014; Temprano & Gaité, 2020). Expertise diversity was measured by the percentage of the board with a background in accounting and finance (Almaqtari et al., 2020; Alzoubi, 2014; Habib & Bhuiyan, 2016). A moderating variable, firm size was also included. Finally, this study relied on four control variables: board size, board meetings, profitability, and leverage.

Table 1. Variable measurement

Variable	Abbreviation	Formula	References
Relevance (Predictive Value)	RPV	<i>Earnings per share + Book value per share</i>	(Srivastava & Muharam, 2021)
Relevance (Confirmatory Value)	RCV	Scores from 1 to 5 are assigned to auditor opinions	(Abdollahi et al., 2020)
Faithful Representation (Restatement)	FRR	0 if there is no restatement financial reporting, 1 otherwise	(Davis & Cestona, 2021)
Board of Gender Diversity	GEN	Ratio of female directors on the board of directors	(Davis & Cestona, 2021; Srinidhi et al., 2011; Wahid, 2019)
Board of Age Diversity	AGE	Average age board of directors	(Li & Chen, 2018; Pathak et al., 2021; Xu et al., 2018)
Board of Education Diversity	EDU	Ratio of BOD members who have doctoral qualifications	(Akpan, 2014; Temprano & Gaité, 2020)
Board of Expertise Diversity	EXP	Ratio of BOD members with accounting and finance qualifications	(Almaqtari et al., 2020; Alzoubi, 2014; Habib & Bhuiyan, 2016)
Board Size	BOSI	Total directors	(Almaqtari et al., 2020; Li & Chen, 2018; Pathak et al., 2021)
Board Meet	BOME	Total meeting of directors	(Davis & Cestona, 2021; Temprano & Gaité, 2020; Li & Chen, 2018)
Firm Size	SIZE	Log natural of total assets	(Alzoubi, 2014; Davis & Cestona, 2021; Li & Chen, 2018)
Profitability	PROF	$\frac{\text{Earnings after tax}}{\text{Total assets}}$	(Davis & Cestona, 2021; Temprano & Gaité, 2020; Li & Chen, 2018)
Leverage	LEVE	$\frac{\text{Total liabilities}}{\text{Total assets}}$	(Davis & Cestona, 2021; Temprano & Gaité, 2020; Li & Chen, 2018)

This research model can be expressed in the form of the following equation.

$$\begin{aligned}
 &RPV(1), RCV(2), FRR(3) \\
 &= \beta_0 + \beta_1 GEN_1 + \beta_2 AGE_2 + \beta_3 EDU_3 + \beta_4 EXP_4 + \beta_5 BOSI_5 + \beta_6 BOME_6 \\
 &+ \beta_7 SIZE_7 + \beta_8 PROF_8 + \beta_9 LEVE_9 + \varepsilon \dots (1)(2)(3)
 \end{aligned}$$

$$\begin{aligned}
 &RPV(4), RCV(5), FRR(6) = \beta_0 + \beta_1 GEN_1 + \beta_2 AGE_2 + \beta_3 EDU_3 + \beta_4 EXP_4 + \beta_5 SIZE_5 + \\
 &\beta_6 GENSIZE_6 + \beta_7 AGESIZE_7 + \beta_8 EDUSIZE_8 + \beta_9 EXPSIZE_9 + \beta_{10} BOSI_{10} + \beta_{11} BOME_{11} + \\
 &\beta_{12} SIZE_{12} + \beta_{13} PROF_{13} + \beta_{14} LEVE_{14} + \varepsilon \dots (4)(5)(6)
 \end{aligned}$$

Results and Discussion

Descriptive Analysis

Descriptive statistics are shown in Tables 2 and 3. In Table 2, 267 (14.2%) out of 1,885 companies restated their financial reports (FRR), whereas 1,618 (85.8%) out of 1,885 companies did not. With a restatement rate of 14.2%, Indonesian companies restated their financial statements relatively frequently. Among the US-listed firms with a diverse board of directors, Wahid (2019) found that the likelihood of a financial restatement was 6.7%, compared with 15.3% for firms with a non-diverse board. Further, the confirmatory value (RCV) was calculated based on the auditor's opinion that the value five represented an unqualified opinion, which was reported 1,023 times (54.3%). This was followed by CRV scores of four, representing a modified unqualified opinion, which was reported 831 times (44.1%). The remaining RCV comprised qualified opinion (0.9%) and disclaimer opinion (0.7%).

In Table 3, the mean predictive value (RPV) was 1,664.67, which was considered to be low. By contrast, Abdollahi et al. (2020) found a mean predictive value of 3,374.84 for Iranian companies. Regarding gender diversity, the majority gender was male at 86%, while the minority gender was female at 14%. According to Xu et al. (2018), a young member of a BOD would be anyone under 50 years old. However, the average age for a BOD was 52, indicating that most directors would be considered to be old. Moreover, the proportion of directors with accounting expertise was 29%, while 71% had expertise in other areas. Finally, 38% of the board members held a master's degree.

Table 2. Descriptive statistic of restatement of financial reporting and confirmation value

Variable	Classification	Frequency	Percentage
FRR	1: restate	267	14.2%
FRR	0: no restate	1,618	85.8%
	TOTAL	1,885	100%
RCV	1: disclaimer opinion	14	0.7%
RCV	2: adverse opinion	0	0%
RCV	3: qualified opinion	17	0.9%
RCV	4: modified unqualified opinion	831	44.1%
RCV	5: unqualified opinion	1,023	54.3%
	TOTAL	1,885	100%

Table 3. Descriptive statistic of predictive value and gender diversity

Variable	N	Minimal	Maximal	Mean	Std. Dev
RPV	1885	-5,512.77	194,725.38	1,664.67	6,811.99
GEN	1885	0.00	1.00	0.14	0.18
AGE	1885	34.25	71.33	52.15	5.21
EDU	1885	0.00	1.00	0.38	0.28
EXP	1885	0.00	1.00	0.29	0.25
BOSI	1885	2.00	17	4.92	2.05
BOME	1885	3.00	139	17.99	12.73
SIZE	1885	3.51	9.17	7.43	8.06
PROF	1885	-7.89	1.77	0.01	0.28
LEVE	1885	-2.80	7.51	0.58	0.62

Note: RPV is relevance with predictive value, RCV is relevance with confirmatory value, FRR is faithful representation with restatement, AGE is gender diversity, AGE is age diversity, EDU is education level diversity, EXP is expertise diversity, BOSI is BOD size, BOME is board meeting, SIZE is firm size, PROF is profitability, LEVE is leverage.

Regression Results

The authors examined the relevance and faithful representation of financial reporting as determinants of the quality of financial reporting. Consequently, three models were used, where relevance was assessed by its predictive value (RPV) and confirmatory value (RCV), while faithful representation was assessed by restatement financial reporting (FRR). Additionally, the authors also utilised firm size as a moderator. Larger firms tended to have a sophisticated culture, which ultimately affected their boards' behaviour, shaping the picture of their commitment to corporate governance (Li & Chen, 2018). Therefore, the authors separated the empirical analysis into two parts. First, we analysed how the diversity of the BOD (including the members' gender, age, expertise, and education) affected the quality of financial reporting. Secondly, how firm size played a moderating role.

Table 4. Financial reporting quality regression result

Variable	Expected			Result		
	FRR	RPV	RCV	FRR	RPV	RCV
GEN	(-)	(+)	(+)	-0.00131*** (0.000369)	-13.11* -6950	0.00103 (0.000751)
AGE	(-)	(+)	(+)	-0.00272* (0.00161)	25.67 (20.46)	0.00953*** (0.00261)
EDUL	(-)	(+)	(+)	0.000585** (0.000291)	-4914 -6013	-0.000712 (0.000495)
EXP	(-)	(+)	(+)	-0.000129 (0.000300)	9.804*** -2864	-0.000602 (0.000565)
BOSI				0.00327 (0.00331)	97.76 (71.38)	0.0127** (0.00522)
BOME				-0.000697 (0.000589)	42.23** (18.78)	0.00243** (0.00108)
PROF				0.000549 (0.000130)	12.87*** -3036	0.00353*** (0.000864)
LEVE				0.000269* (0.000149)	-7.714*** -1604	-8.01e-05 (0.000311)
Constant				0.243** (0.0972)	-1,022 (845.9)	3.856*** (0.159)
Observations				1,885	1,885	1,885
R-squared				0.012	0.018	0.043

Notes: *, **, *** indicate significance at the 10%, 5%, and 1% levels.

Table 4 presents the results of testing the hypotheses. For both the restatement and predictive values, board gender had a negative and significant effect, accounting for -0.00131 with a 1% error rate and -13.11 with a 10% error rate. However, board gender did not impact the confirmatory value, resulting in a value of 0.00103.

Board age negatively and significantly impacted the restatement, accounting for -0.00272 with a 10% error rate. However, board age significantly and positively affected the confirmatory value, accounting for 0.00953 with a 1% error rate.

There was no impact from board education on the predictive and confirmatory values at -4,914 and -0.000712, respectively. However, board education had a positive and significant result on restatement at 0.000585, with a 5% error rate.

Lastly, board expertise did not significantly affect the restatement and confirmatory values at -0.000129 and -0.000602, respectively. However, board expertise significantly and positively impacted the predictive value at 9.804 with a 1% error rate.

Analysis of BOD Diversity and Financial Reporting Quality

Gender diversity and financial reporting quality

According to Table 3, 14% of the directors were females, while male directors accounted for 86%. As a result, board gender was far from being diverse and heterogeneous. Consequently, board gender had a negative and significant effect on the restatement and predictive values, accounting for -0.00131 with a 1% error rate and -13.11 with a 10% error rate in Table 4. According to these findings, boards with a majority of male members were more likely to reduce the number of financial restatements. The results of this study contradict those reported by Wahid (2019). However, not only women reported the manipulation of financial statements, men also showed strong self-control and reported findings of fraud while not manipulating the financial statements. Thus, both genders tended to be less opportunistic.

Meanwhile, the results of this study did not support the claim that gender equality was unnecessary. As a result of the immense diversity inequality, men were less likely to decrease the predictive value. This meant that the predominantly male boardrooms were less able to maintain communications and reduce agency conflicts with investors. The results of this study support the claim made by Srinidhi et al. (2011) that women were more capable of communicating with investors and maintaining long-term relationships. Nevertheless, a lack of heterogeneity among female board members prevented them from influencing discussions between boards, including about the quality of financial reporting (Temprano & Gaite, 2020). This paper focused on this primary issue, namely the tiny proportion of women. In order to improve the quality of financial reporting, the government should, if possible, consider implementing regulations for women's equality in business. As a developing nation, Malaysia can be compared to Indonesia, where 30% of a board's members must be women (Katmon et al., 2019). In addition, minimum quotas for women in developed nations include 30% in Germany, 33% in Belgium, 33% in Italy, 33% in Iceland, 1% in Finland, 40% in France, 40% in Norway and 40% in Spain (Smith, 2018).

Board age and financial reporting quality

According to Table 3, most members of the boards were aged 52 years or older (Xu et al., 2018). Surprisingly, board age had a negative and significant effect on restatement, accounting for -0.00272 with a 10% error rate in Table 4. This meant that the older directors were more accurate and were more likely to reduce the number of financial restatements. Moreover, board age also had a positive and significant effect on the confirmatory value, evidenced by 0.00953 at a 1% error rate in Table 4. It meant that older directors were not only more accurate but also provided unqualified audit opinions. Thus, users could anticipate the company's financial condition in the future.

This study supports the findings of Pathak et al. (2021), in that older directors have more work experience and broader knowledge. As a result, they were more reliable in handling problems and wiser when making decisions. Hence, this paper only emphasised the directors' ages, with an average of 52 years, as an indicator of older directors; therefore, if this became older than 52 years, it may be necessary to utilise other analyses.

Board educational level and financial reporting quality

According to Table 3, 38% of directors held a PhD. Board education had no significant effect on the predictive and confirmatory values, accounting for -4,914 and -0.000712, respectively. The results of this research were empirically the same as Mahadeo et al. (2012) and Temprano & Gaite (2020), in that the higher education levels of directors did not guarantee a higher quality of financial information. However, it could not be assumed that the board members' level of education was not critical. We argued that the inability of the board to influence the quality of the financial reporting was because the proportion of directors holding a PhD was small, while directors with undergraduate levels dominated the boards. Thus, the fundamental difference between this

research and the research by Temprano & Gaité (2020) was that they did not explain the substance of the meaning of the educational proportions of the directors. In other forms of financial reporting, quality proxys restatement, so the board members' education had a positive and significant effect, accounting for 0.000585 with a 5% error rate in Table 4. According to these findings, the small proportion of directors who held a PhD encouraged firms to issue a financial restatement in the next period. This study emphasised that the dominant proportion of directors who did not hold a PhD led to poor accuracy and did not reduce the number of financial restatements.

This study supported the findings of Akpan (2014), in that directors who held a PhD tended to possess a more profound understanding, hence facilitating their ability to work effectively. In addition, they were more likely to develop their potential to make better decisions (Pathak et al., 2021). At the same time, it was potentially helpful that they made fewer unintentional errors in the accounting system. Therefore, if possible, firms must recruit directors with PhDs to improve the quality of their financial reports.

Board expertise and financial reporting quality

According to Table 3, 29% of the directors were accounting and finance majors. This proportion could be assessed as diverse since the firms also needed other types of expertise, such as in management, law, systems' information and engineering. It could be credible as board expertise had a positive and significant effect on the predictive value, accounting for 9.804, with a 1% error rate in Table 4. According to these findings, directors with accounting and finance majors made better leaders of the boards.

This study supports the findings of Habib & Bhuiyan (2016), in that directors with financial knowledge could contribute to a deeper understanding of financial matters. As a result, this was potentially helpful when forecasting the performance of the stock market. Furthermore, this study emphasised that the presence of directors with accounting and finance majors could help users to predict and anticipate a company's financial condition in the future. Having other expertise was also crucial, so the proportion of board members with accounting expertise could be assessed as diverse, meaning firms only needed to ensure and maintain their boards' diversity.

BOD Diversity and Financial Reporting Quality are Moderated by Firm Size

Table 5. BOD diversity and financial reporting quality are moderated by firm size

Variables	Expected			Result		
	FRR	RPV	RCV	FRR	RPV	RCV
GEN	(-)	(+)	(+)	0.000604 (0.00587)	463.7** (201.6)	0,15138889 (0.0138)
AGE	(-)	(+)	(+)	-0.0697*** (0.0173)	-607.7 (373.0)	-0.0118 (0.0290)
EDUL	(-)	(+)	(+)	-0.00105 (0.00400)	227.9* (124.7)	0.00543 (0.00781)
EXP	(-)	(+)	(+)	-0.00396 (0.00359)	-354.4*** (82.30)	-0.0183** (0.00837)
SIZE	(-)	(+)	(+)	-0.253*** (0.0800)	-1,191 -2,127	-0.0338 (0.126)
GENSIZE	(-)	(+)	(+)	-0.000146 (0.000480)	-38.09** (16.73)	-0.00166 (0.00109)
AGESIZE	(-)	(+)	(+)	0.00537*** (0.00141)	2,06388889 (31.82)	0.00165 (0.00228)
EDULSIZE	(-)	(+)	(+)	0.000112 (0.000321)	-19.08* (10.40)	-0.000521 (0.000613)

Variables	Expected			Result		
	FRR	RPV	RCV	FRR	RPV	RCV
EXPSIZE	(-)	(+)	(+)	0.000303 (0.000292)	29.00*** -6615	0.00141** (0.000654)
BOSI				0.00288 (0.00334)	73.61 (54.08)	0.0119** (0.00535)
BOME				-0.00150** (0.000621)	29.73 (21.21)	0.00161 (0.00111)
PROF				0.000564 (0.000157)	9.971*** -2070	0.00342*** (0.000823)
LEVE				0.000236 (0.000147)	-8.685*** -1733	-0.000144 (0.000312)
Constant				3.416*** (0.982)	15,511 -25,48	4.358*** -1588
Observations				1,885	1,885	1,885
R-squared				0.027	0.053	0.054

Notes: *, **, *** indicate significance at the 10%, 5%, and 1% levels.

BOD gender and financial reporting quality: the moderating role of firm size

Board gender had a negative and significant effect on the predictive value, accounting for -38.09 with a 5% error rate (Table 5). These results further strengthened the relationship's analysis before being moderated by firm size, which also had a negative and significant effect. Meanwhile, board gender had no significant effect on financial restatement, accounting for -0.000146 in Table 5. These results indicated that firm size could not influence board gender, thus reducing the amount of financial restatements. This insignificance was caused by the gender composition, in which female directors were a minority, at only 14% (Table 3). This result showed that the boards were dominated by men who tended to be aggressive and independent risk-takers, which did not harmonise with the market.

Meanwhile, female directors had a more effective board-controlling ability. As a result, they tended to reduce the occurrence of agency conflicts. In addition, a female director was more able to meet the stakeholders' expectations. This study was in line with the results of Li & Chen (2018), in that in larger firms, directors tended to be under intense pressure from their stakeholders to produce high-quality financial reports, which encouraged them to improve the quality of the reports. Hence, the authors reiterate that gender diversity is needed.

BOD age and financial reporting quality: the moderating role of firm size

Board age had a positive and significant financial restatement of 0.00537 with a 1% error rate in Table 5. These results indicated that older directors tended to post financial restatements because of material errors in earlier financial statements. Meanwhile, board age had no significant effect on the confirmatory value, accounting for 0.00165. These results indicated that firm size could not influence the board age to provide an unqualified audit opinion. Overall, these results weakened the relationship's analysis before being moderated by firm size.

This study was in line with the results of Waelchli & Zeller (2013), in that older directors tended to experience a decline in their cognitive abilities. Furthermore, in big firms, the directors' behavior could be harder to observe than in smaller firms (Buallay & Hamdan, 2019). Thus, companies could not always fully control their older directors; as they grow older, they tended to lose their rigour, prudence and productivity. Companies may need to increase this value by considering the presence of a younger board of directors. There was no doubt that young directors possessed a more comprehensive network, which allowed them to bring more innovations and they were better able to pay attention to the details in the financial reports. Therefore, companies need to apply age heterogeneity.

BOD education level and financial reporting quality: the moderating role of firm size

Based on Table 5, board education had a negative and significant effect on the predictive value, accounting for -19.08 with a 10% error rate. As discussed in the non-moderation section, it was found that the proportion of directors with a PhD was relatively low at 38%. According to these findings, the low percentage of directors without a PhD meant there was poor leadership for the boards and increased agency conflicts. As a result, the directors were unable to influence the boards' decision to help investors to predict and anticipate the companies' financial conditions in the future. Hence, this study supports the previous result that the presence of more directors with PhDs would facilitate better communication with the providers of capital.

Meanwhile, the board members' education levels had no significant effect on restatement, accounting for 0.000112. These results indicated that firm size could not influence the low percentage of directors with a PhD to reduce the frequency of financial restatements. These results further strengthened the relationship's analysis before being moderated by firm size. Directors with a higher education were more likely to develop their potential to make better decisions (Pathak et al., 2021). The low percentage of directors with a PhD created poor leadership and poor accuracy by the boards, whether moderated or not. Thus, if possible, firms must remedy their recruitment systems to accommodate directors with PhDs.

BOD expertise and financial reporting quality: the moderating role of firm size

Board expertise had a positive and significant effect on the predictive value, accounting for 29.00 with a 1% error rate in Table 5. These results further strengthened the relationship's analysis before being moderated by firm size, which also had a positive and significant effect. In both large and small firms, directors with accounting and finance majors tended to help forecast the performance of the market. At the same time, board expertise also had a positive and significant confirmatory value of 0.00141 with a 5% error rate in Table 5. Not only did they provide predictive value, but the directors with accounting and finance majors also provided an unqualified opinion.

These results further strengthened the relationship's analysis before being moderated by firm size. Directors with financial knowledge could contribute to a deeper understanding of financial matters (Habib & Bhuiyan, 2016), whether moderated or not. Therefore, firms only needed to ensure the presence of directors with accounting and finance majors while maintaining a level of heterogeneity.

Conclusion

This paper investigates the effect of the diversity of a BOD in enhancing the quality of the financial reporting. We observe their behaviour as a steward who prefers the pro-organisational approach, reducing the principal-agent conflict. In addition, we use firm size as a moderating variable to capture firms' different cultures towards the behaviour of the BOD. First, the gender composition of the board is homogeneous. Male directors do not tend to misrepresent financial information; however, they cannot communicate effectively with capital providers. In large companies, male directors are the primary cause of financial misconduct and find it hard to reduce agency conflicts. Second, the boards are dominated by older directors but they can reduce financial misconduct and provide an unqualified opinion. In larger firms, however, the older directors are the ones responsible for financial misconduct, and find it hard to provide an unqualified opinion. Third, board education is dominated by non-doctoral holders, causing frequent financial restatements and asymmetry of information. Moreover, in larger firms, the proportion of directors without a PhD exacerbates the agency conflict. Finally, the boards' expertise is diverse, with accounting expertise ensuring that financial statements are predictive. In larger companies this means the board can maintain a predictive value while simultaneously obtaining an unqualified opinion.

The authors provide practical implications regarding board diversity and financial reporting quality. The bigger the company, the more they need to evaluate their recruitment system. Firms can provide equal opportunities for gender, age, and the level of education. Ignoring board heterogeneity impacts the misstatement of financial statements, poor auditors' opinions and increased agency conflicts. Furthermore, the government can no longer close itself off from the need for gender equality in the workplace. For example, as a developing country, Malaysia has set a minimum quota of 30% for women board members (Katmon et al., 2019); however, Indonesia has no such regulation.

There are some flaws in this work, as its focus was primarily on board diversity, such as the gender, age, expertise and education acting as indicators of board diversity. Further research could improve this paper by adding BOD turnover and remuneration. Board turnover provides a solution to the research question of whether a company's recruitment system is effectively recruiting directors with suitably high capabilities and competencies (Taufik & Chua, 2021). Moreover, board remuneration is considered capable of motivating the boards of directors to perform their duties (Taufik, 2021). However, the authors do not employ these variables since they are not part of a board's diversity.

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