BOARD DIVERSITY AND ENTERPRISE RISK MANAGEMENT: STUDY IN EMERGING AND DEVELOPED COUNTRIES

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Abstract

Globalization and the uncertainty of the business environment pose challenges to companies. The unpredictable COVID-19 pandemic has caused a significant global recession. For this reason, every company is required to improve governance and risk management practices to reduce the impact of this uncertainty. This study investigated the effect of board diversity on enterprise risk management (ERM) in companies in the USA, China, and Indonesia using the enterprise risk management index (ERMI) to measure ERM. ERMI is a means to assess an organization's ERM implementation effectiveness index based on its ability to achieve its goals based on four dimensions (strategy, operations, reporting, and compliance). Different findings were uncovered in the 3 countries studied using the panel regression analysis technique on a sample of 629 companies during an observation period of 2011–2021. In the USA, a country known for prominent individualism, overall gender diversity does not have a significant relationship with risk-management-related decision-making. In China, gender and cultural diversities negatively impact ERM. On the other hand, in the Indonesian context, skill diversity has no significant relationship with risk management, while tenure diversity has a negative effect on ERM. The results of this study provided recommendations for regulators and company management in developing good corporate governance.

Keywords: Diversity, Enterprise Risk Management, Governance, Tenure, Comparative Study, Developing and Developed Countries

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1. INTRODUCTION

A serious crisis that emerged from the COVID-19 pandemic has put pressure on company performance, forcing management to increase the intensity of risk management to prevent bankruptcy. According to Deloitte (2022), 20% of the respondents to their study indicated that credit risk is a type of risk that must be taken into account during the pandemic-induced economic contraction, while another 62% said that assessing credit risk should be a top priority. On the other hand, 65% of respondents stated that they had carried out risk management on the credit risk well, but they did not pay too much attention to non-financial risks. The survey results also stated that the respondents agreed to increase risk management activities in non-financial aspects (Deloitte, 2022).

Risk is unavoidable in company management (Shivaani & Agarwal, 2020; Wu et al., 2015) and needs to be managed properly to prevent a bigger negative impact. Risk management policies are closely related to governance mechanisms by, the board of commissioners whose effectiveness is believed to be able to mitigate existing risks (Baulkaran & Bhattarai, 2020; Moumen et al., 2016). Other studies suggested that the board of commissioners plays a role in improving company performance because it, with a proportional structure, focuses on avoiding risks in making decisions and tend to try harder to safeguard the interests of shareholders (Blickle et al., 2006; Wang, 2012). On the other hand, according to Klein (2002), the board of commissioners has a negative relationship with abnormal returns.

The company's performance is expected to improve with different types of board members. Having female board member(s) and various backgrounds in social, political, human, and board aspects can enhance the effectiveness, accountability, and transparency of the performance (Allini et al., 2016; Bernile et al., 2018; Enofe et al., 2013; Kuek et al., 2021; Lenard et al., 2014). Gender diversity in the structure of the board of commissioners is a much-discussed issue. The majority of countries in Europe have implemented regulations that a company must provide a special quota for women in the board structure, known as the feminist law (Kuek et al., 2021; Lenard et al., 2014). Apart from that, views on gender equality and women's opportunities for employment are also of concern to the public in both developed and developing countries. This view certainly presents a challenge to companies, not only because companies have to look for new board members who are female, but, also, because gender differences will give a different insight into company activities and the quality of work produced by the board (Freitas, 2018).

The relationship between board diversity and risk management has been inconsistent in previous studies. The findings by Allini et al. (2016) state that companies that have female board members cannot significantly influence the company's strategic decision-making processes such as risk management. This is because, in many conditions, their number is not significant enough compared to male gender members of the board so their argument does not influence enough in making important decisions in the company (Allini et al., 2012).

A significant improvement in the performance of women on the board of commissioners was observed, particularly when the board members were independent of the owner (Amore et al., 2014). The role of women in the board of commissioners and their monitoring activities was examined by Khaw and Liao (2018). They found that female board members were more vigilant, less prone to take risks, and more likely to act prudently. They prevented the shareholders' negative response to the risk disclosure and did not want to see the competitors' exploitation of the company's secrets.

Bernile et al. (2018) explained that a lower level of risk is found in companies, mainly due to board diversity. Companies with board diversity prefer policies in the financial sector that are low risk, different from those with no board diversity. Conversely, board diversity is less effective in reducing a company's business risk when the board members have had a longer tenure in a company. They tend to be less aggressive in choosing risk management policies than they did at the start of their tenure. According to Bernile et al. (2018) and Harjoto et al. (2018), board diversity and risk management are related in a complex way, as they are affected by various factors, such as gender, strategy, tenure, competence, and other oversight roles within a company. Therefore, the conclusion about this relationship is not straightforward and depends on the specific context and conditions.

This study investigates the relationship between board diversity and risk management within a company. Unlike previous studies, this study observed 3 countries (the USA, China, and Indonesia) and used the enterprise risk management index (ERMI) to measure ERM as a proxy. The reason for using these 3 countries is that researchers want to see aspects of differences in state and cultural views such as China and Indonesia which are considered to uphold the Eastern culture and are more collectivist, while a country with its Western culture is more individualistic. Furthermore, the results of this study can provide 2 contributions, first, this research enriches the literature by increasing understanding of the topic area of discussion in the context of developed countries (the USA and China) and developing countries such as Indonesia, which may have different views on gender and diversity within companies. Second, this study is expected to prove the role of women, culture, and diversity of competencies that exist within the board by increasing risk management activities. Analyzing 629 companies (China, Indonesia, the USA) with an observation period of 11 years 2011–2021, in outline, the results of this study support the hypotheses that have been built in this study, but there are different results on tests in each country.

The rest of the paper is organized as follows. Section 2 provides a brief review of the literature and formulates the hypotheses. Section 3 describes the methodology and variable measurement. Furthermore, Section 4 presents the result of the study. Lastly, Section 5 provides the conclusion and implications of the research.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Relationships arising in a business environment are complicated social interactions and are one of the main topics that are widely discussed (Freitas, 2018). When the principal and the agent in the company have divergent interests, it creates an opportunity to find new solutions to minimize the disagreement between them. Management as an agent who gets the task from the principal to manage the company has more information and authority to make decisions, which, however, are expected to be within the framework of maximizing the wealth of the owner (principal). Guaranteeing that management behaves in managing the company with the aim of increasing shareholder wealth is a difficult thing to realize. Eisenhardt (1989) explained that management who is mandated to manage the company is presumptively and inherently selfish. Unlike management, who have a stake in the company's performance, shareholders are external investors who seek to grow their wealth by participating in the company's equity. They share the same goal of maximizing the company's value but from a different perspective.

In fact, management as the company manager has more information than shareholders. Differences in interests and information asymmetry can cause agency conflict to arise between the two parties.

Management, therefore, is forced to carry out good corporate governance to increase shareholder trust in management (Ahmad et al., 2021; Barnhart & Rosenstein, 1998). If management makes efforts to implement good governance, expenses like conducting independent audits and disclosing useful information to shareholders via financial reports, social reports, and risk management reports become necessary (Shleifer et al., 1986). All of these are mechanisms for aligning interests between shareholders and management within a company (Jensen & Meckling, 2004).

One of the key aspects of ensuring that a company operates in a transparent, accountable, fair, responsible, and independent manner is good corporate governance. The board of commissioners is a vital mechanism in the practice of corporate governance, as it oversees the management and performance of the company. The composition, independence, expertise, and diversity of the board members are crucial for the effective execution of corporate governance. This study examined how the presence of female commissioners influences the implementation of ERM.

The demand for companies to have female board members has grown globally (Kuek et al., 2021). Several countries in Europe have made it mandatory for the presence of women on a company board, as stated in the legislation on feminism (de Beaufort & Summers, 2013). The presence of women on the board of directors has a significant impact on the performance of a firm. According to Lenard et al. (2014), there is a negative relationship between the proportion of female board members and the volatility of stock returns in a firm. In addition, women on the board will have more ability to detect and determine a more precise strategy than male board members in terms of investment decisions for the company (Poletti-Hughes & Briano-Turrent, 2019). According to Harjoto et al. (2018), Ozdemir and Erkmen (2022), and Khaw and Liao (2018), female board members tend to be more proactive and cautious in their oversight and decision-making roles than their male counterparts.

From a business perspective, women can significantly improve company performance (Amore et al., 2014). Their presence in the board of commissioners structure was also found to enhance the company's reputation (Low et al., 2015). Companies are considered to have the same view regarding gender equality. According to Adams and Funk (2012), female board members had higher attendance rates at company meetings than their male counterparts. This indicates that women have more commitment and conscientiousness in the governance of the company than men. The results of the investigation by Kim and Starks (2016) showed that gender diversity can increase company value because female members of boards of commissioners provide more experience and are found to be more active in consulting activities with management and can reduce the aggressiveness of male board members in decision making (Murhadi et al., 2021). Studies conducted by Fakir and Jusoh (2020) state that the effectiveness of implementing risk management is heavily influenced by environmental factors and gender diversity within the board, this is because boards that have a diverse gender composition put more pressure on the structures beneath them to implement good risk management. Furthermore, Bufarwa et al. (2020) added in the context of the United Kingdom (UK), the presence of women on boards actually increases disclosure of corporate risk management, this disclosure is a form of corporate transparency as a form of good corporate governance. For this reason, the first hypothesis developed in this study is:

H1: Gender diversity has a significant relationship with enterprise risk management.

While many previous studies on board diversity focused more on gender, one important aspect that has not been discussed much by previous studies (Bernile et al., 2018) is board tenure. The duration of service of a board director in the firm's board is called board tenure. Board tenure reflects the board director's loyalty, dedication, and expertise for the firm (Golden & Zajac, 2001; Sun & Bhuiyan, 2020). Tenure is also associated with an increase in board confidence in decision-making (Kim et al., 2014) and the quality of financial reports (Huang & Hilary, 2018).

An investigation conducted by Vafeas (2003) stated that a board member who has served in a company for more than 20 years has a higher investment in the company than those who have served less than 20 years. For that, they are preferred to play a role in the nomination and remuneration committee. In addition to this, boards with longer tenures were found to be more active in decision-making (Vafeas, 2003).

However, there is also a downside to having board members who serve for a long time, which is the possibility of developing a cozy relationship with management, leading to weak monitoring of management performance. The results of a study conducted by Ji et al. (2021) on 12,935 companies in 37 countries stated that companies with homogeneous board tenure were found to have lower activity in making important decisions made by management. The study found that corporate risk has a negative relationship with board tenure diversity, indicating that companies with boards with longer and more heterogeneous tenures are more active in supervising management decision-making and have lower risks (Ji et al., 2021). In addition, the findings of Bhat et al. (2020) state that tenure diversity and the educational background of board members have more influence on reducing company risk compared to other factors such as gender and age, for this reason, stakeholders must pay attention to these two aspects so that the effectiveness of company goals can be achieved. As such, the second hypothesis in this study is:

H2: Board tenure diversity has a significant relationship with enterprise risk management.

In addition, leadership is a very important aspect of companies (Guo et al., 2021). Company management is led by a board of directors whose duty is to do everything every day to maximize the owner's wealth. The board of directors is responsible for running the company in line with the shareholders' interests, and the board of commissioners oversees and guides the board of directors in this regard. The board of commissioners plays a crucial role in ensuring that the board of directors, as the representatives of company management, have performed as expected. However, the cultural background may affect the effectiveness of the board of commissioners' role (Guo et al., 2021).

Previous studies showed that the cultural aspects of the board of commissioners can explain the strategies and decisions taken by management (Ji et al., 2021). The cultural background can influence the perceptions, behavior, and preferences of the board of commissioners in carrying out their duties (Ji et al., 2021). DiMaggio and Powell (1983) stated that human behavior in organizations is heavily influenced by believed norms, routines, historical patterns, and differences in countries. So, cultural factors and nationalism can explain the group dynamics that exist among board members and can influence existing decision-making and risk-management activities (Ji et al., 2021).

The results of an investigation conducted by Bhat et al. (2020) stated that board diversity within a company can improve management performance by reducing existing risks. This finding indicated that with high board diversity, companies can increase the efficiency of their activities (Bhat et al., 2020). It is believed that the cultural differences within the board can provide experience, knowledge, and other positive aspects when making decisions and managing risks. For this reason, the next hypothesis formulated in this study is:

H3: Board culture diversity has a significant relationship with enterprise risk management.

The company's ability to manage risk has a significant contribution to its performance improvement (Innayah et al., 2021). Islam et al. (2021) argued that the success of a company in the finance and banking industry depends on how the company manages its credit risk. Success in managing this risk depends on the experience, competence, and level of imagination of top management to identify and analyze all risks and opportunities in decision-making. With regard to skills and abilities, companies that have boards of commissioners with heterogeneous competencies and skills are found to have better performance.

The board of commissioners' diverse cognitive capacities contribute to enhanced team outcomes and the optimal utilization of each board member's input in decision-making. This is because boards of commissioners who have diverse competencies will bring diverse thoughts, ideas, and analyses to identify solutions and solve problems (Harjoto et al., 2018).

According to Kim and Lim (2010), there is a positive association between the diversity of backgrounds and educational levels and the value of the firm. However, the literature on the diversity of backgrounds and educational levels of the board of commissioners is inconclusive (Kagzi & Guha, 2018). Wiersema and Bantel (1993) suggested that in the financial and banking sector, the diversity of educational levels of the board members can enhance the quality of decision-making. Conversely, Mahadeo et al. (2012) reported that the high diversity of educational levels of boards of commissioners has a negative impact on firm performance, as it leads to divergent opinions and difficulties in achieving quality decision-making and risk management activities. Based on this explanation, the final hypothesis in this study is:

H4: Board specific skills have a significant relationship with enterprise risk management.

3. RESEARCH METHODOLOGY

3.1. Research population and sample

This research on the effect of board diversity on the company's business risk management conducted a study of companies listed on stock exchanges in the USA, China, and Indonesia. Companies that are included in the population of this study consist of various sectors which include finance and banking, manufacturing, real estate, and communications. From the available data, samples were taken based on the completeness of the data needed in this study. Furthermore, from this process, a sample of 629 companies (China, Indonesia, the USA) was obtained with an observation period of 11 years (2011–2021). The data was obtained through Refinitiv Eikon, then the total data analyzed in this study was 6919 data.

3.1.1. Measurement of enterprise risk management index

This research investigated the impact of board diversity on the operational practices related to managing risks within organizations. In order to evaluate the extent of risk management activities, the study employed the COSO model of ERM as a measuring tool. Risk management is a systematic activity carried out by all personnel in the organization to provide adequate confidence in achieving organizational goals (Anand, 2006). This investigation employed the ERMI formulated by Panicker and Hiremath (2016) to evaluate the execution of ERM. ERMI serves as an indicator for gauging the efficacy of ERM implementation within enterprises, focusing on their proficiency in accomplishing objectives across four crucial dimensions: strategy, operations, reporting, and compliance (Panicker & Hiremath, 2016) based on the following equation.

$$ERMI = \sum Strategy\ k + \sum Operation\ k + \sum Reporting\ k + \sum Compliance\ k \quad (1)$$

1. *Strategy*. Strategy is the way a company uses its resources efficiently to increase competitiveness over its competitors and achieve its organizational goals (Panicker & Hiremath, 2016; Jayawarna, 2019). A strategy of increasing competitiveness against other competitors is considered successful and is reflected in the company's sales. For this reason, a company that has a number of sales above the industry average can be interpreted as having superior competitiveness than its competitors.

Therefore, the success of a company's strategy can be measured by, among other things, looking at the deviation in sales compared to the industry average. The greater the deviation, the higher the success rate of implementation of the existing strategy (Panicker & Hiremath, 2016). The following equation is used to measure a company's strategy.

$$Strategy = Sales - \mu Sales / \sigma Sales \quad (2)$$

2. *Operation*. Operation refers to interrelated activities that transform inputs into outputs (Bhat, 2011). The output that is greater than

the existing input means that the company's operation runs efficiently. Increasing operational efficiency is related to reducing existing risks and company performance (Panicker & Hiremath, 2016). Operation efficiency is measured based on the following equation.

$$Operation = Sales/Total\ assets \quad (3)$$

Another way to measure operation efficiency is using the operation ratio, namely dividing total sales by the number of existing employees as per the following equation.

$$Operation = Sales/Number\ of\ employees \quad (4)$$

3. *Reporting.* Reporting functions to show that the company has been managed in a transparent manner by management. The quality of the reports produced by management determines the accuracy of the decisions made by the stakeholders. Financial statements, financial statement fraud, and illegal earnings management are all forms of poor reporting quality (Cohen et al., 2004). The poor quality of financial reporting indicates increased risk and decreased efforts to manage these risks (Panicker & Hiremath, 2016). The quality of existing reporting within a company is proposed as per the following equation.

$$Reporting = Auditor\ opinion + Restatement \quad (5)$$

4. *Compliance.* Company compliance with applicable regulations and standards can reduce company risk and, at the same time, improve company performance (Panicker & Hiremath, 2016). Compliance with generally accepted accounting principles is associated with audit fees issued by the company (Moraes & Martinez, 2015). Therefore, compliance can be formulated as per the following equation.

$$Compliance = Auditor\ fees/Total\ assets \quad (6)$$

3.1.2. Measurement of board diversity

Board diversity measurement in this study involved four dimensions: gender, board tenure, board culture, and board skills. The assessment of board gender diversity involved examining the proportion of female board members within a company's board of commissioners framework. Similarly, board tenure was evaluated by calculating the average duration of service for board members in the board of commissioners structure. A greater average tenure indicates that board members have been serving in the company for an extended period. To determine board skills, the average score reflecting variations in the nationality of board members was considered relative to the total number of commissioners. A higher average score implies a greater degree of diversity in the national backgrounds of the board of commissioners. Skill diversity was measured by the percentage of differences in background expertise possessed by the board structure; the higher the percentage, the more diverse the background skills and competencies possessed by the board structure.

3.2. Data analysis techniques

The data analysis in this research employed the panel regression technique. A balanced panel analysis approach was adopted, ensuring that the cross-sectional units had an equal number of time-series observations. The analysis of panel data regression involved multiple stages using EViews 9.0 software:

1) estimation of the regression model using panel data;
2) panel data regression model selection;
3) classical assumption test;
4) hypotheses testing.

This study employed regression analysis to examine the impact of board diversity factors (including *board gender diversity*, *board cultural diversity*, *board specific skills,* and *average board tenure*) on ERM within three countries: China, the USA, and Indonesia. The formulated regression equation model in this investigation was as follows.

$$ERMI_{it} = \alpha + \beta_1 GDR_{it} + \beta_2 CLTR_{it} + \beta_3 SKILL_{it} + \beta_4 TNR_{it} + \varepsilon_{it} \quad (7)$$

where,

- $ERMI_{it}$ — ERMI of firm i in period t;
- α — constant;
- β — regression coefficient;
- GDR_{it} — *board gender diversity* percentage at firm i in period t;
- $CLTR_{it}$ — *board cultural diversity* percentage at firm i in period t;
- $SKILL_{it}$ — *board specific skills* diversity percentage at firm i in period t;
- TNR_{it} — *average board tenure* at firm i in period t;
- ε — error term.

In order to obtain the model coefficients using panel data, various techniques are available within the EViews program, including the common effect (CE) model, fixed effect (FE) model, and random effect (RE) model. From the estimated models, the selection of the most suitable model was determined based on the research objectives. To aid in the selection process of a panel data regression model (CE, FE, or RE), specific testing stages can be employed, such as the Chow test and the Hausman test, which consider the data's characteristics.

Table 1. Panel data regression model selection test

Test	*Hypothesis*	*Test criteria*
Chow test	H_0: Common effect (CE) model *H1*: Fixed effect (FE) model	Rejected If the p-value < α (with α = 5%)
Hausman test	H_0: Random effect (RE) model *H1*: Fixed effect (FE) model	Rejected If the p-value < α (with α = 5%)

4. RESULTS AND DISCUSSION

4.1. Descriptive analysis result

This study aims to analyze the effect of board diversity variables (*board gender diversity*, *board cultural diversity*, *board specific skills*, and *average board tenure*) on ERM in three countries, namely China, the USA and Indonesia. The results of a descriptive analysis of all research variables in each country are presented in Table 2.

Table 2. Descriptive analysis

Description test	*ERMI score*	*Board gender diversity, % in the last 11 FY*	*Board cultural diversity, % in the last 11 FY*	*Board specific skills, % in the last 11 FY*	*Average board tenure in the last 11 FY*
			China		
Mean	2.64	11.56	14.35	44.41	4.75
Maximum	21.29	66.67	58.33	100.00	15.20
Minimum	-0.30	0.00	4.17	0.00	0.41
			Indonesia		
Mean	2.73	7.81	41.75	31.80	6.72
Maximum	134.96	66.67	100.00	100.00	19.06
Minimum	-0.57	0.00	9.09	0.00	1.42
			USA		
Mean	2.60	20.12	17.81	56.07	8.66
Maximum	31.10	66.67	100.00	100.00	28.86
Minimum	-0.47	0.00	5.56	0.00	0.00

Note: FY — Fiscal year.

4.2. Panel data regression result

The examination of panel data in this investigation was conducted separately for each country. Consequently, three-panel regression models were employed to examine the impact of board diversity variables, including *board gender diversity*, *board cultural diversity*, *board specific skills*, and *average board tenure* on the ERM. Through the utilization of Chow and Hausman tests, it was determined that the RE model was appropriate for the Chinese and Indonesian research data, whereas the RE model was suitable for the research data from the USA. Prior to interpreting the regression analysis results, it was essential to ensure that the regression model satisfied all the necessary classical assumption tests. The classical assumption tests confirmed that the model devised in this study fulfilled all the assumptions, as displayed in Table 3.

Table 3. Summary of the classical assumption test result

Test type	*Assumption*	*Test results*	
Normality Kolmogorov-Smirnov test	Residual data is said to have a normal distribution if the 2-tailed asymptotic significance value is more than 0.05.	Asymp. Sig 2-tailed = 0.065	Meeting the assumption of normality
Multicollinearity	The regression model is said to have no collinearity between independent variables if the variance inflation factor (VIF) value is less than 10.	VIF values for all variables in the model are < 10 so it can be stated that there is no multicollinearity	Meeting the assumption of multicollinearity

Following a comprehensive evaluation of the regression model's compliance with essential classical assumption tests, the analysis proceeded to elucidate the regression outcomes. The findings of the regression examination conducted on datasets derived from the three countries are succinctly presented in Table 4.

Table 4. Panel regression result

Variables		*ERMI score for China*	*ERMI score for Indonesia*	*ERMI score for the USA*
		RE β (p-value)	***RE β (p-value)***	***FE β (p-value)***
Board gender diversity	*GDR*	-0.013 (0.114)	0.047*** (0.003)	0.000 (0.140)
Board cultural diversity	*CLTR*	0.000 (0.488)	-0.008* (0.083)	-0.001 (0.235)
Board skills diversity	*SKILL*	-0.010*** (0.009)	-0.000 (0.455)	-0.000 (0.211)
Average board tenure	*TNR*	0.078** (0.037)	-0.036 (0.200)	-0.012* (0.082)
Adj. R-square		6.96%	5.33%	89%

*Note: ***, **, * Correlation is significant at the 0.01, 0.05, and 0.10 level. RE — Random effect model, FE — Fixed effect model.*

Table 4 presents the diverse impacts of board diversity variables on the three observed countries. In the context of China, the variables of *board specific skills* and *average board tenure* demonstrated significant effects on risk management. Notably, the regression coefficient analysis for China revealed that *board specific skills* exerted a detrimental influence on ERMI, while *average board tenure* had a favorable impact on ERMI. In contrast, in Indonesia, the board diversity variables that showed their impact on risk management were *board gender diversity* and *board cultural diversity*. The regression coefficient in Indonesia showed that *gender diversity* had a positive effect on ERMI, while *cultural diversity* had a negative effect on the same. Regression testing in the USA also showed different results from the two previous countries: *average board tenure* had an influence on corporate risk management. The obtained regression coefficient displayed a negative value, indicating that the average duration of board membership had an adverse impact on the management of company risks. Subsequently, the subsequent section of this investigation will delve further into the outcomes derived from the scrutiny of the dependent variable, namely, ERM alongside board diversity.

4.3. Board gender diversity and enterprise risk management

The existence of women in the board of commissioners structure has been the focus of previous research. Tests on the proposition that female commissioners have a positive influence on the effectiveness of ERM in this study had different results in the three countries observed (China, the USA, and Indonesia). In the Chinese context, an inverse association was discovered between gender diversity and engagement in ERM activities. This implies that as the representation of women on the board structure of Chinese companies increases, there is a decrease in the level of ERM activities. Thus, the presence of diversity in the composition of the board of commissioners, as opposed to a homogenous board structure, gives rise to heightened conflict (Hambrick et al., 1996; Liu et al., 2014).

Decisions taken by the board of commissioners with gender diversity seem to have lower quality because, in the decision-making process, it is very difficult to find agreement between female and male board members. On the other hand, conflicts that occur in the decision-making process between female and male board members make the process inefficient and actually hinder and reduce the quality of decision-making related to the ERM activities, which should require careful decision-making quickly and precisely to deal with dynamic risks (Bernile et al., 2018). Zhu et al. (2018) stated that under certain conditions the presence of women in the structure of the board of commissioners at companies in China may only be used as a symbol to enhance the companies' reputation.

Furthermore, the results of testing in the USA showed that gender diversity in the board of commissioners' structure has no significant relationship to ERM activities. The findings of this study are different from the initial suppositions presented earlier in this paper by supporting the studies conducted by Allini et al. (2012, 2016) and Khaw and Liao (2018). According to Allini et al. (2012), women, in number, are much less than men in the structure of the board of commissioners in certain companies, thus having no significant role in decision-making.

In addition, previous research proves that women are more conservative than men, i.e., female board members of commissioners do not have the courage to be risk-takers (Ain et al., 2022; Chen et al., 2016; Zhu et al., 2018), causing companies that have female board members to have the tendency not to disclose their risk profile, as they think that by publishing the risks, the negative side of their companies will be known and exploited by other parties. These results contradicted the notion that the USA and Europe tend to be open and have their own policies regarding the presence of women in the board of commissioners structure (Kuek et al., 2021; Zhu et al., 2018).

According to previous research (Allini et al., 2016; Enofe et al., 2013), it has been demonstrated that gender diversity has a positive impact on ERM activities, fostering greater corporate transparency and accountability. In support of this, Chen et al. (2016) highlighted that including women on the board of commissioners contributes to a reduction in future performance volatility and mitigates risks associated with research and development (R&D) investments. Additionally, the presence of female board members can enhance supervisory functions and facilitate in-depth analysis of investment decisions (Poletti-Hughes & Briano-Turrent, 2019).

The presence of women in the board structure can also enhance the company's reputation (Low et al., 2015). Increasing the number of women on the board is believed to be a form of good corporate governance and risk management, based on the assumption that psychologically, women have more favorable, risk-averse, and participatory leadership attitudes and can uphold ethics more firmly than men (Chen et al., 2016). Furthermore, women are also believed to be more concerned with common interests than men are (Brañas-Garza et al., 2018).

4.4. Board tenure diversity and enterprise risk management

The duration of board membership in a company is significantly shaped by its governance structure, as indicated by Sun and Bhuiyan (2020). In their study, Kim et al. (2014) put forth the proposition that board members with an extended tenure are perceived to possess the capacity to enhance performance and yield favorable stock returns. The board of commissioners needs time to understand the conditions, culture, and habits of the company in order to contribute significantly (Sun & Bhuiyan, 2020). This experience illustrates an understanding related to corporate governance and the environment (Sun & Bhuiyan, 2020). The findings from the analysis conducted in China revealed a substantial correlation between the duration of the board of commissioners' tenure and the implementation of ERM. Along with the length of the board of commissioners' tenure, it was found that they have more investment in the companies they lead (Sun & Bhuiyan, 2020), thus are more careful in making investment-related decisions, and tend to increase risk management activities.

The results of this study also reinforced Castro et al.'s (2009) statement that board members who have less tenure tend to have an attitude of showing aggressive strategy changes to the company to show stakeholders that they provide change and dare to take risks for the shareholders' benefit. In addition, board members with longer tenure do not have the same motivation when they first occupy the position of the board of commissioners, thus being more cautious and not changing strategy radically (Castro et al., 2009).

Tenure diversity in the structure of the board of commissioners also has positive points related to decision-making with risk management. Members of the board of commissioners who have longer tenure will provide important information related to the company environment and existing risks, making the decision-making related to risk management activities better.

Contrary to the hypothesis proposed in this study, the findings from the analysis conducted in both the USA and Indonesia did not demonstrate a substantial correlation between board tenure diversity and the implementation of ERM. The outcomes of prior research conducted by Marandure and Sharma (2011) and Veltrop et al. (2018) shed light on this matter, suggesting that board compositions with shorter tenures tend to exhibit higher transparency in their performance towards stakeholders. On the other hand, boards of commissioners with shorter tenure are found to act more independently in managing the company than those who have longer tenure do (Huang & Hilary, 2018).

The results of the study by Vafeas (2003) showed a positive relationship between board tenure and opportunistic behavior in determining the compensation given. Members of boards of commissioners who have a long tenure tend to have a closer relationship with management; senior management, therefore, can try to compromise with the board of commissioners to determine the compensation given. In this situation, the board of commissioners, which should have oversight and risk management functions, tends to weaken (Vafeas, 2003).

4.5. Board cultural diversity and enterprise risk management

Culture is an aspect that can influence mindsets, habits, and beliefs about what is right and wrong for a person. The structure of the board of commissioners is a group of people who are trusted by shareholders to ensure that management is working according to their wishes. Logically, the board of commissioners' cultural background can influence their decision-making.

The presence of cultural diversity within the board composition has been suggested to enhance the decision-making process, as it allows for a broader range of knowledge, experiences, and perspectives to be considered (Guo et al., 2021). This diverse input is believed to lead to thorough analysis and thoughtful decision-making (McGrath et al., 1995). Surprisingly, the findings of this research fail to support this notion. Across the three observed countries, none of the test outcomes indicate a significant impact of board skill diversity on ERM. The inclusion of cultural diversity within the board structure seems to reinforce the tendency of board members to uphold their own norms, values, and practices during the decision-making process. Therefore, in the decision-making process, it is difficult to find a consensus among board members. Meanwhile, boards with homogeneous members find it easier to reach a consensus in decision-making (McGrath et al., 1995).

4.6. Board skills diversity and enterprise risk management

The board of commissioners has the task of identifying, analyzing, and managing existing risks related to how management manages the company. The structure of the board of commissioners who have a variety of competency backgrounds is expected to improve the quality of decision-making and have depth in identifying and analyzing existing risks. This preposition was not proven in this study. In the context of China, skill diversity had a negative relationship with ERM, while the results of the analysis in the USA and Indonesia show that it had no significant relationship with ERM.

The findings of this research elucidate that the presence of skill diversity among board members of commissioners effectively diminishes risk management endeavors. The inclusion of diverse skills and educational backgrounds in the decision-making process concerning risk management engenders a protracted deliberation lacking consensus, thereby compromising the quality of decision-making. According to Mahadeo et al. (2012), the regulations pertaining to knowledge and skill diversity within the board of commissioners are intended to enhance decision-making quality and company performance. However, these regulations fail to account for alternative scenarios. In fulfilling its duties the board of commissioners does not really need diverse skills; they only need the core competencies needed to manage and supervise management (Mahadeo et al., 2012).

5. CONCLUSION

This research investigated the correlation between board structure diversity, encompassing gender, tenure, culture, and skills, as a governance mechanism, and ERM within the USA, China, and Indonesia. China and Indonesia were chosen because they have similarities in demographic and cultural aspects, namely Eastern culture, and are still in the Asian continent. Still, China is a developed country, and Indonesia is a developing country. Both of these are in the process of developing good corporate governance (Bhat et al., 2020). Meanwhile, the USA is a developed country that represents Western culture with different geographic locations. We viewed that the differences in cultural aspects, geographical location, and the categorization of developed and developing countries were interesting to study how companies in these 3 countries have different views regarding the diversity in board structures and ERM.

In the context of China, gender and cultural diversities actually had a negative relationship with ERM. Meanwhile, cultural diversity had no significant relationship; only tenure diversity in the board structure supported the hypotheses in this study. Gender and cultural diversities in China are considered an obstacle in decision-making because the boards of commissioners in the decision-making process tend to maintain their respective values, norms, and habits, making it difficult for them to meet consensus. Besides, for this reason, they need a long time to make decisions. Meanwhile, risk is dynamic and requires quick decisions from management (Mahadeo et al., 2012; McGrath et al., 1995).

In the Indonesian context, gender diversity had a positive relationship with ERM, in line with the results of previous research conducted by Chen et al. (2016) and Poletti-Hughes and Briano-Turrent (2019). Cultural and skill diversities did not have a significant relationship to ERM, while tenure diversity had a relationship negative because board members who had longer tenure did not have more effort in impressing stakeholders and they tended to reduce supervisory activities due to their too-close relationship with management (Huang & Hilary, 2018; Vafeas, 2003).

The results of the analysis in the USA, in terms of gender, culture, and skills, did not prove the hypotheses proposed. Only tenure diversity of boards of commissioners had a negative relationship to ERM. This finding was in line with the findings by Vafeas (2003), who found that boards of commissioners with long tenure tend to have a close relationship with management. Such a relationship can be used by top management to compromise in determining compensation, thus degrading the supervision, including risk management activities, carried out by the board of commissioners (Vafeas, 2003).

The implications of our findings are manifold within the realm of governance. Firstly, in the context of board structures, diversities hold considerable significance. This investigation reveals that in nations characterized by a pronounced culture of individualism, such as the USA, diversities in board structures exhibit a relatively insubstantial influence on decision-making concerning risk management. Secondly, shareholders are advised to deliberate on the diversity aspects of the board of commissioners' structure, including the inclusion of women and the tenure diversity among commissioners. In Indonesia, gender diversity has a significant relationship with ERM. Companies in both China and the USA should consider the presence of women in the board structure because, according to the governance guidelines, it can enhance their reputation because society will view that the companies have provided equal opportunities and adhered to gender equality. We hypothesized that this would have the potential to allure prospective investors in the forthcoming period. Ultimately, in spite of disparate outcomes observed in each nation concerning the four dimensions of board structure diversity, it remains imperative for regulators and management to concentrate their efforts on devising strategies that encompass all facets of diversity in order to effectively implement commendable corporate governance practices.

This study is focused on testing companies in the industry as a whole, not testing variables in each segment of the existing industry. This is a limitation as well as a suggestion for future researchers, testing in each industry will provide more comprehensive results in the future.

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