*Journal of Nusantara Studies 2019, Vol 4(2) 45-69*
Universiti Sultan Zainal Abidin
ISSN 0127-9386 (Online)
http://dx.doi.org/10.24200/jonus.vol4iss2pp45-69

Journal of Nusantara Studies (JONUS)

# BOARD DIVERSITY, INDUSTRY SPECIFICITY, AND FIRM PERFORMANCE

*Syajarul Imna Mohd Amin, Mohd Mohid Rahmat & Abdullah Khairi Mohd Asri

Faculty of Economics and Management, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia

*Corresponding author: mohead@ukm.edu.my

Received: 20 Jul 2019, Accepted: 1 Nov 2019

## ABSTRACT

*Industry specificity is important to affect board diversity-performance relationship. Prior studies are flawed by assuming that Malaysian industries are homogenous, and industry peculiarities might not be captured by the aggregate results of all firms in the country. The ability of board diversity to boost firms' performance could be affected by a specific nature of the industries. The purpose of this study is to examine the combined effect of board diversity on firm performance. We also examined the moderating role of industry specificity on the board diversity-performance relationship. Data were collected from 180 listed firms in Malaysia for the period of 2012 to 2016 to avoid the implication of the Companies Act 1965 revamp in late 2016 and the latest MCCG reform in 2017. Data were analysed using the random effect panel data regression to test the research hypotheses. The findings suggest that firm performance is influenced by the combined effects of board diversity dimensions. The findings confirmed the importance of industry effect indicated by the variations of board diversity-performance relationship across industries. Other significant factors include firm's growth, size, and leverage. Thus, different industries in Malaysia should utilize a distinguished corporate governance framework to improve firm performance according to their industry specificities.*

*The findings of this study contribute to the body of knowledge by expanding the role of board diversity in the context of industry specificity.*

**Keywords:** Board diversity, corporate governance, firm performance, Malaysia, sectorial analysis

**Cite as:** Amin, S. I. M., Rahmat, M. M., & Mohd Asri, A. K. (2019). Board diversity, industry specificity, and firm performance. *Journal of Nusantara Studies, 4*(2), 45-69. http://dx.doi.org/10.24200/jonus.vol4iss2pp45-69

## 1.0 INTRODUCTION

The corporate governance (CG) failures have preoccupied scholars since the revelation of many fraud cases involving large companies over the world, such as Enron, Tyco, and WorldCom in the US, Satyam in India, KMK and Mailyard in China. Exacerbating that the episode of economic crisis like the Asian crisis in 1997 and the Global crisis in 2008 have renewed the focus on sound CG practice. Pursuant to this, a surge of CG reform has been evident cross-countries, including Malaysia. The country has received many criticisms on the issue of corporate governance shortcomings (Haniffa & Hudaib, 2006; Che Haat, Abdul Rahman, & Mahenthiran, 2008), which led to the introduction of the Malaysian Code on Corporate Governance (MCCG) to remedy all corporate sectors in the country. The MCCG has taken several stages of revision since 2000, 2007, 2012 and 2017 as pro-active efforts to ensure that it remains current and relevant with the global CG standards. While the issue of compliance is voluntary, the effectiveness of the CG guidelines in supporting firm performance, in the long run, is another puzzle concerning national policy decision makers, industries, and researchers.

The key to the CG system is the Board of Directors (BoD) who have at least four fundamental roles, namely monitoring and controlling management, delivering ideas and advice, supervising compliance with related laws and regulations, and connecting firms with external resources and environments (Mallin, 2004; Monks & Minow, 2004). However, increase documentation of corporate failure has questioned the credibility of the BoD to conduct careful supervision on the management decisions (Al-Gamrh, Ku Ismail, & Al-Dhamari, 2018; Al-Matari, Al-Swidi, Fadzil, & Al-Matari, 2012; Ciftci, Tatoglu, Wood, Demirbag, & Zaim, 2019). According to Peng and Jiang (2010), adhering to the BoD' best-practice code on documentation may not be sufficient to represent efficient in practice. Carter,

D'Souza, Simkins, and Simpson (2010) argued that it is the composition of the BoD that matter the most in boosting firm performance. A recent phenomenon in the workplace has been the increasingly diversity in board composition in terms of age, gender, ethnicity, nationality, size, managerial ownership and independence (Al-Matari et al., 2012; Ararat, Aksu, & Tansel Cetin, 2015; Ciftci et al., 2019; Shukeri, Shin, & Shaari, 2012). The board diversity may promote better corporate governance control mechanism if all the elements of diversity are coordinated efficiently, resulting in improve performance and enhance value creation for the firm.

The influence of board diversity on firm performance has been well discussed in several interdisciplinary theories (Carter, Simkins, & Simpson, 2003: Carter et al., 2010; Westphal & Milton, 2000; Jensen & Meckling, 1976), but in various perspectives, and is mainly on developed economies (Robinson & Dechant, 1997; Rutledge, Karim, & Lu, 2016). Emerging studies highlight on many different issues, including women participation in the board, government ownership and external BoD (e.g. Adams & Ferreira, 2009; Ang & Ding 2006; Cho & Kim, 2003; Darmadi, 2010). Studies on firms in emerging countries like Malaysia indicate combinations of results between board diversity characteristics and firm performance due to many boards demographic factors such as race, religion, culture, gender and many more (Alazzani, Hassanein, & Aljanadi, 2017; Abdullah, 2014; Abdul Wahab, Pitchay, & Ali, 2015; Bliss, Muniandy, & Majid, 2007; Haniffa & Cooke, 2002; Ismail, Abdullah, & Nachum, 2013). The findings are mixed, due to several aspects, including cross-sectional differences in firm BoD's practices. Thus, in promoting better firm performance, hybrid coordination of the different board compositions is argued to be a more conclusive and comprehensive measure of board diversity (Baranchuk & Dybvig, 2008).

Prior studies also may be restricted; the findings are flawed by the fact that industries making up the market are not homogenous (Amin & Janor, 2016; Narayan & Sharma, 2011). This scope of research needs further scrutiny, given that industry peculiarities might not be captured by the aggregate results of all firms in the country. The ability of board diversity to boost firms' performance could be affected by a specific nature of the industries (Benson, Davidson III, Wang, & Worrell, 2011; Kang, Cheng, & Gray, 2007; Ravina & Sapienza, 2009; Uribe-Bohorquez, Martínez-Ferrero, & García-Sánchez, 2018). Against this background, it is interesting to explore the board diversity practice and how it influences the performance of firms in Malaysia, involving different sectors. Concerning that the issue is addressed limitedly, the objective of the study is twofold. First, the study examines the combined impact of board diversity on firm performance. Second, it investigates the moderating role of industry

specificity on the relationship between board diversity and firm performance. This study contributes to the board diversity literature by examining the role of board diversity on the performance of firms in six important industries (Consumer, Industrial Product, Construction, Technology, Property, Plantation and Trading/ Services) in Malaysia dating from 2012 to 2016. The findings of this study contribute to the board diversity literature by expanding the role of specificities.

## 2.0 LITERATURE REVIEW

Previous literature has diverse opinions in interpreting CG. In general, CG refers to the process, rules and system by which a company is directed toward achieving its short- and long-term objectives. The BoD formed a significant component of the CG system, and it carries the role of monitoring, supervising, and controlling the management; and linking the firm with the stakeholders and environment (Carter et al., 2010). Therefore, a good CG comprises the right composition of BoD since it influences the firm strategic decision-making, leading to a high performance (Mandala, Kaijage, Aduda, & Iraya, 2018).

### *2.1 Board diversity and Firm Performance*

The relationship between board diversity and firm performance has been in the discussion of several interdisciplinary theories (Carter et al., 2003, 2010). The Agency theory concerns the conflict of interests between managers (agent) and shareholders (principal) (Fama & Jensen, 1983). The conflict arises when managers with superior knowledge and expertise pursue self-interest rather than the owner's interest. To minimize the agency problem, the BoD must monitor the management to protect the shareholders' interest (Jensen & Meckling, 1976). Social Psychological Theory highlights the importance of diversity in the boardroom as it carries behavioural and psychological effects on the decision-making process, resulting in the probability of both positive and negative outcomes. For instance, diversity (differences in terms of demography, skills, experiences, and values) generate divergent viewpoints, critical thinking and innovation (Westphal & Milton, 2000). However, excessive diversity may also create conflicts and miscommunication. The Resource Dependency Theory provides the theoretical foundation for the role of the BoD as a resource to the firm. The BoD is the source that links the firm with the external environment such as information and social networks (access to potential suppliers, buyers, public policy decision-makers, social groups), which eventually promote long-term prospects. Extension of this theory, Human Capital Theory argues that the

leader (i.e. BoD) plays a significant role to determine the future direction. The characteristics of the leader (in terms of education, skills, experience, and social networks) are, thus, the key to influence firm performance.

Over the years, diversity in boardrooms has evolved against discrimination by serving the under-represented minority backgrounds (Thomas & Ely, 1996). Based on this paradigm, good diversity measures different gender and races, board size, managerial ownership, and CEO duality. Gender diversity represents the rights of women in the market place as women can provide ideas from different angles than men that could lead to lively and creativity in the discussion (Letendre, 2004). Carter et al. (2010) postulated that women are not substituting to men, but rather complement who carries different attributes and added value. Since women are the minority group and usually more of external directors, conflict of interest is less likely and thus serve as better monitoring of the management. Besides, women participation on board creates a better image for the firm (Smith, Smith, & Verner, 2006). Some studies show evident that female director contributes more toward social performance (Alazzani et al., 2017) and firm performance (Hassan & Marimuthu, 2018). Nonetheless, other studies contend on some women-related issues such as emotional unbalance (Tajfel, 1974; Williams & O´Reilly, 1998), poor communication and slow decisions (Adams & Ferreira, 2009; Ahren & Dittmar, 2012) that decrease the firm value. Other studies found no significant influence of gender diversity on firm performance (Adams & Ferreira, 2009; Shukeri et al., 2012; Ujunwa, 2012) due to the complexity of corporate and country culture.

Ethnics diversity portrays positive perception as it symbolizes social justice to the community. While proponents of ethnic diversity highlight the competitive advantage of different background, ideas and skills developed for enhanced performance for firms in Nigeria (Ujunwa, 2012) and Norwegian and Swedish firms (Oxelheim & Randøy, 2003), the opposite studies argue on the probability of communication problems associated with cultural barriers (Shukeri et al., 2012). Studies on firms in Malaysia have provided insignificance evidence on the impact of ethnic diversity on firm performance (Hassan & Marimuthu, 2018; Ismail et al., 2013). It could be in line with the opinion of Abdul Wahab et al. (2015) that Bumiputeras are individualistic and more secretive, which cause less communication disclosure.

The right number of BoD has been a matter of continuing debate. Wang, Chen, Fang, and Tian (2017) suggested that an optimal board size in the hotel industry is ten; beyond the number will reduce firm performance. Some studies document that board size depends on firm size (Eisenberg, Sundgren, & Wells, 1998), business segments, age of the firm, and managerial

ownership (Coles, Daniel, & Naveen, 2008). Large boards are argued to bring more excellent monitoring and advice (Shukeri et al., 2012), expertise (Zahra & Pearce, 1989), experience (Dalton, 2005), social networks, and external resources, and less probability of dominant BoD (Dalton, Daily, Johnson, & Ellstrand, 1999; Goodstein, Gautam, & Boeker, 1994) that in turn, improves the financial performance of the firm (Wang et al., 2017). Instead, a small board is favorable because of the effectiveness of working in a small group. Yermack (1996) contended that large group not only decrease the speed of decisions but also increase the tendency of having free riding and social loafing problems. Individual BoD tends to put less effort, knowing the others have undertaken the responsibilities (Dalton et al., 1999). Other issues associated with large boards include increase communication problems, difficulties to control the boards and to monitor the managers (Jensen, 1993; O'Connell & Cramer, 2010; Yermack, 1996), which could develop conflicts.

Board independence is one of CG mechanisms to reduce agency problems and managerial decision. Fama and Jensen (1983) believed that outsiders are less beholden to management and thus avoid conflict of interest while maximizing shareholders value. External directors, although they have fewer skills to tackle the management in providing advice, they have high independence to exercising control. Besides, independent board could have more information and expertise in certain areas, thus offering greater coordination and judgements (Heravia, Saat, Karbhari, & Nassir, 2011, Shukeri et al., 2012). They also help the company to get access to external resources and networks like potential stakeholders along the supply chain including the authorities and social groups (Heravia et al., 2011), which enhance the business development process and prospects in the long run. In contrast, several studies found that board independence is not significant to add value to the firm due to inadequate monitoring execution and corporate cultural barrier (Agrawal & Knoeber, 1996; Yermack, 1996; Arosa, Iturralde, & Maseda, 2013). Other studies asserted that the presence of dominant internal directors in influencing decision-making process could be the reason for the ineffective function of external BoD to increase firm performance (Abdul Rahman & Mohamed Ali, 2006).

Adams and Ferreira (2009) emphasized that managerial ownership may result in both positive and negative outcomes depending on the shareholders' rights, as too much monitoring can be counterproductive. High ownership may also consequence in an entrenched board which prefer self-interest over stakeholders' interest that in turn, takes a different direction (Jesen & Meckling, 1976). Consequently, the separation of ownership from control could be a better option. In contrast, Carter et al. (2010) suggested that board ownership results in a more

involved board, better monitoring and high corporate performance since they could alleviate agency conflicts between managers and owners (Jensen & Meckling, 1976). Some studies based their argument on the implication of moral hazards such as managers pursuing their interest at the expense of shareholder's interest (Agrawal & Knoeber, 1996) and information asymmetry (Ezzamel & Watson, 1993). However, there are also empirical findings revealing that directors' shareholding does not affect firm performance (Chiang, 2005; Shukeri et al., 2012).

CEO duality exists when the BoD holds a CEO and a chairman position. The stewardship theory proposes that CEO duality will act as a responsible guardian of the company and encourages 'pro-organizational behavior' (Boyd, 1995; Dalton, Daily, Ellstrand, & Johnson, 1998; Finkelstein & D'Aveni, 1994; Peng, Zhang, & Li, 2007; Sridharan & Marsinko, 1997). It also promotes strong leadership and confidence that would facilitate quick decisions and hence improve corporate value. Tin and Shu (2008) suggested that the practice of CEO duality is more effective for the case of a non-family firm since it reduces the monitoring costs on CEO-chairperson. From the psychological viewpoint, CEO duality contributes to a better achievement because he/she who possess sound knowledge, skills and abilities will offer their best commitment to retain the job (Goh & Lee, 2016). Nevertheless, some studies contend that CEO duality causes an ineffective monitoring system due to developed conflicts (e.g. Bliss et al., 2007; Daynton, 1984; Millstein, 1992). Other studies found that firm performance and CEO duality has no significant relationship (Abdullah, 2014; Dalton et al., 1998; Ujunwa, 2012).

While many studies have examined the direct effect of each board diversity dimensions on firm performance, empirical studies are scarce on the interest of examining the impact of combining multiple dimensions of diversity into single-board diversity score. The early research by Siciliano (1996) constructed board diversity index and compared to numerous alternative measures of board diversity like occupational diversity, demographics, size. Similarly, Baranchuk and Dybvig (2008) developed a board decision model by incorporating various board composition measures such as the BoD perspectives, ideas and knowledge. Recently, Bernile, Bhagwat, and Yonker (2016) developed board diversity index based on six dimensions, including both demographic (age, gender, ethnicity) and cognitive (educational background, financial expertise and breadth of board experience). They examined the impact of board diversity on corporate policies and risk. The findings indicate that greater diversity in the boardroom led to lower volatility and better performance.

### *2.2 Board Diversity, Industry Specificity and Firm Performance*

Early research on industrial organization and strategic management suggest that the industry structure is the primary driver in determining the variations in firm performance (Porter, 1980). The market concentration for firms in a high competition industry is likely to be profitable (Porter, 1980, 1996). The industry specificities influence a firm's decisions, which results in different industry-specific-performance between firms (Mason, 1939). The theoretical basis of industry-performance relationship derives from the Structure-Conduct-Performance (SCP) framework, which proposes the significant association between market structure and profitability. Thompson (1967) added that industry conditions vary by the level of challenges and uncertainties, which affect managerial decisions and firm strategies differently. In support of this theory, Narayan and Sharma (2011) and Amin and Janor (2016) argued that industries are heterogeneous due to different market structure. Therefore, the generalization of the market performance results, without incorporating the industry effect, will lead to incorrect estimations.

However, empirical research on board diversity-industry-performance is particularly limited. Few studies found variations in board diversity practice depending on industry and company size among Scandinavian countries and for publicly traded Fortune 1000 firms (Carter et al., 2003). Some studies argued that the level of board diversity varies across industries. For example, female directors are more prevalent in service industries like technology and healthcare industries (Harrigan, 1981). Whereas according to Kang et al. (2007), finance industries prefer male and experienced board members. The study also found that BoD independence and age diversity are significantly associated with industry effect but not gender diversity. Likewise, Ravina and Sapienza (2009) showed that board independence not only influenced by their inner-interest but also conditioned by industry requirements. Benson et al. (2011) documented that board governance is more effective in the consumer product industry than in industrial product industry. Recently, Uribe-Bohorquez et al. (2018) found that the effect of board independence on firm performance is greater in industries with a robust legal system. These arguments build the basis for the implication of how the industry specificity will modify the role of board diversity on firm performance. Therefore, we developed the following hypotheses:

$H_1$: Board diversity does not affect firm performance

$H_2$: Industry specificity does not affect the relationship between board diversity and firm performance

Rejection of Hypothesis 1 implies that board diversity affects firm performance. If the null Hypothesis 1 is rejected, the estimated $\beta_1$ is significant, and the sign of the coefficient could be either positive or negative. If it is positive, it suggests that firm performance is improved by the presence of diversity in board composition in terms of gender, ethnicity, managerial ownership, the board size, board independence, and CEO duality. In contrast, if it is negative, it implies that having board diversity reduces firm performance. Failure to reject the null hypothesis suggests that board diversity does not add value to the firm.

In the case of Hypothesis 2, the rejection of the null indicates that the effect industry specificity moderates the impact of board diversity on firm performance. In particular, if the sign of $\beta_3$ is significantly positive, it shows that the marginal effect of board diversity on the performance of firms in $Industry_i$ is higher compared to other industries, whereas if it is significantly negative, it suggests that the marginal effect of board diversity on performance of $Industry_i$ is lower compared to other industries. In other words, if the null $H_2$ is rejected, it implies that the degree impact of board diversity on firm performance is different across industries. Failure to reject the null $H_2$ highlight that the impact of board diversity on firm performance is the same for each industry in the country.

## 3.0 METHODOLOGY

The dataset comprises of 180 listed firms on Bursa Malaysia involving six industries (Consumer, Manufacturing, Technology, Property, Plantation and Trading/ Services). These industries have been the primary industries driving Malaysia economies. The secondary data are retrieved from the published annual report from 2012 to 2016. We select the period of the study to avoid the implication of the Companies Act 1965 revamp in late 2016 and the latest MCCG reform in 2017. We employ equally 30 companies from each industry in arbitrary for the five years of observations subject to the data availability, owing to 900 firm-year observations in total.

Table 1: Definitions of board measures

| **BoD Measures** | **Definition** |
|---|---|
| Managerial Ownership (MO) | 1 – (The ratio of shares holds by BoD to the total shares). Higher value indicates less diversity. |
| Board size (NUM) | Total number of BoD |
| Board Independence (IND) | The ratio of non-executive directors to the total number of directors |
| CEO duality (DUA) | 1 if CEO is also a chairman and 0 if CEO is not a chairman. CEO with two roles indicate less diversity |
| Gender diversity (GEN) | The ratio of female directors to the total number of all directors |
| Ethnic diversity (RACE) | The ratio of directors excluded majority race to the number of directors |

The construction of board diversity score from multiple dimensions is guided by the approach used in Baranchuk and Dybvig's (2008) model. The authors argued that the aggregate effect of diversity in board compositions is more accurate to symbolize the consensus needed for an effective BoD compared to any single dimension. However, the choice of the dimension is based on literature and data availability. Thus, the diversity dimensions in this study include gender, ethnicity, managerial ownership, the board size, board independence and CEO duality. Our correlation analysis between each of the diversity measures shows that they are weakly correlated with one another and thus, demonstrates an appropriate combination of diverse BoD to model a single board diversity score. For each board-year, Table 1 presents the definition of each diversity measures. To construct a comparable scale for the board-year score, we normalise each dimension of board diversity by its mean and standard deviation (Bernile et al., 2016) like equation (1):

$$\text{Board diversity} = \text{STDZ(NUM)} + \text{STDZ(MO)} + \text{STDZ(IND)} + \text{STDZ(DUA)} + \text{STDZ (GEN)} + \text{STDZ (RACE)} \quad (1)$$

Following previous studies (Baranchuk & Dybvig, 2008; Bernile et al., 2016), several explanatory variables are controlled, and the board diversity-firm performance relationship is analysed based on the following framework:

$$Y_{it} = \alpha_i + \beta_1 BD_{it} + \beta_2 Dindustry_{it} + \beta_3 BD_{it} * Dindustry + \beta_4 control_{it} + \varepsilon_{it} \quad (2)$$

Where Y defines the firm's performance, measured by return on assets (ROA) and return on equity (ROE). ROA is calculated by dividing earnings after tax over total assets; meanwhile, ROE is based on earnings after tax divided by the firm's total equity. BD refers to board diversity in terms of managerial ownership, the board size, board independence, CEO duality, gender diversity and ethnic diversity. Dindustry is dummies for industry of which 1 is for the observed industry and 0 for other industries. Industry 1 consists of Consumer and Manufacturing, Industry 2 comprises Property and Plantation, and Industry 3 includes Technology and Trading/ services. To avoid the dummy variable trap, we drop dummy Industry 3 from the equation. By including the dummy variable for each categorical data (in our case industry) is redundant and will result in multicollinearity problem (one variable can be highly predicted from other variables) (Gujarati, 2004). BD*Dindustry is interactive dummy between board diversity and observed-industries. We interact the board diversity with industry to identify whether the impact of board diversity on firm performance is the same for industry 1, 2 and 3. Control indicates the generic firm-specific variables including growth, size, leverage and age. α is constant, $\beta$ is the coefficient of variation, while ε refer to random disturbance. i and t are firm and time, respectively.

Based on previous studies, this study includes control variables that could affect firm performance, such as the firm's growth, size, age, and also leverage. Firm size is measured by logarithm of total assets with the anticipation that firm size has a positive relation to firm performance as the larger firm has a competitive advantage because of economies of scales, market power, growth and profitability (Punnose, 2008; Alarussi & Alhaderi, 2018). Growth measures earning growth of the firm, which indicates the good prospects in the future (Al-Akra & Ali, 2012: Abdullah, Abdul Shukor, Mohamed, & Ahmad, 2015); thus positive relationship with firm performance is expected. Firm age is the years since the establishment of a firm until 2016. A young firm is less than 50 years, while the old firm is greater than 50 years (Anderson & Reeb, 2003). It is expected that the younger firm has smaller profit since they have higher capital cost and less experience in the market (Coad, Segarra, & Teruel, 2013). Leverage or debt to the firms' assets has a positive association toward good corporate governance to enhance firms' good reputation (Cho & Kim, 2003; Black, Jang, & Kim, 2006). Meanwhile,

other studies (Bokhari & Khan, 2013; Saeed, Gull, & Rasheed, 2013) argued that high leverage lowers the firm performance due to limited investment opportunities.

## 4.0 RESULTS AND DISCUSSION

Table 2 provides a descriptive analysis of all variables for each industry. It shows that Industry 1 (manufacturing and consumer) has outperformed the industry-average profitability both in terms of ROA (0.06) and ROE (0.08). Board composition for Industry 2 (plantation and property) is the most diverse (0.60), followed by Industry 3 (technology and trading/ services) (0.5). In terms of firm growth, all industries experienced negative growth during the years, especially Industry 1 (−1.21). Size of the firms in Industry 3 is the biggest (21.0) among the three, while Industry 2 has the most established firms (in term of age) (38.6). By referring to capital structure, Industry 3 is highly leveraged compared to the others (0.4).

Table 3 shows the correlation analysis between the variables tested in the model. All variables are correlated below than 0.5, except the alternative performance measure, which is ROA and ROE with 0.83. Since the correlation coefficients are small and below the threshold of 0.9 (Tabachnick & Fidel, 2007; Shukeri et al., 2012), the problem of multicollinearity is not present in the regression model.

Table 4 reports the random effect panel data regression analysis of the relationship between board diversity and firm performance, controlling for several firm-specific factors. Based on the ROA as the firm performance measure, it shows that board diversity has a significant negative impact on firm performance. A 1% increase in diversity decrease by 15.7% of firm ROA. It implies that the combined effects of different dimensions of board diversity affect the board's decision-making, but reduce firm value. Contradict to the argument put forth by the proponent of board diversity that diversity can better represent the societies and improve decision-making due to creativity and experiences; our findings seem to differ. The negative relationship suggests that diversity may lead to increased complexity in decision-making and time-consuming due to slower action and response, which consequence an overall lower firm performance (Campbell & Mínguez-Vera, 2008). Board diversity may not improve firm value due to weak monitoring roles and cultural barriers, especially in the case of participation of outsiders (Agrawal & Knoeber, 1996; Yermack, 1996; Arosa et al., 2013). Moreover, diverse board members may lead to less effective governance due to rising conflict of interest and agency cost and ineffective monitoring system (Bliss et al., 2007; Daynton, 1984; Millstein, 1992). Other problems associated with diversity include increase communication barrier and

obstacles to coordinate the directors and thereby poor supervising of top management performance (Jensen, 1993; O'Connell & Cramer, 2010; Yermack, 1996). It is not surprising; therefore, certain companies prefer less diversity of board members, probably due to better control and quick decisions to arrive at a consensus.

Table 2: Descriptive statistics

| | | ROA | ROE | Board diversity | Growth | Size | Age | Leverage |
|---|---|---|---|---|---|---|---|---|
| **All industries** | **Mean** | 0.049513 | 0.076553 | 0.489602 | -0.757067 | 20.41584 | 35.21444 | 0.361302 |
| | **Median** | 0.044610 | 0.074199 | 0.405663 | -0.120934 | 20.00551 | 30.00000 | 0.373118 |
| | **Std. Dev.** | 0.204760 | 0.287220 | 0.209490 | 46.99161 | 1.884639 | 28.69272 | 0.272892 |
| | **Observation** | 900 | 900 | 900 | 900 | 900 | 900 | 900 |
| **Industry 1** | **Mean** | 0.060989 | 0.083380 | 0.429336 | -1.213295 | 19.35004 | 33.77966 | 0.331256 |
| | **Median** | 0.047091 | 0.070476 | 0.368759 | -0.084973 | 19.19117 | 32.00000 | 0.290045 |
| | **Std. Dev.** | 0.322540 | 0.429662 | 0.161813 | 81.20198 | 1.202496 | 21.17956 | 0.190780 |
| | **Observation** | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| **Industry 2** | **Mean** | 0.043974 | 0.067692 | 0.579571 | -0.734812 | 20.86146 | 38.57667 | 0.344105 |
| | **Median** | 0.037002 | 0.059671 | 0.466549 | -0.213895 | 20.87918 | 32.50000 | 0.385095 |
| | **Std. Dev.** | 0.079995 | 0.135635 | 0.259858 | 9.551325 | 1.473934 | 28.94322 | 0.381112 |
| | **Observation** | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| **Industry 3** | **Mean** | 0.043861 | 0.078667 | 0.459398 | -0.337686 | 21.00839 | 33.29508 | 0.407279 |
| | **Median** | 0.053327 | 0.096198 | 0.406390 | -0.091437 | 20.40086 | 27.00000 | 0.408796 |
| | **Std. Dev.** | 0.129976 | 0.217255 | 0.160050 | 7.952116 | 2.306075 | 34.05894 | 0.197177 |
| | **Observation** | 300 | 300 | 300 | 300 | 300 | 300 | 300 |

Table 3: Correlation Analysis

| | **ROA** | **ROE** | **Board diversity** | **BD*Industry 1** | **BD*Industry 2** | **BD*Industry 3** | **Growth** | **Size** | **Age** | **Leverage** |
|---|---|---|---|---|---|---|---|---|---|---|
| **ROA** | 1.000000 | | | | | | | | | |
| **ROE** | 0.829292 | 1.000000 | | | | | | | | |
| **Board Diversity** | -0.011715 | -0.001226 | 1.000000 | | | | | | | |
| **BD*Industry1** | 0.047461 | 0.034699 | 0.001554 | 1.000000 | | | | | | |
| **BD*Industry2** | -0.008484 | -0.007129 | 0.610325 | -0.393512 | 1.000000 | | | | | |
| **BD*Industry3** | -0.043691 | -0.024226 | 0.079773 | -0.417768 | -0.408154 | 1.000000 | | | | |
| **Growth** | 0.022460 | 0.028673 | -0.006775 | -0.016187 | -0.000319 | 0.009600 | 1.000000 | | | |
| **Size** | 0.032386 | 0.093734 | -0.021049 | -0.348243 | 0.101965 | 0.173535 | -0.070902 | 1.00000 | | |
| **Age** | 0.009806 | 0.024844 | -0.015360 | 0.006535 | 0.042651 | -0.075912 | -0.043286 | 0.23212 | 1.00000 | |
| **Leverage** | -0.161718 | -0.007902 | -0.151725 | -0.106686 | -0.090082 | 0.084380 | -0.032876 | 0.27894 | 0.01458 | 1.000000 |

The significant positive coefficient of interactive dummy between board diversity and industry for both industries hint two important notes. First, the impact of board diversity is not the same across the three industries. Second, the positive coefficient indicates that the marginal effect of board diversity is 0.18% higher for Industry 1 and 0.17% higher for industry 2, respectively, compared to other industries. Interestingly, we also found that the firm performance of each industry can be differentiated as Industry 1 has significantly 0.06% lower ROA while Industry 2 has significantly 0.09% lower than the average industries. The findings contradict significantly to the earlier descriptive analysis after accounting for the effect of board diversity and other controlling factors.

Table 4: Estimated results for board diversity and firm performance

| | **ROA** | **ROE** |
|---|---|---|
| Constant | -0.102589 | -0.233239** |
| Board diversity | -0.156812*** | -0.212132*** |
| Board diversity*Industry 1 | 0.182326*** | 0.342638** |
| Board diversity*Industry 2 | 0.170220*** | 0.287941*** |
| Dummy Industry 1 | -0.056481* | -0.118082 |
| Dummy Industry 2 | -0.086362*** | -0.148792*** |
| Growth | 0.000109*** | 0.000235** |
| Size | 0.012005*** | 0.017756*** |
| Age | -7.21E-05 | -1.70E-06 |
| Leverage | -0.140139*** | 0.013641 |
| R-squared | 0.47143 | 0.24114 |
| Adj. R-squared | 0.33162 | 0.09795 |
| F-stats | 3.371923 | 1.684088 |
| Prob (F) | 0.000044 | 0.059180 |
| Obs | 900 | 900 |
| Hausman test (p-value) | 1.0000 | 1.0000 |

Note: ***, ** and * denotes significance at 1 %, 5%, and 10% level respectively. The Hausman test is insignificant, use random effects)

Two points stand out from this analysis. First, it validates the fact that board diversity and other examined factors are important in explaining firm performance. Second, the study is in support of Amin and Janor (2016), showing the presence of heterogeneity of Malaysian industry.

For firm-specific variables, the findings imply that firm growth is positively related to firm performance, yet at a minimal significant impact. It is consistent with the corporate finance theory that firms with investment opportunities will generate cash flows and thereby improve firm profitability. However, considering uncertainties involving economies and political environment in the country, the positive outcomes from potential investments could be affected at certain degrees. Our findings corroborate with the early studies (Punnose, 2008; Alarussi & Alhaderi, 2018), indicating that size has a significant positive effect on firm performance. It shows that large firms, with the advantage of economies of scale, cost efficiency, and sophistication in risk management will be able to improve firm performance.

Further, leverage is negatively related to performance (Bokhari & Khan, 2013; Saeed et al., 2013). The negative relationship can be explained by the poor prospects for the firm with high debt, which could lead to less future earnings. The increasing debt in the balance sheet crowds out a cash available to fund new projects, which cause suboptimal investments and weak profitability. Besides, a high levered firm with high commitments, i.e. interest payments, reduce earnings per share and increase the risk to shareholders return, especially during the highly volatile market condition. However, the impact of age on firm performance is not significant. The result could be due to several factors, such as competitive structure and the technology surge in the market in line with globalization that has to outweigh the benefits of being highly experienced and long-time established in the Malaysian market.

The results in the second column (measuring firm performance using ROE) show that the estimation results are almost consistent except for the insignificant effect of dummy industry 1 and leverage. The second model provides a robustness check against earlier results and thereby validating our findings. In particular, the findings show strong evidence that firm performance significantly depends on a combined board diversity dimensions and industry specificities. Also, the relationship between board diversity and firm performance is moderated by the industry effect. For firm internal factors, we found a significant positive impact of firm's growth and size on firm performance and insignificant impact of age. However, only mild evidence can be concluded for the negative impact of leverage on firm performance.

## 5.0 CONCLUSION

The paper aims to examine the impact of a collective board diversity dimensions (gender, ethnicity, managerial ownership, board size, board independence, and also CEO duality) on firm performance in the case of six important industries (Consumer, Manufacturing, Technology, Property, Plantation, and Trading/ Services) in Malaysia from 2012 to 2016. The findings emphasis on the negative effect of board diversity on firm performance. However, the relationship between board diversity and firm performance is influenced by the moderating role of industries types. The performance of each industry can be significantly differentiated. These findings highlight the importance of industry effect, concluding that the Malaysian industries are unique and non-homogenous. Other factors, such as the firm's growth and size are found to be positively related to firm performance, while the negative effect of leverage on firm performance is weakly evidenced. For the age factor, the effect is not significant.

The implication of the findings supports the different practice of board composition across countries and industries. The significant negative impact of board diversity somehow explains why certain companies prefer less diversity of board members, probably due to better control and quick decisions to arrive at a consensus. The proposition to enhance board diversity as a deliberate choice or forced by the law hence needs further scrutiny in the hand of the policymaker. If board diversity is important, then there must be some other important factors that need to be examined in future research to testify the findings.

Nonetheless, the limitation of data restricted to only six industries in one country reduces the generalization and scope of the research to only industries in a country that may share similar characteristics. It is true since the results may not apply for countries with different economies, political, culture, and corporate governance. Therefore, particularly for other industries in the country, as well for other countries, comparison analyses could be examined to establish the board diversity-performance theory for more robust results.

## ACKNOWLEDGEMENT

This research is funded by Universiti Kebangsaan Malaysia under FEP Research Grant, EP-2017-039.

**REFERENCES**

Abdullah, M., Abdul Shukor, Z., Mohamed, Z. M., & Ahmad, A. (2015). Risk management disclosure: A study on the effect of voluntary risk management disclosure toward firm value. *Journal of Applied Accounting Research, 16*(3), 400-432.

Abdullah, S. N. (2014). The causes of gender diversity in Malaysian large firms. *Journal of Management & Governance, 18*(4), 1137-1159.

Abdul Rahman, R., & Mohamed Ali, F. H. (2006). Board, audit committee, culture and earnings management: Malaysian evidence. *Managerial Auditing Journal, 21*(7), 783-804.

Abdul Wahab, E. A., Pitchay, A. A., & Ali, R. (2015). Culture, corporate governance and analysts forecast in Malaysia. *Asian Review of Accounting, 23*(3), 232-255.

Adams, R. B., & Ferreira, D. (2009). Women in the board room and their impact on governance and performance. *Journal of Financial Economics, 92*(1), 291-309.

Agrawal, A., & Knoeber, C. R. (1996). Firm performance and mechanisms to control agency problems between managers and shareholders. *Journal of Financial and Quantitative Analysis, 31*(1), 377-397.

Ahren, K. R., & Dittmar, A. K. (2012). The changing of the boards: The impact on firm valuation of mandated female board representation. *Quarterly Journal of Economics, 127*(1), 137-197.

Al-Akra, M., & Ali, M. (2012). The value relevance of corporate voluntary disclosure in the Middle-East: The case of Jordan. *Journal of Accounting and Public Policy, 31*(5), 533-549.

Al-Gamrh, B., Ku Ismail, K. N. I., & Al-Dhamari, R. (2018). The role of corporate governance strength in crisis and non-crisis times. *Applied Economics, 50*(58), 6263-6284.

Al-Matari, Y. A., Al-Swidi, A. K., Fadzil, F. H. B. F. H., & Al-Matari, E. M. (2012). Board of directors, audit committee characteristics and the performance of Saudi Arabia listed companies. *International Review of Management and Marketing, 2*(4), 241-251.

Alarussi, A. S., & Alhaderi, S. M. (2018). Factors affecting profitability in Malaysia. *Journal of Economic Studies, 45*(3), 442-458.

Alazzani, A., Hassanein, A., & Aljanadi, Y. (2017). Impact of gender diversity on social and environmental performance: Evidence from Malaysia. *Corporate Governance: The International Journal of Business in Society, 17*(2), 266-283.

Amin, S. I. M., & Janor, H. (2016). The co-movement between exchange rates and stock prices in an emerging market. *Jurnal Pengurusan, 48*(1), 61-72.

Anderson, R. C., & Reeb, D. M. (2003). Founding-family ownership and firm performance: Evidence from the S&P 500. *The Journal of Finance, 58*(3), 1301-1328.

Ang, J. S., & Ding, D. K. (2006). Government ownership and the performance of government-linked companies: The case of Singapore. *Journal of Multinational Financial Management, 16*(1), 64-88.

Ararat, M., Aksu, M., & Tansel Cetin, A. (2015). How board diversity affects firm performance in emerging markets: Evidence on channels in controlled firms. *Corporate Governance: An International Review, 23*(2), 83-103.

Arosa, B., Iturralde, T., & Maseda, A. (2013). The board structure and firm performance in SMEs: Evidence from Spain. *Investigaciones Europeas de Dirección y Economía de la Empresa, 19*(3), 127-135.

Baranchuk, N., & Dybvig, P. H. (2008). Consensus in diverse corporate boards. *The Review of Financial Studies, 22*(2), 715-747.

Benson, B. W., Davidson III, W. N., Wang, H., & Worrell, D. L. (2011). Deviations from expected stakeholder management, firm value, and corporate governance. *Financial Management, 40*(1), 39-81.

Bernile, G., Bhagwat, V., & Yonker, S. (2018). Board diversity, firm risk, and corporate policies. *Journal of Financial Economics, 127*(3), 588-612.

Black, B. S., Jang, H., & Kim, W. (2006). Does corporate governance predict firms' market values? Evidence from Korea. *The Journal of Law, Economics, and Organization, 22*(2), 366-413.

Bliss, M. A., Muniandy, B., & Majid, A. (2007). CEO duality, audit committee effectiveness and audit risks: A study of the Malaysian market. *Managerial Auditing Journal, 22*(7), 716-728.

Boyd, B. K. (1995). CEO duality and firm performance: A contingency mode. *Strategic Management Journal, 16*(3), 301-312.

Bokhari, H. W., & Khan, M. A. (2013). The impact of capital structure on firm's performance: A case of non-financial sector of Pakistan. *European Journal of Business and Management, 5*(31), 111-137.

Campbell, K., & Mínguez-Vera, A. (2008). Gender diversity in the boardroom and firm financial performance. *Journal of Business Ethics, 83*(3), 435-451.

Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate governance, board diversity, and firm value. *Financial Review, 38*(1), 33-53.

Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The gender and ethnic diversity of US boards and board committees and firm financial performance. *Corporate Governance: An International Review, 18*(5), 396-414.

Che Haat, M. H., Abdul Rahman, R., & Mahenthiran, S. (2008). Corporate governance, transparency and performance of Malaysian companies. *Managerial Auditing Journal, 23*(8), 744-778.

Chiang, H. T. (2005). An empirical study of corporate governance and corporate performance. *The Journal of American Academy of Business, 6*(1), 95-101.

Cho, D. S., & Kim, J. (2003). Determinants in introduction of outside directors in Korean companies. *Journal of International and Area Studies, 10*(1), 1-20.

Ciftci, I., Tatoglu, E., Wood, G., Demirbag, M., & Zaim, S. (2019). Corporate governance and firm performance in emerging markets: Evidence from Turkey. *International Business Review, 28*(1), 90-103.

Coad, A., Segarra, A., & Teruel, M. (2013). Like milk or wine: Does firm performance improve with age? *Structural Change and Economic Dynamics, 24*(1), 173-189.

Coles, J. L., Daniel, N. D., & Naveen, L. (2008). Boards: Does one size fit all? *Journal of Financial Economics, 87*(2), 329-356.

Darmadi, S. (2010). Board diversity and firm performance: The Indonesian evidence. *Corporate Ownership and Control, 9*(1), 524-539.

Dalton, D. R., Daily, C. M., Ellstrand, A. E., & Johnson, L. (1998). Meta-analytic reviews of board composition, leadership structure, and financial performance. *Strategic Management Review, 19*(3), 269-90.

Dalton, D. R., Daily, C., Johnson, J., & Ellstrand, A. (1999). Number of directors and financial performance: A meta-analysis. *Academy of Management Journal, 42*(1), 674-686.

Dalton, D. R. (2005). Boards of directors: Utilizing empirical evidence in developing practical prescriptions. *British Journal of Management, 16*(1), 91-97.

Daynton, N. K. (1984). Corporate governance: The other side of the coin. *Harvard Business Review, 62*(1), 34-47.

Eisenberg, T., Sundgren, S., & Wells, M. (1998). Larger board size and decreasing firm value in small firms. *Journal of Financial Economics, 48*(1), 35-54.

Ezzamel, M., & Watson, R. (1993). Organizational form, ownership structure and corporate performance: A contextual empirical analysis of UK companies. *British Journal of Management, 4*(1), 161-176.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *Journal of Law and Economics, 26*(2), 301-325.

Finkelstein, S., & D'Aveni, R. (1994). CEO duality as a double-edged sword: How boards of directors balance entrenchment avoidance and unity of corporate ownership & control. *Academy of Management Journal, 37*(5), 1079-1108.

Goh, E. L., & Lee, C. C. M. (2016). Person-job fit, personality, organizational commitment and intention to stay among employees in marketing departments. *Jurnal Psikologi Malaysia, 30*(1), 80-89.

Goodstein, J., Gautam, K., & Boeker, W. (1994). The effect of board size and diversity on strategic change. *Strategic Management Journal, 15*(1), 241-250.

Gujarati, D. N. (2004). *Basic econometrics.* New York: Mc-Graw Hill.

Haniffa, R. M., & Cooke, T. E. (2002). Culture, corporate governance and disclosure in Malaysian corporation. *Abacus, 38*(3), 317-349.

Haniffa, R. M., & Hudaib, M. (2006). Corporate governance structure and performance of Malaysian listed companies. *Journal of Business Finance and Accounting, 33*(7), 1034-1062.

Harrigan, K. R. (1981). Numbers and positions of women elected to corporate boards. *Academy of Management Journal 24*(1), 619–625.

Hassan, R., & Marimuthu, M. (2018). Bridging and bonding: Having a Muslim diversity on corporate boards and firm performance. *Journal of Islamic Accounting and Business Research, 9*(3), 457-478.

Heravia, S., Saat, N. M., Karbhari, Y., & Nassir, A. (2011). Effective oversight roles of board of directors: The case of listed firms on Bursa Malaysia. *World Review of Business Research, 1*(1), 231-245.

Ismail, K., Abdullah, S. N., & Nachum, L. (2013). Women on boards of directors of Malaysia firms: Impact on market and accounting performance. Retrieved from http://ssrn.com/abstract=2145007

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics, 3*(1), 305-360.

Jensen, M. C. (1993). The modern industrial revolution, exit and the failure of internal control systems. *Journal of Finance, 48*(1), 831-880.

Kang, H., Cheng, M., & Gray, S. J. (2007). Corporate governance and board composition: Diversity and independence of Australian boards. *Corporate Governance: An International Review, 15*(2), 194-207.

Letendre, L. (2004). The dynamics of the boardroom. *Academy of Management Executive, 18*(1), 101–104.

Mallin, C. A. (2004). *Corporate governance.* Oxford: Oxford University Press.

Mandala, N., Kaijage E., Aduda, J., & Iraya, C. (2018). An empirical investigation of the relationship between board structure and performance of financial institutions in Kenya. *Journal of Finance and Investment Analysis, 7*(1), 37-57.

Mason, E. S. (1939). Price and production policies of large-scale enterprise. *The American Economic Review, 29*(1), 61-74.

Millstein, I. (1992). *The limits of corporate power: Existing constraints on the exercise of corporate discretion*. New York: Macmillan.

Monks, R. A. G., & Minow, N. (2004). *Corporate governance* (Third edition). Malden, MA: Blackwell Publishing Ltd.

Narayan, P. K., & Sharma, S. S. (2011). New evidence on oil price and firm returns. *Journal of Banking & Finance, 35*(12), 3253–3262.

O'Connell, V., & Cramer, N. (2010). The relationship between firm performance and board characteristics in Ireland. *European Management Journal, 28*(1), 387-399.

Oxelheim, L., & Randøy, T. (2003). The impact of foreign board membership on firm value. *Journal of Banking & Finance, 27*(12), 2369-2392.

Peng, M. K., Zhang, S., & Li, X. (2007). CEO duality and firm performance during China's institutional transitions. *Journal of Management and Organizational Review, 3*(2), 205-225.

Peng, M. W., & Jiang, Y. (2010). Institutions behind family ownership and control in large firms. *Journal of Management Studies, 47*(1), 253-273.

Porter M. E. (1980). *Competitive strategy.* New York: Free Press.

Porter M. E. (1996). What is strategy? *Harvard Business Review, 74*(6), 61–79.

Punnose, E. M. (2008). A profitability analysis of business group firms vs. individual firms in the Indian electrical machine manufacturing industry. *The ICFAI Journal of Management Research, 7*(1), 52-76.

Ravina, E., & Sapienza, P. (2009). What do independent directors know? Evidence from their trading. *The Review of Financial Studies, 23*(3), 962-1003.

Robinson, G., & Dechant, K. (1997). Building a business case for diversity. *The Academy of Management Executive, 11*(3), 21-31.

Rutledge, R. W., Karim, K. E., & Lu, S. (2016). The effects of board independence and CEO duality on firm performance: Evidence from the NASDAQ-100 index with controls for endogeneity. *Journal of Applied Business & Economics, 18*(2), 49-71.

Saeed, M. M., Gull, A. A., & Rasheed, M. Y. (2013). Impact of capital structure on banking performance: A case study of Pakistan. *Interdisciplinary Journal of Contemporary Research in Business, 4*(10), 393-403.

Shukeri, S. N., Shin, O. W., & Shaari, M. S. (2012). Does board of director's characteristics affect firm performance? Evidence from Malaysian public listed companies. *International Business Research, 5*(9), 120-127.

Siciliano, J. I. (1996). The relationship of board member diversity to organizational performance. *Journal of Business Ethics, 15*(12), 1313-1320.

Smith, N., Smith, V., & Verner, M. (2006). Do women in top management affect firm performance? A panel study of 2,500 Danish firms. *International Journal of productivity and Performance management, 55*(7), 569-593.

Sridharan, V. U., & Marsinko, A. (1997). CEO duality in the paper and forest products industry. *Journal of Financial and Strategic Decisions, 10*(1), 59-65.

Tabachnick, B. G., & Fidel, L. S. (2007). *Using multivariate statistics* (5th edition). New York: Pearson Education.

Tajfel, H. (1974). The social identity of intergroup behaviour. *International Social Science Council, 13*(2), 65-93.

Thomas, D., & Ely, R. (1996). Making differences matter: A new paradigm for managing diversity. *Harvard Business Review, 74*(5), 79-90.

Thompson, E. P. (1967). Time, work-discipline, and industrial capitalism. *Past & present, 38*(1), 56-97.

Tin, Y. L., & Shu, K. L. (2008). CEO duality and firm performance: Evidence from Hong Kong. *Corporate Governance: The International Journal of Business in Society, 8*(3) 299-316.

Ujunwa, A. (2012). Board characteristics and the financial performance of Nigerian quoted firms. *Corporate Governance: The International Journal of Business in Society, 12*(5), 656-674.

Uribe-Bohorquez, M. V., Martínez-Ferrero, J., & García-Sánchez, I. M. (2018). Board independence and firm performance: The moderating effect of institutional context. *Journal of Business Research, 88*(1), 28-43.

Wang, J., Chen, M. H., Fang, C. Y., & Tian, L. (2017). Does board size matter for Taiwanese hotel performance? Agency theory or resource dependence theory. *Cornell Hospitality Quartely, 59*(4), 317-324.

Westphal, J. D., & Milton, L. P. (2000). How experience and network ties affect the influence of demographic minorities on corporate boards. *Administrative Science Quarterly, 45*(2), 366-398.

Williams, K. Y., & O'Reilly III, C. A. (1998). Demography and diversity in organizations: A review of 40 years of research. *Research in Organizational Behavior, 20*(1), 77-140.

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics, 40*(2), 185-211.

Zahra, S. A., & Pearce, J. A. (1989). Boards of directors and corporate financial performance: A review and integrative model. *Journal of Management, 15*(1), 291-334.