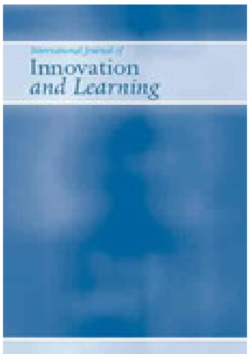

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Women on boards and firm performance in Turkey: a case study of the Istanbul Stock Exchange

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Women on boards and firm performance in Turkey: a case study of the Istanbul Stock Exchange

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Abstract: The aim of this study is to examine the relationship of women on boards and firm performance. The research is based on the BIST-100 Index that consists of the 100 largest and most traded stocks from various sectors in Turkey. Data were collected from annual reports and company disclosures covering the 12-year period of 2010–2021. Using STATA software, we used a dynamic panel regression to test the effect of women on boards via two different company performance indicators as return of assets (ROA) and return of equity (ROE). The results have indicated that there is not any significant relationship between board gender diversity and measured firm performance indicators. Also, the significant role of board diversity on the firm performance in terms of education and learning is examined. As a conclusion, possible theoretical and implicational explanations are provided.

Keywords: gender diversity; gender inequality; innovation and learning; women on board; Istanbul Stock Exchange; Turkey.

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1 Introduction

The concept of board diversity indicates visible and invisible varieties in the structure of the boards in the organisations (Kang et al., 2007). While diversity has possible effects on improving the creativity, problem-solving, and decision-making ability of work teams, these visible (e.g., age and gender) and invisible (e.g., education, learning and skills) varieties are becoming interesting topics for scholars in the recent years. Gender diversity as a visible diversity is one of the most studied topics in understanding the possible causes of firm performance. However, recent findings on the relationship between gender diversity in the boards and firm performance show controversial results.

Based on some studies, there is a positive relationship between board gender diversity and firm performance. Some of the results are: the ratio of female members on the boards has increased the return of equity (ROE) across 99 companies in the Netherlands (Luckerath-Rovers, 2013), the presence of women on boards positively affects the ROA in 42.979 small and medium-sized companies in Spain, the participation of women on boards positively affects the Tobin Q ratios and asset profitability of 300 firms in the USA (Conyon and He, 2017), gender diversity is positively associated with stock liquidity in 944 Australian firms (Ahmed and Ali, 2017), gender-diverse boards commit fewer financial conduct mistakes and engage in less fraud in 6,132 firms in the USA (Wahid, 2018), and board demographic diversity is positively associated with the firm performance of standalone firms, but this relationship is negative for group-affiliated firms (Aggarwal et al., 2019).

Some other studies have indicated that there is a negative relationship between gender diversity on boards and firm performance. Some related results are: gender diversity has significant negative associations with accounting and market performance measured by Tobin Q in 169 firms from Indonesia (Darmadi, 2011), gender diversity has negatively associated with firm performance in 34.798 SMEs in UK (Shehata et al., 2017), and gender diversity negatively affects firm performance by functioning and profitability when there is below the critical mass of 30% of women on boards across 151 German firms (Joecks et al., 2013).

Beyond all these studies above, some studies have presented that there is not any significant relationship between gender diversity and organisational performance. Some associated findings are: female members on board have no significant influence on ROA and share provisions to shareholders in Fortune 500 firms (Farrell and Hersch, 2005), the ratio of female members on boards does not affect performance (both ROA and ROE) in the largest 100 publicly traded companies in Malaysia (Marimuthu and Kolandaisamy, 2009), there is no significant relationship between the ratio of female members of board and financial performance measured as ROA and ROE in 123 enterprises and 16 banks from Turkey (Menteş, 2011; Özatac, 2011), the women on board have no influence on ROA, ROE, and sales growth in 146 Spanish firms (Alvarado et al., 2011), gender diversity has a positive effect on ROA but no relationship with ROE in top 100 firms from Istanbul Stock Exchange (BIST 100-Index) in Turkey (Karayel and Doğan, 2014), and the presence of female members on boards has no significant influence on ROE in the manufacturing firms from BIST 100-Index in Turkey (Savaşkan, 2020).

To clarify these incompatible results in the previous studies, the purpose of this paper is to explore the relationship between board diversity and firm performance in the firms from Istanbul Stock Exchange in Turkey. Based on the weakness of the cross-sectional designs in some previous studies, this paper proposes a longitudinal analysis consisting of calculating the relationship between gender diversity and performance over 12 years period. Furthermore, we have focused on more gender diversity calculations beyond using the ratio of women on board in order to determine any possible alternative explanations. Accordingly, a diversity score from six different calculations associated with the positions, directors, or critical numbers has been used.

2 Literature review

2.1 Justification for women on boards

According to the literature that argues the inclusion of women at the corporate board level, it appears unnecessary to offer reasons for gender diversity beyond a human rights argument (Kakabadse et al., 2015). However, some studies seek to rationalise the case with studies on financial performance and corporate governance (Khan, 2010). The ultimate authority is the board, whose members guide the firm's direction and monitor the decisions of the corporation (Alfraih, 2016; Terjesen et al., 2016). There is a financial justification because some studies have documented positive correlation between gender diversity on corporate boards and company performance (Geiger and Marlin, 2012; Werbel et al., 2003). The number of women on board has been considered to make a difference to company performance (Johnson et al., 2013; Terjesen et al., 2016). From a study, of over 700 Fortune 1000 companies, it was suggested that gender diversity on boards correlated positively with increased financial value in companies where there were at least two female board members (Carter et al., 2003). Three was stated as the number of women needed to shift board decision-making (Post et al., 2011) and effect board and company roles, "at least three women on board increases the probabilities of women being appointed as board chairs and corporate CEOs" (Wang and Kelan, 2013). Although, it was also shown in a study conducted by Smith (2014) that a woman was less likely to be appointed to a board if there was already a female director. A lack of knowledge about the location of suitably qualified female candidates, as well as resistance to the appointment of women with no previous board experience, were offered as reasons for failure to appoint women directors (Burke, 2000). A study of Chinese automotive firms concluded a relationship between financial performance and the presence of women on their corporate boards could not be confirmed (Horak and Cui, 2017). Research reviews have been sceptical in consideration that a relationship between board gender diversity and organisational performance is equivocal at best (Kirsch, 2017; Simpson et al., 2010; Terjesen et al., 2009).

A rationale for inclusion of women arises from findings that decision-making amongst board members is improved because gender diversity brings in differing expertise and knowledge (Carter et al., 2003; Ibrahim and Hanefah, 2016; Muttakin and Khan, 2015; Sheridan, 2001; Werbel et al., 2003; Wang and Kelan, 2013). The educational standing of directors was found to affect their thinking and actions, and thereby had effect on company performance (Al Shammari and Al-Saidi, 2014; Johnson et al., 2013). For instance, an educated woman was considered to bring fresh new perspectives to a male only board (Terjesen et al., 2016). Research in Australia, Canada and the UK found a prevalence of women directors with degrees (Burke, 2000; Grosvold and Brammer, 2011; Sheridan, 2001; Singh and Vinnecombe, 2004). There is obviously an availability of women with relevant education; however, board selectors report women lacked the requisite human capital for those positions (Burke, 2000; Johnson et al., 2013). Studies of the educational standing (level of qualifications and university attended) amongst boards indicate advantages of knowledge, and deeper inquiry is required to establish a link to firm performance from individual expertise and access to networks for building social capital (Johnson et al., 2013; Muttakin and Khan, 2015; Terjesen et al., 2016). A business ethics argument supports women on board gender balance, because an ethical approach is conducive with corporate effectiveness (Geiger and Marlin, 2012; Terjesen et al., 2016; Wang and Kelan, 2013). Gender composition of the board results from selection decisions by board members, and signals a corporation's adherence to responsible governance and social responsibility (Geiger and Marlin, 2012; Kirsch, 2017; Post et al., 2011). Executive and non-executive directors are appointed to balance impartiality and partiality in board decision-making (Ibrahim and Hanefah, 2016; Johnson et al., 2013; Sundarasen et al., 2016; Terjesen et al., 2016). In the USA, more than three-quarters of female board members are independent directors (Wang and Kelan, 2013). There is an objective for European (publicly listed) companies to achieve 40% women in non-executive director seats arguments for gender diversity; improvements in board decision-making; ethical stance for effective corporate governance; positively contributing to company performance have as yet, failed to lead to mandates or codes of governance on gender diversity in board composition (Terjesen et al., 2016).

There are few women on boards, compared with men, internationally and that absence creates a power vacuum for females and a loss of diversity at senior levels that effects decision-making within companies. The situation continues despite interventions, such as quotas, number of available and educated women, and studies that claim improved company performance from women's inclusion on company board.

2.2 Government policy and organisational strategy

A quota system has been postulated to ameliorate the previously described barriers against women's appointment to these senior leadership positions. A quota system refers to a government or industry mandate to appoint a minimum number or percentage of women to leadership positions. The system is enforced using clear processes such as close monitoring, such as voluntary and mandated disclosures in company reports (Terjesen et al., 2016) and/or penalties and fines on companies for non-compliance (Sojo et al., 2016). According to Terjesen et al. (2016), there are 14 countries with a gender quota for listed companies, and Norway was the first country with a mandated quota for 40% women on boards (Hoel, 2008). Norway has the highest percentage of women on board globally (Wang and Kelan, 2013). A study in Norway, after the mandated quota, found the presence of female board chairs and independent female directors was positively associated with qualifications, and "the presence of female CEOs is positively related to the average qualification of female directors" (Wang and Kelan, 2013). A later study found more new directors to Norwegian boards were women with a graduate degree (Terjesen et al., 2016).

Likewise, since 2016 in countries such as the Netherlands and France, sanctions have been introduced regarding the ratio of women managers to be at least 40%. When Belgium is examined, it is seen that there are obligations regarding at least one third of the members of the boards to be female managers since 2015. It is stated that there is at least one female member in Finland and a 25% female member quota in the UK. Currently women represent 36% of membership on the boards of the top 150 companies in Australia. When the voluntary-based policies are examined, it is noteworthy that in Sweden the members of the boards are left to the discretion of the company (Şahin et al., 2018).

There is further evidence of a move towards a quota system in European countries, as Italy (Zampano, 2012) and Spain (De Anca, 2008; Economist, 2010) were each to introduce quotas of 30% and 40% female representation on the boards of public companies by 2015. Debates in the developed world about quotas and targets have not become a particular element of conversation about appointment of women to boards in developing countries (De Jonge, 2014). An argument against the appointment of women by mandate is that it results in the practice of 'tokenism' by corporations (Alfraih, 2016; Elstad and Ladegard, 2012; Geiger and Marlin, 2012; Muttakin and Khan, 2015; Terjesen and Singh, 2008; Wang and Kelan, 2013; Konrad et al., 2008). An inefficient woman may be appointed to the board to meet quota. As an example, women, where appointed to boards, were also likely to be members of less powerful committees (Peterson and Philpot, 2007). As there is only a small number of women directors, they hold multiple directorships, a 'golden skirts' syndrome (Seierstad and Opsahi, 2011), which, Johnson et al. (2013) argue, leads to inadequate monitoring of director's decisions. There is conflict in organisational strategies towards gender diversity between the introduction of quotas and enabling critical mass by other means. On the board of directors in Turkey 'Communique Amending the Communique on the Determination and Implementation of Corporate Governance Principles' Serial: IV, No. 57, covering companies with female members, was published in the State Official Newspaper dated 11 February 2012, No. 28201. Although the Communique does not require a mandatory application, "there must be at least one female member on the board" principle has been introduced (Savaşkan, 2020).

2.3 Women on boards internationally

It is known that the number of female members on boards is quite low around the world. Women have a rate of only 16.9% on the boards. The increase in the number of all board seats and the number of women in globally listed companies is progressing very slowly (Königsburg, 2019). In Sweden, this rate is 35% in 2021 (Allbright, 2021). A gender-balanced board consists of at least 40% of each gender. In addition, only 9% of the chairpersons of the boards are women. However, on average, 41% of companies with female chairpersons on gender-balanced boards have female board members (Bertrand et al., 2019; Villiers, 2010).

A review of the literature reveals the boards, as practically a woman free zone internationally with a world average of the percentage of women directors on corporate boards in Asian countries is as low as 0.2% (Terjesen and Singh, 2008). In Australia, a study of publicly listed firms revealed only 3% of board female members, although in that country women constituted 43% of the work/force and a quarter of management positions (Sheridan, 2001). Europe recently recorded an average of 20% women board members (Terjesen et al., 2016; Vinnicombe et al., 2017). The UK is on track to reach 25% of women directors on the boards of the FTSE 100 companies (Terjesen et al., 2016; Vinnicombe et al., 2017). A survey of 500 public companies in the USA (S&P Index) revealed that women held only 19% of seats on boards (Catalyst, 2015). According to the Women on Board 2020 Turkey Report, the rate of women in BIST boards rose from 15.9% to 17% in 2020, and the number of female members increased by 5.3%. In BIST 100 companies, the rate of women on boards, which was 13.7% in 2019, rose to 15.6% (Sabanci University Corporate Governance Forum, 2020). International studies have discovered gender uniformity, in favour of men, at all levels of company hierarchy (Chizema et al., 2015; Goby, 2009; Metcalfe, 2008; Moghadam, 2004; Powell, 2012). As women work their way through the organisational hierarchy, a plethora of societal and organisational factors impact their numbers and reveal increasing absence towards the apex of organisational hierarchy (Kemp and Zhao, 2016; Morley, 2014).

2.4 Women on boards in Turkey

In this section, findings from studies conducted in Turkey are reviewed for contextual factors that potentially influence the inclusion of women on boards in Turkey. Board selection is embedded in the values held by a society which finding was supported in an empirical cross-country study that culturally "oriented institutional systems appear to play the most significant role in shaping board diversity" (Grosvold and Brammer, 2011). However, yet, relatively little is known about societal and organisational factors that influence board diversity in countries renown for gender inequality (Burke, 2000; Karam and Jamili, 2013). The 'GMI survey', 2021 showed very low levels of women on boards in Turkey and some developing countries (e.g., Morroco and Peru), compared to countries in the developed world (De Jonge, 2014). The societal attitudes and policies that affect the education of women and their achievements in Turkey are reviewed in this section. Impediments to board level appointment in a developing country, such as shortage of capable and expert women (Muttakin and Khan, 2015). Studies of women in management and leadership have cited cultural and religious reasons in explanation of women's employment progress in Turkey (Chizema et al., 2015). Literature on societal and organisational factors affecting the employment of women in Turkey is therefore, reviewed in this section. More than three-quarters of the world's population confirm that religion affects daily life, although the job and employee is expected to be neutral regarding religion (Mellahi and Budhwar, 2010). A study by Chizema et al. (2015), Grosvold and Brammer (2011) found more women on corporate boards in countries of lesser religiosity. Another study including Turkey concluded that "religiosity has a negative effect on the prevalence of women on boards" (Chizema et al., 2015). Nevertheless, in Islam, faith and work behaviour are linked, although the extent of inextricability of this varies between Muslims and the depth of its identification with Islamic work values (De Clercq et al., 2018). An Islamic principle is to protect the rights of women (Hashmi, 2010). Countries with a majority Muslim population share a belief in Islam that influences attitudes to women at a macro level (Karam and Afiouni, 2014). According to Islam; women have equal rights with men to choose any profession and to practice that profession. Since ancient times, some women worked in agriculture, some women worked in animal work, weaving and fabric making or engaged in various activities such as small household industries or other financial fields [Badawi, (1995), pp.427–428]. One of the priorities of Islam is women's economic freedom. The ability of women to achieve economic freedom independently has been accepted in Islam and has always been protected [Khan, (2008), pp.10–12]. It is possible to say that men and women are equal in Islam. In this context, it can be stated that female members of the boards should receive the same salary as male members according to Islam. In addition to giving equal rights to both men and women, Islam also imposes equal responsibilities on them for gaining knowledge [Khayat, (2003), pp.8–9].

Although education has enabled Muslim women to participate in the public sphere in the 21st century (Fernea, 2000), societal forces prevail, schooling and jobs both require women to be able to move freely through the streets, modernisation necessarily exposes many women to public harassment'. Islamic values condition men and women in Turkey that, even in modern society, women are raised to nurture the family and remain in the home (private space) and men to be active as leaders in the public space. A Muslim woman continues to bargain with 'private patriarchy' in which "man has authority over everyone else in the family" (Moghadam, 2004). As Moghadam (2018) notes "the relative rise in the position of women is seen by conservative forces as having the greatest potential of any factor to undermine the patriarchal gender contract." The context for women is described in academic literature as patriarchal, with Turkey being classified as countries of 'classic patriarchy' (Moghadam, 2004). Afiouni (2014) indicates that Islam and patriarchy is a shared cultural constraint on females in the Arab Middle-East, from which local conditions dictate women's careers in each country. State and family constraints, based on religious and cultural beliefs impact individual and organisational behaviour towards varying, but high levels, of gender inequality in the Arab world (Karam and Jamali, 2013) and other Muslim majority countries (MMCs) (Chizema et al., 2015). Islamic scholars point to a man's responsibility for economic support of woman, whereas her responsibility is to rear the next generation (Moghadam, 2004), and yet other scholars show support in Islam for the education and labour force participation of women (Metcalfe, 2006; Omair, 2008; Sidani, 2005). It is a patriarchal interpretation of Islam, within a society and reflected in organisations, that causes positive discrimination for men in positions of authority while women are expected to be inhibited and humble, and their role is to care for others (Afiouni, 2014; Al-Lamky, 2006; Metcalfe, 2006, 2008). In Turkey, 65% of women still do not find it appropriate to work today; childcare and housework responsibilities are claimed as reasons causing contradictions about how visible gender inequality is (Savaşkan, 2019). Role conflict is revealed as one of the important organisational barriers for women in senior management at some of the previous researches (Linkova et al., 2021; Özkanlı and Neale, 2010; Özkanlı and White, 2008, 2009; Özkanlı, 2010).

3 Methodology

3.1 Dataset

The dataset was companies from the BIST-100 Index in the Turkish Stock Market. The index consists of the largest and most traded 100 stocks from various sectors from Turkey. We collected the data from annual reports and statements of companies covering the period of 12 years from 2010 to 2021. Along with the missing 111 data points in the companies' reports, the dataset consisted of 1,089 company-year observations.

3.2 Variables

The main analysis of this study focused on the effects of board diversity on company performance. For the company performance the return of assets (ROA) and the ROE were calculated from the annual reports. While the ROA shows how well a company is performing with dividing net profit with total of assets, the ROE indicates financial performance with dividing the net income to total equity. Therefore, we used two dependent variables in the research, namely ROA and ROE. For the independent variable, we used a Women Power Index (WPI) based on six different calculations. The calculations were:

1. percentage of women directors on board
2. percentage of seats occupied by women in all board committees
3. percentage of independent women directors among all professional directors
4. percentage of women directors among all independent directors
5. percentage of women in the chair and CEO positions
6. the critical number of women (greater than 2) in the board (Blau, 1977; Finkelstein and Hambrick, 1996; Konrad et al., 2008).

We also used companies' the depth to equity (DE) ratio for the controlling variable.

3.3 Statistical procedure

We used the difference-GMM and the system-GMM estimators with focusing on the system-GMM as a final inference. We employed system-GMM to make up the difference-GMM's shortcomings (Arellano and Bover, 1995; Blundell and Bond, 1998). The possible dynamic behaviours of variables, such as potential reverse causation between dependent and independent variables (company performance can also influence companies to increase the board size and more women representation) could also be controlled with the system-GMM estimation method. We presented the model as:

$$\begin{aligned} &CompanyPerformance(ROA\ or\ ROE)_{it} = \beta_0 \\ &+CompanyPerformance(ROA\ or\ ROE)_{it-1} \\ &+DE_{it} + Women\ Power\ Index\ (WPI)_{it} + u_{it} \end{aligned} \tag{1}$$

where i represents the companies (i = 1, 2, …, 100), t indicates the year (t = 2010, 2011, …, 2021), company performance is the dependent variable (as ROA and ROE), while WPI is the independent variable, and the dept to equity ratio (DE) is the control variable as company's financial leverage. In terms of continuous computing, we took logarithms of the ratio of DE. For the WPI variable, we calculated a sum of percentages from five different calculations (1 to 5) and a binary variable, where (1) at least three women on the boards and (0) otherwise. The higher values of WPI indicated higher women participation or power on boards (ranged from the minimum value of 0, the balanced power value of 3.5 as complete heterogeneity with the critical number of women). The disturbance term was specified as u_{it} in the model.

4 Results

Table 1 shows the descriptive statistics of study variables with means, standard deviations, minimum, and maximum values. The average performance value of ROA is 0.101 (SD = 0.200) and ROE is 0.161 (SD = 0.251) with the minimum values of –0.900 and –3.11 and the maximum values of 1.990 and 2.21 respectively. These results indicate that the net profit before tax represents 10.1% of total assets, and the net profit before tax represents 16.1% of total equity.

For the WPI, the average value is 0.189 (SD = 0.319) with a minimum value of 0 and a maximum value of 2.125. The result indicates that women power is at very lower levels on boards when compared with the balanced value of 3.5. Furthermore, the calculated Pearson correlation coefficient between independent variables of WPI and DE is 0.0572 (ns).

Table 1 Descriptive statistics of variables (2010–2021)

	Observation	*Mean*	*Std. deviation*	*Minimum*	*Maximum*
ROA	1.001	0.101	0.200	–0.900	1.990
ROE	1.000	0.161	0.251	–3.110	2.210
DE	1.008	0.260	0.359	–3.090	2.270
WPI	1.008	0.189	0.319	0.000	2.125

We used a dynamic panel regression to test the influence of WPI on two different company performance indicators with using STATA software. In the analysis, we used three different tests for the consistency of GMM estimators. We employed the Wald test to show that all variables in the model are significant, the Sargan test to test the validity of over-identifying restrictions in the model, and the Arellano-bond test (AR2) to determine whether serial correlation in the error structures is an issue or not. The insignificant Sargan test result for the difference GMM (0.176 and 0.173) and system GMM (0.195 and 0.163) models show that measurements are valid. These were also confirmed by the insignificant AR2 tests on difference GMM (0.315 and 0.424) and system GMM (0.465 and 0.175) models. Furthermore, significant Wald statistics supported the model choices and the use of variables ($p < 0.01$ for all models). Results also showed that DE as controlling variable has significant positive influence on company performances in the both models. Based on the robustness test of using a two-step GMM, the coefficients of WPI were insignificant for explaining the ROA and ROE ($p > 0.05$) with controlling the influences of DE. These results indicated that there is no significant influence through women's participation/power and company performances in the BIST-100 Index companies over 12 years.

Table 2 Dynamic panel regression results for the period (2010–2021)

	Difference GMM results		*System GMM results*	
	ROA	*ROE*	*ROA*	*ROE*
Constant	–0.010 (0.712)	–0.024 (0.079)	0.025 (0.431)	–0.033 (0.067)
CompanyPerformance (–1)	0.116 (0.163)	0.067 (0.091)	0.188 (0.076)	0.080* (0.013)
DE	0.358** (0.000)	0.684** (0.000)	0.377** (0.000)	0.695** (0.000)
WPI	0.037 (0.208)	–0.002 (0.772)	0.057 (0.132)	0.000 (0.945)
	Post analysis diagnoses tests			
Wald test	0.000	0.000	0.000	0.000
Sargan test	0.176	0.173	0.195	0.163
AR2 test	0.315	0.424	0.465	0.175

Notes: *$p < 0.05$, **$p < 0.01$ and two-step GMM with robust standard errors applied.

5 Discussion

Different cultures, norms and social values in the society give women different positions on the boards as well as more than one authority status. This situation is considered together with the concept of male dominance and the perception of male superiority in all societies (Adams and Ferreira, 2009). In different countries of the world, the rate of female members on the boards is known to be very low. According to different researches, women do not take part in the decision-making process in management. Women are considered more rational and emotional parts, it is claimed that they do not have the high vision and strategy necessary to survive in a competitive environment

(Hammad et al., 2012). Therefore, it is observed that for women's participation in senior management there is no male dominance in developed countries (Shore et al., 2009).

The relationship between gender diversity on boards and firm performance is one of the most interesting topics in the literature. However, previous study findings on this relationship have presented controversial results. The purpose of this research is to determine the relationship between board diversity and firm performance in the firms from Istanbul Stock Exchange in Turkey. Employing a strong research design with a longitudinal analysis, the results have indicated that there is not any significant relationship between board gender diversity and measured firm performance indicators as ROA and ROE. Similar to some results of previous study findings, these findings provide stronger empirical evidence that there is no direct significant relationship between board diversity and firm performance. The non-significant relationship results for Fortune 500 firms (Farrell and Hersch, 2005), 100 trading companies from Malaysia (Marimuthu and Kolandaisamy, 2009), 123 enterprises and 16 banks from Turkey (Menteş, 2011; Özatac, 2011), 146 Spanish firms (Alvarado et al., 2011), and 100 firms from Istanbul Stock Exchange from Turkey (Karayel and Doğan, 2014; Savaşkan, 2020) are some of the examples that have the same results.

The advantage of having a large number of female members on boards may stem from the personality and qualifications of a female member. As the number of female members of the boards increases, the decisions based on facts and the details could increase. The reason for this is that female members of the boards have curiosity, skill, ethical behaviour and confidence levels (Kagzi and Guha, 2017). In addition to the psychological characteristics, he argues that women should be given as many roles as men in the boards. In this context, both genders should be treated equally, regardless of gender, race or background. In addition, the impact of women on the boards is still being examined by empirical studies and is a controversial issue (Levi et al., 2014). Furthermore, women are more sensitive in revealing the truth, ask more questions and wonder how the company's performance is. Women preferred to be more hardworking, responsible and honest (Sweetman, 2010). Moreover, a study conducted in the USA in 2006 found that both board diversification and higher education requirements of executives could improve a firm's performance in 41 companies on the list of Fortune 1000 companies from electronics manufacturing. It has been determined that the members of the boards with a higher education level are more concerned about the external environment for the performance of the firm (Post et al., 2011). It has been explained that the focus on board diversity and the educational level of companies that have an educationally diverse board, in the dominant educational background of MBA team members, have positive effects on firm performance, the extent and depth of knowledge use (Dahlin et al., 2005). In another study, the diversity of the boards is explained differently in terms of gender, education and nationality differences. The financial performance measure, shown as ROA in the research, aimed to find the effect of board diversity on company performance. The result of the research concluded that companies with more educated members and women on boards are more profitable and overvalued in the market than companies with more foreigners on the boards. Some research found that the number of board members with PhD level education was positively impacted to firm performance (Fidanoski et al., 2014). Nevertheless, eligible board members with PhD degrees are considered as the most valuable strategic source of the company (Ingley and van der Walt, 2001). All these results indicate the significant role of board diversity on the firm performance in terms of education and learning. Considering that women's education levels are higher, it is thought that the number of women on boards will be an important criterion for increasing the financial performance of companies.

Even lower levels of women representation on boards, a possible explanation of this non-significant finding is that women members on boards may have been assimilated by other members coming from male-dominant business environments and cultural values. This explanation has also been associated with the practice of 'tokenism' that indicates the appointment of women for legal, procedural, or political reasons. However, this article has focused on the relationship between diversity on board and firm performance under the assumption that gender diversity on boards is vital for firm performance. For future studies, more qualitative research/case study is planned to understand other related reasons such as education, innovation and learning.

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