Impact of Board Characteristics on Firm Performance in Turkey

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ABSTRACT

Objective: How to increase firm performance? This paper seeks to answer this question by analyzing the effect of some variables, especially board size and board independence with firm performance. In this regard, the current paper uses non-financial firms listed on Borsa Istanbul stock change between the period of 2013 and 2015.

Methodology: On the other hand, the current research used random sampling of abovementioned firms which was listed on BIST. Correspondingly, to address the association among board characteristics (e.g., interlocking directors, size, and independence) and firm performance the present research adopted an agency theory as well as resource dependency theory. Plus, utilizing the descriptive statistics, relationship matrix tests, and linear multiple regression as the principal statistical tests via (STATA V.14 and SPSS V25).

Findings: As a consequent, the current paper pointed out a various conclusion, most significant one shows that there is a positive association among the (board size, interlocking directors, board independence, and firm performance).

Implications: Lastly, the current research suggested for future studies might address bigger sample, wider time frame, and further board of director’s characteristics for instant, age and nationality.

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Introduction

One of the most effective objects in company decision-making, the board characteristics with responsibilities ranging from the comparatively easy approving capital structure changes and mergers and acquisitions to relatively difficult (choosing company leaders). Best corporate governance, which defines the roles and responsibilities of the board of directors, management, shareholders, and other stakeholders in a corporation, should be an ongoing goal for all enterprises (Audu et al., 2022).
Over the past decade, researchers and stakeholders have paid close attention to the topic of corporate governance in order to better manage firm performance. In addition, Corporate governance (CG) intend about transparency, effectiveness, and accountability in running a company which are the cornerstones of innovative corporate governance (Mohammed, 2018a). Corporate boards play a major role in the governing of corporates (Baird et al., 2009). On the other hand, consultations and monitoring are two functions of corporate governance (Raheja, 2005). As for consultation function, it includes to provide the CEO with expert adviser (Fama & Jensen, 1983). Besides, the role of monitoring is to check that management are fulfilling the shareholders' best interests. (Hermalin & Weisbach, 1998). Obviously, corporate governance also is a system in place to prevent small shareholders from being extorted by a company's management or its controlling shareholders (La Porta et al., 1999).

Therefore, a "Good corporate governance is essential for the economic growth led by the private sector and for the promotion of the social welfare," as stated by (OECD) Organization for Economic Cooperation and Development (Al-Matari et al., 2012).

In this manner, this is how agency theory and resource dependency theory explain the role of corporate governance in monitoring organizational processes so that a sound decision that maximize firm's market value (Bhagat & Bolton, 2008; Dharmadasa et al., 2014). Moreover, to enhance Turkey's capital market and bring it in line with Europe's, the Capital Market Board of Turkey (CMBT) in (2012) revised its corporate governance code of conduct significantly (A. Mustafa et al., 2017). Subsequently, Turkish firms are characterized with high concentrated ownership and insider-dominated boards (Mustafa & Che-Ahmad, 2017). Besides, Turkey represents an ideal setting to test these issues because it features relatively weak protection of minority shareholders.

Subsequently, the most recent study was conducted by (Almaqtari et al., 2023) that investigated the effect of board characteristics on environmentally friendly production (EFP). As a consequence, this article relies on secondary data which gathered from (Refinitiv Eikon database) from (2016 to 2021), whereas the database is investigated to collect data on (8094) firms including both of Europe and Asia continents. In this manner, the panel data analysis was adopted with fixed impact models in order to find out the forecasting of outcomes. The outcomes illustrate that board size and board independence have a crucial effect on environmentally friendly production (EFP). In the light of the major findings, which are represented by agency, legitimacy, and stakeholder theories that clarify the association between board characteristics and environmentally friendly production (EFP) for better understanding.

As a result, the current paper organizes as follows. First part uses to show the previous literature. Next the methodology of the study has been discussed. Next section explains the discussion of the study outcomes. Final section displays a brief conclusion.

**Literature Review & Hypotheses Development**
The current part displays the review of previous studies and hypotheses development for explanatory variables for instance, board size, interlocking directors and board independence.

**Board Size**
Board size is differing from company to another and that is according to the firm's size. Certainly, Turkish firm's board size is smaller than its pairs in the United Kingdom (UK) and United States (US). Emphatically, the present paper applies the resource dependency theory and agency theory to explain the linking between board size and company's performance. Besides, agency theory underlines it is to monitor management activities. Evidence suggests that smaller boards of directors are correlated with firm performance, as documented by the theory, this is because smaller boards are less prone to conflict with coordination and communication among boards of directors. In this hence, having a smaller board size are likely to be further successful in monitoring management operations, which can only be good for the firm's performance zone. Hence, according to the principle of resource dependence, larger board sizes may allow
for a greater variety and opportunities of environmental relationships than smaller ones (Pfeffer & Salancik, 1978).

In this context, Mohammed (2018) conducts research about the impact of board characteristics on firm performance for (146) publicly traded companies between (2011) and (2015) that listed in Borsa Istanbul stock exchange in Turkey (BIST). Besides, the outcomes figured out that there is positive association between both of board size and company performance, this is because smaller boards can play an effective role in driving growth and productivity to enhance firm performance.

Accordingly, a study by Shrivastav and Kalsie (2016) pointed out that there is a positive impact between board size and firm performance. This implies more sizable board will improve the firm performance. Therefore; according to agency theory, boards of directors should monitor, evaluate, dominant, and supervise management's daily operations on behalf of the company's shareholders and other stakeholders. On the other hand, a study conducted by Isik and Ince (2016) which examine the board size and its relationship with firm performance for (30) Turkish commercial banks between (2008) and (2012). As a consequent, the findings confirmed that a larger bank board is associated with financial outcomes due to that the firm with a large board of directors is more likely to increase its productivity, which in turn could boost its bottom line.

Lastly, another study by Topal and Dogan (2014) investigated the correlation between board size and company performance. Furthermore, the study adopted cross-section method of Turkish firms listed on BIST between (2002) and (2012). As a result, the study reports a positive correlation between board size and company's performance by return on equity (ROE). For this purpose, the below hypothesis is introduced:

**Hypothesis 1**: There is an association between board size and firm performance.

**Interlocking Directors**

Interlocking directorship is a managerial mechanism that might be uses to interlock affiliated firms within the business groups. Interlocking directorship assist organizations to obtain sufficient resources and this help them to survive for longer time in business environment. According to resource dependency theory interlocking directors are associated with higher firm performance this is because of wide network of relationship provided by the external environment and get more resources to improve their performance. In the same vein, interlocking is a measure of a firm’s ability to secure more resources through coordination between organizations and this positively impact on firm performance.

On the other hand, the effectiveness of a board, and the success of a company, is significantly affected by the presence of multiple directors. Notwithstanding, there is no clear answer to this question in the existing literature, and empirical evidence is mixed. Multiple directorships are seen as an important resource for improving board reputation. Subsequently, firm performance, according to resource dependency theory and the reputation hypothesis. Directors who serve on multiple boards are exposed to new and varied managerial, economic, and social experiences and skills (Habtoor, 2022).

In this hence, a study by Ataay (2016) analyzes the roles of Interlocking directorship in business groups. The study used 331 listed firms in Turkey. Additionally, the study finds that almost all of the interlocking relation are within the business groups (BG) in the study’s sample. This is the result of recruitment of family followers and professional directors to the various boards of inside business groups (BG).

Furthermore, a research conducted by (Romano & Favino, 2013) examines the global financial crisis on the structure of the interlocking directorate network that related to the large enterprises in the registered Italian market. In this regard, this paper adopts a comparative analysis of certain artificial statistical data obtained at the end of (2006, 2008, and 2010). Therefore, after providing a theoretical framework for the idea of an interlocking directorate, this paper utilized social network analysis to point out how the personal
connections between large Italian listed firms changed over the course of the observation period (2006–2010). Consequently, from a time-series perspective, the observed firms' interlocking directorate network has changed in terms of lower tie density, greater distance among firms, and less hierarchical structure. Resultantly, the following hypothesis is put forward:

**Hypothesis 2:** There is a correlation between interlocking directorship and firm performance.

**Board Independence**
Board independence is a key element to improve firm performance in a various number of countries particularly in Turkey. Absolutely, board independence represents as assign for good corporate governance practice by the companies. Conversely, when the board was independent it would be more transparent and effective, these results lead to improve the firm’s ability.

Nevertheless, a research (Print et al., 2022) revealed how board independence as a moderated variable impacts the correlation between family firms and earnings management in India's family businesses via the hybrid model. To this end, the dataset used in this paper consists of (26962) firm-year observations for (2074) companies listed on the Bombay Stock Exchange (BSE) for approximately 13 years between (2005 and 2017). As a consequence, the findings figured out to providing evidence that a higher percentage of independent directors on boards is ineffectual in reducing the earnings management amount, as well as this observation is further supported in family firms. Undoubtedly, this finding lends reliable to the managerial hegemony theory, which proposes that firm's dominance over the board ventured the independence of the monitoring role of independent directors.

Accordingly, a study by Fuzi, Halim and Julizaerma (2016) concluded that in non-family businesses, board independence is positively correlated with firm performance. This is because, independence directors play a significant role in monitoring management activities (Mustafa, Che-Ahmad, & Chandren, 2018).

Eventually, another study by Ararat, Orbay and Yurtoglu (2010) addressed the board independence and its relationship with firm performance in Turkey. Definitely, the results indicated as a negative relationship between board independence and firms’ performance. Unquestionably, this is a consequence of that independent directors in Turkey were less efficient in their role to monitor management activities. Besides, this confirms that family firms’ employee family related directors and this undermine the independence requirements. Nonetheless, the below hypothesis is suggested:

**Hypothesis 3:** There is a correlation between board independence and firm performance.

**Research Methodology**
This part shows the research methodology. First it highlights the research model and measurement. Next part shows descriptive statistics, correlation and regression results as displays below:

**Research Model & Measurements**
To attain the research goals, and tests the research hypothesis, the study's model analyzes the correlation between board features including (Interlocking directorship, board size, and board independence) as well as company’s performance. Correspondingly, the following framework is employed to test the hypotheses in this research:

\[ \text{PER Fit} = \beta_0 + \beta_1 \text{BOASit} + \beta_2 \text{INTD it} + \beta_3 \text{BOAIit} + \beta_4 \text{COAGEit} + e \]

Where: (i) For per firm and (t) per year.

- **BOAS** = Board Size.
- **INTD** = Interlocking directorship.
- **BOAI** = Board Independence.
- **PERF it** = Firm performance.
- **COAGE** = Company age.
- **TASS** = Total Assets.
E it = The error term is assumed to be uniformly distributed with a constant variance.

**Descriptive Statistics**

The sample frame of current study was drawn from non-financial firms listed on Borsa Istanbul stock change between the period of 2013 and 2015. For this end, the present study used the random sampling. Accordingly, the final sample was comprised 246 firms from totally 440 firms relied on observations of the data availability.

<table>
<thead>
<tr>
<th>Observation Variables</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>0</td>
<td>4.885</td>
<td>91.10</td>
<td>73.66</td>
</tr>
<tr>
<td>BOAS</td>
<td>3</td>
<td>15</td>
<td>6.96</td>
<td>2.155</td>
</tr>
<tr>
<td>INTD</td>
<td>0</td>
<td>12</td>
<td>3.9</td>
<td>277.26</td>
</tr>
<tr>
<td>BOAI</td>
<td>0</td>
<td>5</td>
<td>2.12</td>
<td>0.6</td>
</tr>
<tr>
<td>COAGE</td>
<td>3</td>
<td>80</td>
<td>35.99</td>
<td>17.37</td>
</tr>
<tr>
<td>TASS</td>
<td>1912</td>
<td>3382816000</td>
<td>18520441.9</td>
<td>208949691.7</td>
</tr>
</tbody>
</table>

Source: Authors from data analyzing outcomes.

Furthermore, Table 1. Points out the descriptive statistics for the number of observations and Variables, mean, Standard Deviation (STD), minimum, and maximum for (ROA, BOAS, INTD and BOAI) as well as control variables (COAGE & TASS). According to Roudaki and Bhuiyan (2015) research, the company performance is assessed by using return on assets (ROA). Plus, the average of ROA is about 91.10%, while, standard deviation (STD) is 73.66% with a min of zero and a max of 4.885. Overall, a board of directors will consist of an average around of (6.96).

Correspondingly, the typical number of board members is seven, with numbers ranging from three to fifteen. Hence, it is clear that boards in Turkish firms are substantially smaller than those in the United States (11.45) and the United Kingdom (8.01) (Peasnell et al., 2005). In this regard, the standard number of Interlocking directorship is (3.9) at (277.26% of STD) with a maximum of 12 directors involved in interlocking directorship as well as a minimum of zero directors involved.

However, the average of BOAI is 2.12 (0.6 % of STD) with a min of zero and max of five directors participate in board independence. Besides, the average COAGE is about 36 years and the average TASS is TL 18520441.9 million.

Therefore, table 2. Presents the matrix of Pearson correlation coefficients and represents the simple correlation between all of the variables of interest.

**Table 2. Correlation matrix**

<table>
<thead>
<tr>
<th>Variables</th>
<th>ROA</th>
<th>BOAS</th>
<th>BOAI</th>
<th>INTD</th>
<th>TASS</th>
<th>COAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOAS</td>
<td>.108</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOAI</td>
<td>-.019</td>
<td>.511</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INTD</td>
<td>.015</td>
<td>.621</td>
<td>.233</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TASS</td>
<td>-.034</td>
<td>-.105</td>
<td>-.214</td>
<td>-.023</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>COAGE</td>
<td>-.012</td>
<td>.163</td>
<td>.69</td>
<td>.173</td>
<td>-.67</td>
<td>1</td>
</tr>
</tbody>
</table>

Notes: two-tailed, bold = significant at the 5% level.

Foundationally, the correlation analysis indicates that there is no multicollinearity between the predictors. The correlation result points out that there is positive correlation between BOAS and ROA. In this regard, Table 3. Shows R² using liner regression is about (0.0154). This indicates that board characteristics make around 15% of the deviation in the dependent variable. Accordingly, the current research would support
the main hypothesis, which illustrated that there is a correlation between board features and firm performance.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Standard errors</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOAS</td>
<td>0.074</td>
<td>0.233</td>
<td>3.18</td>
<td>0.001*</td>
</tr>
<tr>
<td>BOAI</td>
<td>-0.136</td>
<td>0.0673</td>
<td>-2.02</td>
<td>0.043**</td>
</tr>
<tr>
<td>INTD</td>
<td>-0.0282</td>
<td>0.0161</td>
<td>-1.76</td>
<td>0.079 *</td>
</tr>
<tr>
<td>TASS</td>
<td>-1.65</td>
<td>1.67</td>
<td>-0.98</td>
<td>0.325</td>
</tr>
<tr>
<td>COAGE</td>
<td>-0.0057</td>
<td>0.002</td>
<td>-2.84</td>
<td>0.005**</td>
</tr>
<tr>
<td>cons</td>
<td>0.8317</td>
<td>0.1401</td>
<td>5.94</td>
<td>0.000***</td>
</tr>
</tbody>
</table>

Table 3. Regression Outcomes

| R²        | 0.0154      |
| Wald chi2 | 10.41       |

Notes: * = significant at (10%), ** = significant at (5%), and *** = significant at (1%).

In this context, Table 3 illustrates the regression outcomes, and the findings are consistent with the proposals made by the resource dependency hypothesis, which stated board size has a significant correlation with firm performance at (5%) level of significance (p-value 0.001). Accordingly, this outcome is align with the result of (Riaz et al., 2017) that larger board size improve board efficiency and performance and this enhance firm performance. Moreover, at the (5%) level of significance, the current study found a positive association between board independence and firm performance (P-value 0.043). As a result, the findings are consistent with agency dependency theories that independent directors have an effective impact on the performance of organisation. Plus, this outcomes is consistent with the result of (Mohammed, 2018b).

On the other side, interlocking directorship is another variable examined by the current study. Obviously, the findings of this study align with resource dependency theory suggestions that there is positive correlation between interlocking directorship and firm performance. It has been statistically determined, at the 10% significance level, that there is a significant association with (p-value 0.079), also this result align with the study of (Ahmad, 2017; Saidin et al., 2013; Yeo et al., 2003). Eventually, the results of control variables reveal a positive correlation between COAGE and firm performance at the 5% level of significance (p=0.005), but another results demonstrates that there is no significant correlation between TASS and firm performance.

Conclusions and Future Direction

The key purpose of the present study was to address the association between board characteristics and firm performance in Turkey. Arguably, the study indicates a significant association among board characteristics (size, interlocking directorship, and independence) with firm performance. Afterward, the outcomes are aligning with agency and dependency theories that companies with greater size of the board may perform at a higher level, as well as for interlocking directorship and independent directors. Simultaneously, the present study has some restrictions that could be addressed in upcoming studies. As a result, to figured out additional aspects of board characteristics of directors such as (age and nationality) may be explored in future studies. Meanwhile, to better understand the association between board characteristics and firm performance, future research may take into account more than a year for such research (i.e., time series analysis) as well as upcoming studies can participate a larger sample frame, wider period.
Besides, the study has concentrated on short-term performance measurement (ROA, BOAS, INTD and BOAI), so upcoming studies may confirm the long-term performance measurement (for instance, Tobin’s-Q).

Lastly, policymakers might rely on these study results to introduce and operationalize useful measurements of corporate governance to accommodate the unique issue in business environment in Turkey.

References


