

IMPACT OF COMPETENT BOARD STRUCTURE ON FINANCIAL PERFORMANCE

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Abstract

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Effective corporate governance practices are considered crucial for the success of transforming and developing economies. This research delves into the importance of a competent board structure in improving firm performance and mitigating financial crises. The study employs quantitative research methods, focusing on firm performance measured through return on assets and Tobin's Q. The independent variable of the study is board competence, with a sample comprising two hundred companies listed on the Pakistan Stock Exchange (PSX). Panel data spanning a decade from 2012 to 2021 is analysed using techniques such as the Hausman test, fixed effect model, and random effect model to test hypotheses. To address multicollinearity and heteroscedasticity, the study incorporates the variance inflation factor (VIF) and the heteroscedasticity test. The findings suggest that an optimal board structure, characterised by competence, enables effective strategy implementation, thereby providing organisations with a competitive edge. Independent directors, devoid of personal affiliations or biases, can exercise impartial judgment and demonstrate competence. While academic qualifications are often prioritised in the selection of board members, they do not always ensure superior performance.

Keywords: Board Competence, Board Independence, Financial Performance

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1. INTRODUCTION

The academic research concerning the personal qualities of board members is notably missing, prompting various scholars to advocate for further investigation in this area (Jacoby et al., 2019). Moreover, resource dependence theory underscores the critical importance of resources for organisational success, asserting that organisations must ensure access to necessary resources for optimal performance. Among these resources, board

competence stands out as particularly vital for corporate governance, with the sustainability of businesses closely tied to the proficiency of their boards (Wong & Ngai, 2021). Competence coupled with the trust of responsibility is a fundamental resource in corporate governance and plays a pivotal role in the performance of any company (Barroso et al., 2011). Typically, corporate board members are tasked with evaluating and overseeing various aspects of the organization with the aim of enhancing firm value.

However, the essential ingredient for effectively fulfilling these responsibilities lies in their level of competence. A competent board is consistently better positioned to support top management in decision-making, ultimately contributing to an increase in the firm's value (King & Zeithaml, 2001). An optimal blend of board structure and composition amplifies the attribute of competence, thereby fostering a competitive advantage. To examine deeper into the dimension of board competence, it is imperative to introduce new variables that align with the competence of top management. This necessity has been underscored by various researchers (Jacoby et al., 2019; Yoo & Kim, 2012; Macus, 2008). To address this research gap in the literature, the current study was undertaken, focusing on the basic research question.

RQ1: What is the impact of a competent board structure on financial performance?

The study is distributed in six sections. Initially, Section 1 provides an overview and context for the study, followed by the literature review which summarized existing research and identified gaps (Section 2). Subsequently, Section 3 outlines the approach and techniques utilized, while Section 4 illustrates the findings derived from the analysis. Finally, the discussion of the results and conclusion are respectively presented in Section 5 and Section 6, offering interpretations and summarising key insights.

2. LITERATURE REVIEW

The competence levels of corporate boards vary significantly and hold considerable significance in enhancing a company's value. This segment of the study examines the discussions in current literature regarding the essential facets of board competence. While numerous researchers acknowledge the positive correlation between board competence and company performance, still the precise definition of competence remains an unresolved mystery (Foss et al., 2021).

On one hand, the proficiency of the board in steering the company toward desired performance outcomes is crucial for gaining a competitive edge, as it effectively curtails fraudulent practices and boosts company performance. However, the ambiguity surrounding the criteria for defining competence poses a constraint and acts as a barrier to achieving higher performance targets (King & Zeithaml, 2001).

Macus (2008) highlighted that while board interactions play a crucial role in performing various tasks, they cannot be the sole measure of performance. For future research endeavours, it is important to explore the optimal combination of board structure to achieve the concept of board competence. A competent board structure offers organizations effective control mechanisms that can be utilized to maximize shareholder wealth and enhance investor confidence (Kumar & Singh, 2013).

2.1. Highly qualified board members

Advanced qualifications are often considered as indicators of competence and intelligence, directly impacting firm performance. However, research has shown that managerial proficiency isn't solely reliant

on educational intelligence; rather, entrepreneurship and leadership skills also significantly contribute to competence (Morey et al., 2009).

Singhal et al. (2021) investigated the influence of board member qualifications on company performance, finding a significant positive correlation between board member education and company performance. Rakhmayil and Yuce (2013) assessed the impact of advanced qualifications on firm performance, focusing on the financial performance of Fortune 500 firms. Their comprehensive analysis indicated that organizations with board members holding Master of Business Administration (MBA) degrees or degrees from reputable institutions exhibited superior firm performance. Additionally, Bantel and Jackson (1989) proposed that chief executive officers (CEOs) with higher qualifications excelled in environmental scanning and effectively processing pertinent information. Furthermore, studies suggested that individuals holding MBA degrees from esteemed institutes demonstrated enhanced performance.

On the contrary, Bhagwat (2013) argued that higher qualifications among corporate board members were not a reliable proxy for assessing financial performance. Bathula (2008) explored board characteristics in a study involving a sample of 156 listed companies, revealing a negative correlation between board characteristics, such as possession of a PhD degree by board members, and company performance.

Similarly, Darmadi (2013) investigated the impact of educational qualifications of board members on the financial performance of 160 Indonesian listed companies. The study found that while the academic qualifications of directors contribute to some extent, academic competence is only one aspect considered in the hiring of board members, and qualifications alone do not guarantee desired performance.

Concluding the discussion, so far results for the impact of highly qualified board members are inconclusive and need further investigation (Bhagwat, 2013).

H1: There is no relationship between board member's higher qualifications and the financial performance of a company.

2.2. Board independence

While often used interchangeably, the terms non-executive director and independent director actually denote distinct differences. Non-executive directors are defined by their lack of full-time employment with the company and their absence from day-to-day decision-making processes (Asghar et al., 2020). Conversely, independent directors have additional criteria; they must be non-executive directors, have had no employment with the company in the past three years, and cannot have any financial ties to the company as a supplier, creditor, or advisor (Asghar et al., 2020).

Ownership and board characteristics interact within the corporate framework to alleviate agency costs and enhance board competence. Non-executive directors encounter challenges primarily in three competency areas: 1) probing management on information disparities, 2) ensuring board member proficiency, and 3) managing the dynamics between

executive and non-executive directors (Bezemer et al., 2014). The representation of outside directors is a very effective tool for improving board competence to overcome fraudulent practices like manipulation in financial statements (Wu & Li, 2015). Furthermore, substantial literature advocates for the resignation of less competent CEOs when outside director-dominated boards are present (Djerbi & Anis, 2015).

Williams et al. (2015) explored the impact of changes in board composition on board competence, especially regarding board independence in the aftermath of the global financial crisis. The results demonstrated a positive relationship between board independence and performance.

The observed positive correlation stemmed from the competence and impartial perspectives that facilitated unbiased decision-making (Kanakriyah, 2021). Moreover, the rising trajectory of board independence can be attributed to a heightened focus on the competence aspect following the global financial crisis. Independent directors are expected to maintain impartiality and expertise devoid of any personal affiliations that might compromise their independent judgment and competence. However, when outside directors lack complete and timely information, it undermines their competence for effective decision-making. So, further studies are required to explore the diversified impact of board independence subject to different conditions (Al-Faryan, 2021; Sun et al., 2014).

H2a: There is positive relationship between proportion of independent directors and financial performance of a company.

H2b: There is positive relationship between proportion of non-executive directors and financial performance of a company.

2.3. Board size

Board size is a crucial resource that significantly impacts the competence of a company. Within the literature, board size is often regarded as a proxy for company competence, with two main perspectives. Despite the prevailing notion that smaller executive boards are more effective, larger boards comprising a greater number of directors do not necessarily compromise company competence (Barroso et al., 2011). Larger board sizes facilitate increased interaction with the external environment and organizational resources, thereby enhancing competence and decision-making capabilities (Gazley & Chang, 2010). The decision-making process of larger boards often involves a series of compromises among competent board members before reaching a final consensus, consequently reducing the risk of bankruptcy (Nakano & Nguyen, 2012).

Another perspective posited that a larger board might not enhance the efficiency and effectiveness of a company, primarily due to challenges in coordination and consensus among board members. This viewpoint suggests that a larger board could potentially impede the utilization of cumulative board competence (Djerbi & Anis, 2015). Kumar and Singh (2013) explored how board size affects firm performance by examining governance structure. Their findings revealed a negative correlation

between board size and firm performance. A smaller board size was found to foster a more efficient working environment and enhance the accountability of directors for erroneous decision-making.

According to Ongsakul et al. (2021), the connection between board size and company performance hinges on the uncertainty surrounding financial policies, compounded by board member incompetence. Increased uncertainty in financial policies, stemming from larger board interpretations, heightens the likelihood of significant conflicts and diminishes performance. Moreover, surpassing a certain threshold in board size introduces numerous complexities, including agency issues, which outweigh the advantages of having more directors on the board and it needs be investigated in upcoming studies (Coles et al., 2008).

H3: There is a negative relationship between board size and a company's financial performance.

2.4. Chief executive officer duality

Previous researchers have argued that CEO duality is a less significant concern in corporate governance. They contend that when CEOs assume dual roles within an organization, they may struggle to embody the necessary competence, thereby impairing company performance (Uyar et al., 2021). CEO duality can result in underperformance as one individual is tasked with fulfilling two roles simultaneously. This situation also raises concerns regarding effective monitoring and control mechanisms (Clarke, 2017).

Supporters of stewardship theory contend that following thorough scrutiny and selection processes, the agent should be entrusted with the belief that the appointed individual will strive to enhance the organization (Carty & Weiss, 2012). CEO duality represents the fusion of two inherently contradictory characteristics within companies. Managers must develop the capacity and competence to effectively address the tensions arising from these dualities rather than favouring one over the other (Biloslavo et al., 2013).

Abels and Martelli (2013) have highlighted a shift in organisational governance approaches, including the separation of the CEO and chairman positions. The complexity arising from conflicting theoretical and empirical evidence in the debate on CEO duality underscores the urgent need for a deeper understanding of its role (Yasser & Mamun, 2015). Contrary to the assertions of numerous past researchers, CEO duality is deemed a less significant issue in corporate governance (Carty & Weiss, 2012). In light of the above discourse, the first hypothesis of the study can be restated as:

H4: There is no relation between CEO duality and the financial performance of a company.

3. DATA AND METHODOLOGY

Data pertaining to the aforementioned variables were gathered from 200 companies out of 560 listed on the Pakistan Stock Exchange (PSX). These observations were then utilised to assess the hypotheses of this study. The data collection process involved extracting information from the websites and annual financial reports of

the listed companies. This method of data collection aligns with the research methodology outlined by Salloum et al. (2019). To evaluate the hypotheses, various analytical techniques were employed, including descriptive analysis, correlation analysis,

variance inflation factor (VIF) analysis, heteroscedasticity test, and regression analysis. Additionally, a panel data estimation technique was utilized in the analysis.

Table 1. The conceptualisation and operationalisation of the variables

Concept	Variable	Symbol	Role in the analysis
Financial performance	Return on assets	ROA	Dependent variables
	Tobin's Q	TQ	
Board competence	Highly qualified board members	HQBM	Independent variables
	Independent directors' proportion	IDPR	
	Non-executive directors' proportion	NEDPR	
	Board size	BS	
	CEO duality	CEOD	
Company size	Total assets	logCS	Control variables
Leverage	Non-current liabilities / total assets	LEV	

The study has employed both accounting and market-based indicators to assess firm performance and tested it using two research models. In the first model, the dependent variable is *financial performance*, measured by *return on assets (ROA)*, while in the second model, *financial performance* is measured by *Tobin's Q (TQ)*, a market-based indicator widely used in the corporate governance research literature (Luo & Salterio, 2014). The independent variables in the study consist of five proxy variables representing *board competence*. Additionally, two control variables, *company size*, and *leverage*, are included in the analysis as listed in

Table 1. The equations for the models are presented below.

$$ROA = \alpha_0 + \alpha_1 HQBM_{it} + \alpha_2 IDPR_{it} + \alpha_3 NEDPR_{it} + \alpha_4 BS_{it} + \alpha_5 CEOD_{it} + \alpha_6 logCS_{it} + \alpha_7 LEV_{it} + \varepsilon_1 \quad (1)$$

$$TQ = \beta_0 + \beta_1 HQBM_{it} + \beta_2 IDPR_{it} + \beta_3 NEDPR_{it} + \beta_4 BS_{it} + \beta_5 CEOD_{it} + \beta_6 logCS_{it} + \beta_7 LEV_{it} + \varepsilon_2 \quad (2)$$

The details of the model specifications are stated in Table 2.

Table 2. Descriptions of the main variables

Symbol	Variable	Description
ROA	Return on assets	Net income / total assets
HQBM	Highly-qualified board members	The number of board members who have a Master's degree qualification
BS	Board size	The total number of board members
IDPR	Independent directors' proportion	The percentage of independent directors
NEDPR	Non-executive directors' proportion	The percentage of non-executive directors
CEOD	Chief executive officer duality	One person is both the chairman of the board and the CEO
LogCS	Company size	The logarithm of the total assets of the company
LEV	Leverage	Non-current liabilities / total assets

4. EMPIRICAL RESULTS

4.1. Descriptive statistics

Table 3 presents the descriptive statistics to elucidate the general characteristics of the variables in the board competence and company performance model. The mean value of return on equity (ROE) is 13.87, while return on assets (ROA) has a mean value of 6.08. Regarding the independent variables,

the mean *board size* is 8. For binary variables, the median is the preferred measure; the median value for *CEOD* is 0, indicating the absence of CEO duality. The median value for the *IDPR* is 0.14, and for the *NEDPR*, it is 0.57. The median value for the proportion of the *HQBM* is 0.50. As for the control variables, the mean values for the logarithm of *company size* and *leverage* are 3.92 and 0.20, respectively.

Table 3. The descriptive statistics

Variable	Minimum	Maximum	Mean	Median	St. dev.
ROA	-25.77	66.9	6.079	3.9	7.06
TQ	0.36	2.92	1.39	1.21	0.62
HQBM	0	0.87	0.50	0.50	0.79
IDPR	0	0.92	0.21	0.14	0.16
NEDPR	0	0.92	0.54	0.57	0.19
CEOD	0	1	0.04	0	0.21
BS	4	19	8.33	8	1.90
LogCS	1.31	5.60	3.92	4.39	0.79
LEV	-0.47	0.87	0.20	0.27	0.18

4.2. The correlation matrix

The correlation matrix results, as depicted in Table 4, illustrate the strength of relationships among the various governance variables. The correlation analysis yielded a mixture of

correlations, some of which were statistically significant. Notably, *highly-qualified board members*, *board size*, *chief executive officer duality*, *leverage*, and *company size* exhibited significant correlations with the dependent variables representing *financial performance*.

Table 4. The matrix of correlation values

Variable	ROA	TQ	CEOD	BS	IDPR	NEDPR	BQBM	LogCS	LEV
ROA	1.00								
TQ	0.14*	1.00							
CEOD	-0.09*	-0.09*	1.00						
BS	-0.04*	-0.02	-0.05*	1.00					
IDPR	0.01	0.01	0.04	0.02	1.00				
NEDPR	0.01	0.02	-0.03	-0.03	-0.54*	1.00			
BQBM	0.06*	0.01	0.02	-0.07*	-0.01	0.03	1.00		
LogCS	-0.005	0.23*	0.04	0.35*	0.01	0.03	0.09*	1.00	
LEV	-0.24*	-0.02	0.10*	-0.01	-0.02	-0.02	-0.09*	-0.23*	1.00

Note: * and ** represent statistical significance at the 5%, and 1% p-levels, respectively.

5. DISCUSSION

In this study, two models were examined using panel data analysis. The Hausman test was employed for Eq. (1) (Model 1) and Eq. (2) (Model 2). It is commonly understood that the Hausman test is a suitable method for determining whether to select a fixed effects model or a random effects model (Asteriou & Hall, 2011).

Table 5. Hausman test

Chi 2	Prob > chi 2
60.43	0.00

Table 6. Heteroscedasticity test

Source	Chi 2	df	Prob
Heteroscedasticity	272.24	34	0.00

Table 7. Model 1: Variance inflation factor and fixed effect model with robust standard error

Independent variables	VIF	Coefficient	Robust st. error	T	P > t
BS	1.17	-0.8660	0.2714	-3.19	0.00
IDPR	1.41	8.05	2.5261	3.19	0.00
NEDPR	1.41	6.24	2.5767	2.42	0.01
CEOD	1.02	0.4540	0.9322	0.49	0.62
HQBM	1.03	-0.2811	0.6623	-0.42	0.67
LogCS	1.24	1.5187	0.7932	1.91	0.05
LEV	1.08	-4.755	3.2595	-1.46	0.14
F = 6.92				Prob > F = 0.00	

Note: Dependent variable: ROA.

Table 8. Model 2: Random effect model

Independent variables	Coefficient	St. error	Z	P > z
BS	-0.0980	0.0517	-1.89	0.05
CEOD	-0.3628	0.4291	-0.85	0.39
IDPR	0.4035	0.6411	-0.63	0.52
NEDPR	0.3930	0.5405	0.73	0.46
HQBM	-0.1547	0.5083	-0.30	0.76
LogCS	0.2588	0.1287	2.01	0.04
LEV	-0.0525	0.5027	-0.01	0.99
Chi 2 = 8.73			Prob > chi 2 = 0.02	

Note: Dependent variable: TQ.

The results of the Hausman test for Model 1 and Model 2 are displayed in Table 5 and Table 6, respectively. Model 1 exhibits significant results, indicating that the fixed effect model is the preferred option in this case. Conversely, Model 2 yields insignificant results, suggesting that the random effect model is more suitable. Notably, board size demonstrates a statistically significant negative relationship with financial performance in Model 1. This finding supports the argument that company performance weakens as the number of board members increases, thus validating H3. However, Nakano and Nguyen (2012) came with different findings and concluded positive relationships due to series of compromises before reaching to final decisions in larger boards.

Board independence demonstrates a significant positive impact on company performance, particularly concerning accounting-based financial indicators, thereby confirming H2a and H2b. The rising trajectory of board independence can be attributed to a greater focus on the competence aspect. Independent directors are expected to maintain impartiality lacking any personal affiliations that might compromise their independent judgment and competence. The findings align with previous research, such as Kanakriyah (2021), and Wu and Li (2015), however, differing from the findings of Al-Faryan (2021).

Conversely, CEO duality, where a single individual holds both the CEO and chairman roles,

shows no significant relationship with company performance, thus confirming our hypothesis and consistent with the findings of Liu (2019). While board member qualifications are often considered essential for board competence, our study's two models produced conflicting results, showing negative coefficients for director qualifications and leading to the rejection of *H1*. This contradicts the findings of Naseem et al. (2020), whose research demonstrated that the education level of board members or the chairman did not have a significant relationship with company performance.

6. CONCLUSION

Board competence, a cornerstone of effective corporate governance, encompasses unique traits that are difficult for competitors to replicate within time and budget constraints. These competencies, treasured for their rarity, empower firms to lead and achieve superior returns. Results of the study revealed that the optimal composition of a board results in competence that aligns strategies with organizational goals, providing a competitive edge. Various factors influence board competence, significantly impacting financial decisions and firm performance. A negative correlation exists between

board size and firm performance, with smaller boards demonstrating greater efficiency. Beyond a certain threshold, larger boards introduce complexities such as agency issues, overriding the benefits of additional directors. Board independence serves as a potent tool against fraudulent practices, as independent directors are free by personal affiliations that could compromise their judgment.

While academic competence is valued in board member selection, educational qualifications alone do not guarantee superior performance in critical decision-making scenarios. Concentrating power on a single individual can impede the development of future leaders and undermine investor confidence. CEO duality often impedes diversified competence and organizational performance. Findings of this study have some limitations which are suggested to be addressed in upcoming research works. Analysis is based on only secondary data; further analysis should consider primary data as well for in depth knowledge contribution. To investigate deeper into the impact of board competence, it's recommended to explore variables such as board member training, frequency of board meetings, and the age and experience of board members.

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