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Various dimensions of the board of directors and firm performance in SMEs: A multistage theoretical framework and empirical investigation

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Abstract

This study aims to develop a comprehensive, multistage theoretical framework and investigate the impact of board composition, its effectiveness, and its strategic and control roles on small and medium-sized enterprises' (SMEs) financial and social performance. This research is based on primary data obtained by conducting a telephone survey or personal interviews with a single respondent from the executive management team of 63 SMEs. Data collection took place over six months, from February to August 2024, filling out the questionnaire to measure the relationships between independent variables, such as board composition and roles, and dependent variables, including financial and social performance outcomes. The results confirm that board composition—including size and independence—does not explain SME performance. Instead, human capital on board significantly affects board positions and performance. Besides, the study reveals that the board's strategic role is more important than its control role, underscoring the significance of forward-thinking strategies. The study eventually indicates the most important theoretical, practical and policy implications of a successful board, which depend on real results like better financial performance and finding strategic opportunities. It also measures how effective boards are by looking at how much they contribute to the overall performance of the company, both financially and socially.

Keywords: Board of directors, Composition and roles, Effectiveness of board, Firm performance, SMEs.

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1. Introduction

Small and medium-sized enterprises (SMEs) are the backbone of any economy, representing a significant portion of economic activity [1, 2]. Some researchers have considered how important these companies' firm performance is from a strategic point of view [3] especially as a key factor for long-term growth [4]. Over the past two decades, the governance of

SMEs has also gained significant academic attention, with a particular focus on the board of directors and its strategic engagement [5, 6]. This involvement is often linked to the potential contribution of the board to financial results [7]. As such, research focusing on the interaction between boards of directors and firm performance, particularly in the context of SMEs, is of significant interest at both academic and practical levels.

Despite extensive contributions since the pioneering study examining the relationship between boards of directors and firm performance more than three decades ago [8] studies have produced mixed results. As a result, there is limited understanding of how this relationship works in practice [9, 10]. Methodological and theoretical challenges partly explain these discrepancies. Examples of these kinds of problems include a lack of primary data, a focus solely on the US, big companies, and agency theory [11-15].

Recent studies have sought to address these complexities. For example, research has shown that board composition factors, such as gender diversity and interlocking directorships, are relevant to understanding firm performance in small and medium-sized firms [16]. However, when examining the board's impact on financial outcomes, several studies often overlook its human capital. The recognition of human capital as a critical organisational asset for performance underscores the importance of this oversight [17]. At the executive level, and particularly at the board level, human capital serves as a source of competitive advantage and a precursor to various organisational outcomes, including firm performance [18-20].

Expanding the scope of analysis beyond board composition to include board roles and effectiveness is critical. The literature tends to focus on either board composition or board roles [21, 22] which is less than ideal given the strong interconnectedness between the two [23, 24]. Despite extensive studies, findings on this relationship are inconsistent, largely due to methodological and theoretical limitations. Much of the existing research focuses on large firms, primarily in the US, and adopts agency theory as the dominant framework, neglecting alternative perspectives and contexts that may better capture the dynamics within SMEs. Both dimensions—board composition [25, 26] and board roles—can significantly impact organisational performance, particularly financial outcomes [27, 28]. Putting these dimensions together in a broader framework improves the analysis and makes it easier to look at how they affect each other. This approach is in line with calls for more rigorous research on the relationship between boards of directors and firm performance [14].

Although board composition and its roles are essential, the concept of board effectiveness, arguably the most potent explanatory factor for understanding board influence on organisational outcomes, remains underexplored due to challenges in measurement. Ironically, it remains one of the least studied variables due to measurement challenges [27, 29]. The importance of board effectiveness becomes particularly evident in the context of firm performance, which often arises from complex antecedents. Attempting to link financial outcomes solely to board composition and/or roles provides only a partial understanding. In this regard, board-level outcomes, such as historical contributions from directors, provide valuable insights into how boards influence organisational performance [30, 31].

To address these gaps, this research employs an integrated theoretical framework combining resource-based, resource-dependent, agency, and contingency theories to examine board characteristics in SMEs. This comprehensive approach seeks to move beyond the oversimplified notion of direct relationships between board attributes and financial outcomes, instead exploring the mediating and moderating factors that shape these dynamics. By focusing on SME-specific data and operationalising underexplored variables such as board monitoring roles, human capital, and effectiveness, this study aims to provide a more nuanced and contextually relevant understanding of the board-firm performance relationship [32-35]. This is consistent with previous studies that emphasise contextual factors that influence board contributions to organisational outcomes [23, 36-39].

The study's contribution is the novel conceptualisation and operationalisation of variables, including board monitoring functions, human capital, and board performance. Comprehensive statistical analyses, utilising considerable literature, substantiate these assumptions and provide a more coherent depiction of the realities of SMEs. Another contribution is the multi-stage methodology used to analyse the intricate process by which boards affect business performance in SMEs. This point of view adds to what has already been written by going beyond the simple idea that the qualities of the board directly affect the results of the finances, which has been the main idea in previous studies.

The paper arranges its structure as follows: Section 2 reviews the relevant literature and develops the hypotheses. Section 3 describes the methodology and data used in the study. Section 4 presents the results, while the remainder of 5 discusses these findings in detail. Finally, Section 6 concludes the paper, highlighting the theoretical, policy, and practical implications, along with the key limitations and future research horizon.

2. Theoretical Background and Hypotheses Development

The literature on the relationship between boards of directors and firm performance shows a clear divide at the theoretical and empirical levels. This section aims to review these discrepancies from an empirical and theoretical perspective, respectively. This divide may be partly due to adherence to the idea that there is a direct relationship between board characteristics and firm performance. Instead, this study recommends a more thorough approach. The impact of boards of directors on company performance is more complicated than most people realise and can be better explained through a four-step process (see Figure 1).

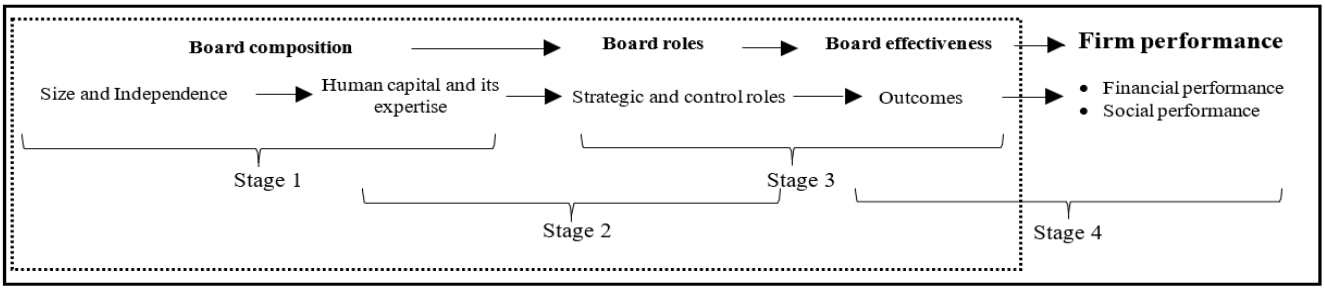

Figure 1.
The multi-stage conceptual framework.

The first stage involves assessing the impact of board size and independence on the expertise of human capital within the board. Once the board achieves a certain level of experience, it becomes necessary to effectively employ this resource. The second stage represents the ability of the board to leverage human capital through the performance of its oversight and strategic roles. In the third stage, directors should demonstrate high competence in performing their tasks, as evidenced by their tangible contributions at the organisational level. Finally, the fourth stage concerns the board's ability to translate its effectiveness into a tangible impact on various organisational outcomes—this study specifically focuses on firm performance. These stages, derived from the theoretical framework, contribute to formulating the questionnaire questions, which are based on structural equation modelling (SEM), a technique that collects study variables and analyses them within multiple regression tests. This provides a comprehensive understanding of this powerful analytical tool.

2.1. Board Composition and Firm Performance

The board size is related to the firm size and the complexity of its operations in SMEs [27, 40]. There is still some disagreement about the best number of directors. Some studies say that smaller boards may be better because as the number of members grows, so do firm performance inputs and outputs. Other studies, on the other hand, indicate that bigger boards are better for financial inputs and outputs because they have more people with different skills and knowledge [9, 41-44]. This difference shows how complicated the link is between board size and firm performance. To find the added value of board size [32, 45, 46]. Therefore, a more in-depth study that includes other factors is needed.

From a theoretical point of view, agency theory says that bigger boards may have trouble coordinating and communicating, which hurts the company's performance [47, 48]. On the other hand, resource-based theory says that bigger boards have more different kinds of skills and knowledge, which gives them an edge over their competitors [49, 50]. However, resource dependence theory suggests expanding the board size to address the firm's external linkage requirements [25, 51, 52].

Because of these problems with both theory and practice, it seems like a more sensible way to look at board size would be to focus on what it adds rather than how many members it has. This is because board size affects the amount of human capital it has and the kinds of skills, knowledge, and expertise that can be used, which in turn affects how well the company does financially. Some studies support this approach, indicating that increasing board size may enhance human capital and its effectiveness [6, 53]. Thus, this hypothesis is postulated the following:

H_1: Board size affects the firm performance of SMEs through its impact on human capital within the board.

Independent directors— external, non-executive, and unconnected directors—are known to have no other roles or connections with the companies they serve [9, 51, 54]. Studies examining the relationship between board independence and company performance have yielded mixed results. While some research has confirmed that board independence improves firm performance [55-57] other studies have found a negative relationship with performance [58]. These differences show how important it is to look into the relationship between board independence and company performance in more detail since many things could affect it [26, 59].

From a theoretical perspective, agency theory supports the importance of independence in enhancing control functions and making strategic decisions [60, 61], while the strategic perspective, particularly in SMEs, emphasises the importance of providing strategic value rather than traditional control [62]. Resource dependence theory, on the other hand, says that independent directors help the company get outside resources and improve its skills and knowledge so it can adapt to its uncertain environment [12], even though these aren't always their main duties [63].

Consequently, neither empirical nor theoretical studies have led to a clear consensus on the impact of board independence on firm performance, especially in the context of SMEs. This analysis suggests that the focus should be on what independent directors bring to boards and their firms, as their presence alone is insufficient to explain differences in innovation. Because of this, independent directors should be judged on their human capital, which includes the experience, skills, and knowledge they have to make good decisions that are good for the company's finances [28, 64, 65]. Based on this rationale, the following hypothesis is proposed:

H_2: Board independence can influence firm performance in SMEs through its effect on board human capital.

The human capital of the board, encompassing directors' experience, competence, skills, and knowledge, is crucial for strategic decision-making [40, 66, 67], which promotes organisational growth [63] and market expansion [34]. Expertise in a certain field makes a business more legitimate, grows networks, and earns the trust of shareholders [68, 69]. On the other hand, education and functional diversity among directors lead to innovation [70] and company growth [71]. Prestigious academic backgrounds among outside directors stimulate investment in R&D, highlighting the critical contribution of human capital to innovation [12]. Seniority, which is measured by board tenure and experience, helps make better decisions [72], protects shareholder interests [73], and leads to patents and other measurable innovations [6, 74].

Board human capital has many benefits that show how important it is for innovation and how it should be evaluated along with things like board size and independence [52, 63, 75]. While these structural features provide context, they are insufficient indicators of director effectiveness without considering the pool of human capital within the board [25, 31]. This perspective highlights how directors, by leveraging their collective knowledge and experience, can more effectively fulfil their oversight and strategic roles [14, 18, 60, 76], contributing to organisational innovation. Thus, the human capital on hand extends beyond the structural dimensions to ensure that directors can meet the unique demands of their organisational context.

From a theoretical perspective, board human capital is consistent with major organisational theories. Resource-dependent theory emphasises the role of directors in providing advice and legitimacy [51], whereas resource-based theory stresses the value of heterogeneous skills and knowledge as competitive resources [49, 50]. Agency theory highlights how human capital mitigates issues of information asymmetry and opportunism [77, 78]. These views converge on the critical role of board human capital in innovation, although diversity within this capital does not always guarantee positive outcomes [79-81]. This rationale leads to the following hypothesis:

H_3: Board human capital mediates the relationship between board size and independence and directors' control and strategic roles in explaining firm performance in SMEs.

2.2. Board roles and firm performance

The strategic role of the board of directors is considered more important than its oversight role in explaining innovation, especially in SMEs [82]. Strategic processes ultimately link to oversight functions [14]. The ability of the board of directors to fulfil their roles depends largely on its composition [23, 24], but the literature shows variations in the definition of this role. Some researchers refer to it as a strategic role [83, 84] while others describe it as a role related to access to resources [25, 85, 86]. Researchers have also used terms like "service role" [87-89] and “advisory role” [90-93]. This variability illustrates the complexity associated with the role of the board and the need for literature to agree on a unified definition.

The overlap between board roles highlights the importance of combining different concepts within a comprehensive framework. For example, Johnson, et al. [85] argues that the “service role” includes providing advice to the CEO and has a strategic component through board involvement in decision-making. Similarly, the resource role is viewed as part of the service role [23] where the board is seen as a tool to facilitate access to resources and address external challenges [51, 52]. There is still a lot of disagreement about what the board's strategic role is Zattoni, et al. [28] and Pugliese, et al. [94] and some people think that all of these roles should be grouped under the term "strategic engagement" [84]. Studies support this approach, which combines different roles to ensure a comprehensive understanding of the board’s strategic roles.

The strategic role of the board of directors is particularly important for SMEs, which are characterised by flexibility and rapid decision-making [95] but face challenges when changing strategies [96]. Although CEOs are usually considered the main decision-makers in these companies, they rely on the support of the board of directors in formulating strategies [1]. These elements show that the strategic role of the board of directors is important for both small and large companies, as it is influenced by the size of the organisation and the specialities of the sector [97]. Therefore, the following hypothesis based on these findings is formulated:

H_4: The strategic role of the board of directors acts as a mediator between the human capital of the board and its effectiveness in explaining firm performance in SMEs.

Board control role is closely linked to its independence, as independent directors are viewed as unconnected to the company or executive management, giving them the freedom to make decisions without direct influence from the CEO [98-100]. Incentives, particularly stock-based compensation, support directors in performing their oversight role accurately [48]. However, the CEO typically addresses these incentives, not the board. CEO duality, when providing cash incentives, is a potential strategy for aligning shareholders’ interests with CEOs [101, 102].

The board’s control role has a limited impact on organisational performance because it ignores many other board characteristics [86]. The cautious nature of the oversight role may lead to short-term decisions, which hinders innovation in the face of uncertainty surrounding innovative initiatives [103, 104]. However, we can view this role positively as it facilitates the selection of projects that boost firms' profitability and operational efficiency [105]. The impact of the oversight role is also evident in strategy implementation and organisational performance [60, 106] still, it depends on the context and type of firm, highlighting the need to further differentiate between small- and medium-sized firms and large firms [27, 62].

In the context of SMEs, the control acquires a distinct specificity. Shareholders, who are mostly composed of founders and their families, often focus on achieving objectives that go beyond maximising financial returns, making corporate governance less formal and more dependent on trust and personal relationships [107, 108]. In contrast to large companies, where agency problems are prominent, ownership concentration in SMEs mitigates these challenges [109]. Moreover, the transparent circulation of information and the focus on family decision-making reduce the need for the traditional control role of the board of directors [110]. Accordingly, the board control appears to be ineffective or informal in the context of SMEs, supporting the following hypothesis.

H_5: The board's control role does not act as a mediator between board human capital and its effectiveness in explaining firm performance in SMEs.

2.3. Board Effectiveness and Firm Performance

Board effectiveness serves as a crucial indicator of how directors impact the company's results. However, it is also one of the least researched ideas in the field of corporate governance because it is hard to observe and measure [27, 111, 112]. Research often focuses on board compositions and roles, but their effectiveness depends on their ability to carry them out and enhance organisational performance [53, 113, 114]. The model by Forbes and Milliken [27] is based on the idea that the make-up of the board affects how well it works by affecting internal processes like effort norms, cognitive conflicts, and skill use, which in turn affect how well the firm does.

Studies confirm that board processes encompass all their components and are not simply mediators between board composition and board effectiveness. The recruitment and renewal of board members initiates the process, which continues through performance evaluation to complete the board's duties [115-117]. There are special processes that only happen in SMEs, like management succession [118]. It is important to deal with these processes in the context of these businesses because they help the board be more effective and fit their needs.

Board effectiveness is measured not only by the level of engagement among its members but also by the quality of their contributions and their organisational impact [29, 119]. Although board cohesion is important, it is difficult to consider it an accurate indicator of effectiveness due to the busyness and multiple roles of board members [75, 120]. Instead, the results of the board's tasks and its identification of new business opportunities are the basis for assessing its effectiveness and firm profitability [121-123]. Based on these observations, the following hypothesis is proposed:

$H_{6:}$ Board effectiveness acts as a mediator between board roles (strategic and control) and firm performance in SMEs.

3. Methodology

3.1. Sampling

This research examines SMEs, which are defined as organisations with fewer than 250 employees [14]. It examines the correlation between the attributes of the board and the performance of the firm. We excluded SMEs with fewer than 20 employees due to their reduced likelihood of establishing a formal governance framework. The focus of this study is on SMEs in Jordan. This choice was made because institutional differences play a big role in governance [27, 124], which shows how important it is to read more about how emerging countries work [36, 125].

A survey was conducted by telephone or in-person interviews with 63 SMEs from February to August 2024, as this study required the use of primary data. The predominance of family-owned SMEs distinguished the study, and the sample size aligns with existing literature on corporate governance [11, 13, 14, 58]. To augment the rigour of the empirical methodology, the requisite measures are instituted to mitigate potential biases, including those associated with employing a singular instrument (i.e., a questionnaire) or a sole respondent (i.e., the chief executive of SMEs) to assess the independent and dependent variables.

3.2. Measuring Variables

The latent variables were evaluated using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree) and were derived by averaging all linked items for each variable.

3.2.1. Independent-mediating variables for board composition

Board size was measured by the number of board members [22, 126], while *independence* is indicated by the proportion of independent directors [26, 57]. *Human capital* was defined by sub-indices including experience, tenure, sector knowledge, and familiarity with the firm's functions [63, 65]. This approach is holistic, which accounts for the variance in outcome extracted from differences in experience and education [14]. An eigenvalue of 2.18 and a Cronbach's alpha of 0.75 were found for board size and human capital, respectively. An eigenvalue of 2.53 and a Cronbach's alpha of 0.72 were also found for board independence and human capital, respectively. This shows that the index used is reliable and consistent.

3.2.2. Independent-Mediating Variables for Board Roles

The strategic role of the board was measured through its contributions to strategic planning, budget monitoring and management, risk management, evaluation and compensation of senior executives, and dealing with crises such as the COVID-19 pandemic. These practices represent a mix of tools used in small, medium, and large companies, as documented in the literature [23, 27, 85]. Statistical tests yielded an eigenvalue of 2.77 and a Cronbach's alpha coefficient of 0.78. This shows that the indicator used is reliable.

The control role of the board was measured using an index that accounts for small and medium-sized companies' power concentration, where the CEO may be the board chairman or principal owner. We did not account for traditional concepts of control, such as the evaluation of senior executives, because they mirror the realities of large companies Zona [26]. According toArzubiaga, et al. [14], ownership and management frequently intertwine and attribute this to the absence of agency problems in SMEs. The results showed an eigenvalue of 2.35 and a Cronbach's alpha of 0.75, reinforcing the understanding that these roles are more strategic for SMEs.

3.2.3. Independent/Mediating Variable for Board Effectiveness

Measuring board effectiveness necessitates a comprehensive approach, according toPayne, et al. [29]. Five criteria were employed to assess the historical contributions of boards to companies: (1) access to new business prospects, (2) growth, (3) reputation, (4) strategic planning, and (5) management of the COVID-19 epidemic. The findings produced an eigenvalue of 3.71 and a Cronbach's alpha of 0.83.

3.2.4. Dependent variable

In this study, the company's performance is measured by using two items that specifically capture financial and social performance. Due to the sensitive nature of financial information, which makes it hard for the company executive to record in the survey, this variable was handled on a Likert scale with five levels of profitability (1 = extremely low and 5 = extremely high). The results yielded an eigenvalue of 2.03 and a Cronbach's alpha of 0.74.

The second one measures social performance or social responsibility, which includes: (1) legal responsibility in terms of compliance with local and international laws and regulations. (2) Ethical responsibility in terms of adopting values of integrity and transparency in dealing with stakeholders. (3) Environmental responsibility in terms of reducing negative environmental impacts resulting from the company's activities. (4) Social responsibility towards society through infrastructure projects, education, and healthcare. (5) Cultural responsibility in terms of respecting cultural diversity within the company and in the markets in which it operates. The results showed an eigenvalue of 1.80 and a Cronbach's alpha of 0.72. Table 1 shows the reliability statistics for study variables, including the values of Cronbach's alpha and eigenvalue. However, these alone are not sufficient. Therefore, the composite reliability (CR) and average variance extracted (AVE) typically require factor loadings obtained from a confirmatory factor analysis (CFA), which will be provided in Table 3 in detail.

Table 1.
Reliability statistics

Variables	Cronbach's alpha (α)	Eigenvalue
Board size with human capital	0.75	2.18
Board independent with human capital	0.72	2.53
Strategic role of board	0.78	2.77
Control role of board	0.75	2.35
Board effectiveness	0.83	3.71
Financial performance	0.74	2.03
Social performance	0.72	1.80
Interpretations: α > 0.9 Excellent; α > 0.8 Good; α > 0.7 Accepted; α > 0.6 Questionable; α > 0.5 Questionable; α > 0.4 Poor;		

3.3. Validation of Data and Structural Equation Modelling

The research sample was divided into two subsamples to evaluate the data quality by comparing the initial responses with the final responses. The observations of size and independence were also analysed. The median tests conducted did not produce any significant findings, suggesting sample homogeneity, which provides a solid foundation for additional statistical research. Upon verifying the reliability and consistency of the multi-item data for all variables, the pertinent assumptions were assessed before doing structural equation modelling. The selection of structural equation modelling was warranted for two primary reasons: the existence of latent variables and the consideration of indirect effects via mediating variables. Multicollinearity was also assessed through multiple linear regressions and analysed using variance inflation factors, which ranged from 1.08 to 1.42 [127]. Ultimately, we mitigated potential common method bias by employing Harman's one-factor test [14, 128]. This method demonstrated that a single factor accounted for only 14.97% of the variation, well below the critical 50% threshold. This proved that there was no method bias.

Subsequently, a confirmatory factor analysis was performed to verify the accuracy of the measurements for the four latent components. The board's human capital and expertise, strategic role, control role, and financial and social firm performance were examined. To check for discriminant validity, the root mean square of the variance was greater than the correlations between the constructs. In general, these figures fell within the acceptable range at all stages but were not flawless in the initial stage [129], and aligned with other studies on boards published in prestigious publications [28, 62].

4. Results

4.1. Descriptive Statistics

Table 2 presents a detailed overview of the study sample by illustrating statistics and frequencies for the study variables. As mentioned before, both the values of Cronbach's alpha and eigenvalue. Therefore, Table 3 displays the outcomes of the factor loadings, composite reliability (CR), and average variance extracted (AVE) as the validity measurements for variables, obtained from a confirmatory factor analysis based on structural equation modelling.

Table 2.
Descriptive statistics.

Variables	Mean	SD	Min.	Max.
Board size	5.54	3.09	1	19
Board independence	0.21	0.34	0	1
Board human capital	4.21	0.76	2	5
Strategic role of board	4.15	0.83	1.67	5

Variables	**Mean**	**SD**	**Min.**	**Max.**
Control role of board	0.73	0.36	0	1
Board effectiveness	3.78	0.81	1	5
Firm performance (Financial/Social)	3.42	0.87	1	5

Table 3.
Confirmatory factor analysis (CFA) as a measurement validity.

Variables	**Items**	**Factor loadings**	**Average variance extracted (AVE)**	**Composite reliability (CR)**
Board composition				
Board size	Total number of directors	-	-	-
Board independence	Proportion of independent directors	-	-	-
Board human capital	The extent to which directors possess comprehensive:	S1/ S2	S1/ S2	S1/ S2
	(1) Directors' financial experience	0.74 / 0.80	0.51 / 54	0.76 / 0.78
	(2) Managerial experience	0.73 / 0.71		
	(3) Knowledge of firm's industry	0.67 /0.69		
Board roles				
The board strategic role	The degree of involvement of the board of directors in:	S2/ S3	S2/ S3	S2/ S3
	(1) Strategic planning	0.80 /0.88	0.54 / 0.54	0.77 / 0.77
	(2) Risk management	0.72 / 0.69		
	(3) Evaluation and allocation of budgets	0.67/ 0.60		
The board control role	Presence of the following dualities:	S2 / S3	S2 / S3	S2 / S3
	(1) The CEO concurrently serves as the chair of the board.	0.58 /0.59	0.56 / 0.55	0.79 / 0.78
	(2) CEO is the main owner	0.83 /0.82		
	(3) Main owner sits on the board	0.80 / 0.80		
Board effectiveness				
Board effectiveness	The degree to which the board of directors has historically contributed to its firm:	S3/ S4	S3/ S4	S3/ S4
	(1) Search for new business opportunities	0.63 / 0.65	0.51 / 0.50	0.78 / 0.77
	(2) Growth	0.70 / 0.72		
	(3) Reputation	0.75 / 0.73		
	(4) Strategic planning	0.72 / 0.71		
	(5) Management of the COVID-19 pandemic	0.69 / 0.73		
Firm performance				
Financial/Social	Firm performance was measured according to the degree to which SMEs:	S4	S4	S4
	(1) Health financial performance	0.72	0.51	0.75
	(2) Legal responsibility	0.80		
	(3) Ethical responsibility	0.64		
	(4) Environmental responsibility	0.62		
	(5) Social responsibility	0.68		
	(6) Cultural responsibility	0.84		

Confirmatory factor analysis is a statistical technique used primarily in the social sciences that validate proposed measurement models by testing how well the variables observed in the questionnaire items represent the independent variables. The results in Table 3 indicate that most indicators used are reliable (i.e., $\alpha > 0.7$ Accepted). However, there are weaknesses in some items that may affect the relationship between variables to a limited extent.

4.2. Hypothesis Testing

Table 4 displays the correlation matrix. I employed Spearman's test due to the existence of nominal variables.

Table 4.
Spearman correlation matrix.

#	1	2	3	4	5	6	7
1	1						
2	0.37**	1					
3	-0.26**	-0.21*	1				
4	-0.42**	-0.37**	0.23*	1			
5	-0.30**	-0.27**	0.44**	0.26**	1		
6	-0.22*	-0.18	0.41**	0.23*	0.47**	1	
7	0.25**	-0.09	-0.14	-0.33**	-0.12	-0.06	1

Note: Significance (Two-Tailed): * P <0.05; ** P <0.01.
Variables: 1. Size; 2. Independence; 3. Human capital; 4. Strategic role; 5. Control role; 6. Effectiveness; 7. financial/social performance

From the results of Table 4, the results of Spearman's correlation coefficients indicate that there is a significant monotonic relationship, either positive or negative, between the variables in the study. This aspect of Spearman's correlation allows you to fit curvilinear relationships.

The findings presented in Table 5 confirm the suitability of the factor models across all four stages. In Stage 1, board composition functions, such as board size and its independence ($\beta = 0.16$, $p = 0.02$), emerged as significant predictors of board human capital; therefore, these results support hypotheses 1 and 2. In Stage 2, board human capital was found to significantly mediate the influence of both the board composition and the board roles ($\beta = 0.57$, $p < 0.03$), validating Hypothesis 3. In Stage 3, both the board's control and strategic roles ($\beta = 0.18$, $p = 0.01$) significantly predict board effectiveness, thus confirming Hypotheses 4 and 5. Finally, in Stage 4, the board's effectiveness moderated the relationship between the roles of the board (strategic and control) and the performance of small businesses ($\beta = 0.15$, $p = 0.04$), supporting Hypothesis 6.

Moreover, Table 5 provides fit indices that collectively offer a comprehensive assessment of model quality. Firstly, the Goodness-of-Fit Index (GFI) quantifies the percentage of variance and covariance in the observed data that the model explains. It is like a squared multiple correlation in regression. A GFI ≥ 0.90 is generally considered acceptable. Second, the Normed Fit Index (NFI) compares the fit of the proposed model to a null model (one with no relationships between variables). It evaluates the improvement in fit. Typically, an NFI of approximately 0.90 is considered acceptable. Third, the Comparative Fit Index (CFI) compares the fit of the target model to the null model but adjusts for sample size and model complexity. Compared to the NFI, the sample size has less impact. A CFI ≥ 0.95 is considered excellent, though values ≥ 0.90 are acceptable. Fourth, the standardised root means squared residual (SRMR) represents the average difference between the observed correlations and the model's predicted correlations. It is an absolute measure of fit. An SRMR ≤ 0.08 suggests a good fit. Finally, the Root Mean Square Error of Approximation (RMSEA) evaluates how well the model approximates the population data, considering model complexity and sample size. RMSEA values were evaluated using a three-point scale (RMSEA ≤ 0.05: excellent; RMSEA ≤ 0.08: acceptable; RMSEA > 0.10: poor fit).

Table 5.
Fit of the factorial models

Models	$\chi 2$/df	β	p-value	GFI	NFI	CFI	SRMR	RMSEA
Model 1 (Stage 1)	2.25	0.16	0.02	0.96	0.88	0.92	0.08	0.06
Model 2 (Stage 2)	1.46	0.57	0.03	0.93	0.90	0.96	0.05	0.06
Model 3 (Stage 3)	1.30	0.18	0.01	0.92	0.89	0.97	0.05	0.05
Model 4 (Stage 4)	1.48	0.15	0.04	0.94	0.90	0.96	0.08	0.07

5. Discussion of Results

SMEs are a fundamental component of the global economy, representing the vast majority of the economic fabric in different regions [1, 2]. Despite this, studies of large firms dominate the corporate governance literature, making research focusing on SMEs rare [13-15]. In addition, research linking board influence on firm performance in this context remains insufficient, with few studies on this topic yielding mixed results [9].

All of these facts show how important and broad this study is. Its goal is to investigate a new trend: the connection between corporate governance (at the board level) and firm performance (especially when it comes to financial and social performance) in small and medium-sized businesses. By doing this, it takes into account how complicated the subject is by looking at it as a multi-stage process with different parts (like board composition, roles, and effectiveness) and following several theories [10, 13, 130]. This method, which takes into account possible outcomes [32-34], fits with the idea that for a business to do well, its board needs to adopt long-term plans, and there need to be both internal and external resources available [35].

The results showed that increasing the size of the board has a negative effect on human capital, suggesting that increasing the number of directors does not guarantee an increase in it. This is consistent with the agency theory, which assumes that large boards face problems with cohesion [45, 47, 48], and the resource dependence theory, which argues that the number of directors should match the needs of the organization [25, 51, 52]. Resource-based theory also emphasises the importance of the quality of resources over their quantity [49, 50]. Although increasing board size may contribute to enhanced human capital [6], SMEs with smaller boards exhibit variation associated with firm size and complexity [27, 40].

The study revealed that board independence has a negative impact on human capital, suggesting that increasing the number of independent directors is not a suitable solution for improving it. This goes against both the agency theory and the resource dependence theory. The agency theory asserts the importance of independent directors in monitoring and processing information [60, 61]. The resource dependence theory says that independent directors help companies get resources from outside the company [12]. However, the results confirm that independence is less important in SMEs due to the lower need for monitoring than in larger companies [96, 131]. The study also reflects the strategic perspective of these companies, where the focus is on core functions rather than the role of independent directors in providing external resources [63].

The results confirmed that human capital on the board is a pivotal element for understanding the board's roles and strategic contributions. According to resource dependence theory [51] and resource-based theory [49, 50], human capital helps directors perform their roles effectively [14] and achieve positive outcomes at the organisational level [18, 53]. Therefore, board size and independence alone are insufficient indicators for assessing board effectiveness, and human capital should be considered to enhance a comprehensive understanding of board performance.

The findings reveal that the board of directors' strategic role significantly and positively influences SMEs, largely due to their ability to make swift and flexible strategic decisions [96, 132]. This underscores the critical importance of the board's strategic functions, as resource-based theory emphasizes that directors contribute as strategic resources through their expertise and skills [49, 50]. Additionally, the results align with resource dependence theory, which highlights the board's role in minimizing the organization's reliance on external factors [51, 52]. The study further suggests that the composition and roles of the board are closely tied to both company performance and board effectiveness, emphasizing the importance of adopting a holistic approach to evaluating the board's contributions [26, 27].

The board control position did not significantly impact board effectiveness. This conclusion appears to indicate the informal characteristics of SMEs, especially concerning the governance and oversight roles of the board. This results in negligible agency issues and a convergence between ownership and governance at both functional and operational levels [36, 91, 96, 107, 110, 133, 134]. This conclusion indicates that the board's oversight function is not a pertinent element in evaluating board effectiveness in the context of SMEs, nor in comprehending the potential influence of directors on business performance.

The effectiveness of the board significantly and positively influenced corporate performance. This aligns with my view that board effectiveness mostly depends on the task outcomes of directors. This finding emphasises the necessity of assessing board success through directors' concrete historical contributions, including enhancements to the firm's financial health and the identification of new business prospects [121-123].

6. Conclusions

This study suggests that corporate governance, particularly at the board level, plays a crucial role in enhancing the performance of SMEs. The study bridges the gap in previous literature by analysing the relationship between board composition, roles, and effectiveness, which tended to focus on large companies while neglecting the complexities specific to SMEs.

The results confirm that board composition, including board size and independence, is not sufficient to explain the performance of SMEs. On the contrary, human capital is one of the key elements that influence board roles and effectiveness. This result fits with the ideas of resource and resource dependence, which see managers as a strategic resource, and agency theory, which says that the quality of resources is more important than quantity. The study also finds that the board's strategic role is more important than its control role in small and SMEs. This is in line with previous research that found that these businesses are informal, and that ownership and management levels overlap. In addition, the results highlight that board effectiveness depends on tangible outcomes, such as improved financial performance and identification of strategic opportunities, which supports the importance of measuring this effectiveness based on directors' contributions.

This study comes up with a new way to look at the relationship between corporate governance and SMEs performance by combining resource, resource dependence, agency, and contingency theories. It also introduces new concepts and operationalizations of variables such as human capital and board effectiveness, enhancing academic and practical understanding of this field. The results emphasise the need to adopt a comprehensive approach to analysing SME performance, taking into account the interaction between board composition, roles, and effectiveness while also considering internal and external contextual factors. Accordingly, this study contributes to the literature on corporate governance and SME performance and opens the way for further research on how to improve board effectiveness to enhance the financial and social success of these companies.

6.1. Theoretical Implications

This study introduces a multi-stage conceptual framework to illustrate how the board of directors impacts the performance of SMEs in Jordan. The findings highlight that board effectiveness plays a pivotal role in linking the responsibilities of its members to both the financial and social outcomes of the company. The framework identifies four key stages that encompass the roles and effectiveness of board members. The study reinforces the notion that the board's influence unfolds in a structured and sequential process.

Furthermore, the study provides precise theoretical and statistical concepts such as the board's human capital, its roles in control and strategy, and its effectiveness, which contributes to enriching research on the governance of small and medium-sized enterprises. It also highlights the lack of consensus on measuring board variables and emphasises the specificity of this context compared to large companies. Lastly, it says to be careful when making hypotheses because they might be at odds with other theories, and it suggests taking a neutral stance so as not to affect the results.

6.2. Practical/Policy Implications

This study focuses on making important practical and political contributions to SMEs. First, it urges SMEs to establish formal governance bodies such as boards of directors. The results show that the characteristics of directors play a key role in enhancing the performance of companies, both financially and socially, demonstrating the benefits of supporting the founder, CEO, and existing management teams with a decision-making body such as the board of directors.

The study shows that the board of directors can be one of the most influential governance bodies in SMEs due to its strategic contributions and direct impact on company performance. Therefore, the study recommends that companies that already have boards of directors focus on training and enhancing the capabilities of existing members rather than increasing the number of directors or relying excessively on independent directors. It also advises that the board of directors should ensure that it has a high level of human capital, strategic thinking, and effectiveness.

To put this into practice, SMEs can benefit from the elements that make up these three dimensions. For instance, SMEs can enhance their human capital by appointing directors who possess extensive knowledge of the company's business sector, involve board members in strategic planning processes to strengthen the board's strategic role, and use the board's historical contributions to business opportunity exploitation as an indicator of its effectiveness.

6.3. Limitations and Future Research Horizon

This study has several limitations that provide opportunities for future investigation. The study mostly utilised interview and questionnaire methodologies, perhaps leading to data inaccuracies. Secondly, the results should be interpreted cautiously due to the very small sample size, which aligns with governance studies utilising primary data. Reduced sample size may have amplified the positive significance of the structural equation modelling results. Consequently, an increased sample size would have offered a more robust foundation for substantiating the validity of the results. Finally, the relationship between the board of directors and the company's success requires a more in-depth qualitative analysis to elucidate the primary elements that establish the significant correlations observed thus far. Although quantitative studies offer numerous benefits, they yield greater theoretical than practical insights into the subject being examined. Qualitative studies have a complementing nature that can effectively diminish abstraction, particularly pertinent to the intricate subject of the relationship between boards of directors and business performance in small and medium-sized enterprises.

In summary, considerable work remains to elucidate the potential influence of the board of directors on corporate performance, particularly in small and medium-sized enterprises. I anticipate that our work will enhance the discourse among scholars engaged in this intriguing subject, which holds relevance not only for scientific advancement but also possesses considerable implications for management and policymakers.

References

[1] A. Van Gils, "Management and governance in Dutch SMEs," *European Management Journal,* vol. 23, no. 5, pp. 583-589, 2005. https://doi.org/10.1016/j.emj.2005.09.013

[2] A. Mínguez-Vera and A. Martin, "Gender and management on Spanish SMEs: An empirical analysis," *The International Journal of Human Resource Management,* vol. 22, no. 14, pp. 2852-2873, 2011. https://doi.org/10.1080/09585192.2011.599948

[3] J. H. Love and S. Roper, "SME innovation, exporting and growth: A review of existing evidence," *International Small Business Journal,* vol. 33, no. 1, pp. 28-48, 2015. https://doi.org/10.1177/0266242614550190

[4] C. Prange and J. C. Pinho, "How personal and organizational drivers impact on SME international performance: The mediating role of organizational innovation," *International Business Review,* vol. 26, no. 6, pp. 1114-1123, 2017. https://doi.org/10.1016/j.ibusrev.2017.04.004

[5] L. Diestre, N. Rajagopalan, and S. Dutta, "Constraints in acquiring and utilizing directors' experience: An empirical study of new-market entry in the pharmaceutical industry," *Strategic Management Journal,* vol. 36, no. 3, pp. 339-359, 2015. https://doi.org/10.1002/smj.2215

[6] E. Vandenbroucke, M. Knockaert, and D. Ucbasaran, "Outside board human capital and early stage high–tech firm performance," *Entrepreneurship Theory and Practice,* vol. 40, no. 4, pp. 759-779, 2016. https://doi.org/10.1111/etap.12141

[7] E. Schiehll, K. B. Lewellyn, and M. I. Muller-Kahle, "Pilot, pivot and advisory boards: The role of governance configurations in innovation commitment," *Organization Studies,* vol. 39, no. 10, pp. 1449-1472, 2018. https://doi.org/10.1177/0170840617717092

[8] C. W. Hill and S. A. Snell, "External control, corporate strategy, and firm performance in research-intensive industries," *Strategic Management Journal,* vol. 9, no. 6, pp. 577-590, 1988. https://doi.org/10.1002/smj.4250090605

[9] B. Balsmeier, L. Fleming, and G. Manso, "Independent boards and innovation," *Journal of Financial Economics,* vol. 123, no. 3, pp. 536-557, 2017. https://doi.org/10.1016/j.jfineco.2016.12.005

[10] C.-H. Chang and Q. Wu, "Board networks and corporate innovation," *Management Science,* vol. 67, no. 6, pp. 3618-3654, 2021. https://doi.org/10.1287/mnsc.2020.3587

[11] S. A. Zahra, D. O. Neubaum, and M. Huse, "Entrepreneurship in medium-size companies: Exploring the effects of ownership and governance systems," *Journal of Management,* vol. 26, no. 5, pp. 947-976, 2000. https://doi.org/10.1016/S0149-2063(00)00064-7

[12] T. Dalziel, R. J. Gentry, and M. Bowerman, "An integrated agency–resource dependence view of the influence of directors' human and relational capital on firms' R&D spending," *Journal of Management Studies,* vol. 48, no. 6, pp. 1217-1242, 2011. https://doi.org/10.1111/j.1467-6486.2010.01003.x

[13] D. Robeson and G. C. O'Connor, "Boards of directors, innovation, and performance: An exploration at multiple levels," *Journal of Product Innovation Management,* vol. 30, no. 4, pp. 608-625, 2013. https://doi.org/10.1111/jpim.12018

[14] U. Arzubiaga, J. Kotlar, A. De Massis, A. Maseda, and T. Iturralde, "Entrepreneurial orientation and innovation in family SMEs: Unveiling the (actual) impact of the board of directors," *Journal of Business Venturing,* vol. 33, no. 4, pp. 455-469, 2018. https://doi.org/10.1016/j.jbusvent.2018.03.002

[15] H. Li, S. Terjesen, and T. Umans, "Corporate governance in entrepreneurial firms: A systematic review and research agenda," *Small Business Economics,* vol. 54, no. 1, pp. 43-74, 2020. https://doi.org/10.1007/s11187-018-0118-1

[16] J. Bauweraerts, E. Rondi, P. Rovelli, A. De Massis, and S. Sciascia, "Are family female directors catalysts of innovation in family small and medium enterprise s?," *Strategic Entrepreneurship Journal,* vol. 16, no. 2, pp. 314-354, 2022. https://doi.org/10.1002/sej.1420

[17] I. S. Fulmer and R. E. Ployhart, ""Our Most Important Asset" a multidisciplinary/multilevel review of human capital valuation for research and practice," *Journal of Management,* vol. 40, no. 1, pp. 161-192, 2014. https://doi.org/10.1177/0149206313511271

[18] K. T. Haynes and A. Hillman, "The effect of board capital and CEO power on strategic change," *Strategic Management Journal,* vol. 31, no. 11, pp. 1145-1163, 2010. https://doi.org/10.1002/smj.859

[19] S. Tasheva and A. J. Hillman, "Integrating diversity at different levels: Multilevel human capital, social capital, and demographic diversity and their implications for team effectiveness," *Academy of Management Review,* vol. 44, no. 4, pp. 746-765, 2019. https://doi.org/10.5465/amr.2015.0396

[20] T. J. Chemmanur, M. Gupta, and K. Simonyan, "Top management team quality and innovation in venture-backed private firms and IPO market rewards to innovative activity," *Entrepreneurship Theory and Practice,* vol. 46, no. 4, pp. 920-951, 2022. https://doi.org/10.1177/1042258720918827

[21] T. Miller and M. del Carmen Triana, "Demographic diversity in the boardroom: Mediators of the board diversity–firm performance relationship," *Journal of Management Studies,* vol. 46, no. 5, pp. 755-786, 2009. https://doi.org/10.1111/j.1467-6486.2009.00839.x

[22] D. Bendig, J. N. Foege, S. Endriß, and M. Brettel, "The effect of family involvement on innovation outcomes: The moderating role of board social capital," *Journal of Product Innovation Management,* vol. 37, no. 3, pp. 249-272, 2020. https://doi.org/10.1111/jpim.12522

[23] J. A. Pearce and S. A. Zahra, "Board composition from a strategic contingency perspective," *Journal of Management Studies,* vol. 29, no. 4, pp. 411-438, 1992. https://doi.org/10.1111/j.1467-6486.1992.tb00672.x

[24] G. Bernile, V. Bhagwat, and S. Yonker, "Board diversity, firm risk, and corporate policies," *Journal of financial economics,* vol. 127, no. 3, pp. 588-612, 2018. https://doi.org/10.1016/j.jfineco.2017.12.009

[25] A. J. Hillman, A. A. Cannella, and R. L. Paetzold, "The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change," *Journal of Management Studies,* vol. 37, no. 2, pp. 235-256, 2000. https://doi.org/10.1111/1467-6486.00179

[26] F. Zona, "Agency models in different stages of CEO tenure: The effects of stock options and board independence on R&D investment," *Research Policy,* vol. 45, no. 2, pp. 560-575, 2016. https://doi.org/10.1016/j.respol.2015.10.012

[27] D. P. Forbes and F. J. Milliken, "Cognition and corporate governance: Understanding boards of directors as strategic decision-making groups," *Academy of Management Review,* vol. 24, no. 3, pp. 489-505, 1999. https://doi.org/10.4324/9780203888711.ch9

[28] A. Zattoni, L. Gnan, and M. Huse, "Does family involvement influence firm performance? Exploring the mediating effects of board processes and tasks," *Journal of Management,* vol. 41, no. 4, pp. 1214-1243, 2015. https://doi.org/10.1177/0149206312463936

[29] G. T. Payne, G. S. Benson, and D. L. Finegold, "Corporate board attributes, team effectiveness and financial performance," *Journal of Management Studies,* vol. 46, no. 4, pp. 704-731, 2009. https://doi.org/10.1111/j.1467-6486.2008.00819.x

[30] S. Bonini and V. Lagasio, "Board meetings dynamics and information diffusion," *Corporate Governance: An International Review, Forthcoming,* vol. 30, pp. 96-119, 2021.

[31] S. Boivie, M. C. Withers, S. D. Graffin, and K. G. Corley, "Corporate directors' implicit theories of the roles and duties of boards," *Strategic Management Journal,* vol. 42, no. 9, pp. 1662-1695, 2021. https://doi.org/10.1002/smj.3320

[32] F. Zona, A. Zattoni, and A. Minichilli, "A contingency model of boards of directors and firm innovation: The moderating role of firm size," *British Journal of Management,* vol. 24, no. 3, pp. 299-315, 2013. https://doi.org/10.1111/j.1467-8551.2011.00805.x

[33] E. N. Lim and B. T. McCann, "Performance feedback and firm risk taking: The moderating effects of CEO and outside director stock options," *Organization Science,* vol. 25, no. 1, pp. 262-282, 2014. https://doi.org/10.1287/orsc.2013.0830

[34] C.-J. Chen, B.-W. Lin, Y.-H. Lin, and Y.-C. Hsiao, "Ownership structure, independent board members and innovation performance: A contingency perspective," *Journal of Business Research,* vol. 69, no. 9, pp. 3371-3379, 2016. https://doi.org/10.1016/j.jbusres.2016.02.007

[35] S. Gurtner and R. Reinhardt, "Ambidextrous idea generation—Antecedents and outcomes," *Journal of Product Innovation Management,* vol. 33, pp. 34-54, 2016. https://doi.org/10.1111/jpim.12353

[36] M. Huse, "Boards of directors in SMEs: A review and research agenda," *Entrepreneurship & Regional Development,* vol. 12, no. 4, pp. 271-290, 2000. https://doi.org/10.1080/08985620050177912

[37] H.-L. Wu, "When does internal governance make firms innovative?," *Journal of Business Research,* vol. 61, no. 2, pp. 141-153, 2008. https://doi.org/10.1016/j.jbusres.2007.06.010

[38] S. Thorgren, J. Wincent, and S. Anokhin, "The importance of compensating strategic network board members for network performance: A contingency approach," *British Journal of Management,* vol. 21, no. 1, pp. 131-151, 2010. https://doi.org/10.1111/j.1467-8551.2009.00674.x

[39] J. Wu and Z. Wu, "Integrated risk management and product innovation in China: The moderating role of board of directors," *Technovation,* vol. 34, no. 8, pp. 466-476, 2014. https://doi.org/10.1016/j.technovation.2013.11.006

[40] J. L. Coles, N. D. Daniel, and L. Naveen, "Boards: Does one size fit all?," *Journal of Financial Economics,* vol. 87, no. 2, pp. 329-356, 2008. https://doi.org/10.1016/j.jfineco.2006.08.008

[41] C. Driver and M. J. C. Guedes, "Research and development, cash flow, agency and governance: UK large companies," *Research Policy,* vol. 41, no. 9, pp. 1565-1577, 2012. https://doi.org/10.1016/j.respol.2012.04.003

[42] J. Wincent, S. Anokhin, and D. Örtqvist, "Supporting innovation in government-sponsored networks: The role of network board composition," *International Small Business Journal,* vol. 31, no. 8, pp. 997-1020, 2013. https://doi.org/10.1177/0266242612447970

[43] J. K. Kang, W. L. Liu, A. Low, and L. Zhang, "Friendly boards and innovation," *Journal of Empirical Finance,* vol. 45, pp. 1–25, 2018. https://doi.org/10.1016/j.jempfin.2017.09.007

[44] X. He and S. Jiang, "Does gender diversity matter for green innovation?," *Business Strategy and the Environment,* vol. 28, no. 7, pp. 1341-1356, 2019. https://doi.org/10.1002/bse.2319

[45] J. Goodstein, K. Gautam, and W. Boeker, "The effects of board size and diversity on strategic change," *Strategic Management Journal,* vol. 15, no. 3, pp. 241-250, 1994. https://doi.org/10.1002/smj.4250150305

[46] C. Helmers, M. Patnam, and P. R. Rau, "Do board interlocks increase innovation? Evidence from a corporate governance reform in India," *Journal of Banking & Finance,* vol. 80, pp. 51-70, 2017. https://doi.org/10.1016/j.jbankfin.2017.04.001

[47] M. Lipton and J. W. Lorsch, "A modest proposal for improved corporate governance," *The Business Lawyer,* vol. 48, pp. 59–77, 1992.

[48] M. C. Jensen, "The modern industrial revolution, exit, and the failure of internal control systems," *The Journal of Finance,* vol. 48, no. 3, pp. 831-880, 1993. https://doi.org/10.1111/j.1540-6261.1993.tb04022.x

[49] B. Wernerfelt, "A resource-based view of the firm," *Strategic Management Journal,* vol. 5, no. 2, pp. 171-180, 1984. https://doi.org/10.1002/smj.4250050207

[50] J. Barney, "Firm resources and sustained competitive advantage," *Journal of Management,* vol. 17, no. 1, pp. 99-120, 1991. https://doi.org/10.1177/014920639101700108

[51] J. Pfeffer and G. R. Salancik, *The external control of organisations: A resource dependence perspective*. Stanford: Stanford University Press, 2003.

[52] A. J. Hillman, M. C. Withers, and B. J. Collins, "Resource dependence theory: A review," *Journal of Management,* vol. 35, no. 6, pp. 1404-1427, 2009. https://doi.org/10.1177/0149206309343469

[53] P. Khanna, C. D. Jones, and S. Boivie, "Director human capital, information processing demands, and board effectiveness," *Journal of Management,* vol. 40, no. 2, pp. 557-585, 2014. https://doi.org/10.1177/0149206313515523

[54] J. Ma and T. Khanna, "Independent directors' dissent on boards: Evidence from listed companies in China," *Strategic Management Journal,* vol. 37, no. 8, pp. 1547-1557, 2016. https://doi.org/10.1002/smj.2421

[55] B. Garcia Osma, "Board independence and real earnings management: The case of R&D expenditure," *Corporate Governance: An International Review,* vol. 16, no. 2, pp. 116-131, 2008. https://doi.org/10.1111/j.1467-8683.2008.00672.x

[56] J. Chen, W. S. Leung, and K. P. Evans, "Female board representation, corporate innovation and firm performance," *Journal of Empirical Finance,* vol. 48, pp. 236-254, 2018. https://doi.org/10.1016/j.jempfin.2018.07.003

[57] J. Lu and W. Wang, "Managerial conservatism, board independence and corporate innovation," *Journal of Corporate Finance,* vol. 48, pp. 1-16, 2018. https://doi.org/10.1016/j.jcorpfin.2017.10.016

[58] R. E. Hoskisson, M. A. Hitt, R. A. Johnson, and W. Grossman, "Conflicting voices: The effects of institutional ownership heterogeneity and internal governance on corporate innovation strategies," *Academy of Management Journal,* vol. 45, no. 4, pp. 697-716, 2002. https://doi.org/10.5465/3069305

[59] V. Sena, M. Duygun, G. Lubrano, M. Marra, and M. Shaban, "Board independence, corruption and innovation. Some evidence on UK subsidiaries," *Journal of Corporate Finance,* vol. 50, pp. 22-43, 2018. https://doi.org/10.1016/j.jcorpfin.2017.12.028

[60] A. J. Hillman and T. Dalziel, "Boards of directors and firm performance: Integrating agency and resource dependence perspectives," *Academy of Management Review,* vol. 28, no. 3, pp. 383-396, 2003. https://doi.org/10.5465/amr.2003.10196729

[61] B. Balsmeier, A. Buchwald, and J. Stiebale, "Outside directors on the board and innovative firm performance," *Research Policy,* vol. 43, no. 10, pp. 1800-1815, 2014. https://doi.org/10.1016/j.respol.2014.06.003

[62] L. Uhlaner, M. Wright, and M. Huse, "Private firms and corporate governance: An integrated economic and management perspective," *Small Business Economics,* vol. 29, pp. 225-241, 2007. https://doi.org/10.1007/s11187-006-9032-z

[63] Y. Y. Kor and C. Sundaramurthy, "Experience-based human capital and social capital of outside directors," *Journal of Management,* vol. 35, no. 4, pp. 981-1006, 2009. https://doi.org/10.1177/0149206308321551

[64] J. Tian, J. Haleblian, and N. Rajagopalan, "The effects of board human and social capital on investor reactions to new CEO selection," *Strategic Management Journal,* vol. 32, no. 7, pp. 731-747, 2011. https://doi.org/10.1002/smj.909

[65] S. G. Johnson, K. Schnatterly, and A. D. Hill, "Board composition beyond independence: Social capital, human capital, and demographics," *Journal of Management,* vol. 39, no. 1, pp. 232-262, 2013. https://doi.org/10.1177/0149206312463938

[66] R. B. Adams and D. Ferreira, "A theory of friendly boards," *The Journal of Finance,* vol. 62, no. 1, pp. 217-250, 2007. https://doi.org/10.1111/j.1540-6261.2007.01206.x

[67] A. Calabrò, M. Torchia, D. G. Jimenez, and S. Kraus, "The role of human capital on family firm innovativeness: The strategic leadership role of family board members," *International Entrepreneurship and Management Journal,* vol. 17, pp. 261-287, 2021. https://doi.org/10.1007/s11365-020-00657-y

[68] L. A. Van den Berghe and A. Levrau, "Evaluating boards of directors: what constitutes a good corporate board?," *Corporate Governance: An International Review,* vol. 12, no. 4, pp. 461-478, 2004. https://doi.org/10.1111/j.1467-8683.2004.00387.x

[69] Y. Y. Kor and V. F. Misangyi, "Outside directors' industry-specific experience and firms' liability of newness," *Strategic Management Journal,* vol. 29, no. 12, pp. 1345-1355, 2008. https://doi.org/10.1002/smj.709

[70] J. Wincent, S. Anokhin, and D. Örtqvist, "Does network board capital matter? A study of innovative performance in strategic SME networks," *Journal of Business Research,* vol. 63, no. 3, pp. 265-275, 2010. https://doi.org/10.1016/j.jbusres.2009.03.012

[71] C. Barroso-Castro, M. Domínguez-CC, and M. Á. Rodríguez-Serrano, "SME growth speed: The relationship with board capital," *Journal of Small Business Management,* vol. 60, no. 2, pp. 480-512, 2022. https://doi.org/10.1080/00472778.2020.1717293

[72] R. D. Kosnik, "Effects of board demography and directors' incentives on corporate greenmail decisions," *Academy of Management Journal,* vol. 33, no. 1, pp. 129-150, 1990. https://doi.org/10.5465/256355

[73] V. Sharma, "Independent directors and the propensity to pay dividends," *Journal of Corporate Finance,* vol. 17, no. 4, pp. 1001-1015, 2011. https://doi.org/10.1016/j.jcorpfin.2011.05.003

[74] N. Vafeas, "Length of board tenure and outside director independence," *Journal of Business Finance & Accounting,* vol. 30, no. 7-8, pp. 1043-1064, 2003. https://doi.org/10.1111/1468-5957.05525

[75] F. Bravo and N. Reguera-Alvarado, "The effect of board of directors on R&D intensity: Board tenure and multiple directorships," *R&D Management,* vol. 47, no. 5, pp. 701-714, 2017. https://doi.org/10.1111/radm.12260

[76] M. L. Heyden, J. Oehmichen, S. Nichting, and H. W. Volberda, "Board background heterogeneity and exploration-exploitation: The role of the institutionally adopted board model," *Global Strategy Journal,* vol. 5, no. 2, pp. 154-176, 2015. https://doi.org/10.1002/gsj.1095

[77] M. C. Jensen and W. H. Meckling, "Theory of the firm: Managerial behavior, agency costs and ownership structure," *Journal of Financial Economics,* vol. 3, pp. 305–360, 1976.

[78] E. F. Fama and M. C. Jensen, "Separation of ownership and control," *The Journal of Law and Economics,* vol. 26, no. 2, pp. 301-325, 1983.

[79] D. H. Zhu and W. Shen, "Why do some outside successions fare better than others? The role of outside CEOs' prior experience with board diversity," *Strategic Management Journal,* vol. 37, no. 13, pp. 2695-2708, 2016. https://doi.org/10.1002/smj.2471

[80] O. Guldiken and I. S. Darendeli, "Too much of a good thing: Board monitoring and R&D investments," *Journal of Business Research,* vol. 69, no. 8, pp. 2931-2938, 2016.

[81] A. El Shoubaki, I. Laguir, and M. Den Besten, "Human capital and SME growth: The mediating role of reasons to start a business," *Small Business Economics,* vol. 54, pp. 1107-1121, 2020. https://doi.org/10.1007/s11187-018-0129-y

[82] J. Van den Heuvel, A. Van Gils, and W. Voordeckers, "Board roles in small and medium-sized family businesses: Performance and importance," *Corporate Governance: An International Review,* vol. 14, no. 5, pp. 467-485, 2006. https://doi.org/10.1111/j.1467-8683.2006.00519.x
[83] W. Ruigrok, S. I. Peck, and H. Keller, "Board characteristics and involvement in strategic decision making: Evidence from Swiss companies," *Journal of management Studies,* vol. 43, no. 5, pp. 1201-1226, 2006. https://doi.org/10.1111/j.1467-6486.2006.00634.x
[84] D. Bezemer *et al.*, "Many but small HIV-1 non-B transmission chains in the Netherlands," *AIDS,* vol. 36, no. 1, pp. 83-94, 2022.
[85] J. L. Johnson, C. M. Daily, and A. E. Ellstrand, "Boards of directors: A review and research agenda," *Journal of Management,* vol. 22, no. 3, pp. 409-438, 1996. https://doi.org/10.1177/014920639602200303
[86] C. Barroso, M. M. Villegas, and L. Pérez-Calero, "Board influence on a firm's internationalization," *Corporate Governance: An International Review,* vol. 19, no. 4, pp. 351-367, 2011. https://doi.org/10.1111/j.1467-8683.2011.00859.x
[87] E. S. Bjornali, M. Knockaert, and T. Erikson, "The impact of top management team characteristics and board service involvement on team effectiveness in high-tech start-ups," *Long Range Planning,* vol. 49, no. 4, pp. 447-463, 2016. https://doi.org/10.1016/j.lrp.2015.12.014
[88] S. Crucke and M. Knockaert, "When stakeholder representation leads to faultlines. A study of board service performance in social enterprises," *Journal of Management Studies,* vol. 53, no. 5, pp. 768-793, 2016. https://doi.org/10.1111/joms.12197
[89] A. Zattoni *et al.*, "Does board independence influence financial performance in IPO firms? The moderating role of the national business system," *Journal of World Business,* vol. 52, no. 5, pp. 628-639, 2017. https://doi.org/10.1016/j.jwb.2017.04.002
[90] A. Minichilli and C. Hansen, "The board advisory tasks in small firms and the event of crises," *Journal of Management & Governance,* vol. 11, pp. 5-22, 2007. https://doi.org/10.1007/s10997-007-9014-9
[91] P. De Andres and E. Vallelado, "Corporate governance in banking: The role of the board of directors," *Journal of Banking & Finance,* vol. 32, no. 12, pp. 2570-2580, 2008. https://doi.org/10.1016/j.jbankfin.2008.05.008
[92] A. Minichilli, A. Zattoni, and F. Zona, "Making boards effective: An empirical examination of board task performance," *British Journal of Management,* vol. 20, no. 1, pp. 55-74, 2009. https://doi.org/10.1111/j.1467-8551.2008.00591.x
[93] R. B. Adams, B. E. Hermalin, and M. S. Weisbach, "The role of boards of directors in corporate governance: A conceptual framework and survey," *Journal of Economic Literature,* vol. 48, no. 1, pp. 58-107, 2010. https://doi.org/10.1257/jel.48.1.58
[94] A. Pugliese, P. J. Bezemer, A. Zattoni, M. Huse, F. A. Van den Bosch, and H. W. Volberda, "Boards of directors' contribution to strategy: A literature review and research agenda," *Corporate Governance: An International Review,* vol. 17, no. 3, pp. 292-306, 2009. https://doi.org/10.1111/j.1467-8683.2009.00740.x
[95] R. K. Singh, S. K. Garg, and S. Deshmukh, "Strategy development by SMEs for competitiveness: A review," *Benchmarking: An International Journal,* vol. 15, no. 5, pp. 525-547, 2008. https://doi.org/10.1108/14635770810903132
[96] O. Brunninge, M. Nordqvist, and J. Wiklund, "Corporate governance and strategic change in SMEs: The effects of ownership, board composition and top management teams," *Small Business Economics,* vol. 29, no. 3, pp. 295-308, 2007. https://doi.org/10.1007/s11187-006-9021-2
[97] M. S. Freel, "Do small innovating firms outperform non-innovators?," *Small Business Economics,* vol. 14, pp. 195-210, 2000.
[98] B. K. Boyd, "CEO duality and firm performance: A contingency model," *Strategic Management Journal,* vol. 16, no. 4, pp. 301-312, 1995. https://doi.org/10.1002/smj.4250160404
[99] B. E. Hermalin and M. S. Weisbach, "Endogenously chosen boards of directors and their monitoring of the CEO," *American Economic Review,* vol. 88, pp. 96-118, 1998.
[100] A. J. Hillman, G. Nicholson, and C. Shropshire, "Directors' multiple identities, identification, and board monitoring and resource provision," *Organization Science,* vol. 19, no. 3, pp. 441-456, 2008. https://doi.org/10.1287/orsc.1080.0355
[101] L. Donaldson and J. H. Davis, "Stewardship theory or agency theory: CEO governance and shareholder returns," *Australian Journal of Management,* vol. 16, no. 1, pp. 49-64, 1991. https://doi.org/10.1177/031289629101600103
[102] M. J. Conyon and S. I. Peck, "Board control, remuneration committees, and top management compensation," *Academy of Management Journal,* vol. 41, no. 2, pp. 146-157, 1998.
[103] R. E. Hoskisson, R. A. Johnson, and D. D. Moesel, "Corporate divestiture intensity in restructuring firms: Effects of governance, strategy, and performance," *Academy of Management Journal,* vol. 37, no. 5, pp. 1207-1251, 1994. https://doi.org/10.5465/256671
[104] C. Pang and Y. Wang, "Stock pledge, risk of losing control and corporate innovation," *Journal of Corporate Finance,* vol. 60, p. 101534, 2020. https://doi.org/10.1016/j.jcorpfin.2019.101534
[105] I. Filatotchev, R. V. Aguilera, and M. Wright, "From governance of innovation to innovations in governance," *Academy of Management Perspectives,* vol. 34, no. 2, pp. 173-181, 2020. https://doi.org/10.5465/amp.2017.0011
[106] V. P. Rindova, "What corporate boards have to do with strategy: A cognitive perspective," *Journal of management studies,* vol. 36, no. 7, pp. 953-975, 1999. https://doi.org/10.1111/1467-6486.00165
[107] S. A. Zahra and I. Filatotchev, "Governance of the entrepreneurial threshold firm: A knowledge-based perspective," *Journal of Management Studies,* vol. 41, no. 5, pp. 885-897, 2004. https://doi.org/10.1111/j.1467-6486.2004.00458.x
[108] A. Calabrò and D. Mussolino, "How do boards of directors contribute to family SME export intensity? The role of formal and informal governance mechanisms," *Journal of Management & Governance,* vol. 17, pp. 363-403, 2013. https://doi.org/10.1007/s10997-011-9180-7
[109] A. Dasilas and N. Papasyriopoulos, "Corporate governance, credit ratings and the capital structure of Greek SME and large listed firms," *Small Business Economics,* vol. 45, pp. 215-244, 2015. https://doi.org/10.1007/s11187-015-9648-y
[110] A. De Massis, F. Frattini, J. Kotlar, A. M. Petruzzelli, and M. Wright, "Innovation through tradition: Lessons from innovative family businesses and directions for future research," *Academy of Management Perspectives,* vol. 30, no. 1, pp. 93-116, 2016. https://doi.org/10.5465/amp.2015.0017
[111] R. Bommaraju, M. Ahearne, R. Krause, and S. Tirunillai, "Does a customer on the board of directors affect business-to-business firm performance?," *Journal of Marketing,* vol. 83, no. 1, pp. 8-23, 2019. https://doi.org/10.1177/0022242918815894
[112] L. Cheng, E. Xie, J. Fang, and N. Mei, "Performance feedback and firms' relative strategic emphasis: The moderating effects of board independence and media coverage," *Journal of Business Research,* vol. 139, pp. 218-231, 2022. https://doi.org/10.1016/j.jbusres.2021.09.021
[113] K. G. Provan, "Board power and organizational effectiveness among human service agencies," *Academy of Management Journal,* vol. 23, no. 2, pp. 221-236, 1980. https://doi.org/10.5465/255428
[114] C. Lorca, J. P. Sánchez-Ballesta, and E. García-Meca, "Board effectiveness and cost of debt," *Journal of Business Ethics,* vol. 100, pp. 613-631, 2011. https://doi.org/10.1007/s10551-010-0699-3
[115] P. Bradshaw, V. Murray, and J. Wolpin, "Do nonprofit boards make a difference? An exploration of the relationships among board structure, process, and effectiveness," *Nonprofit and Voluntary Sector Quarterly,* vol. 21, no. 3, pp. 227-249, 1992. https://doi.org/10.1177/089976409202100304

[116] T. McNulty and A. Pettigrew, "Strategists on the board," *Organization Studies,* vol. 20, no. 1, pp. 47-74, 1999. https://doi.org/10.1177/0170840699201003

[117] C. Cornforth, "What makes boards effective? An examination of the relationships between board inputs, structures, processes and effectiveness in non-profit organisations," *Corporate Governance: An International Review,* vol. 9, no. 3, pp. 217-227, 2001. https://doi.org/10.1111/1467-8683.00249

[118] I. Umans, N. Lybaert, T. Steijvers, and W. Voordeckers, "Succession planning in family firms: Family governance practices, board of directors, and emotions," *Small Business Economics,* vol. 54, pp. 189-207, 2020. https://doi.org/10.1007/s11187-018-0078-5

[119] D. Veltrop, C. Hermes, T. Postma, and J. de Haan, "A tale of two factions: Why and when factional demographic faultlines hurt board performance," *Corporate Governance-An International Review,* vol. 23, no. 2, pp. 145-160, 2015. https://doi.org/10.1111/corg.12098

[120] E. Elyasiani and L. Zhang, "Bank holding company performance, risk, and “busy” board of directors," *Journal of Banking & Finance,* vol. 60, pp. 239-251, 2015. https://doi.org/10.1016/j.jbankfin.2015.08.022

[121] S. A. Zahra and J. A. Pearce, "Boards of directors and corporate financial performance: A review and integrative model," *Journal of Management,* vol. 15, no. 2, pp. 291-334, 1989. https://doi.org/10.1177/014920638901500208

[122] D. R. Dalton, C. M. Daily, J. L. Johnson, and A. E. Ellstrand, "Number of directors and financial performance: A meta-analysis," *Academy of Management Journal,* vol. 42, no. 6, pp. 674-686, 1999. https://doi.org/10.5465/256988

[123] S. Bonini, J. Deng, M. Ferrari, K. John, and D. G. Ross, "Long-tenured independent directors and firm performance," *Strategic Management Journal,* vol. 43, no. 8, pp. 1602-1634, 2022. https://doi.org/10.1002/smj.3370

[124] M. Li, "Diversity of board interlocks and the impact on technological exploration: A longitudinal study," *Journal of Product Innovation Management,* vol. 36, no. 4, pp. 490-512, 2019. https://doi.org/10.1111/jpim.12488

[125] A. Pugliese and P. Z. Wenstøp, "Board members’ contribution to strategic decision-making in small firms," *Journal of Management & Governance,* vol. 11, pp. 383-404, 2007. https://doi.org/10.1007/s10997-007-9036-3

[126] S. Cheng, "Board size and the variability of corporate performance," *Journal of Financial Economics,* vol. 87, no. 1, pp. 157-176, 2008. https://doi.org/10.1016/j.jfineco.2006.10.006

[127] T. L. Tranekjer and M. P. Knudsen, "The (unknown) providers to other firms' new product development: What's in it for them?," *Journal of Product Innovation Management,* vol. 29, no. 6, pp. 986-999, 2012. https://doi.org/10.1111/j.1540-5885.2012.00974.x

[128] P. M. Podsakoff, S. B. MacKenzie, J.-Y. Lee, and N. P. Podsakoff, "Common method biases in behavioral research: A critical review of the literature and recommended remedies," *Journal of Applied Psychology,* vol. 88, no. 5, pp. 879–903, 2003. https://doi.org/10.1037/0021-9010.88.5.879

[129] C. Fornell and D. F. Larcker, "Evaluating structural equation models with unobservable variables and measurement error," *Journal of Marketing Research,* vol. 18, no. 1, pp. 39-50, 1981. https://doi.org/10.2307/3150979

[130] L. Aaboen, P. Lindelöf, C. Von Koch, and H. Löfsten, "Corporate governance and performance of small high-tech firms in Sweden," *Technovation,* vol. 26, no. 8, pp. 955-968, 2006. https://doi.org/10.1016/j.technovation.2005.07.004

[131] B. Johannisson and M. Huse, "Recruiting outside board members in the small family business: An ideological challenge," *Entrepreneurship & Regional Development,* vol. 12, no. 4, pp. 353-378, 2000. https://doi.org/10.1080/08985620050177958

[132] P. C. Patel and J. J. Chrisman, "Risk abatement as a strategy for R&D investments in family firms," *Strategic Management Journal,* vol. 35, no. 4, pp. 617-627, 2014. https://doi.org/10.1002/smj.2119

[133] L. R. Gómez-Mejía, K. T. Haynes, M. Núñez-Nickel, K. J. Jacobson, and J. Moyano-Fuentes, "Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills," *Administrative Science Quarterly,* vol. 52, no. 1, pp. 106-137, 2007. https://doi.org/10.2189/asqu.52.1.106

[134] L. Gnan, D. Montemerlo, and M. Huse, "Governance systems in family SMEs: The substitution effects between family councils and corporate governance mechanisms," *Journal of Small Business Management,* vol. 53, no. 2, pp. 355-381, 2015. https://doi.org/10.1111/jsbm.12070