

Shifting Attention from ‘Board Anatomy’ to ‘Board Physiology’ to Understand the Roles of Directors: Evidence from UK Companies

ABSTRACT

The study seeks to delineate the roles of board directors under agency and resource dependence perspectives. The literature review conducted suggests further research in clarifying the directors’ roles. The results of the principal component analysis from 115 surveyed board directors in the UK suggest that while the dominant roles used in the literature are still supported, they do not capture the whole picture of directors’ roles.

The study advocates that future research on directors’ roles should consider additional tasks and also that researchers should account these roles as a continuum, rather than independent to each other. A new set of six roles is offered, highlighting some undervalued roles.

Policy makers may benefit from this study by paying further attention to the important functional aspects of the board, as current focus is mainly on the structural elements. Also, strong recommendation is made to shift attention from board characteristics (anatomy) to board functions (physiology).

Keywords: Corporate Governance, Board Roles, Agency Theory, Resource Dependence Theory (RDT)

1. Anatomy and Physiology: Two Approaches to Understand a Board

Considering the board as an organism with all the characteristics drawn from the medical field, we argue that the structure of the board would be studied under the anatomy field and the study of the functioning of the board under the physiology field. Hall (2011: 3) and Encyclopaedia Britannica (2015) define physiology as the study of the coordinated functioning of the different parts (i.e. animals, plants, cells), leading them to properly function together. The study of function is usually undertaken along with a study of structure (i.e. anatomy), the two being intimately related (The Columbia Encyclopaedia, 2014).

The corporate governance literature constantly grows over the years, due to the increasing need of various stakeholders—including researchers, professionals, investors and policy makers—to understand the ways in which an organisation can be governed more efficiently. A constant focus of the literature is on the structural elements of the board of directors, as they have been largely considered to be significant predictors of the board activities and effectiveness. For this approach, which can be characterised as having researchers ‘cutting up’ the board and observing the composition and the characteristics of its members—as surgeons do—we use the term anatomy of the board. Examples of these characteristics are the size of the board, the number of independent members, the separate or dual role of the CEO and chairperson as well as the gender diversity (Assenga et al., 2018; Epstein and Roy, 2004; Long, 2007; Napoli, 2012; Siciliano, 2005; Titova, 2016; Ujunwa, 2012). As Nordberg and Booth (2019) suggest, “board demography and the mix of knowledge and skills on the board yield information that is likely to affect the ‘black box’ of board processes”. While these anatomical characteristics have shown a relationship with the board’s functions and makes their study essential, the functions themselves have been comparatively under-researched. Hence, the central attention for this study is to emphasize the importance in the physiology of the board, that is the study of the board’s functions. This

approach agrees to other researchers who have tried to study boards more holistically. There are examples below which can be seen as analogies to the proposed term of ‘board physiology’. For example, Petrovic (2008) and Leblanc and Fraser (2016) make a similar distinction and refer to ‘board dynamics’ as an important element for board effectiveness, except for ‘board composition’. Sherwin (2003) makes the distinction of these, by calling the issues ‘mechanical’, such as structure and composition (anatomy) and organic, such as interaction, communication and trust that cannot be regulated (physiology). Similarly, Roberts et al. (2005) suggest that looking at structure/composition serve as distant perceptions and they touch on other cultural qualities of the board referring to them as openness and constructive dialogue by having trust and mutual respect. Crittenden et al. (2017), who interestingly also borrowed medical terminology, claim that, in boards not functioning as they should, intervention such as that performed via surgical procedures is necessary; with these procedures not only focusing on composition.

The main aim of this paper is to discuss and examine the board roles that are assumed by the directors of the board. Over the years, researchers have tried to identify (e.g. Roberts et al., 2005; Long et al. 2005; Machold and Farquhar, 2013) as well as prescribe (e.g. Hillman and Dalziel 2003; Knockaert and Ucbasaran, 2013) the roles of boards in a variety of organisational contexts. At the same time, corporate governance codes (e.g. UK Corporate Governance Code, 2016; BRT, 2012; Council of Institutional Investors, 2013) seem to neglect the actual roles of directors and mainly focus on the anatomy of the board. This is argued, as the main mutually agreed description of directors’ duty—and specifically but probably not mistakenly prescribed to independent ones—is to monitor/oversight performance. Furthermore, the prescriptive legislation and academic literature seems to be hesitant to carefully scrutinise and differentiate based on each type of board directors (i.e. dependent or independent) and as a result we lack deeper and more accurate understanding of

their roles, duties or tasks. What is commonly found in the literature is that the roles are at times analysed at a group level—i.e. board—and in other occasions at an individual level—i.e. director—without making the distinction, which causes a methodological issue (Petrovic, 2008). While it is logical to expect that each individual contributes to the group's aim and determines its overall effectiveness, understanding that different members have different roles can be valuable to the discussion. This study will attempt to focus on the individual director level. Also, in this paper, we use the term 'role' to describe the property/responsibility of the director in serving the board and we use the term 'task' to describe the action that fulfils the role.

Hence, in the process of reviewing the existing literature on the roles of the board, it is concluded that there is not yet a widely acceptable classification of them. Consequently, it is suggested that the efforts of various authors have not yet produced the desired results and as such the issue of what directors do, remains elusive.

The paper's objectives are to review the roles as already prescribed by the relevant literature and secondly to suggest additional roles as these emerged from the data collected from board directors of large UK organisations.

The rest of the paper is organized as follows. Initially the two main theoretical lenses used to investigate boards will be critically discussed. In this part, the different board roles, as these have been described in the literature will be outlined and discussed. There are different terms that have been used in the literature to illuminate what directors do, and in some cases, different roles seem to describe similar or same responsibilities. Therefore, in this article a set of roles to be used will be suggested in an effort to clarify and provide a platform for further research on this important issue. This aim will be implemented by presenting findings from our study conducted in large UK organisations. Principal component analysis (PCA) results suggest a framework of roles that may be used in future studies to capture more accurately

what directors really do. Nevertheless, while these findings may act as a useful guide for future research on roles, a recommendation is provided, claiming that the distinction between the roles of directors may not be that clear, since there is some level of overlapping in the tasks performed. Additionally, it is useful to mention that the external context—not examined in this paper—should have an impact on directors' roles, as in different industries or countries, the roles and behaviour may differ (Petrovic, 2008; 2009; Huse, 2007).

2. Current View of Board Roles

2.1 Board Roles from the Agency Theory Perspective

A dominant perspective used by researchers to investigate boards of directors has consistently been agency theory (Davis, 2005; Westphal and Park, 2020). Agency theory argues that when ownership and control of a company is separate, there is a potential conflict of interests between the two sides (Fama and Jensen, 1983). In other words, when the managers do not own the firm, they may not act in the best interest of the owners. This condition introduces the need for monitoring/controlling their decisions and actions to ensure that the management (agent) is making the optimal decisions from the owner's viewpoint.

Extending the argument Boyd (1994), suggested that the control mechanisms can be both internal and external, with external including market-based measures such as failure of the firm, or a takeover attempt. Internal control, according to Eisenhardt (1989), can be achieved by discovering the agent's behaviour "through investment in information systems such as budgeting systems, reporting procedures, boards of directors, and additional layers of management".

Boyd (1994) suggests that among all internal control mechanisms the primary one—which aligns the interests of shareholders and managers—is the board, which serves as a

representative of stockholders. This leads to the argument that the board of directors should undertake the monitoring role, by observing the management of the company in order to protect the owners' interests. Specifically, residual claimants (owners) assign internal control rights/tasks to a board of directors. The above has been adequately described by Fama and Jensen (1983) stating that "the board then delegates most decision management functions and many decision control functions to internal agents, but it retains ultimate control over internal agents—including rights to ratify and monitor major policy initiatives and to hire, fire and set the compensation of top-level decision managers".

This function of the board has been repeatedly described either as monitoring (Boyd, 1990; Jensen and Meckling, 1976; McLean Parks and Conlon, 1995; Tosi and Gomez-Mejia, 1989), or as control function (Zahra and Pearce, 1989; Pearce and Zahra, 1992; Boyd, 1994; Forbes and Milliken, 1999).

By examining the different definitions discussed under those two terms it is realised that, although at a conceptual level the two words differ, both are repeatedly used in similar manner. For example, the term control seems to derive from the article of Fama and Jensen (1983), who discussed the decision making process and its four steps (initiate, ratify, implement, monitor) and argued that these roles have to be performed by different agents. Specifically, they suggested that initiation and implementation should be grouped together under the term management decision and be allocated to one group of agents (i.e. top management team), whereas ratification and monitoring steps should be included under the management control term and be allocated to a different group of agents (i.e. board of directors). Control in this case, focuses on the two steps of the decision-making process that are ratification and monitoring.

Therefore, the centre of the management control in that case is at the decision-making process regarding the strategic direction of the organisation. However, Fama and Jensen

(1983: 311) continue by operationalizing the decision control rights of the board as “the power to hire, fire, and compensate the top-level decision managers and to ratify and monitor important decisions”. In this further explanation, the authors have added the role of controlling the executives—by having power over them, apart from just controlling their decisions. Along the same lines, Forbes and Milliken (1999), by using the term control, refer to tasks that “include decisions regarding hiring, compensation and replacement of the firm’s most senior managers, as well as the approval of major initiatives proposed by management”. This view seems to be identical to the view of the authors while describing the monitoring function and its activities, so both terms can be used referring to the same function. This approach is in agreement with other scholars using both terms in their studies (Conyon and Peck, 1998; Johnson et al., 1996; Pearce and Zahra, 1991; Machold and Farquhar, 2013).

Hence, some comments should be made, as although both terms are used extensively to describe the same function, the essence of these words (monitor and control) is different. Control should be used in tasks that require an active involvement of the directors and monitor in tasks that could infer a more passive nature of tasks. For example, we would say that there are tasks better explained by the term monitoring, like monitoring the CEO and strategy implementation, and other tasks like evaluating and rewarding the CEO/top managers or planning the succession of CEO are better described as control tasks.

2.2 Board Roles from the Resource Dependence Theory (RDT) Perspective

The literature suggests that another important role of board members is to provide resources to the firm. This is a role that is mainly linked to the resource dependence theory. The theory discusses the management of external resources of a company, by describing the corporation as an open system that is dependent on contingencies found in the external environment (Pfeffer and Salancik, 1978). The authors further argue that “this point of view is important for those that seek to understand organisations as well as for those seek to

manage and control them”. Furthermore, this view suggests that organizations are part of the environment and for their survival and success they are dependent to these environments. RDT has been applied broadly across the research domain to explain these relationships. As stated by Hillman et al. (2009) in a review of RDT theory there are five mechanisms through which external dependencies can be minimized. Board of directors is one of them, with other being mergers/vertical integration, joint ventures, political action and executive succession. Pfeffer (1972: 219) stated that “it can be shown that corporate boards are used as if they were instruments with which to deal with the environment”. The author suggests that this can be achieved by providing resources to the firm through their capital, what is often called as board capital (Kim and Kim, 2015).

According to Hillman and Dalziel (2003) the activities of the board related to the provision of resources include, providing legitimacy/bolstering the public image of the firm, providing expertise, administering advice and counsel, linking the firm to important stakeholders or other important entities, facilitating access to resources such as capital, building external relations, diffusing innovation, and aiding in the formulation of strategy or other important firm decisions. The common element of all these activities is that they all concentrate on the role of the board to provide resources to the firm, rather than to control the management and decision-making process.

While for the function of monitoring the term control has been used to describe more or less the same activities and is used in a quite similar way, in the case of the provision of resources function, the literature does not seem to be that clear. It is evident that authors agree that one of the functions of the board is to provide resources to the firm since the organization is dependent on external contingencies (Boyd, 1990; Daily et al., 2003; Daily and Dalton, 1994; Hillman and Dalziel, 2003; Hillman et al., 2000; Lester et al., 2008; Pfeffer and Salancik, 1978). However, although all of them share the same view, some refer to this role

as resource dependence role, deriving from the relevant perspective that explains this function of the board (Boyd, 1990; Hillman et al., 2000) and some others label this role as service (Forbes and Milliken, 1999; Zahra and Pearce, 1989). For example, Forbes and Milliken (1999: 492) portray the service role in similar lines to the provision of resources by saying that it is the board's responsibility to provide advice and counsel to the CEO and other top managers and to participate actively in the formulation of strategy. However, this captures only part of the board's responsibility to provide resources to the company.

Furthermore, Johnson et al. (1996: 411) have suggested two roles further to the controlling/monitoring, which are resource dependence role and service role. According to their view resource dependence role is the duty of the board to facilitate access to resources. The service role then is defined as the duty of the directors to provide advice and counsel to the firm's management. This classification made by Johnson et al. (1996) can be combined under the resource provision role, as both roles seem to agree to what was earlier discussed to be provision of resources.

2.3 Involvement in Strategy: Separate Role?

While the literature largely discusses the roles of directors as being to control and advice, there are a few scholars that suggest strategy as a separate role of the board directors. For example, Zahra and Pearce (1989) examined the board's roles from four different perspectives (i.e. legalistic, resource dependence, class hegemony and agency). Although from the legalistic or class hegemony perspective, they suggested that the board roles are to control and service, when they examined the board's functions from a resource dependence or agency theory perspective, they proposed strategic role as a third separate role. Other authors use the same line of argument, suggesting that directors not only control and provide service, but also involve in the strategic direction of the organisation (Wan and Ong, 2005; Judge and

Zeithaml, 1992; Demb and Neubauer, 1992a; Roy, 2009, Johnson, 2013) even if the board's impact may be questionable, as Hoppmann et al. (2019) found that they may impede change.

However, by reviewing the literature it is observed that labelling certain activities of directors is not consistent; while some authors (Zahra and Pearce, 1989; Judge and Zeithaml, 1992) discuss strategy role as the actual involvement of directors in the strategy process, Forbes and Milliken (1999) discuss participation of board members in the formulation of strategy under the service role.

Moreover, another misconception identified by examining the duties of directors under the control and resource provision roles, is that both of the roles include activities that are related to the strategic responsibility of the directors. There are authors that have incorporated the strategy role into the resource provision role, as for example Hillman and Dalziel (2003) state that part of the resource provision is “aiding in the formulation of strategy or other important firm decisions”. Similarly, Forbes and Milliken (1999) argue that directors “participate actively in the formulation of strategy”, when discussing the service role.

On the other hand, the same authors also state that part of the control role is to approve major initiatives proposed by management making the strategic involvement part of the control role. Thus, it is suggested that directors' involvement in the strategic arena is related to both the monitoring and resource provision roles.

Based on the above arguments, two gaps are observed. First suggestion is that strategy should not be discussed as a separate role and be incorporated in the two roles as mentioned above. Second suggestion is that if discussed separately, control and resource provision should not include activities related to strategy and focus only on other tasks.

Next section will describe the methods used to empirically explore the roles that directors seem to undertake sitting on the board. This is done by firstly utilising items

extracted from reviewing the existing literature. The aim is to propose a clearer and more complete set of roles to be used in future research, taking into consideration directors' perceptions on what they do in the board. The results also suggest that there is a need to focus more on the physiology rather than the anatomy of the board.

3. Methods

3.1 Sample

The initial sample consisted of 2,445 directors from randomly selected UK listed companies—based on contacts' availability—with a turnover over GBP 5 millions. The contacts were acquired from OneSource database (<https://www.avention.com>) at the end of 2012. It is important to say that there is a bias associated with the selected approach, which can be considered one of the study's limitations. With 115 responses collected—from 4 waves during February/March 2013—the response rate of this sample was 4.7%, which is low but corroborates other researchers who claim that there is a great difficulty in collecting primary data from board directors (e.g. Machold and Farquhar, 2013; Daily et al., 2003; Leblanc and Schwartz, 2007; Zahra and Pearce, 1989). As stated by Zahra and Pearce (1989: 324) “this is, in fact, one of the most challenging areas for future research in the contribution of boards”, which seems to stand true until presently.

As a result, 115 responses from UK directors were collected in total, although after survey data cleaning it was decided to include 95 in the analysis; there were questionnaires with missing values or responses that were considered to be outliers (e.g. consistently selecting value 1 in responses throughout questionnaire or giving unusual answer like having a board size of 0 or 1 members).

3.2 Measures

For this study, a mix of items from various studies was used to measure the roles of board members, which makes the study exploratory in nature. This action was decided, as it was thought that no study has managed to include all measures needed, to capture the roles of the board. One reason is that there are studies that only focus on one of the roles; for example, McDonald and Westphal (2010), Lin et al. (2014) and McDonald et al. (2008) have studied the monitoring role only, while Judge and Zeithaml (1992) have named—and studied—the role of the board as strategy involvement.

Another reason is that although authors have attempted to have a holistic view of the roles (e.g. monitoring and service), they have used different approaches and as a result the items used among studies may differ in context. For example, Westphal (1999) and Carpenter and Westphal (2001) use three items to capture the monitoring role, by mainly focusing on monitoring strategic decisions and the performance of these decisions. However, Van Den Heuvel et al. (2006) explain the role by focusing more on determining compensation and involving with succession planning of the management.

It is noteworthy, that the approach taken asked from directors to respond from their own perspective, rather than on behalf of the board as a group. Needless to say that this approach has a value which comes with a limitation. While it's valuable to treat each director individually and focus on their perception of their personal contribution to the board, depending on the profile/status of their position, it's expected that they will contribute differently.

Therefore, after careful consideration and thorough analysis in various articles from the literature review, a list of 36 items was created in order to capture the board roles. The questions/items were adopted from a variety of studies (i.e. Carpenter and Westphal, 2001; Hillman and Dalziel, 2003; Hillman et al, 2008; Judge and Zeithaml, 1992; McDonald and Westphal, 2010; McDonald et al., 2008; Stephens, 2004; Stiles, 2001; Van Den Heuvel et al.,

2006; Wan and Ong, 2005; Westphal, 1999). Some of the items that appeared as duplicates or sharing the same meaning were not considered. This process of removing items and shortening the set of measures was completed, by justifying how the abbreviated measure is not appreciably different or worse than that of the original measures (Schriesheim, 1993: 392).

The construct validity of the instrument was tested with the approach suggested by Venkatraman and Grant (1986: 79) that was also used by Hamann et al. (2013), Flores et al. (2012) and Molloy et al. (2011). Initially content/face validity of the instrument was checked during the design process, and the pretesting stage of the instrument helped in verification. Specifically, to assess face validity the questionnaire instrument was shared with three academic scholars considered as experts in the area of corporate governance, and their feedback with suggestions and comments was taken into account. This was to ensure that “the sample of items contained in that instrument is a representative sample of the content universe of the underlying theoretical construct” (Schriesheim, 1993: 368). However, as Schriesheim (1993: 388, 394) argues, “even where measurement items are generated in accord with this process they are often subsequently subjected to empirical data reduction techniques...that reduce or eliminate the use of judgement”, which is the process followed by this study.

Internal consistency/reliability was tested with the widely used Cronbach’s alpha coefficient. For the purpose of this study, the minimum accepted score for the coefficient alpha was decided to be 0.6 (Hair et al., 2006: 137), although most factors were found to have scores higher than 0.7, which is in agreement to the limit accepted by other scholars (Cruz et al., 2010: 77; Klijn et al., 2013: 1254).

The method used in the thesis to test convergent validity is that of correlation of each item with the summated scale/factor, following the approach from Cruz et al. (2010: 78).

Finally, discriminant validity is the extent to which a concept or variable differs from other concepts or variables and was again tested with correlation of one concept to another (Campbell and Fiske, 1959; Venkatraman and Grant, 1986, Peter and Churchill, 1986).

3.3 Analysis of Findings

Principal component analysis was selected as a method of reducing data to come up with a clearer measurement structure of the construct. The reliability of the latent variables was checked with Cronbach's alpha and all scores were satisfactory, ranging from 0.702 to 0.947. Convergent validity was checked by looking at the correlations among variables within the same factor and also the correlation of each variable with the total of the items in the factor (Venkatraman and Grant, 1986). The results were satisfactory indicating that there is high convergent validity for all variables.

Running correlations between the different latent variables created, tested the discriminant validity. Inter-correlation values less than 0.60 suggest discriminant validity (Gaur et al., 2011: 1768). All correlations were less than the recommended value of 0.60, except from the one between 'controlling CEO' and 'controlling top management executives'. This result seems reasonable, as although the two latent variables represent controlling of different people, the nature of the role is similar.

4. Findings

At first, the 36 items used in the study to capture directors' roles were selected to run the component analysis. The preliminary analysis indicated that two variables should be eliminated, as their score in the anti-image correlation matrix was lower than 0.5 and should not be accepted (Hair et al., 2006: 115; Field, 2009: 659). These two items were 'defer to [the CEO's] judgment on final strategic decisions' and 'provide legitimacy to the firm'. Running the analysis again, with these two variables excluded, all scores in the anti-image correlation

analysis were in the acceptable range of 0.5 or higher. In addition, the *communalities* of the variables were acceptable, as they were above 0.5 for all variables (Hair et al., 2006: 149).

Next step was to check the factor analysis results, to find any problems with the loadings of the different factors and especially cross-loadings. Finally, nine items were deleted in six consecutive stages, which resulted in maintaining 25 items. Only one cross-loading remained, but due to the difference in the score loading on the two factors, combined with the fact that the item conceptually fitted clearly in the factor with the highest loading, it was decided to keep the item (i.e. “engage in succession planning for top managers besides CEO”).

The next step was to check the *measure of sampling adequacy (MSA)* of the data collected through the *KMO* measure (i.e. Kaiser-Meyer-Olkin measure). This was found to be 0.727, which is good (Kaiser and Rice, 1974: 112; Hutcheson and Sofroniou, 1999, cited in Field, 2009: 659). In addition, the *Bartlett’s Test of Sphericity* was found to be significant ($p=0.000$), indicating that there are sufficient significant correlations among the variables (Table 2).

TABLE 2
KMO and Bartlett’s Test for the factorability of Directors’ Roles

KMO and Bartlett’s Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.727
Bartlett’s Test of Sphericity	Approx. Chi-Square	1323.177
	df	300
	Sig.	.000

Moreover, for the 25 items that were finally included in the factor analysis, the factors extracted from the process were six. The criterion used for retaining six factors, was Kaiser’s (1960: 147) recommendation (i.e. *latent root* criterion; keeping factors with eigenvalues greater than 1).

As a result, the six factors were found to explain 75.294% of the *total variance* (Table 3). The eigenvalues and the percentages of variance for each factor are presented in the Table

before and after rotation. After trying a variety of rotation methods and getting relatively similar results, it was decided to use *orthogonal rotation* (i.e. VARIMAX). Hair et al. (2006) claim that no specific rules have been developed for selection of method and in most cases the choice should be made on the basis of the specific needs of the given research problem. More specifically, they argue that orthogonal rotation “is the most widely used and it is preferred when the research goal is data reduction to either a smaller number of variables or a set of uncorrelated measures for subsequent use in other multivariate techniques” (Hair et al., 2006: 127).

TABLE 3
Total Variance Explained for Directors’ Roles

Total Variance Explained									
Comp	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.589	30.355	30.355	7.589	30.355	30.355	5.163	20.652	20.652
2	4.612	18.447	48.802	4.612	18.447	48.802	4.003	16.013	36.664
3	2.267	9.066	57.868	2.267	9.066	57.868	3.478	13.910	50.574
4	1.834	7.334	65.202	1.834	7.334	65.202	2.752	11.008	61.583
5	1.384	5.538	70.740	1.384	5.538	70.740	1.733	6.932	68.515
6	1.139	4.554	75.294	1.139	4.554	75.294	1.695	6.780	75.294

Extraction Method: Principal Component Analysis.

After the discussion of the preliminary results with all necessary tests, deletion of items and the selection of rotation method, the 25 items loaded with relatively high scores to six factors showing a satisfactory structure (Table 4). At this point it is important to state that factor loadings below the value 0.4 were suppressed, which is in agreement to Blunch (2008: 65) and Field (2009: 661). The following part will discuss each of these factors and the labeling that was used to describe each one of them. The labeling is not derived or assigned by the factor analysis, but is developed by the researcher based on its appropriateness for representing the underlying dimensions of a particular factor (Hair et al., 2006: 131).

TABLE 4
Summary of Principal Component Analysis for Directors' Roles

<i>As a board member, I...</i>	1	2	3	4	5	6
involve in firing CEOs	.935					
involve in hiring CEOs	.928					
involve in determining salary/ compensation of CEO	.926					
evaluate the CEO's performance	.882					
engage in succession planning for CEO	.881					
monitor CEO in decision making	.731					
involve in mission articulation		.841				
involve in the development of the corporate vision		.797				
monitor top management in decision making		.733				
contribute in diffusion of organisational innovation		.728				
monitor Strategy Implementation		.604				
review social responsibilities of the firm		.581				
act as ambassador for the firm			.894			
build organisational reputation			.828			
link the firm to important stakeholders or other important entities			.747			
bolster the image of the firm			.652			
maintain relations with stakeholders			.648			
constructively criticise/ask probing questions				.812		
call for revisions of strategic proposals				.804		
ratify strategic proposals				.709		
act as a "sounding board" on strategic issues				.608		
seek information from the CEO or another inside director regarding the progress of strategic decisions					.807	
seek information from the CEO or another inside director in order to evaluate the performance of top management					.744	
involve in determining salary/ compensation of top management						.798
engage in succession planning for top managers besides CEO		.537				.657
Eigenvalues	5.16	4.00	3.48	2.75	1.73	1.70
% of Variance	20.65	16.01	13.91	11.01	6.93	6.78
Cumulative %	20.65	36.66	50.57	61.58	68.52	75.29
Cronbach's Alpha	.947	.854	.859	.820	.706	.702

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 7 iterations.

The factors found to describe the board roles are summarised in Table 5 with the assigned label to each of them, resulting in six roles.

The first factor consists of six variables that loaded highly on the factor and generated an eigenvalue of 5.16. By observing the six variables, it is obvious that they have a clear conceptual association, as all variables describe actions related to the CEO. These actions encompass some level of controlling; therefore, the factor was labelled as ***controlling CEO***. The mean score for the factor is 4.42 (SD= 2.22), which indicated that respondents believe they fairly contribute to this role. Interestingly, the high standard deviation reveals that respondents have a scattered perception of this role.

The second factor again consists of six variables with high loadings and an eigenvalue of 3.89 that is high. This second factor appears to describe how directors assist in shaping strategic direction by providing various services. Thus, the factor was labelled as ***providing service*** and has a mean of 5.50 (SD= 1.12). This result indicates that respondents seem to overall strongly contribute to this function of the board. It is important to clarify here, that although each of these items might be described with different terms like involve, monitor, contribute and review, they all seem to describe directors' activities of providing some sort of service to the board.

The third factor is explained by four variables that capture activities in relation to maintaining relations and improving the firm image. As a result, the label used for this factor is ***controlling external contingencies*** and the mean score for this scale is 5.91 (SD= 1.06). Respondents seem to strongly perceive this role as core to their responsibilities and it has the second highest mean among all roles.

The fourth factor comprises four items that seem to describe activities related to strategy involvement and as such the factor was named ***involvement in strategy***. The mean score for this factor is 6.29 (SD= 0.77) which is the highest scoring factor, showing the high

importance perceived by the respondents. Also, it should be noted that this role has similarities with the providing service role, however for this one the items have a more direct relation to strategy.

The fifth factor consists of only two items that clearly capture the role of directors in seeking internal information. Specifically, the two items included in the *seeking internal information* factor are: ‘seek information from the CEO or another inside director regarding the progress of strategic decisions’ and ‘seek information from the CEO or another inside director in order to evaluate the performance of top management’. The mean score for this factor is 5.44 (SD= 1.39) indicating that the respondents rate this role as an important one among their other responsibilities.

The last factor extracted with an eigenvalue higher than 1.0 was called *controlling top management executives* and similarly to the fifth factor it consists of only two items. The factor has a mean score of 4.43 (SD= 1.60), which based on the respondents perception shows that they contribute moderately to this role and similarly to the first role that is controlling the CEO.

TABLE 5
Summary of the Six Roles resulted from PCA

1 Controlling CEO	involve in firing CEOs
	involve in hiring CEOs
	involve in determining salary/ compensation of CEO
	evaluate the CEO's performance
	engage in succession planning for CEO
	monitor CEO in decision making
2 Providing Service	involve in mission articulation
	involve in the development of the corporate vision
	monitor top management in decision making
	contribute in diffusion of organisational innovation
	monitor strategy implementation
	review social responsibilities of the firm
3 Controlling External Contingencies	act as ambassador for the firm
	build organisational reputation
	link the firm to important stakeholders or other important entities

	bolster the image of the firm
	maintain relations with stakeholders
4 Involvement in Strategy	constructively criticise/ask probing questions
	call for revisions of strategic proposals
	ratify strategic proposals
	act as a "sounding board" on strategic issues
5 Seeking Internal Information	seek information from the CEO or another inside director regarding the progress of strategic decisions
	seek information from the CEO or another inside director in order to evaluate the performance of top management
6 Controlling Top Management Executives	involve in determining salary/ compensation of top management
	engage in succession planning for top managers besides CEO

5. Discussion

Over the last two decades there is an increasing interest on corporate governance with discussion of many important issues like board composition, executive remuneration, succession planning and board leadership. The paper highlights the need for further understanding of the physiology of the board, which refers to the function and the roles of directors which can lead to increased board effectiveness. Petrovic (2009) refers to the importance of board dynamics. In similar lines Forbes and Milliken (1999) highlight the presence of a social-psychological process taking place in board operations, which cannot be efficient only by focusing on board composition (anatomy). Sherwin (2003), referred to these more complex issues as organic, claiming that they cannot be dealt just with regulations.

Firstly, the paper argues that it is important for scholars to start describing board roles more consistently, using similar terms and to reach an agreement on the number and nature of activities that directors undertake. Secondly, the findings of this paper suggest six roles that can be used in further studies to capture the whole spectrum of directors' board roles. By scrutinising the nature of these six roles, it can be argued that they reflect the roles that had already been identified in the literature, but by highlighting some more 'hidden' roles as core to the directors' roles.

Specifically, control/monitoring function is explained by two factors, depending on the focus of control. The distinction is based on whether monitoring concerns the CEO or the top management team, while activities involved are similar.

On the other hand, it can be argued that provision of resources is broken into providing service to the board and controlling external contingencies. The first one mainly involves use of human capital (Khanna et al., 2014; Kor and Sundaramurthy, 2009; Johnson et al., 2013) and the latter one use of social capital (Hillman, 2005; Johnson et al., 2011; Stevenson and Radin, 2009), while both can be supported by the RDT perspective.

Involvement in strategy appears to be a separate role based on the findings. Although the providing service role includes items that are related to strategy, the involvement in strategy role items are more linked to direct involvement in strategy with a substance of both monitoring (e.g. ask probing questions) and service (e.g. ratify strategic proposals). However, the fact that the two emerged roles were found to encompass activities that could appear under any of the two roles, allows us to further support the argument made earlier, that in cases there is not be a clear separation between the roles. Hence, it is suggested that researchers should encounter the roles as continuous and not as intermittent.

The same exists for monitoring and service roles. While it was expected that the monitoring top management decision-making activity would load under the monitoring roles, it was loaded in the providing service role. At first this strikes as a misleading result, but following the same logic as above, it can be argued that even monitoring is not necessary a separate role from providing service. Directors have to use their knowledge and expertise to ‘provide the service of monitoring’.

Moreover, a distinct role that emerged from the analysis is that of seeking internal information, which appears to be an important function of directors by considering the relatively high mean score. A similar proposal is made by Boivie et al. (2016), who argue that

information processing can affect board monitoring effectiveness. This is one recommendation that can be considered in future studies, as often this is integrated into monitoring or service and may be worth to have further attention. Boivie et al. (2021) highlight the important implications for understanding how boards balance information seeking against providing advice and counsel.

While the paper doesn't suggest that any of these roles are more important than others, it is understood that different directors would contribute differently, due to their expertise, but more important their position in the board. Therefore, it can be argued that looking at the board's anatomy is a useful approach, but it only serves as a proxy to these roles. Perhaps, the most obvious example of this, is suggesting that more independent directors to the board, would result in better monitoring. However, the paper suggests that while looking at the board anatomy has some value, more focus should be given in understanding the board physiology. Borrowing an analogy from the medical field, it is argued that similar to the fact that a body organ's health—despite its predetermined role—would depend on other organs, a better understanding of the board roles is needed, regardless of what is the board's anatomy. This is the discussion of board physiology, which also considers the dynamics and relationships of directors within a board, which should be seen as a whole body with complex and multiple operations.

6. Conclusion

In conclusion, the paper suggests, that while the board roles have been widely discussed, a more standardised set of roles should be used in future studies. Furthermore, the findings suggest that although control and service are—as expected—the two main roles, strategy is also considered a distinct role with elements of both (i.e. controlling and providing resources). Finally, seeking internal information was considered a separate role, a finding that recommends further investigation.

While the findings clearly propose a new scale of six roles that capture the whole range of directors' activities, more research is recommended for further construct clarification. The view of treating all roles as a continuum and not as separate functions is also considered a recommendation of this study, which has been supported by the findings. This strengthens the argument about the need to focus more in board physiology; the board being a complex organism needs deeper study than mainly looking at its anatomy—which serves only as a proxy of effectiveness.

In conclusion, there is a considerable exploration of the boards to be done in the future, but it is suggested that increased attention should be paid on the physiology of the boards rather than their anatomy. While this main recommendation of the study has a theoretical academic value, it may prove useful for policy makers, regulators as well as board directors who seek improved board effectiveness. While a focus on reaching composition expectations can for example equip the board to better perform its monitoring role, it can reduce its ability to create shareholder value (Boivie, 2021). Financial crises, scandals and corporate failures do not occur because of lack of rules and codes (i.e. largely dealing with the anatomy of boards), but mainly because of misconduct and poor management and governance behaviour (i.e. related to physiology). And this acknowledgment would further support the challenging idea that 'one size fit all' does not apply for boards.

REFERENCES

- Assenga, M.P., Aly, D. and Hussainey, K., (2018) "The impact of board characteristics on the financial performance of Tanzanian firms", *Corporate Governance: The International Journal of Business in Society*, 18(6), 1089-1106
- Blunch, N. J. (2008) *Introduction to Structural Equation Modelling: Using SPSS and AMOS*. London: Sage Publications
- Boivie, S., K. Bednar, M., Aguilera, R.V. and Andrus, J.L. (2016), "Are Boards Designed to Fail? The Implausibility of Effective Board Monitoring", *The Academy of Management Annals*, pp. 1-89.
- Boivie, S., Withers, M.C., Graffin, S.D. & Corley, K.G. 2021, "Corporate directors' implicit theories of the roles and duties of boards", *Strategic management journal*, 42 (9), pp. 1662-1695.
- Boyd, B. (1990) "Corporate Linkages and Organizational Environment: A Test of the Resource Dependence Model", *Strategic Management Journal*, 11 (6) 419-430
- Boyd, B. K. (1994) "Board Control and CEO Compensation", *Strategic Management Journal*, 15 (5) 335-344
- Campbell, D. T. and Fiske, D. W. (1959) "Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix", *Psychological Bulletin*, 56 (2) 81-105
- Carpenter, M. A. and Westphal, J. D. (2001) "The Strategic Context of External Network Ties: Examining the Impact of Director Appointments on Board Involvement in Strategic Decision Making", *Academy of Management Journal*, 4 (4) 639-660
- Conyon, M. J. and Peck, S. I. (1998) "Board Control, Remuneration Committees, and Top Management Compensation", *Academy of Management Journal*, 41 (2) 146-157
- Council of Institutional Investors (2013) "Corporate Governance Policies", Available at: http://www.cii.org/files/committees/policies/2015/04_01_15_corp_gov_policies.pdf (Accessed: 26/01/2015)
- Crittenden, V. L., Crittenden, W. F., Giglio, J. M., and Crittenden, A. B. (2017). "Making the cut: Surgery on the board", *Business Horizons*, 60(1), 67-75.
- Cruz, C. C., Gomez-Mejia, L. R. and Becerra, M. (2010) "Perceptions of Benevolence and the Design of Agency Contracts: CEO-TMT Relationships in Family Firms", *Academy of Management Journal*, 53 (1) 69-89
- Daily, C. M. and Dalton, D. R. (1994) "Bankruptcy and Corporate Governance: The Impact of Board Composition and Structure", *Academy of Management Journal*, 37 (6) 1603-1617
- Daily, C. M., Dalton, D. R., and Cannella, A. A., (2003) "Corporate Governance: Decades of Dialog and Data." *Academy of Management Review*, 28 (3) 371-382

Dalton, D. R., Daily, C. M., Ellstrand, A. E. and Johnson, J. L. (1998) "Meta-Analytic Reviews of Board Composition, Leadership Structure, and Financial Performance", *Strategic Management Journal*, 19 (3) 269-290

Davis, G. F. (2005). New directions in corporate governance. *Annual Review of Sociology*, 31(1), 143–162. <https://doi.org/10.1146/annurev.soc.31.041304.122249>

Demb, A. and Neubauer, F. F. (1992a) *The Corporate Board: Confronting the Paradoxes*. Oxford: Oxford University Press

Eisenhardt, K. M. (1989) "Agency Theory: An Assessment and Review", *Academy of Management Review*, 14 (1) 57-74

Epstein, M. J., and Roy, M. J. (2004) "Improving the performance of corporate boards: Identifying and measuring the key drivers of success", *Journal of General Management*, 29(3) 1-23.

Fama, E. F and Jensen, M. C. (1983) "Separation of Ownership and Control", *Journal of Law and Economics*, 26 (2) 301-325

Field, A. (2009) *Discovering statistics using IBM SPSS statistics*. 3rd edn. Chicago: Sage

Flores, L.G., Zheng, W., Rau, D. and Thomas, C.H. (2012), "Organizational Learning: Subprocess Identification, Construct Validation, and an Empirical Test of Cultural Antecedents", *Journal of Management*, 38 (2) 640-667

Forbes, D. P. and Milliken, F. J. (1999) "Cognition and Corporate Governance Understanding Boards of Directors as Strategic Decision-Making Groups", *Academy of Management Review*, 24 (3) 489-505

Gaur, A. S., Mukherjee, D., Gaur, S. S. and Schmid, F. (2011) "Environmental and Firm Level Influences on Inter-Organizational Trust and SME Performance", *Journal of Management Studies*, 48 (8) 1752-1781

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E. and Tatham, R. L. (2006) *Multivariate Data Analysis*. 6th edn. New Jersey: Pearson Prentice Hall

Hall, J. (2011) *Guyton and Hall textbook of medical physiology*. 12th edn. Philadelphia, Pa.: Saunders/Elsevier

Hamann, P.M., Schiemann, F., Bellora, L. and Guenther, T.W. (2013), "Exploring the Dimensions of Organizational Performance: A Construct Validity Study", *Organizational Research Methods*, 16 (1) 67-87

Hillman, A. J. (2005) "Politicians on the board of directors: Do connections affect the bottom line?" *Journal of Management*, 31(3) 464-481

Hillman, A. J., Cannella Jr., A. A. and Paetzold, R. L. (2000) "The Resource Dependence Role of Corporate Directors: Strategic Adaptation of Board Composition in Response to Environmental Change", *Journal of Management Studies*, 37 (2) 235-255

Hillman, A., Dalziel, T. (2003) "Boards of Directors and Firm Performance: Integrating Agency and Resource Dependence Perspectives" *Academy of Management Review*, 28 (3) 383-396

Hillman, A. J., Nicholson, G. and Shropshire, C. (2008) "Directors' Multiple Identities, Identification, and Board Monitoring and Resource Provision", *Organization Science*, 19 (3) 441-456

Hillman, A. J., Withers, M. C. and Collins, B. J. (2009) "Resource Dependence Theory: A Review", *Journal of Management*, 35 (6) 1404-1427

Hoppmann, J., Naegele, F., & Girod, B. (2019). Boards as a source of inertia: Examining the internal challenges and dynamics of boards of directors in times of environmental discontinuities. *Academy of Management Journal*. 62(2), 437–468.
<https://doi.org/10.5465/amj.2016.1091>

Jensen, M. C. and Meckling, W. H. (1978) "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure", *Journal of Financial Economics*, 3: 305-360

Jonsson, E.I., 2013. One role is not big enough: a multi-theoretical study of board roles in SMEs. *International Journal of Business Governance and Ethics*, 8(1), pp.50-68.

Johnson, J. L., Daily, C. M. and Ellstrand, A. E. (1996) "Boards of Directors: A Review and Research Agenda", *Journal of Management*, 22 (3) 409-438

Johnson, S., Schnatterly, K., Bolton, J. and Tuggle, C. (2011) "Antecedents of New Director Social Capital", *Journal of Management Studies*, 48 (8) 1782–1803

Johnson, S. G, Schnatterly K. and Hill, A. D. (2013) "Board Composition Beyond Independence: Social Capital, Human Capital, and Demographics", *Journal of Management*, 39 (1) 232-262

Judge, W. Q. Jr. and Zeithaml, C. P. (1992) "Institutional and Strategic Choice Perspectives on Board Involvement in the Strategic Decision Process", *Academy of Management Journal*, 35 (4) 766-794

Kaiser, H. F. (1960) "The Application of Electronic Computers to Factor Analysis", *Educational and Psychological Measurement*, 20 (1) 141-151

Kaiser, H. F and Rice, J. (1974) "Little Jiffy, Mark IV", *Educational and Psychological Measurement*, 34 (1) 111-117

Khanna, P., Jones, C. D. and Boivie, S. (2014) "Director Human Capital, Information Processing Demands, and Board Effectiveness", *Journal of Management*, 40 (2) 557-585

Kim, N. and Kim, E. (2015), "Board capital and exploration: from a resource provisional perspective", *Management Decision*, 53 (9) 2156-2174

Klijn, E., Reuer, J. J., Van den Bosch, F. A. J. and Volberda, H. W. (2013) "Performance Implications of IJV Boards: A Contingency Perspective", *Journal of Management Studies*, 50 (7) 1245-1266

Knockaert, M. and Ucbasaran, D. (2013) "The Service Role of Outside Boards in High Tech Start-ups: A Resource Dependency Perspective", *British Journal of Management*, 24 (1) 69-84

Kor, Y. and Sundaramurthy, C. (2008) "Experience-Based Human Capital and Social Capital of Outside Directors", *Journal of Management*, 35 (4) 981-1006

Leblanc, R. and Fraser, J. (2016) *The handbook of board governance: a comprehensive guide for public, private, and not-for-profit board members*. Richard Leblanc & John R. S. Fraser (eds.). Hoboken, New Jersey: John Wiley & Sons, Inc.

Leblanc, R. and Schwartz, M. S. (2007) "The Black Box of Board Process: Gaining Access to a Difficult Subject", *Corporate Governance: An International Review*, 15 (5) 843-851

Lester, R. H., Hillman, A., Zardkoohi, A. and Cannella Jr., A. A. (2008) "Former Government Officials as Outside Directors: The Role of Human and Social Capital", *Academy of Management Journal*, 51 (5) 999-1013

Li, P., Parsa, S., Tang, G. and Xiao, J. Z. (2012) "Is there an Expectations Gap in the Roles of Independent Directors? An Explorative Study of Listed Chinese Companies", *British Journal of Management*, 23 (2) 206-222

Lin, Y., Chou Yeh, Y. M. and Yang, F (2014) "Supervisory quality of board and firm performance: a perspective of board meeting attendance", *Total Quality Management and Business Excellence*, 25 (3-4) 264-279

Long, T. (2007) "The evolution of FTSE 250 boards of directors: key factors influencing board performance and effectiveness", *Journal of General Management*, 32(3) 45-60.

Long, T., Dulewicz, V. and Gay, K. (2005) "The Role of the Non-executive Director- Findings of an Empirical Investigation into the Differences Between Listed and Unlisted UK Boards", *Corporate Governance: An International Review*, 13 (5) 667-679

Machold, S. and Farquhar, S. (2013) "Board Task Evolution: A Longitudinal Field Study in the UK", *Corporate Governance: An International Review*, 21 (2) 147-164

McDonald, M. L., Khanna. P. and Westphal. J. D. (2008) "Getting the to think outside the circle: Corporate Governance, CEOs External Advice Networks, and Firm Performance", *Academy of Management Journal*, 51 (3) 453-475

McDonald, M. L. and Westphal, J. D. (2010) "A Little Help Here- Board Control, CEO Identification with the Corporate Elite, and Strategic Help Provided to CEOs at Other Firms", *Academy of Management Journal*, 53 (2) 343-370

McLean Parks, J. and Conlon, E. J. (1995) "Compensation Contracts; Do Agency Theory Assumptions Predict Negotiated Agreements?", *Academy of Management Journal*, 38 (3) 821-838

Molloy, J.C., Chadwick, C., Ployhart, R.E. and Golden, S.J. (2011), "Making Intangibles "Tangible" in Tests of Resource-Based Theory: A Multidisciplinary Construct Validation Approach", *Journal of Management*, 37 (5) 1496-1518

Napoli, F. (2012) "The Board's Strategic and Control Tasks; Family Firms and their Search for outside Directors to Support Growth: Empirical Evidence from Italian Publicly Listed Companies", *Journal of General Management*, 37(4), 1-27.

Nordberg, D. and Booth, R. (2019) "Evaluating the effectiveness of corporate boards", *Corporate Governance: The International Journal of Business in Society*, 19 (2), 372-387

Pearce, J. A. II and Zahra, S. A. (1992) "Board Composition from a Strategic Contingency Perspective", *Journal of Management Studies*, 29 (4) 411-438

Peter, J. P. and Churchill, G. A. Jr. (1986) "Relationships among Research Design Choices and Psychometric Properties of Rating Scales: A Meta-Analysis", *Journal of Marketing Research*, 23 (1) 1-10

Petrovic, J. (2008) "Unlocking the role of a board director: a review of the literature", *Management decision*, 46(9), pp. 1373–1392.

Petrovic, J. (2009). "Impact of the country context on board director role: the case of directors of international joint ventures based in Serbia". *International Journal of Business Governance and Ethics*, 4(3), pp.207-221.

Pfeffer, J. (1972) "Size and Composition of Corporate Boards of Directors- The Organization and its Environment", *Administrative Science Quarterly*, 17 (2) 218-228

Pfeffer, J. and Salancik, G. R. (1978) *The external control of organizations: A resource dependence perspective*. New York: Harper & Row.

Physiology (2014) *The Columbia Encyclopedia, 6th ed. Encyclopedia.com*. Retrieved 10 July, 2015, from <http://www.encyclopedia.com/doc/1E1-physiolo.html>

Physiology (2015) *Encyclopaedia Britannica Online*. Retrieved 10 July, 2015, from <http://www.britannica.com/science/physiology>

Roberts, J., McNulty, T. and Stiles, P. (2005) "Beyond Agency Conceptions of the Work of the Non-Executive Director- Creating Accountability in the Boardroom", *British Journal of Management*, 16 (S1) 5-26

Roy, M. J., (2009), "Linking board types to key board roles". *International Journal of Business Governance and Ethics*, 4(3), pp.298-314.

Schriesheim, C.A., Powers, K.J., Scandura, T.A., Gardiner, C.C. and Lankau, M.J. (1993), "Improving construct measurement in management research: Comments and a quantitative approach for assessing the theoretical content adequacy of paper-and-pencil survey-type instruments", *Journal of Management*, 19 (2) 385-417.

Sherwin, L. (2003), "Building an effective board", *Bank Accounting and Finance*, 16(5), pp. 22-8.

Siciliano, J. I. (2005) "Board involvement in strategy and organisational performance", *Journal of general management*, 30(4) 1-10.

Stephens, R. D., Dawley, D. D. and Stephens, D. B. (2004) "Director Role Potential As Antecedents of Normative and Affective Commitment on Nonprofit Boards", *Organisational Analysis*, 12 (4) 395-413

Stiles, P. (2001) "The Impact of the Board on Strategy: An Empirical Examination", *Journal of Management Studies*, 38 (5) 627-650

Stevenson, W. and Radin, R. (2009) "Social Capital and Social Influence on the Board of Directors", *Journal of Management Studies*, 46 (1) 16-44.

Sundaramurthy, C. and Lewis, M. (2003) "Control and collaboration: Paradoxes of governance", *Academy of Management Review*, 28 (3) 397-415.

Titova, Y., (2016) "Are board characteristics relevant for banking efficiency? Evidence from the US", *Corporate Governance: The international journal of business in society*, 16(4) 655-679.

Tosi Jr., H. L. and Gomez-Mejia, L. R. (1989) "The Decoupling of CEO Pay and Performance: An Agency Theory Perspective", *Administrative Science Quarterly*, 34 (2) 169-189

Ujunwa, A. (2012) "Board characteristics and the financial performance of Nigerian quoted firms", *Corporate Governance: The international journal of business in society*, 12(5) 656-674.

Van Den Heuvel, J., Van Gils, A. and Voordeckers, W. (2006) "Board Roles in Small and Medium-Sized Family Businesses: Performance and Importance", *Corporate Governance: An International Review*, 14 (5) 467-485

Venkatraman, N., and Grant, J. H. (1986) "Construct Measurement in Organisational Strategy Research: A Critique and Proposal", *Academy of Management Review*, 11 (1) 71-87

Wan, D. and Ong, C. H. (2005) "Board Structure, Process and Performance: Evidence from Public-listed Companies in Singapore", *Corporate Governance: An International Review*, 13 (2) 277-290

Westphal, J., & Park, S. H. (2020). *Symbolic management: Governance, strategy, and institutions*. New York: Oxford University Press.

Westphal, J. D. (1999) "Collaboration in the Boardroom: Behavioral and Performance Consequences of CEO-Board Social Ties", *Academy of Management Journal*, 42 (1) 7-24

Zahra, S. A. and Pearce, J. A. (1989) "Boards of Directors and Corporate Financial Performance: A Review and Integrative Model", *Journal of Management*, 15 (2) 291-334