A Framework for Diagnosing Board Effectiveness*

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Pressure on boards to improve corporate performance and management oversight has led to a series of inquiries and reports advocating governance reform. These reports largely reflect an agency perspective of governance and seek to ensure greater board independence from and control of management.

While board independence is important to good governance, we contend that frameworks, models and advice centred on one element of governance ignore the complexity of how boards work. We develop a holistic board framework based upon the concept of board intellectual capital to address this concern.

Our framework proposes a series of inputs (e.g. company history, company constitution, legal environment) that lead to a particular mix of board intellectual capital. We contend that the balance of the different elements of board intellectual capital will lead to a series of board behaviours. Further, the board needs to mobilise its intellectual capital to carry out a series of roles. The exact nature of these roles will depend on the company's requirements. Thus, the governance outputs of organisational performance, board effectiveness and director effectiveness will depend on the match between the board's intellectual capital and the roles required of it.

We conclude by demonstrating the benefits of this framework as a diagnostic tool. We outline how boards wishing to improve their governance systems can diagnose common governance problems by evaluating their own board's capabilities in relation to the different components of the framework.

Keywords: Intellectual capital, boards of directors, board roles, board effectiveness

Introduction

As the ultimate corporate decision-makers,[1] boards of directors are assuming an increased importance in business life. Understanding how boards work is not a simple task, however. If grasping how an individual will behave is difficult, the complexity involved in understanding how a group goes about overseeing the operations of organisations, often comprising hundreds or thousands of individuals, is daunting. Despite this complexity, the health of our organisations, economies and society rely on us understanding how boards can influence firm performance. There are three major factors that dictate how a board functions and how it achieves a greater degree of control over governance outcomes. First, institutional and historical factors constrain a board's composition, powers and actions. Second, each board has a capability set that will enable it to carry out the role set required of it to varying degrees. Third, various board-level interventions will result in changes to this capability set and so different organisational outcomes.

Understanding how these factors interact requires a range of tools. The conceptual framework or model is a key tool, because it indicates which factors (in the board, for example) are central to the topic of interest. A framework highlights how these factors are

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related to one another or which factors (or combination of factors) will cause changes to others. Thus, developing an understanding of how boards work requires a holistic framework to guide investigations.

Models of how boards work are central to corporate governance research and practice; they dictate the type of data collected, the analysis process employed and, from a practitioner's perspective, the action plan that is developed. Everyone working with or researching boards has developed an implicit model to guide their decision-making. These models are generally tacit and built from previous experiences resulting in "partial models" that vary in quality and complexity with the model builder. Academically, corporate governance has sparked several lines of research based on particular paradigms and models. For instance, Zahra and Pearce (1989) developed an integrative model that could be used to study how the roles and attributes of the board influence firm performance; Hermalin and Weisbach's (1998) model is used to investigate the dynamics of the board–CEO relationship, and in particular board independence from the CEO; and Boyd (1990) devised a model to determine whether boards respond to different types of environmental uncertainty.

Despite the abstract nature of frameworks and models (Sutton and Staw, 1995), partial models need to adequately reflect reality. There is a significant risk that many existing corporate governance models fail this test. For instance, much corporate governance research has concentrated on agency theory and the role of the board in monitoring management to minimise agency costs. Similarly, this attention is evident in normative literature and news services that delight in exposing management excess. Despite press, academic and practitioner interest, however, there is general agreement that the evidence does not support assumed agency relationships (e.g. in a meta-analysis of 54 studies of board composition, Dalton *et al.* (1998) found no substantive relationship between board composition and firm performance. In a similar meta-analysis based on 37 previous studies, Rhoades *et al.* (2000) concluded that board composition, or more specifically the proportion of outside directors, had only an inconsequential relationship with firm performance).

In response, our aim is to develop a holistic framework for examining how boards of directors affect corporate outcomes. Rather than relying on any single governance research agenda (such as agency theory, stewardship theory, resource dependence theory, etc.), we outline a general framework that conceptualises the board as part of a governance system. Specifically, we adapt Nadler and Tushman's (1980) approach to model building and argue that an effective corporate governance system requires a series of components to be in a state of congruence or alignment.

This paper is divided into four sections. The first is a broad overview of the framework, including its main components and the relationships between them. The second details the dynamic nature of the model and how the components interact. In the third section we demonstrate how boards can use the model to analyse their own governance problems. Finally, we discuss the model's implications for how we think about boards and their impact on corporate performance.

A systems view of the board–performance relationship

There are many different ways of thinking about boards of directors and how they may influence corporate performance. Asking a director or senior manager to "draw a picture of an organization" typically results in "some version of a pyramidal organizational chart" (Nadler and Tushman, 1980, p. 37). The board of directors, often drawn as one box, will invariably sit at the top of this structure, indicating a static role and set of relationships, generally with one individual – the CEO. This is a very limited way to conceptualise where the board fits and what it does. The formal and hierarchical nature of this representation reflects the predominant view of boards as a mechanism to monitor management and control agency costs.[2]

This hierarchical representation suffers several deficiencies. It ignores major attributes of boards such as group and individual behaviours, and relationships between board members and with management. Similarly, impacts of the external and internal environment, informal (as opposed to formal) relationships, ethics and the distribution of power are not addressed. Because it ignores many of the critical elements of corporate governance, the hierarchical model is restricted and moribund.

There is growing recognition that broader conceptualisations of how boards add value to their firms are required (Daily *et al.*, 2003). Innovative researchers have outlined how boards can add value by reviewing key decisions (Pound, 1985), advising in the strategy process (Golden and Zajac, 2001), counselling management (Westphal, 1999), and providing access to key resources such as information (Baysinger and Zardkoohi, 1986), capital

(Burt, 1983; Mizruchi and Stearns, 1988), or industry contacts (Pfeffer, 1972, 1973; Pfeffer and Salancik, 1978). Investigations such as these have led to a growth in interest in issues of power (Westphal and Zajac, 1995), board dynamics (Forbes and Milliken, 1999) and interpersonal relationships at the top of organisations (Charan, 1998).

Unfortunately, this wave of innovation does not appear to be reflected in legal systems or governance practice. Rather than embracing recent academic advances, normative and legal perspectives appear bound to the entrenched agency paradigm of how a board adds value. For example, the Sarbanes-Oxley Act of 2002 in the United States decrees that all listed companies must have an audit committee, all members of which must be independent, and that various other conditions relating to the independence of the auditor must be met. The Act also declares that agency costs such as loans, bonuses and profits are either prohibited or may be forfeited in certain circumstances. This trend is paralleled in the international arena. For instance, in both the United Kingdom (e.g. Higgs Review (Higgs, 2003)) and Australia (e.g. ASX Guidelines (ASX Corporate Governance Council, 2003); CLERP 9 (Commonwealth Treasury, 2002)), reviewers concentrate on the agency perspective of governance and the role of independence in monitoring and controlling agency costs.[3]

Instead of describing particular elements of corporate governance (such as agency theory) or specific board behaviours (such as monitoring), we propose a general model that conceptualises the board as a social phenomenon. As social phenomena, boards display many of the attributes of a natural system, and so we propose to view boards as dynamic and open social systems (Katz and Kahn, 1978). Thus, this framework describes the relationships between the board and corporate performance as a set of interrelated elements where a change in one element will affect other elements in the system. Furthermore, a board is an open system, in that the board will need to interact with the firm's environment, both the external operating (or business) environment and the internal (or organisational) environment. We follow Nadler and Tushman (1980) by conceptualising the basic system as three elements. Inputs from the environment are subjected to a transformation process in order to produce various outputs. This is represented in Figure 1.

A typical board consists of different but related components (for example, policies and procedures, various personal and organisational relationships as well as individual directors' knowledge, skills and abilities). The board receives a number of inputs, such as information, environmental feedback, legal constraints and so on, and will need to transform these inputs into certain outputs such as board and corporate performance. As a result, the board will exhibit the following characteristics:

Internal interdependence: *The components of the board are interrelated and changes in one component will normally affect other components. For instance, a change in board policy may lead to a change in the way board members interact.*

Capacity for feedback: *Information about the board's outputs (e.g. board effectiveness or corporate performance) can be used to control the system. Our framework explicitly recognises that a board has the capacity to become a self-correcting system. For instance, if the board realises it is failing to perform a specific function effectively, it can take action to rectify the situation. Unfortunately, there is no guarantee that this potential will be realised.*

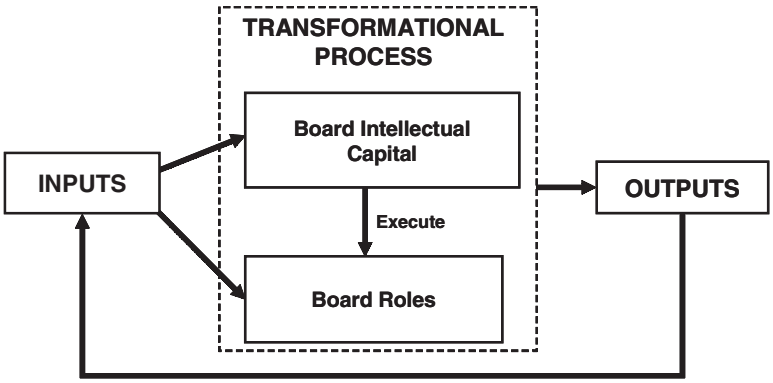

Figure 1: Simple board transformation framework

Equilibrium: *When an event pushes the system out of balance, it will react and change to bring itself back into balance. For instance, if there is a change in board composition, we would predict that there would be a period of instability while relationships and policies change to reflect the different knowledge, skills, abilities and behaviours brought about by the change in composition. Although this may take a substantial period of time (and may in fact lead to further changes at board or management level), the system will move toward a state of equilibrium.*

Equifinality: *In any system there is no one best way or, more precisely, different board configurations can lead to the same or similar board outputs. For example, if a board needs to raise equity, it may be able to use its knowledge and skill to develop an innovative financing structure. Alternatively, it may be able to call on social contacts to provide access to the capital. In both cases, the desired output (raising capital) has been achieved through different transformational mechanisms.*

Adaptation: *Only board systems that maintain a balance with the environment will survive. Thus a board will adapt to changing environmental conditions and organisational demands or it will be forced to change (through board turnover or organisational decline). If a board is faced with changes in the regulatory environment, for example, it may need to adapt its composition, policies or operating procedures. Boards that fail to adapt to changing conditions are at significant risk of failure.*

While the framework outlined in Figure 1 provides a simple interpretation of how social systems theory may be applied to the board–performance relationship, it is too abstract to analyse specific board performance problems. Thus, any framework based on this general systems example needs greater specificity in how boards interact with their organisations and environments to accurately represent the complex and dynamic relationships involved.

A social systems approach to boards is a way to unify existing theoretical and empirical investigations of how boards impact on corporate performance. In particular, it provides an analytic tool specific enough for use in normative and academic settings, while still reflecting the basic characteristics and concepts of a systems approach.

An intellectual capital framework of board performance

Boards add value to organisations through the transformation process set out in Figure 1. Thus, we place greatest emphasis on the transformational process in the framework, particularly the interaction of the various components of this process. Boards and researchers interested in understanding how a board can add value need to be aware of the interdependence and consequences of the interaction of these components. The various components make up a board's capability to add value (i.e. its intellectual capital – see below) and, when a board is stable, these components will be in fit or balance with one another. In effective boards these various components fit well; in the case of an ineffective board they fit badly and lead to governance dysfunction. Thus, the basic premise of our framework is that an effective board will have an effective fit between the various elements of its intellectual capital in light of the roles required of it. Similarly, a poorly performing board will have a poor fit between the components of board intellectual capital and the roles required of it.

The concept of balance or fit is not new and similar models are often termed congruence models (e.g. see Homans, 1951; Leavitt, 1965; Nadler and Tushman, 1980). To avoid confusion, we define our approach as an intellectual capital framework for boards of directors, applying Nadler and Tushman's (1980) congruence model of organisational behaviour to the board.

The framework employs the construct of intellectual capital, an area of increasing interest to management scholars. In particular, we draw upon Stewart's (1997) and Bontis' (1999) conceptualisations of intellectual capital. The framework is also indebted to the seminal governance review articles of Zahra and Pearce (1989) and Johnson *et al.* (1996), which guide our understanding of a board's roles. The framework seeks to explain how a board's intellectual capital brings about board behaviours and how this pattern of behaviour ultimately links to corporate performance. By linking a board's intellectual capital to its roles, inputs and outputs, we are providing a holistic approach to how boards function and the behaviour of board members.

Inputs

The inputs to our model are the specific boundaries within which each board needs to operate. Every organisation and board is presented with a different set of operating conditions or material factors that are outside of its direct control that determine the boundary conditions within which the board operates (Nadler and Tushman, 1980, p. 39). We propose there are four such key inputs to the

Table 1: Key inputs to the board performance relationship

Input	Definition	Critical feature for analysis
Organisation type	Underlying purpose of the organisation (e.g. government corporation, listed corporation, not-for-profit organisation, statutory authority, university etc.)	1. Is there a unified articulated organisational purpose shared by owners, boards and managers? 2. Are there multiple constituencies within the ownership or membership structure?
Legislative and societal framework	Society endorsed rules that govern the operation of this organisation	1. What are the major laws and societal customs within which the board must act? 2. Are there any specific legal duties/framework/customs for this organisation?
Constitution	Governance agreements that govern the organisation that were agreed by the corporate owners	1. What are the legally enforceable elements of board operation specified by the company's Constitution? 2. Are there any other agreements that impinge on the board's function?
History[a]	Patterns of past activity, behaviour and effectiveness of the organisation that may effect current board structure and functioning	1. What have been the major stages or phases of organisational development? 2. What is the impact of these stages on board makeup and functioning? 3. How do the current corporate culture, values, behaviours and decision-making processes affect board performance?
Strategy	Strategy is the way in which a company uses its resources	1. What is the organisation's core mission? 2. What strategies has the organisation employed to achieve its core mission? 3. What objectives have been set for organisational performance?

[a]Adapted from Nadler and Tushman (1980).

board–performance relationship, outlined in Table 1.

The first input is *organisation type*; this input recognises the nature and purpose of the organisation being examined. Irrespective of corporate form, every organisation is established to achieve an overarching purpose and this purpose can have a powerful impact on board composition, board roles and ultimate corporate performance (e.g. Pearce and Zahra, 1992; Johnson *et al.*, 1996). More specifically, organisation type needs to identify whether a company was formed with for-profit motives, philanthropic objectives, government policy objectives, some other specific non-profit objectives or even some combination of these generalised objectives.[4]

Organisation type will affect the corporate governance system in two important ways. First, it will most often determine the degree to which a company has an articulated purpose that is clearly understood by all owners, directors and managers. A key but often-overlooked element of the agency dilemma is the necessity to ensure that the goals of the owners are clearly transmitted to

management (Eisenhardt, 1989; Hendry, 2002) and organisation type can have a significant impact on this problem. For instance, most for-profit companies have clearer objectives than most not-for-profit companies. Second, and similarly, organisation type determines the constituency base of the ownership or membership of the company. In particular, it will be important whether these multiple constituencies have differing (though similar) objectives. For example, the objective of a corporate retailing cooperative may be to support the retail distribution businesses of the owners/members. While this appears a clear objective, the different needs of large versus small retailers (e.g. large retailers may benefit from training materials, while the smaller retailers may benefit more from shared IT systems and support) will most likely complicate corporate objectives. Even traditional for-profit companies can suffer from similar dilemmas. For example, the rapid rise of ethical investment funds (Dunfee, 2003; Hildrey, 2003) clearly indicates that profit is not always the single motivator of investors.

The company's *legislative and societal framework* is the second input of the framework. All companies operate within a set of rules established by the society(ies) within which they operate. For every organisation there will be a law which gives it legal existence. For most organisations this will be a general law which allows the formation of corporations by individuals or groups of people (e.g. the Delaware Corporation Laws in the United States; the Companies Act 1989 in the United Kingdom and the Corporations Act 2001 in Australia). Most countries will have a range of such laws which provide different powers and constraints for different types of organisations. For example, in Australia there is the Corporations Act, which creates companies, state based Incorporated Associations Acts, Cooperatives Acts and so on. In rare instances, organisations are created by specific acts that apply only to them. For example, in the United States and Australia, universities are created by acts of the state legislatures; in the United Kingdom they are created by individual acts of the House of Commons.

Additionally, there are a range of other laws which impact the governance and operations of the organisation. These often apply to all organisations (such as equal opportunity legislation or privacy legislation) or sometimes to a specific category of organisation such as specific mining laws. In rare instances, the law may even apply to a specific company. Consequently, there are two key legal questions – what are the major legal duties of the board required by general law and, second, do any specific laws (either legislation or case law) apply to this organisation.

In addition to these legal requirements, societal customs often have a major impact on how boards operate. For instance, in many societies business success relies on relationships between trusted individuals. In these countries, companies find it necessary to appoint directors with the appropriate social contacts. Similarly, there may be cultural factors such as power distance (Hofstede and Bond, 1984) that place significant constraints on internal governance arrangements, particularly if the company is expanding beyond its traditional geography.

The third major input is the organisation's *constitution*. While society constrains companies through a legislative framework, the owners or members of the organisation set the relationships between owners, directors and managers through the constitution. Normally this will centre on issues of board process and policy that can have a substantial impact on the board's functioning and effectiveness (e.g. who can be an owner, who can be a director, how often various meetings must occur, powers reserved by the company in general meeting, etc.). There may also be a series of voluntary agreements (such as shareholder agreements) that supplement the constitution and need to be considered as part of any diagnosis.

The fourth input, company *history*, is somewhat different from the previous three. This is because the previous three inputs reflect the constraints within which the board operates – the purpose of the company, its legal framework and the agreed division of powers. The fourth input reflects the broader influences of past events. It is very important to understand the major phases of a company's development and the impact of these past events on current corporate governance expectations. For example, past performance, corporate culture, values and decisions on the board's composition will all affect how a board functions.

Company history is often the most important input, because it dictates two key elements of the process. First, it will affect who will be on the board – organisational lifecycle, previous performance and existing director networks all play an important part in attracting directors. Second, company history will often dictate what a board does. Legacy systems abound in corporate governance and what a board is doing and how it does it will often be a result of the unquestioned organisational history.

The final input is the organisation's *strategy*, where we define strategy as how a company uses its resources (Judge and Zeithaml, 1992).

Where a company focuses (i.e. how it uses its resources) will help determine the role(s) that the board will need to perform and the intellectual capital it will need to undertake these roles.

In summary, there are five fundamental inputs into board system: the type of organisation and its objectives, the general legal and societal framework within which the organisation operates, the agreed governance framework of the organisation (e.g. its constitution), the history of the organisation and the organisation's strategy. Together these factors determine the intellectual capital requirements and roles of the board.

Outputs

Significant debate on the structure and techniques of effective boards (e.g. independence of directors, senior executive remuneration techniques, etc.) has neglected the importance of defining board outputs (i.e. how to measure its effectiveness). Instead of considering different types of board outputs as dependent variables, research has centred on either organisational performance (e.g. Dalton *et al*., 1998; Daily *et al*., 2003) or a group-based intermediate variable (such as strategic activity (Westphal and Fredrickson, 2001), accepting greenmail (Kosnik, 1987) or CEO remuneration decisions (e.g. Rechner and Dalton, 1991)) thought to lead directly to organisational performance.

Concentrating on corporate performance largely ignores the individual-level outputs and group-level outputs of a board. Understanding how boards add value to organisations requires an understanding of how boards contribute to three areas of output: organisational outputs, group-level outputs and individual outputs.

Corporate outputs

In for-profit organisations the desired output is firm performance, usually measured by accounting-based measures and market-based measures. Accounting-based measures of performance used in board studies include return on assets (Cochran and Wood, 1984; Hoskisson *et al*., 1994), and return on equity (Baysinger and Butler, 1985), while market-based measures include market-to-book ratio, Tobin's *q* (Barnhart *et al*., 1994) or constructed indices such as the Sharpe measure (Hoskisson *et al*., 1994).

In contrast, measures of not-for-profit organisational outputs are more varied. These organisations measure success by the degree to which they are meeting the expectations of their members as opposed to strict financial performance. But even for outputs measured by financial performance, for what period of time should the board take responsibility? The next quarter? The next annual results? Or results over a five year period? The answer to this question should be defined by the board, and agreed by the owners/members.

The hypothesised relationship between the board and corporate performance illustrates the importance of defining any outputs (or dependent variables) in a governance model. There is widespread agreement that the board works with and through the CEO (and her/his management team) (Lorsch and MacIver, 1989; Tricker, 1994; Conger *et al*., 2001). Therefore, any relationship between the board and corporate performance will be mediated by the effectiveness of that management team.

Attempts to identify direct relationships between corporate performance and boards are naïve, particularly when carried out in a cross-sectional analysis, as Figure 2 demonstrates. An effective board and an effective CEO/management team should produce positive performance. In a similar fashion, poor board effectiveness and poor CEO/management effectiveness will lead to poor corporate performance (an unsustainable position that will result in a change in the board and/or the management team or organisational failure).

In the remaining two quadrants, the nature of corporate performance outcome is indeterminate. Generally, we would anticipate that an effective CEO/management team would result in effective corporate performance. However, a sufficiently dysfunctional board may overwhelm management's effect on performance and lead to poor corporate performance. The most complicated interaction occurs in the case of an ineffective management team and an effective board. Assuming that poor management will be associated with poor corporate performance, but that an effective board acts immediately to bring the situation under control (Lorsch and MacIver, 1989, pp. 97–102), then poor management may not translate into poor performance. At its most extreme, an effective board will undertake the management functions of a poorly performing management team. In any event, we expect that an effective board, over time, either mentors the management team to overcome the performance issue(s) or replaces management. The nature of these quite different boardroom–management interactions highlights the importance of understanding the time lag between board action and corporate performance effects.

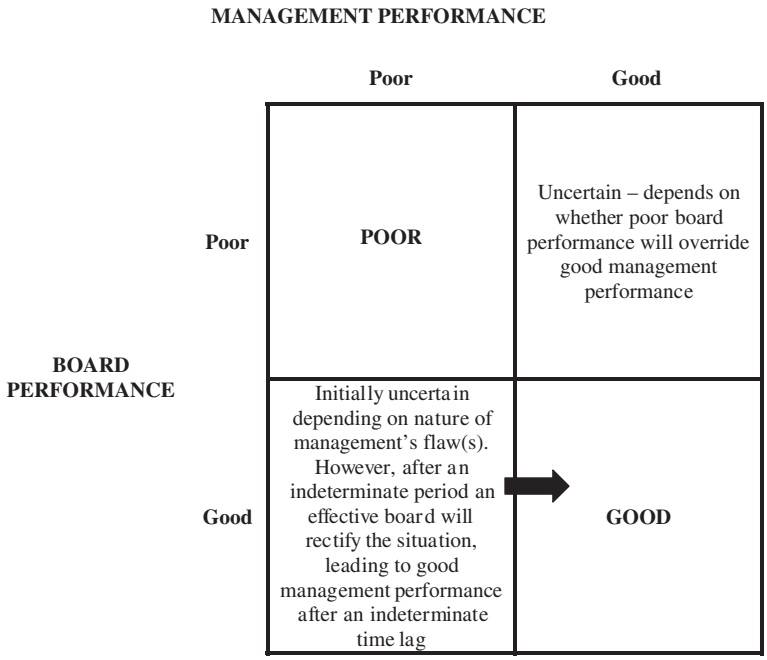

Figure 2: Board/management performance interaction

Board outputs

While corporate performance is an important output from the system, so too is the functioning of the board (as a group) and the senior management (as a group). Group dynamics have a powerful effect on a team's effectiveness and so assessing board-focused outputs is vital to understanding how boards add value. Additionally, positive group-level outcomes may be a consideration of the researcher/practitioner in and of itself.

Individual outputs

Similarly, corporate outputs are influenced by individual outputs. Encouraging and creating positive outcomes such as job satisfaction, sufficient eustress (i.e. positive stress) and even specific affective effects may impact organisational outputs and group outputs, and may be desired outputs in their own right.

The board as a transformation process

Having defined the inputs and outputs of the board system, the next step involves outlining the transformation process. Given the inputs or constraints on an organisation, how does a board implement effective governance so as to achieve positive outputs for the board, individuals and the organisation itself?

There are many approaches to this question. Scholars and practitioners often discuss the independence of boards, the skills base of boards, the culture of the board and even their social contacts. Given the underdeveloped nature of the corporate governance agenda, there is no single way to describe these different board components. The challenge is to synthesise and simplify these various constructs so as to describe boards and how they work. Providing a synthesis will move beyond simple description and allow researchers and practitioners to identify patterns and phenomena that may at first appear to be random activities.

We view a board as a bundle of intellectual capital that enables it to enact a role set. Intellectual capital is a concept of emerging interest for research scholars (e.g. see Petrash, 1996; Brooking, 1997; Roos *et al*., 1997; Stewart, 1997, 2001; Sveiby, 1997; Bassi and Van Buren, 1999; Bontis, 1999; Keenan and Aggestam, 2001), and in applying it to the board of directors we have adapted Stewart's (1997, pp. xix–xx; 66–68) terminology to define it as: The intellectual resources such as knowledge, information, experience, relationships, routines, and procedures that a board can employ to create value.

As this definition highlights, the construct captures the essential elements of board composition that contribute to effective performance.

Since the board's intellectual capital is fundamental to transforming inputs into organisational performance, it is necessary to understand its key components and how these components interact to perform the transformation process.

Board intellectual capital components

Board intellectual capital provides a wide variety of board attributes that may impact on effective governance. These attributes all fall within one of four major sub-domains: (1) human capital, (2) social capital, (3) structural capital and (4) cultural capital. We will discuss each of these individually (see Table 2 for overviews of these components) and highlight how each sub-domain resides at the individual or board level.

The first component is the board's *human capital* – that is, the individual knowledge, skills and abilities possessed by directors. In undertaking any review, emphasis should be placed on the knowledge, skills and abilities of board members relevant to the organisation rather than general business acumen. Analysis of human capital would include a description of the basic functional, industry, board-specific and organisation-specific knowledge, skills and abilities of the directors. For example, what is the level of industry experience possessed by this board? Is there knowledge of this particular organisation? What about requisite functional knowledge (e.g. merchandising in a retail corporation)? And so on.

Boards carry out their roles when individuals apply their knowledge, skills and abilities to the tasks at hand. This makes the board's human capital the starting point in understanding the transformation process. The board's human capital dictates the upper limits of its capability – no amount of teamwork, processes or even ethical behaviour can substitute for a lack of basic ability. Rather, all other elements of intellectual capital (or lack thereof) impede the use of human capital. Ineffective processes, dysfunctional relationships and inappropriate ethics can only serve to reduce the efficacy of human capital. For instance, ineffective processes may inhibit the flow of information to the board and so its human capital cannot be deployed. Similarly, poisonous personal relationships (either between board members or between the board and management) will affect the boardroom dynamic and, again, the board's deployment of human capital is degraded.

Table 2: Key components of board intellectual capital

Component	Human capital	Social capital	Structural capital	Cultural capital
Definition	Innate and learned abilities, expertise and knowledge (adapted from Castanias and Helfat, 2001, p. 662)	Implicit and tangible set of resources available by virtue of relevant social relationships (adapted from Gabbay and Leenders, 1999, p. 3)	Explicit and implicit codified knowledge (e.g. routines, policies and procedures) (see Bontis, 1998, p. 65)	Implicit and tangible resources available by identification with the values, norms and rules sanctioned by the dominant group (e.g. honesty) (Lin, 2001, p. 43)
Resides in	Individual directors	Individual directors Board	Board	Individual directors
Key dimensions	1. General knowledge 2. Industry experience 3. Organisational experience 4. Board experience 5. Company specific knowledge and experience 6. Functional experience and knowledge 7. General business knowledge and experience	1. Network of extra organisational contacts – scope of resources and nature of contacts 2. Relationship(s) with CEO, both as a board and as individuals 3. Relationships between board members	1. Documented board policies including manuals, charters and guidelines 2. Board culture 3. Implicit board procedures and norms	1. Individual work norms 2. Individual morals 3. Individual motivations

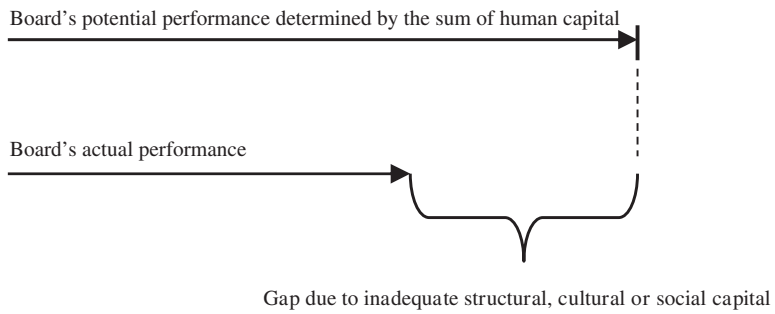

Figure 3: Representation of process loss in board capability

Figure 3 demonstrates this relationship. The longer arrow signifies that a board's potential is dictated by the human capital of its members working together under optimal conditions – the level of knowledge, skills and experience that the board can bring to bear if it were to function perfectly. The second arrow represents the performance of a hypothetical board. As illustrated, a board's actual performance will always be less than its potential performance. It is the other three sub-domains of intellectual capital – social capital, cultural capital and structural capital – that will determine the size of the performance gap.

Since board members can add value to the firm by providing access to scarce resources such as information (Baysinger and Zardkoohi, 1986), capital (Mizruchi and Stearns, 1988), power (Scott, 1991) and industry contacts (Pfeffer, 1972), the second component of a board's intellectual capital is its *social capital*. Social capital refers to the implicit and tangible set of resources available to the board by virtue of social relationships (adapted from Gabbay and Leenders, 1999, p. 3).

To determine a board's social capital we need to understand the key relationships held by board members, the nature of these relationships (e.g. is there a high degree of trust?) and the resources that are available as a result of these relationships. Since our level of analysis is the board, there are three types of social capital in every board residing both within and outside the company. First, there is intra-board social capital. This capital is the "store" of goodwill that exists between board members and will determine the productivity of exchanges between board members. Second, is board–management social capital. As with the intra-board social capital, this is the store of goodwill that exists between the members of the board and individual senior managers, most notably the CEO. The level of capital in this relationship will determine the effectiveness of exchanges between the board and management. Finally, there is extra-corporate social capital. This element of social capital is more complex than the other two because not only does it relate to a relationship between corporate actors (i.e. board members and external parties who can supply resources such as finance, information, key inputs, etc.), but the nature and extent of resources that the external party can supply. In a government corporation, for example, social capital may involve the information a director can garner from his or her contacts within a relevant government department. In this example it is both the nature of the relationship between the parties (i.e. the director and the government employee) and the attractiveness of the resource (in this case the information that can be gathered legally and ethically) that is important.

The third component of board intellectual capital is *structural capital* or the board's explicit and implicit codified knowledge (Bontis, 1998, p. 65). Structural capital includes the various procedures, policies, routines, processes and methods the board has developed. This structural capital can be codified and/or tacit and can be broadly categorised as a routine, a policy or element of board culture. The first categorisation of structural capital, routines, includes mechanical aspects of the governance function such as how the board papers are developed, how the agenda is compiled, how minutes are taken and distributed, and so on. These routines can be either explicit (i.e. documented) or implicit (i.e. undocumented, but a known expectation). The second categorisation is board policies. Board policies are concise statements regarding the board's expectations with respect to specific issues ranging from behavioural/ethical expectations to more routine matters. These policies are generally recorded in either the minutes of the meeting when the policy is passed or consolidated into a board charter or policy manual. Consequently, board policies tend to be explicit. The third and final categorisation of board structural capital is the board's

culture. Board culture is a term used to describe the underlying values, beliefs and norms of the board (Schein, 1992). This will tend to be implicit and govern "the way we do things around here" (Deal and Kennedy, 1988, p. 4). Together, the routines, policies and culture of the board set out a shared set of structures that can minimise (or conversely exacerbate) the process loss of the board.

The final component of the board's intellectual capital is its *cultural capital* or the resources captured through social identification with the values, norms and rules sanctioned by the dominant institutions (Lin, 2001, p. 43). In the case of governance, these values would include expectations of transparency, honesty, and so on. It is subtly different from social capital in two ways. First, cultural capital is captured by virtue of social identification (i.e. the identities or social categories by which people define themselves, e.g. gender, occupation (Tajfel, 1981)), not of relationships (although in certain circumstances there will be an overlap of the two). Second, cultural capital deals with the degree to which board members share norms, values and rules within the operating environment, not each other (as in board culture). The board's "embeddedness" in the predominant culture can allow it access to resources to impact the transformation process. For instance, individual board members' reputation for honesty can allow them access to sensitive information even where they do not share a direct relationship with the person who is providing the information (which, by definition, is a requirement of social capital).

Boards can therefore be conceptualised as a set of five components – the human, social and cultural capital of individual directors and the social and structural capital of the board as a whole. The value of the proposed framework, however, does not lie so much in identifying these various components. Rather, it lies in identifying the nature of the interaction between them and the dynamics and relationships between the various components that result. To demonstrate this issue, we must turn to the concept of board dynamics and congruence or fit.

Board dynamics and intellectual capital fit

Thus far the framework has outlined the transformational process of the board as a set of four interrelated components or capitals. This approach has not offered a view on the dynamics of the system, most notably the behaviours of individuals within the governance system. We view these behaviours or board dynamics as the interplay between the various components of intellectual capital. These one-off actions result from the interplay between the board's capitals and are different from the components themselves. The various capitals represent different stocks (or levels) of capability that reside in individuals or the group and they enable the board to add value during the transformation process. In contrast, board dynamics represent activities undertaken by system actors to change the stock of a board's capital. Board dynamics are the "sparks" that fly from the interplay between the "flints" of intellectual capital. They occur because of a change in a capital component. Similarly, a dynamic necessarily leads to another change in the capital of the board.

A practical example can clarify the difference. Suppose a new director joins the board. In this case, the human capital of the board (knowledge, skills and abilities of the directors) has changed. After undergoing an induction process, the director believes that the induction could be improved by structuring a series of one-on-one meetings with the CEO and senior managers. The director will then undertake a behaviour, for instance, raising the issue at a board meeting, which we view as a board dynamic. This behaviour or dynamic will lead to a change in some component(s) of the board's intellectual capital. In this example, if the induction process changes as a result of the discussion, there has been a change in the board's structural capital. If the induction process is not changed, then the discussion (i.e. the dynamic) will either build or erode intra-board social capital. Either way the dynamic or behaviour is a result of, and results in, changes in the board's intellectual capital.

As this example highlights, the degree of fit or congruence between the various elements of board intellectual capital is critical. This congruence can be defined as the level of alignment or balance between the requirements of one component in the system with the requirements of another component. Board dynamics that are normatively described as "good" will be the result of congruent intellectual capital; the various components make demands on each other that are consistent and achievable. In contrast, "poor" board dynamics will result from incongruence or poor fit between the elements.

Consider another relatively simple example involving the board's human capital and structural capital. The type of information presented to the board and the way that this information is presented (i.e. structural capital) will make demands on a director's knowledge, skills and abilities. Since directors have a set

level of human capital, the better the match (or fit) between information presentation and director ability, the "better" will be board dynamics and task execution. To be even more specific, it is unlikely that the board of a small non-profit company would have the same ability to comprehend complex financial information as a large finance company. While both companies need to understand their financial situations, we would expect a difference in how this understanding is achieved.

The human–structural capital dynamic covers more than the interplay between information presentation and knowledge, skills and abilities. Each set of relationships or interplays in the model will have a number of characteristics. While a detailed review of each and its potential impact on effective governance are beyond the scope of this paper, Table 3 highlights the key elements of each relationship.

Analysing the detail of each will require other more specific sub-models that can be found in existing organisational behaviour and corporate governance research. As an example, Westphal (1999) identified that when directors are social contacts of the CEO, they are more likely to provide her/him with advice. Thus, the social capital will influence the application of the human capital of the board. The complete framework allows the analyst a view of collective system fit, in as much as there is a degree of fit between the individual components of board capital. The intellectual capital can only be assessed, however, in light of its alignment with the board's role requirements. Thus the final component of the transformation process is board roles.

Board roles and contingency factors

An effective board is one that can successfully execute the role set required of it. Therefore, a sophisticated understanding of roles and the interplay between the roles and the company's environment is central to any assessment of board effectiveness. Current research has investigated the board's role in controlling the organisation (Monks and Minnow, 1995), monitoring management (Fama, 1980; Zahra and Pearce, 1989; Byrd and Hickman, 1992; Bainbridge, 1993; Westphal, 1999), providing advice to directors (Baysinger and Butler, 1985, Kesner and Johnson, 1990; Westphal, 1999), assisting in development of corporate strategy (Judge and Zeithaml, 1992; McNulty and Pettigrew, 1999) and providing access to resources (Pfeffer, 1972, 1973; Pfeffer and Salancik, 1978). These examples form part of an extensive stream of governance research

Table 3: Analysis of intellectual capital fit

Fit	Key questions
Human capital/structural capital	• Do the policies, procedures and culture make best use of the board's knowledge, skills and ability as a group? Do policies, procedures and culture make the most of each individual director's knowledge, skills and abilities?
Human capital/social capital	• Is there sufficient trust on the board for the most to be made of directors' capabilities? Do relationships encourage the use of the board's talents by management? Do directors understand how they can put their contacts to work for the company?
Human capital/cultural capital	• Do the values, norms and beliefs of the board support the best use of the board's capabilities? How do the group's values, norms and beliefs affect a director's willingness to use his/her capabilities?
Social capital/structural capital	• Do policies, procedures and culture build trust in the boardroom? Between the board and managers? Between the board and external organisations?
Social capital/cultural capital	• Do the values, norms, beliefs of the group match those of society? • Do the individuals share values, norms, beliefs? • Do these match management's values, norms, beliefs?
Structural capital/cultural capital	• Do policies, procedures, culture match societal expectations?

that has advanced our understanding of how boards work from the perspective of executing an individual role.

Two interesting points emerge from the literature. First, while early research tended to characterise boards as largely ceremonial bodies (Mace, 1971; Herman, 1981), more recent normative and academic literature portrays the board as an increasingly active body seen as ultimately responsible for corporate success (Cohan, 2002; Sonnenfeld, 2002). This more recent portrayal is also a result of changing societal expectations of the board. Second, as a general rule, research has concentrated on how the board's execution of a single role affects organisational performance rather than a relationship between execution of an integrated role set and performance.

This absence of an integrated approach has resulted in the board's role set being conceptualised in several different ways (e.g. see Zahra and Pearce, 1989; Lipton and Lorsch, 1992; Pettigrew, 1992; Hung, 1998; Johnson *et al*., 1996). While differences in terminology and classification systems persist, there is general agreement on three key activities that a board needs to fulfil (e.g. Zahra and Pearce, 1989; Johnson *et al*., 1996). These three roles of the board are: (1) controlling the organisation (including monitoring management, minimising agency costs and establishing the strategic direction of the firm); (2) providing advice to management (which may include providing advice on strategy and is sometimes classified as a component of the control role) and (3) providing the firm, through personal and business contacts, access to resources (including access to finance, information and power).

The ability of the board to execute these three roles will determine how effectively the board governs the company. All firms will not share the same role requirements, however. The specific nature and balance of board roles will vary depending on the inputs, that is the company's context and evolution (Johnson, 1997). For instance, if a company is the subject of alternative monitoring forces such as concentration of share ownership (e.g. Dalton *et al*., 2003, p. 21), the board may add greater value by providing salient advice to management and access to resources than by monitoring. Alternatively, in complex companies the board may need to take a much stronger role in controlling the company. Stable industries and companies such as regulated utilities may require highly specialised boards that possess key government contacts. Other more competitive industries may require a better-rounded set of roles to be effectively implemented (Pfeffer, 1972). Figure 4 provides an elaborated set of contingency factors.

The alignment proposition

The final task in explaining the framework is to highlight the critical nature of system alignment. In essence we propose that the board's effectiveness depends on the align-

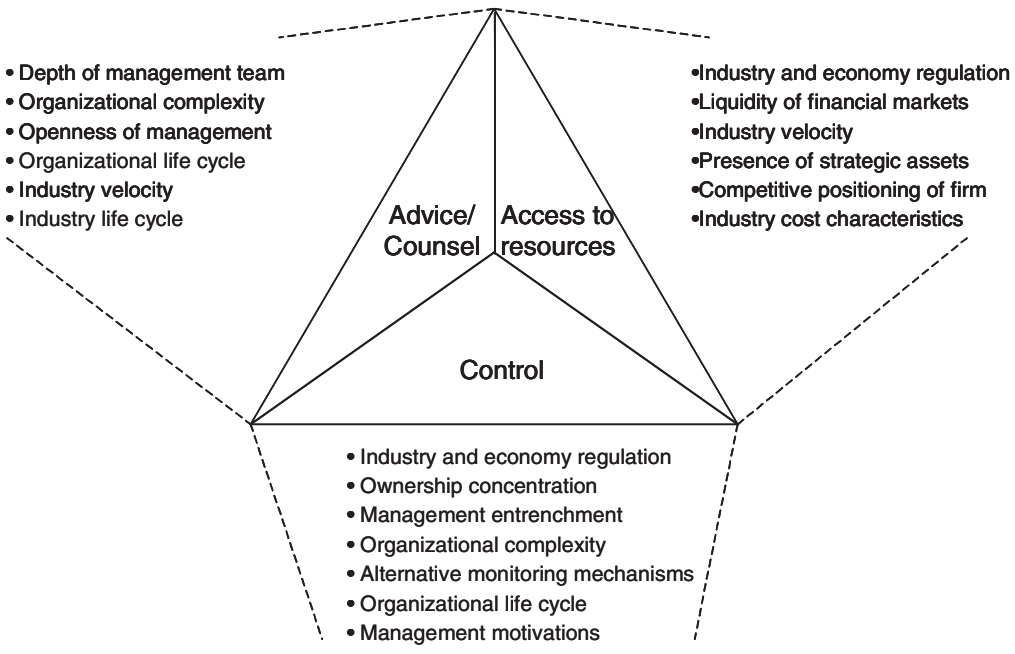

Figure 4: Contingency factors impacting on board role requirements

ment between the various board capitals and its required role set. Rarely will effective corporate governance be the function of a single component within the framework (e.g. human capital or social capital). Instead, effective governance results from a mix of intellectual capital that enables the board to carry out a set of roles dictated by the company's individual circumstances. The challenge in governance is, therefore, to understand the roles required of the board and then match the intellectual capital of the board to those roles.

As a key input in the framework, strategy dictates that a board also requires alignment with the internal and external environment. By definition, the board will be most effective when it can respond to external environment demands such as changes in legislation, the competitive environment and broader socio-economic trends. Board effectiveness will also depend on the relationship between the board and the governed company. For instance, fit is required between the board and the culture, people and systems of the organisation. By and large, this fit will be evident both as key impacts on the required role set and on the fit of specific elements of intellectual capital.

An important implication of the framework is that diagnosing corporate governance problems involves a holistic understanding of the entire system. This overarching view of the system allows for a deeper understanding of the concerns facing a board and a consequent analysis of fit is more likely to determine the cause(s) of those problems. Importantly, as highlighted in the system characteristic of equifinality, the framework also recognises that different combinations of key components can be used to achieve the same outputs. Therefore, the problem is not to find the "one best way" of governing, but rather to understand how effective combinations of intellectual capital fit together and lead to congruence with a firm's needs.

The intellectual capital model provides researchers and practitioners with a general organising framework or meta theory. Board specialists and researchers will require more specific "submodels" to help them define high or low fit in specific circumstances (Nadler and Tushman, 1980). Examples of submodels that might be used in the context of this framework include: (1) agency theory to assess the fit between monitoring, human capital and board–management social capital, (2) stewardship theory to assess the fit between providing advice, board–management relationships and cultural capital, (3) resource dependence theory to assess the fit between providing access to resources and the social capital of individual directors and (4) institutional theory to assess the fit between the board's inputs and its other organisational components. These theories are not meant to be a comprehensive list of submodels, but provide insight into how the general model comprises extant corporate governance research.

The other key attraction of the framework is that it recognises the trade-off between the various attributes of a board. Boosting a board's human capital may come at the expense of its board social capital (e.g. recruiting new members for specific skills may lead to process loss as a result of a larger board or it may even lead to a deterioration in board relationships (i.e. intra-board social capital)). Thus, it provides an organising framework for the researcher in terms of research design and interpretation of data and for the practitioner in terms of essential areas for investigation and intervention.

Figure 5 illustrates the general framework for board analysis that we have described. The board can be conceptualised as a system that transforms inputs into outputs – a process that is facilitated by its intellectual capital and is contingent on the roles required of it. The fit between these components is the crucial dynamic that we need to understand if we want to know how boards work. Having described the model, the next section outlines how it can be used to analyse board problems.

Board problem diagnosis

Since boards and their directors face constantly changing circumstances, they are continuously involved in identifying and solving problems; they are constantly assessing their effectiveness against desired levels of performance in order to identify problems and develop interventions designed to align actual and desired performance levels. To assist in this process we have developed a ten-step generic problem-solving process that uses the intellectual capital framework to identify governance problems and generate possible interventions (adapted from Nadler and Tushman, 1980, p. 48). In this section we describe each step in the process and demonstrate how the intellectual capital framework can be applied to real world governance problems. The steps are:

1. Symptom identification. The first stage involves collecting data on the problem(s) that the board faces. At this stage, the investigator is seeking to identify data that indicate that there is a problem(s), rather than where the problem lies or what the

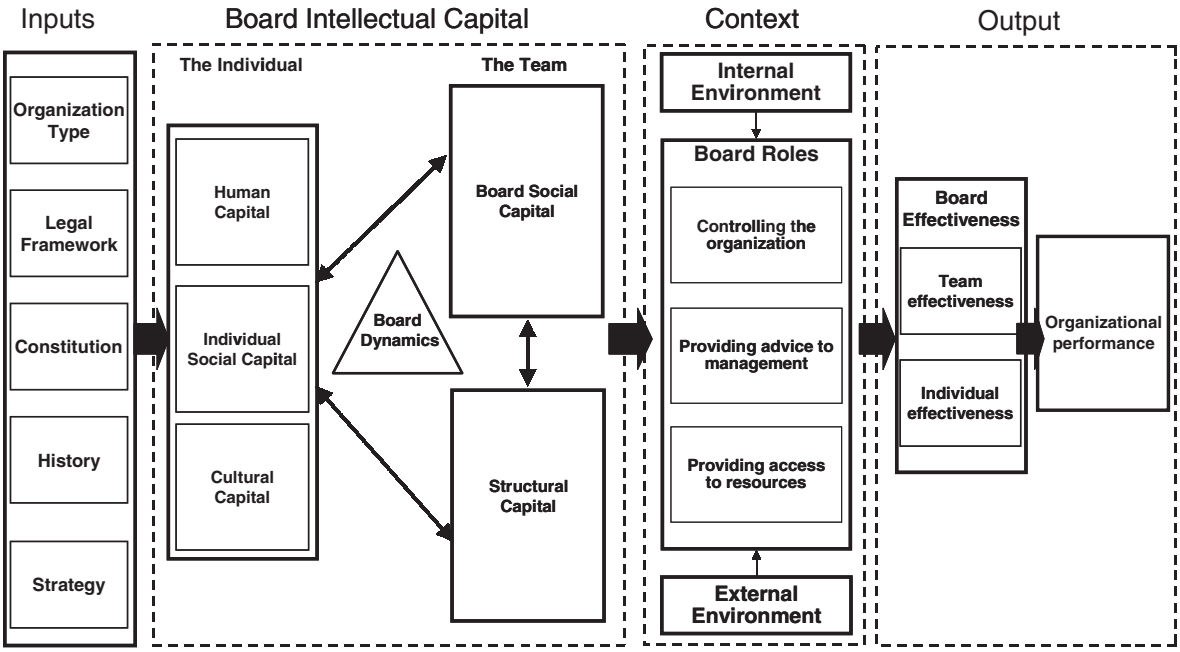

Figure 5: The board intellectual capital framework

problem actually is. This is because symptomatic data may indicate where to look for more complete data rather than lead to the immediate identification of problems.

2. Input specification. With the symptoms identified, the next stage in the problem solving process is to identify the key influences on the board's transformation process. This will involve collecting data on the type of organisation that the board governs, the legislative and societal framework within which it operates, the constitutional and voluntary agreements governing its operation along with an assessment of historical influences. This stage will also involve understanding and elaborating the strategy of the organisation – its vision, mission and values along with supporting objectives and strategies.
3. Output identification. After examining the system inputs, it is necessary to identify the desired system outputs. As previously outlined, these outputs may occur at the individual, group and organisational level. First, it is necessary to outline the organisationally preferred outputs. Second, it is necessary to gather data to ascertain the board's realised output for comparison with the desired outcomes.
4. Problem identification. After gathering actual system outcomes, it is necessary to identify the divergence between desired and actual outcomes. While this may build upon step 1 of the process (i.e. the symptom identification), it is a more rigorous analysis with the objective of problem (as opposed to symptom) analysis. Thus, the problem(s) may occur at several places in the governance system. Note that this comparison will tell us where the problem exists, but not necessarily its cause(s).
5. Describe the board's intellectual capital. With the problem identified, the next step begins to investigate its cause(s). The starting point is a description of the four key components of board intellectual capital. This involves describing the board's human capital, social capital, structural capital and cultural capital, including the nature and essential characteristics of each component.
6. Describe the board's role set. The next step involves understanding the roles currently being undertaken by the board.
7. Assess board role fit. Following a description of the board's role set, it is necessary to begin assessing the fit of the company's governance system. The first step is to review the fit between the board's role set and company needs. A review of the internal and external operating environments and alignment with strategy can inform this stage.
8. Assess intellectual capital–board role fit. Step 8 involves assessing the positive or

negative fit between the components identified in the previous three steps. This assessment is undertaken by applying submodels or theories (e.g. agency theory, stewardship theory, resource dependence theory, etc.) to the data collected in steps 5 to 7.

9. Develop hypotheses. With components and fit assessed, this step involves developing an understanding of the relationships between the patterns of fit and the firm outputs. In essence, this stage links the problem identification of step 4 with the analysis of fit in steps 5 to 8. The outcome should be a proposed linkage between the elements of the board's intellectual capital, its required role set and the observed company outputs.
10. Develop action steps. The final step in the problem-solving process is to develop a series of action steps aimed to resolve the problems caused by the lack of congruence. As with any problem-solving approach, it will be necessary to implement and monitor the impact of the chosen course of action.

The intellectual capital framework and the associated ten-step problem-solving process are aids in understanding and managing the complex relationships that exist within the governance of modern organisations. Since both companies and social systems are unique, dynamic and indeterminate, it is impossible to provide a generic solution to governance problems. The model and process do, however, allow practitioners a framework for making interventions and determining the consequences of those interventions.

Future directions

In many ways, this framework raises more questions than it answers. By presenting a novel perspective on boards, many questions remain unexplored. Are all the key components identified in this framework? Are the relationships outlined the key elements for understanding how boards work? These specific questions highlight the often-overlooked fact that directors are a small social group that is part of a highly dynamic system – a complex and evolving array of political, social, legal and economic factors (Leighton and Thain, 1997). While these and related questions are valid challenges to our framework, we hope that it provides a starting point for such a discussion. Having a framework is normally a prerequisite for social science research – and this has been our starting point. The lack of a generalised problem-solving framework for boards suggests that we do not have a basic functional understanding of how boards work (Nadler and Tushman, 1980) and we hope the framework presented here goes some small way to advancing our understanding.

This framework may also lead to an understanding of the generalised types of problems that a board faces and the causes of those problems. While all governance situations are in some ways unique, a key question we need to investigate is whether there are basic problems that all boards face. Is there some method of categorisation that we can use to diagnose these problems and suggest remedial interventions? Similarly, it may be pos-sible to isolate specific conditions, such as regulated industries where a board role may be more or less important (e.g. Pettigrew, 1992). Alternatively, it may be possible to link a particular element of board intellectual capital with the provision of a specific board role(s). The application of the model will, we hope, lead to benefits in our governance systems.

From a practitioner perspective, the framework can provide a useful device for assessing board performance and has the potential to improve corporate performance through the resultant improvement in board role execution. It may also assist boards and their advisers to assess their particular board composition needs and to construct the relevant process-related interventions to meet these needs and improve board performance.

Summary

Corporate governance is assuming an increasingly important place in organisational life. As an organisation's ultimate decision-making body, the board is inexorably linked to corporate performance. This article has attempted to present a generalised framework and process to assist us to conceptualise how boards work and what we can do to improve board and consequent firm performance. It is a way of conceptualising boards, but clearly not the only way of thinking about boards. Similarly, we would not claim that it is the definitive framework for analysing boards. Instead, we hope this framework can assist researchers to investigate the complexities of boardroom life, assist policy makers develop laws and regulations which will improve organisational performance, and help directors and their advisers to develop and maintain effective boards.

Notes

1. The framework outlined in this paper can apply to boards, or groups legally charged with the responsibility for an organisation, be this a for-profit, a not-for-profit or government corporation. Such organisations are created by a variety of statutes in most sovereign states. The key hallmark of such organisations is that the final legal responsibility for the direction and control of the organisation rests collectively in a team of people and not just an individual. Hence the term "board" in the paper refers to such teams.
2. Agency costs arise in organisations where the owners are not the managers of the firm. Typically, the interests of the owners (maximising shareholder returns) do not wholly match the interests of managers. Given various attributes of the management–shareholder relationship (such as information asymmetry), the owners of the firm will need to employ mechanisms to minimise their losses from this lack of alignment. One way of minimising losses is to implement a board of directors to oversee shareholder interests.
3. Encouragingly, issues such as board performance reviews (Higgs Review) and structuring the board to improve performance (ASX Guidelines) are appearing on the agenda, but they tend to be a minority and not clearly defined.
4. For example, some for-profit organisations have specific social objectives (e.g. the Body Shop), while some not-for-profit organisations (e.g. Greenpeace) have specific elements of their operations that are undertaken to make a profit to spend in other areas.

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"Trust can't be rebuilt by speeches, laws, or even great performance. Good governance must be part of the flow and synonymous with good business." *Jeff Immelt, Chairman and Chief Executive of General Electric.*