On the use of critical realism to advance governance research beyond correlations

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Abstract

The topic of governance has attracted considerable attention amongst researchers and practitioners, as the search for business performance has moved from the CEO to the boardroom. Some of the governance research published to date has produced fascinating results, however researchers appear to have experienced great difficulty attributing causality to governance. The aim of this methodological paper is to challenge the normative input-output approach that has dominated much of the governance research agenda, and to suggest an alternative approach to enable researchers to move beyond the limitations of positivism and interpretivism. The use of critical realism, longitudinal case study and abductive and retroductive modes of inference for theory development and testing, to gain new knowledge about governance, and the elusive governance–performance relationship in particular, is proposed as a means of moving the research beyond correlations.

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Introduction

Over the last four decades, many researchers have investigated topics within corporate and institutional governance (Tricker, 2012). Most of this research has investigated structural, composition and behavioural attributes (Cowling, 2003) of the boards of listed companies (Daily and Dalton, 1993) and, to a lesser extent, small-medium enterprises (Clarke and Klettner, 2010; Stevens, 2011). The most commonly used research methods have been surveys, questionnaires, and the inspection of publicly available records (Huse and Zattoni, 2008). Positivism; large quantitative data sets (Uhlaner *et al.*, 2007; Moore and Reberioux, 2011); hypothetico-deductive science (Ketokivi and Mantere, 2010); and, a normative input-output perspective have dominated the governance research agenda to date.

The goal of most of the published research appears to have been the identification of patterns and regularities, without any apparent interest in providing an explanation (Elster, 2007) of how such patterns or regularities occur – or even why they may be important. The results have been mixed (Hermalin and Weisbach, 2003; Finegold *et al.*, 2007; Petrovic, 2008; Pugliese *et al.*, 2009; Lawal, 2012). No conclusive explanation of the so-called governance–performance relationship (Huse, 2007) has been achieved, despite the board appearing to be important to value creation; board effectiveness appearing to be an antecedent of company success; and, some variables appearing to be significant in some circumstances or jurisdictions.

The discovery of knowledge, to "develop deeper levels of explanation and understanding" (McEvoy and Richards, 2006, p. 69) of how or why something is as it is, is the ultimate goal of research. Governance research is no exception. However, the continued use of proxies, statistical analysis techniques and hypothetico-deductive science appears to have contributed to an impasse (Friedrichs and Kratochwil, 2009) in governance research, beyond which most researchers have been unable to proceed. That the influence of boards on performance cannot be confirmed – let alone explained – is a significant knowledge gap, in the literature and in practice.

The board has a mandate to optimise company performance (Bainbridge, 2002); governance is of "enormous practical importance" (Shleifer and Vishny, 1997, p. 737); and, important economic (Gamber and Scott, 2007; Bozec *et al.*, 2010) and societal benefits (Schefold, 1979; Friedman, 2005; Ahlstrom, 2010) can flow from high company performance. Therefore, efforts to understand the contribution that boards can make must continue. However, the dearth of any conclusive evidence from research efforts to date suggests that three assumptions commonly made by researchers – that governance is a structure or process; that governance and management are independent; and, that governance can be reduced to a set of discrete variables – need to be set to one side. A different approach is required.

This paper is organised as follows. A summary of the common approaches that have been favoured by governance researchers is provided. Ontological and epistemological considerations are discussed, and the crucial importance of gaining access to the boardroom explored. Then critical realism is proposed as an alternative research philosophy for more effective governance research. Finally, opportunities for future governance research are presented.

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Contemporary approaches to governance research

Corporate governance has attracted considerable attention amongst both researchers and practitioners, more so as the search for business performance has shifted from the CEO to the largely hitherto ignored boardroom (Brown and Caylor, 2004). Boards of directors (henceforth, boards) are understood to provide a vital link between company owners and managers (Fama and Jensen, 1983). Consequently, many structure and composition variables have been studied (Boone *et al.*, 2007), to identify the best configuration through which to minimise agency costs (Agrawal and Knoeber, 1996) inherent between owners and managers and, therefore, optimise company performance in accordance with shareholders' wishes.

While some of the governance research published to date has produced fascinating results, researchers have experienced great difficulty attributing causality to governance (Adams *et al.*, 2010). Much of the published research has utilised secondary or tertiary data, and performance proxies (Leblanc and Gillies, 2005) because the gaining of access to boardrooms to make first-hand observations has been considered to be too difficult to achieve. Statistically significant correlations and rich descriptions have been reported, although a stark polarisation of governance research – along positivist and hermeneutical lines – has occurred, presumably as a consequence of the positivist assumption that governance is comprised of separable events and attributes that can be isolated and studied discretely.

Regrettably, the strongly held views of positivist and interpretivist researchers has led to a divisive governance literature that is difficult to synthesise, although many variables that have appeared to be significant have been isolated (Boone *et al.*, 2007) for examination. These include, but are not limited to, board structure (Cowling, 2003; Gabrielsson and Huse, 2004); size (Coles *et al.*, 2008); CEO duality (Dalton and Kesner, 1987); composition (Ahmed *et al.*, 2006; Nicholson and Kiel, 2007); gender (Simpson *et al.*, 2010); diversity (Van der Walt *et al.*, 2006; Adams and Ferreira, 2009); non-executive directors (Cadbury, 1992); behaviour (Larcker and Tayan, 2011); practice (Adjaoud *et al.*, 2007; Balgobin, 2008); and, power (Peebles, 2010). However, the results of these studies are not consistent, and many of the reported results have been falsified, as five comprehensive meta-analyses attest (Hermalin and Weisbach, 2003; Finegold *et al.*, 2007; Petrovic, 2008; Pugliese *et al.*, 2009; Lawal, 2012). Further, while the presence of constant conjunctions between variables does indicate a relationship, they do not necessarily constitute a causal explanation (Cartwright, 1989) of how boards influence performance, regardless of how strong or statistically significant that any reported correlations may be.

Boards are accountable and responsible for the optimisation of company performance in accordance with owners' wishes (Bainbridge, 2002). Therefore, governance, and any relationship with performance, is perhaps best understood through the decisions made by boards, as they seek to achieve desired outcomes. The possibility of a relationship between boards and performance has been discussed in the literature (Yermack, 1996; Huse, 2007; Nicholson and Kiel, 2007; Huse *et al.*, 2011). However, the nature and characteristics of the supposed relationship have not been conclusively determined (Bozec and Bozec, 2012), although the active engagement of the board in the process of governance (Hilmer, 1994) in the form of leadership in the development of strategy (Wheelen and Hunger, 2006); the making of strategic decisions in the context of approved strategy (Crow and Lockhart, 2013); and, the effective monitoring of strategy implementation and subsequent performance outcomes (Johanson, 2008) all appear to be significant. This suggestion supports the assertion that the value of boards, and any contribution they make to business performance outcomes,

should be attributed to their actions (what they do) rather than to any structure or composition attributes (what they are). Surprisingly, the literature is relatively devoid of research into the board's role in strategic decision-making (Lockhart, 2010).

Ontological and epistemological considerations

Over the last four decades, the governance research agenda has been dominated by the statistical analysis of large data sets and a pre-occupation with hypothetico-deductive science. Consequently, the majority of articles published in leading governance journals have been founded on positivism, the assumption that governance is a structure or a process comprised of a mass of separable variables that can be studied in isolation, and either deductive or inductive reasoning. When the objective of research has been the testing of theory, deductive logic has been used to confirm or reject clearly identified hypotheses and supporting theory (often agency theory). In contrast, much theory building research has embraced induction. Consistent with the inductive tradition, researchers have attempted to ignore prior theory, often in the grounded tradition. The prevailing motivations of much of the research appears to be been the orderly and incremental pursuit of knowledge. However, social science involves, by definition, humans and the social interactions between people. Therefore, alternative approaches, including leaps and conjectures (in the Einsteinian or Kuhnian tradition) from the known to the unknown may be more appropriate, provided such leaps and conjectures are subsequently tested – and rejected or accepted – using empirical data.

Most of the governance research conducted to date has utilised secondary data, because access to the boardroom, to make first hand observations, appears to have been too difficult to achieve in most cases. Boards have been assumed to be objects that can be studied objectively, and that a single 'truth' can be discovered through the analysis of empirical data, in either the deductive or the inductive tradition. The existence of unidirectional causal relationships is assumed in such research: the objective being to discover them through the application of inductive techniques, or to test hypotheses through the application of deductive techniques. The analysis of typically quantitative secondary data has been useful and important to the knowledge acquisition process. However, no explanation of how or why 'x' causes 'y' is typically provided in positivist research. The governance literature that utilises positivism tends to conflate correlation and cause (to suggest that 'x' causes 'y'), based on positivist and empiricist ideals, and the statistical significance of identified regularities. Further, such research cannot reveal the motivation, underlying intent or powers that may have led to the observed associations and correlations.

The merits of the use of exclusively deductive or inductive approaches for the advancement of research and the creation of new knowledge have been extensively debated across millennia (Oldroyd, 1986). Deductive approaches are considered to be well suited to testing of hypotheses: to problems for which a theory is either known, empirical data can be gathered, and for which a single conclusive outcome can be determined (Creswell, 1994). Deductive approaches have been used in governance research, particularly to test aspects of agency theory in particular, albeit with difficulty (Lee, 2011). In contrast, inductive approaches enable researchers to utilise statistical analyses and generalisation techniques to move from empirical data towards generalised theory (Eisenhardt, 1989). However, such positivist-inspired searches for regularity ignore human agency and the possibility of contextual influences that may or may not be active at any given time. Knowledge of patterns or regularities created through inductive or deductive inference typically do not extend to why observed patterns or regularities may have occurred, or even why they might be important.

Further, inductively developed theory cannot be justified – the so-called problem of induction (Popper, 1972; Harman and Kulkarni, 2006) – because inductive research cannot produce the deductive certainty (Oldroyd, 1986) that positivists demand.

If the purpose of research is understanding or explanation, then approaches other than the statistical analysis of quantitative data are necessary, because the core assumptions of positivism appear to be inconsistent with the 'open' nature of social systems (Archer, 1998) and human agency. Also, objective facts and a deterministic conception of reality are extremely difficult to establish – *a priori* or otherwise. The positivist presupposition that a [natural] scientific approach is appropriate for the investigation and explanation of social phenomena lacks credibility in the literature (Bacon, 2012), because it does not allow for the normative dimension, and it appears to be built on unrealistic and inappropriate assumptions. The reductionist assumption, that variables of interest can be isolated for investigation (while other variables controlled), has the effect of removing the subject of interest from its context. Such research is not holistic. Consequently, purely positivist approaches to governance research have been limited to the identification of at times implausible, or at best tenuous, relationships (Dulewicz and Herbert, 2004) between observable variables of interest. These efforts have led to the production of equally descriptive theories that do not – and cannot (Nicholson and Kiel, 2007) – account for all cases of governance. Worse still, many have been falsified, yet many researchers have continued to dogmatically base their research efforts upon them.

Whereas positivism is deterministic and seeks a single truth, interpretivism rejects the possibility that a single reality might exist. Rather, reality is considered to be entirely subjective and socially constructed, meaning that interpretivist researchers consider knowledge be context specific and socially defined (Hammersley, 2013). When applied to boards and board practice, governance becomes anything the researcher chooses or interprets it to be. Consequently, interpretivist researchers often revel in complexity, and they typically avoid generalising their research findings, despite clarity and generalisation being thought to be desirable for the application of theoretical knowledge to understanding and to practice (Danermark *et al.*, 2002). Notwithstanding this, interpretivist studies have provided rich descriptions of governance, typically based on data from interviews and case studies, of which Lockhart and Taitoko (2005) is one.

Many of the correlations reported in the governance literature have been falsified elsewhere. Further, no conclusive explanations, of how or why the reported correlations occur, are apparent in the literature. This should not be surprising, because variables are measures, and measures can only register change (Sayer, 1992). This observation suggests that correlations are the contingent effects of something else, perhaps a mechanism that has been activated by some underlying power or causal process (Hammersley, 2012). As such, correlations that are derived or inferred from empirical data alone are neither necessary nor sufficient to the provision of an explanation (Bhaskar, 1975; Sayer, 2000) of how social phenomena, including boards, work. Consequently, the continued use of empiricism, and the inference of causality from constant conjunctions and knowledge of isolated attributes (Quine, 1991), is unlikely to reveal credible explanatory knowledge of how boards might influence business performance outcomes.

The validity and reliability of the theories of governance proposed to date appear to be limited by an inherent epistemological gap (Donaldson, 2012), whereby empirical knowledge about isolated attributes cannot credibly be used to predict future performance nor provide causal

explanations of social phenomena. None of the theories that have been proposed to date appear to account for all cases or contexts of governance (Clarke, 1998; Nicholson and Kiel, 2007), nor do they provide an adequate explanation of how boards can influence business performance (Lee, 2011). Notwithstanding this critique, the establishment of correlations between observable variables is a useful first step towards knowledge creation and theory development (Christensen and Raynor, 2003; Christensen and Carlile, 2009), because they provide guidance to researchers seeking to develop explanatory theory. Such guidance is helpful for research conducted in the *in vivo* tradition (Andersen and Kragh, 2010), of which Orton (1997) and Dubois and Gadde (2002) are examples of authoritative literature.

Outcomes in social research are typically contingent on the vagaries of human agency (Fleetwood and Ackroyd, 2004; George and Bennett, 2005; Bloomfield, 2013). As all cases and contexts of governance are, in some way, unique, any claims of causality, generalisability or explanation based on the exclusive use of deduction or induction will, necessarily, be contextually bounded, or worse limited to the case data under study (Johnson and Onwuegbuzie, 2004). Thus, the continued pursuit of immutable truth about governance, and how boards work, is largely futile. The production of any credible causal explanation of how boards influence performance outcomes is likely to necessitate a departure from positivism and empiricism; deduction and induction; and, the strict application Humean logic to causality. Further, researchers need to discover what might lie beyond that which can be directly observed or empirically measured if explanation is the goal of research.

The challenge of postulating a credible theory of governance is likely to depend on the identification of underlying powers, mechanisms and processes that can cause outcomes to occur in certain contexts. Therefore, abductive modes of inference may serve the governance research community more effectively, and searches for theories of the middle range (Merton, 1957; Bourgeois, 1979) that seek to explain (cf. predict) the conditions, activities and contexts through which boards *can* influence business performance outcomes are more likely to reveal managerially relevant knowledge.

Causality, causal mechanisms and generalisation

The possibility of causation has stimulated considerable discussion amongst philosophers of science and social science. The locus of much of the debate appears to have been centred on empiricism and predictive theory, and the conflation of explanation and prediction, whereby the same event or event combination supposedly causes the same output or output combination to occur. Hempel and Oppenheim's (1948) covering law theory, which is still favoured by quantitative and inductive researchers today, suggests that any statistically significant correlation between variables shall be deemed to be causal – if the regularity can be explained.

A cause is considered by social scientists to be "a condition that either necessitates or renders more probable its effect, in a given environment of conditions" (Little, 2011, p. 273), or more straightforwardly "whatever is responsible for producing change" (Sayer, 2000, p. 94). The notion of necessity is an essential difference from Hume's (1911) proposal. However, causes are neither events nor objects, but are properties of objects (Bhaskar, 1975). They occur in social systems as a result of human agency and social structure (Stergiou *et al.*, 2013); they have power; and, they are typically activated by mechanisms that may be dormant or active (Sayer, 1992; Archer, 1998; Bhaskar, 1998; Fleetwood, 2011) at any given time. George and Bennett (2005) added to the discourse by suggesting that the effect of properties of objects

can be considered to be causal only if an underlying mechanism is necessarily activated. This suggests that events occur as a result of the activation of underlying powers, via causal mechanisms (Mason *et al.*, 2013).

The socially dynamic and complex nature of boards suggests that the use of qualitative data and an inductive mode of inference may be necessary to reveal new knowledge and the production of credible postulates. Indeed, Hume (1911) asserted that the establishment of causality was only possible via inductive theory-building approaches, providing these are subsequently tested. However, Hume's approach to logic and causation is reliant on the discovery of regular sequences (Groff, 2011), and these typically do not occur in social systems. Further, boards cannot be explained at the level of individual directors or their attributes. Decisions are made by the board as a whole and not by individual board members. Therefore, a new approach to governance research appears to be necessary if further progress is to be made – one that moves away from the study of isolated attributes of boards, regularities, and the application of Humean logic, to the holistic investigation of boards and the context within which they operate.

The postulation of a credible explanation of how boards influence performance outcomes is likely to be contingent on the discovery of causal mechanisms and the associated powers possessed by, and activated by (Little, 2011), boards. It may be more plausible to treat any causality between boards and subsequent business performance outcomes as being dependent on the exercise of the powers possessed by boards; the mechanisms activated by boards; and, the context within which powers and mechanisms are activated (Bhaskar, 1975; Groff, 2011; Morais, 2011). However, multiple powers and mechanisms that interact in complex ways are likely, because boards and the organisational system within which they exist – the company – are complex and socially dynamic. The activation of one mechanism may cause different effects or the activation of several different mechanisms may cause the same effect or a different combination of mechanisms and effects may occur at different times – the context within which mechanisms are activated appears to be the crucial difference.

Straightforward cause-and-effect relationships between the board and performance outcomes are unlikely to exist, so research methodologies that seek to provide explanations based on the identification of regularities are unlikely to provide meaningful knowledge. Miles and Huberman (1989) demonstrated that causal influence in social science research could be postulated without resorting to statistical measures and Humean logic – if data was gathered from multiple settings (Dobson *et al.*, 2007) and the underlying reasons could be identified, because "reasons are causes" (Giddens, 1984, p. 345).

Consequently, the identification of powers and mechanisms that enable a credible explanation of how boards can influence company performance outcomes may not require a search for regularities, because the cause of any event in a social system is unrelated to the number of times it is observed to occur. Rather, explanation is more likely to require the use of methodologies that elicit a deep understanding of how mechanisms might be activated and how they might work. Further, the identification of mechanisms may require "imaginative theorizing" (Andersen and Kragh, 2010), the taking of "intuitive leaps" (Avgerou, 2013, p. 411), and repeated cycles of theorizing, testing and refinement. Such vague techniques are expected to be unacceptable to the deterministic preferences of positivists, even though several esteemed scholars – including Einstein (Aichelburg *et al.*, 1979) – used them quite satisfactorily. Einstein formed hypotheses, tested them, and then refined them based on the analysis of observation and calculation data. Further, the use of causal mechanisms to provide

an explanation of complex phenomena seems to have gained the acceptance of some natural and social science scholars (Bhaskar, 1975; Ragin, 1987; Bhaskar, 1998; Easton, 2010; Wynn and Williams, 2012). However, causal relationships are expected to be inherently unstable in governance research because they are contingent on human agency.

Towards a new research agenda

The board has the power to develop strategy, make strategic decisions and monitor performance, regardless of whether it choses or not to do so. If it exercises its powers, the outcome will depend on the context within which the board was operating *at that time*. This suggests that credible causal explanations are dependent on finding the underlying mechanisms, activating powers, and the conditions under which they are activated, not on prediction or discovery of either law-like regularities or generalisations (McEvoy and Richards, 2006). The strategic management literature indicates that company performance can be affected by both endogenous and exogenous factors (Wynn and Williams, 2012). Therefore, a deep understanding of the board's activities and processes, and its relationship with business performance, which is not dependent on the identification of empirical regularities alone, or any closed system limitation, is pivotal to the success of future governance research.

Superficially, grounded theory (Glaser and Strauss, 1967) provides a useful framework within which to pursue the discovery of an explanation of how boards influence performance. Grounded theory, an inductive approach to knowledge creation, seeks to ignore *a priori* knowledge, including seemingly credible postulates that have been proposed in the literature. The avoidance of theoretical frames and *a priori* postulations suggests the researcher needs to investigate everything about the board. However, knowledge of everything about boards is not realistically possible or practically feasible. Further, observations are typically theory laden due to the pre-conditioning, training and experience of the researcher. Therefore, a research approach which embraces and builds on – rather than dismisses – prior knowledge (Burrell and Morgan, 1979) including realist views of how organisations actually work (Dobson, 2001), without being constrained by the limitations of that knowledge or of the methods by which it was gained, is perhaps more appropriate than grounded theory.

The postulation of an explanatory theory of how boards influence performance requires data from first-hand observations of board meetings and actual board processes, in order to investigate what actually occurs in the boardroom. If a relationship between boards and performance exists as has been suggested, then a change in business performance is likely to occur at some point after a board decision (strategic or otherwise) is made – provided the decision is actioned appropriately and accurately by management. If a strategically important decision precipitates a change in business performance; and, underlying powers and mechanisms can be identified through conceptual abstraction of the data (Sayer, 1992); and, decisions can be attributed to the actions of the board, then it should be possible to postulate an explanatory theory (Ragin, 1987) of how boards influence performance in certain circumstances and contexts. The postulation of any explanation of the supposed relationship is, however, contingent on moving the question from "what" (a relationship has been postulated) to "how" (how can boards influence performance?) (Mason *et al.*, 2013).

Data collection and analysis techniques that move beyond the limitations of cross-sectional methods and hypothetico-deductive science are required if the deep understanding necessary to identify underlying powers and mechanisms is to be gained (Dobson *et al.*, 2007). Only

then can a credible explanatory theory of governance be postulated. The collection of empirical data from multiple sources, including first-hand observations from boardrooms, semi-structured or unstructured interviews with governance actors, and the inspection of typically confidential governance data (board reports, board evaluations and minutes of board meetings) is expected to be crucial to inform the conceptual abstraction process and expedite theory development. However, the gaining of access to boards, and the maintenance of confidentiality of the identity of participating companies in research reports, is notoriously difficult (Leblanc and Schwartz, 2007). Further, the data, the analysis process, and the resultant conclusions should be approached with scepticism. Any claims about the contributions that boards make to performance must be critically examined, because all social research is theory-laden and is subject – to some extent at least – to the *a priori* biases of the participants and researcher, and other biases.

The crucial importance of access

Access appears to be crucial to the advancement of business research, especially to the creation of credible knowledge about boards and any contribution they make to business performance outcomes. The importance of gaining access, to make first-hand observations, was first highlighted in the literature decades ago (Gummesson, 1991). Gummesson asserted that "traditional research methods used in business research do not provide satisfactory *access"* (2000, p. 14, Gummesson's emphasis), and that the gaining of access is crucial to enable the researcher to get as close to reality as possible (2007). Sadly, Gummesson's call has been largely ignored by researchers, despite the importance of access to "opening up the black box" (Johanson, 2008, p. 345) to obviate assumptions of congruence (Lawrence, 1997; Olsen and Morgan, 2005) and identify what actually goes on in boardrooms having been acknowledged (Huse, 2009; Lockhart and Crow, 2013).

The direct observation of boards within a real-life context enables researchers to learn more than what is possible with experiments and cross-sectional methods, which typically extract the subject of interest from its natural context (George and Bennett, 2005). Insights from first-hand observations often transcend those available from interviews, surveys or statistical analyses (Bales and Flanders, 1954). Indeed, the identification of underlying powers and mechanisms that can be activated by boards would not be possible if the research was limited to secondary data and deductive or inductive modes of inference (Danermark *et al.*, 2002).

Notwithstanding the importance of access to the collection of reliable primary data for effective explanatory research, many organisations and groups have been unwilling to grant access – boards particularly so (Darke *et al.*, 1998; Leblanc and Gillies, 2005). "Strong norms of privacy" (Pettigrew, 1992, p. 164) are widely understood to be the primary barrier to participation. As a result, the gaining of access to boardrooms to make first-hand observations has been very difficult to achieve. Consequently, the majority of governance research has been limited to the utilisation of performance proxies and desktop research (Neill and Dulewicz, 2010). The results have been correspondingly limited.

Some researchers have been able to secure access to boardrooms, albeit only after considerable effort and delay. For example, Crow (2012) approached 23 high-growth companies before one of the companies agreed to grant access for a study that required a single observation of one board meeting. The process took many weeks and was fraught with setbacks. However, the results were highly valuable, because the analysis of the direct

observation data revealed three insights that would have remained hidden if access had not been granted.

Notwithstanding these difficulties, direct access to make first-hand observations of board meetings remains crucial to the collection of reliable – and sufficiently complete – data, from which a deep understanding can be gained; conceptual abstractions developed; underlying powers and mechanisms identified; and, credible postulations proposed. A relationship between the researcher and the directors or management of prospective participating companies, either directly or via a third-party (a mediator, advocate or benefactor), is considered to be vitally important to secure appropriate levels of access (Leblanc and Gillies, 2005). Such relationships are expected to be rare among a research community plagued by the academic–practitioner divide (Lockhart and Stablein, 2002; McNatt *et al.*, 2013).

Critical realism: an alternative path forward

A research philosophy capable of providing a dialectically robust foundation for the analysis of primary, secondary and tertiary data is necessary for the advancement of governance research, if credible causal explanations (Quine, 1991; Danermark *et al.*, 2002; Ho, 2005; Finegold *et al.*, 2007; Wirtz, 2011) are to be produced. Ideally, explanations of how boards influence performance should be based on data from gathered from first-hand observations of board meetings and other sources. A realist approach and abductive reasoning is suggested to be necessary to the development of credible explanatory theory (Dobson, 2001; Mason *et al.*, 2013) of social phenomena.

The use of critical realism (Bhaskar, 1975; Archer, 1998; Sayer, 2000; Lopez and Potter, 2001) is proposed as a basis for such research. The stratified and transformational ontology of critical realism provides an alternative to positivism, and to the idealist responses to positivism. While reality is assumed to be comprised of three distinct domains – the empirical, the actual and the real (Bhaskar, 1975) – critical realists acknowledge that this stratification cannot be fully observed, comprehended or predicted in any absolute sense (Guba, 1990; Sayer, 1992; Danermark *et al.*, 2002). This suggests that social reality is too complex (Bhaskar, 1998) for any credence to be placed on research designs and outputs that rely on empirical data exclusively, in the pursuit of a single universal ‘truth’.

Whereas the use of deduction and induction in governance research has produced many correlations and rich descriptions, explanations of how and why business performance outcomes occur as a result of board contributions have remained elusive. The approaches used by positivists do not enable underlying and typically unobservable mechanisms to be investigated. However, ontology is prioritised over epistemology in critical realist research (Kempster and Parry, 2011), and mechanisms are prioritised over events or variables. This suggests that if underlying mechanisms can be identified, then events can be explained by postulating generative mechanisms that are capable of producing them (Sayer, 1992). This emphasis enables the locus of research to be moved away from study of the empirical and the actual, to the investigation of what lies underneath – the generative mechanisms (Blundel, 2007) that can cause patterns and observable outcomes in certain contexts (Collier, 1994).

A deep understanding of the data appears to be crucial to enable the underlying powers and generative mechanisms to be identified, because they are generally not directly observable, only through their effect (Dobson *et al.*, 2007). The use of both qualitative and quantitative methods (Fleetwood and Ackroyd, 2004) is suggested for case-based critical realist research

(Cooper *et al.,* 2012). Quantitative methods are useful for the identification of patterns and associations, and qualitative methods are necessary for the identification of complex relationships and mechanisms that may not be discernable with quantitative methods (Sayer, 1992). However, another mode of inference is required if new knowledge is to be gained and explanations produced. Abduction may provide a means of overcoming the troublesome inductive–deductive dilemma, and, therefore, provide a viable path forward from data to knowledge about how boards work and how performance is influence.

Abduction is a "sensible and scientific form of inference" (Bryant and Charmaz, 2007, p. 216). It has been adopted at the heart of critical realism (Ryan *et al.*, 2012), utilises *a priori* theoretical knowledge (Andersen and Kragh, 2011) and strives for practical adequacy (Sayer, 2000). It starts with the suspicion that a postulate may be true (Bertilsson, 2004) and seeks to redescribe phenomena in a new contextual framework (Danermark *et al.*, 2002). In so doing, abduction appears to provide a link between the logical and the empirical (Pierce, 1955), which enables new knowledge to emerge. Whereas induction and deduction utilise a variable-centred approach and the application of logic (Mill, 1843) to knowledge creation, abduction utilises "mechanism-centred theory" (Morais, 2011, p. 71) to analyse data and construct and validate explanations (Levin-Rozalis, 2010). Abduction appears to be "of great practical importance" (Mingers, 2012, p. 860), because the iterative process of abductively inferring mechanisms and then testing them against observations is a precursor to the development of theory and the creation of new knowledge.

The process of hypothesising what may have caused events to occur – retroduction (Clark and Blundel, 2007; Zachariadis *et al.*, 2013) – provides a basis to identify and confirm necessary conditions that can cause outcomes. Retroduction is the retrospective inference of potentially unobservable mechanisms in the real domain, based on the redescription of data from the empirical domain (Morais, 2011). Essentially, retroduction can be used to check abductively developed hypotheses against empirical observation data. This mode of analysis "explains what conditions in reality may have or could have led to these observations" (Olsen and Morgan, 2005, p. 275) or, more straightforwardly, "what structures are necessary for this event or phenomena to come about?" (Morais, 2011, p. 70). Retroduction is considered to be the logic of critical realism (McEvoy and Richards, 2006), the output being an explanation of "why something is the way it is" (Bertilsson, 2004, p. 376).

The use of critical realism should enable researchers to overcome the "theory-induced blindness" (Kahneman, 2011, p. 277) that has occurred as a result of the dominance of agency theory (Hillman and Dalziel, 2003), positivism and empiricism, and move beyond the conceptualisation that has dominated governance literature and practice in recent decades. However, the efficacy of any new conceptualisation of governance that emerges from critical realist research is dependent on the identification of underlying powers and mechanisms and the postulation of explanations.

An iterative approach to analysis, that combines qualitative and quantitative data and utilises abductive and retroductive modes of inference, appears to provide an viable pathway along which to pursue the production of more holistic and methodologically pluralistic theories (Kurki, 2009) – theories that are not dependent on empirical data alone, or on regularities between events or attributes. The pursuit of such an approach has the potential to address the philosophical limitations of positivism and empiricism for explanatory research, and bridge between the ontological and epistemological dualisms that have led to the divisive literature.

Consequently, the positivist assumptions that have dominated yet constrained much of the governance research to date – mechanistic determinism; universal closed systems; empirical regularity; and, that social phenomena are a mass of separable attributes that can be studied individually (Bhaskar, 1975; Sayer, 1997; Bhaskar, 1998; Reed *et al.*, 2000; Kurki, 2007) – can be set aside. In effect, the abandonment of positivism and empiricism (and the inherent limitations of discovery and knowledge creation therein) provides scholars who are not reductivist by nature with an opportunity to embrace the complexity of boards, governance and companies and make a meaningful contribution once more. However, any conclusions that emerge from the research will remain fallible, transitive and temporary (Bhaskar, 1975).

Conclusion

The meta-theoretical proposal summarised in this paper challenges the foundational assumptions and "irresolvable problems" (Groff, 2011, p. 314) of both the prevailing approaches to governance research and currently limited theories of governance. It may not even be bold to suggest that this could be similar to the paradigmatic revolution described by Kuhn (1970). When Eisenhardt (1989) asserted that most empirical studies followed the positivist pathway that leads from theory to data, she acknowledged that "the accumulation of knowledge involves a continual cycling between theory and data" (p. 549). Einstein (Aichelburg *et al.*, 1979) and others (Christensen and Carlile, 2009) successfully embraced this principle in their research. Eisenhardt's hope appears to have been that researchers would "complete the cycle by conducting research that goes in the less common direction from data to theory" (p. 549), thus reinforcing the lifecycle or iterative approach to knowledge creation.

Given the socially dynamic nature of governance and the purported relationship between governance and performance, the adoption of an iterative approach to discovery – based on the analysis of data from first-hand observations and interviews, and the subsequent testing of postulates than emerge from conceptual abstractions – is *the* appropriate research technique through which to understand boards, and from which new propositions and theories of governance can be postulated, tested and refined. A longitudinal multiple-case study (Rashid, 2011), founded on a mixed-method approach (Onwuegbuzie *et al.*, 2009); critical realist worldview (Bhaskar, 1975; Sayer, 1992; Easton, 2010); and, reasoning based on abduction and retroduction (Williams and Karahanna, 2013) is more likely to reveal new, ontologically and epistemologically robust, insights than have been produced by positivist efforts to date.

The board's role in the development of strategy, the making of strategic decisions in the context of approved strategy, and monitoring of strategy implementation and subsequent company performance, and the influence of these activities on company performance outcomes are important considerations for future governance research. Outhwaite's summary (1987) provides a helpful context for such research: "The realist model of explanation involves three basic steps, the postulation of a possible mechanism, the attempt to collect evidence for or against its existence, and the elimination of possible alternatives" (p. 54). Once boards understand the underlying powers and the mechanisms that can be activated, and the contexts within which they should be activated, increased performance is not only possible, it is potentially sustainable. To this end, a comprehensive three-year longitudinal multiple-case study, of two quasi-public (Berle and Means, 1932) high-growth companies, which utilises the critical realist approach described in this paper is now underway.

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