Revisiting IT Governance in the Light of Institutional Theory

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Abstract

IT governance research has been largely normative and has provided a great deal of useful insight into what effective IT governance should be. What has received less attention is an understanding of what really happens as organizations struggle to achieve effective IT governance. We argue that the time has come to supplement the important research on what IT governance should be with research on how IT governance is actually accomplished. Before moving forward we take a step back. We trace the evolution of IT governance research and the shared theoretical base. We then suggest institutional theory as a promising alternative for answering three questions yet to be fully addressed in the literature: (1) How is IT governance actually done?; (2) What are the links between IT governance and performance?; and (3) How does IT governance change over time?

1. Introduction

IT governance, broadly understood to represent how organizations structure and manage IT resources, continues to be an important area of research in many disciplines in part because at least some empirical research (46) has shown a link between effective IT governance and organizational performance. Yet many studies continue to focus on defining IT governance [31], [45] or developing prescriptive models of IT governance [12], [20], [44]. These approaches have provided many useful examples of what effective IT governance should look like. Examples include models for determining and achieving ‘fit’ with the environment, of effectively managing transactions and contracts, or of realizing effective control. These approaches, whether explicitly or implicitly, are grounded in rational theories of organizations.

Rational theories are based in economics and assume managers’ ability to systematically be aware of, rank, and then choose best alternatives based on certain criteria (e.g. costs and benefits) to achieve a desired outcome (e.g. improved efficiency). Rational theories are useful for developing conceptual models and normative suggestions. However, rational theories have less ability to account for other aspects of the IT governance phenomenon, including the embedded social nature of governance, the challenges associated with improving and measuring performance beyond costs and benefits and the way that governance changes over time. We propose a re-evaluation of IT governance in order to gain a more complete picture of the phenomenon.

We begin that process by reviewing IT governance in the light of institutional theory. The structure of the paper is as follows: In the first section we make our case for IT governance as a phenomenon worth our continued attention and then briefly trace the evolution of IT governance research. Next we review the dominant rational theories of organizations that have been used in IT governance research and the limitations associated with remaining within the dominant paradigm. This is followed by a discussion of institutional theory as one approach for expanding IT governance research. In particular, we propose three unanswered questions institutional theory can help answer - (1) How is IT governance actually done?; (2) What are the links between IT governance and performance?; and (3) How does IT governance change over time?

2. IT Governance

Practitioners and researchers alike continue to struggle with what IT governance is, who has responsibility for IT governance both in research and in practice and how IT governance can be recognized, implemented, and managed over time. Considerable debate persists surrounding the very definition of IT governance [45]. At least part of the confusion is a result of a phenomenon that crosses disciplines in academia and functions in organizations. The Sarbanes-Oxley legislation and a general emphasis on corporate accountability have
resulted in a focus on IT governance as a subset of corporate governance. Indeed, some authors [12], [43] define IT governance as a role performed by organizational executives:

“IT Governance is the organizational capacity exercised by the Board, executive management and IT management to control the formulation and implementation of IT strategy and in this way ensure the fusion of business and IT” [43: p. 5].

Other scholars, [33], [46] however, have emphasized a definition of IT governance in terms of certain decisions and processes, irrespective of who is involved:

“IT governance represents the framework for decision rights and accountabilities to encourage desirable behavior in the use of IT” [46: p. 3].

While the structure versus process debate continues, it is important to point out that some researchers have noted that it is essential to investigate who actually performs IT governance [7], [32], [46]. We place an understanding of who performs IT governance under the broader umbrella of how IT governance is actually done and note that it has to this point been neglected in the research and in the debate over definitions.

The definitional debate continues in large part because the stakes are so high. With IT investments making up a significant portion of corporate budgets and increased external pressure to control and monitor costs, effective governance is seen as a vital way to ensure returns on IT investments and improved organizational performance [12]. Some early research found links between IT alignment and performance [18] and some research now exists that shows a link between IT investment and performance [46]. Yet, beyond the debate surrounding what IT governance is remains the neglected links between IT governance and organization performance.

Part of the difficulty in creating a definition and capturing links lies in the fact that IT governance is dynamic. History matters as do the broader influences from across functions within an organization and from entities in the larger environment. Even if the elusive definition is found or the performance links are uncovered the phenomenon will continue to change over time. An enhanced understanding of IT governance will view the phenomenon as more dynamic. In the next section we briefly trace the history of IT governance literature as it has attempted to address these issues and then take a step back to review the theories underlying the majority of the research. We show that the view of IT governance has been one-sided because the underlying theories have remained within the rational paradigm.

2.1. IT Governance Structure

As early as the 1960s Garrity [18] argued that IT structure could have an impact on firm performance. During the early stages of IT governance research the focus was on determining whether decision-making authority of the IT function should be centralized, decentralized, or in a hybrid combination of the two - a debate that continues to make up the majority of the literature on IT governance forms [35]. The introduction of mainframe computers and large scale computing allowed for centralized data processing, leading managers in many organizations to centralize the IT decision-making authority and researchers to focus on the phenomenon [5].

In a centralized governance form the IT decision-making authority is placed in a central IT organizational body while in a decentralized governance form the authority remains in the individual business units [7]. A hybrid form is some combination of the two and a specific form of hybrid, the federal model - “where authority for the management of IT infrastructure is vested with a central IT unit and authority for the management of IT application and use is vested with business units” – has become the most common governance structure found in organizations [36].

2.2. Contingency Analysis

The research on IT organizational structure led researchers to attempt to answer why particular structures are most appropriate for an organization’s IT governance. This research stream focused on the environmental conditions, or contingencies, that a firm faced and started out with an emphasis on the single, non-interactive contingencies facing an organization. Early findings linked centralized organizations with centralized IT governance and decentralized organizations with decentralized IT governance [1], [15], [40] though not all researchers found that such a link existed [29].

In addition to organizational structure, Brown and Grant [6] identified three contingencies from the research shown to yield important conclusions:
business strategy, industry and firm size. Business strategy was found to be associated with IT governance structure. In particular organizations with a conservative business strategy (‘defender’ in the Miles and Snow strategy framework) were more likely to adopt a centralized IT governance structure. Ahituv, et al. [1] and later Clark [10] found no association between industry type and governance structure. In addition, in none of these studies was any association between firm size and IT governance structure found. Building on the early single contingency work, researchers attempted to account for more of the complexity inherent with achieving ‘fit’ by more broadly including multiple and interacting contingencies [8], [9], [35].

Brown and Grant [6] suggested that the IT governance literature could be separated into two distinct but parallel streams based on (1) IT governance forms and (2) IT governance contingency analysis, similar to what has been presented in the brief review in this paper. Brown and Grant then suggested that the recent work of Weill and Ross served to bridge the two streams. Their argument is based on Weill and Ross’s [47] expansion of possible IT governance structures beyond the traditional centralized, decentralized and hybrid forms to include: business monarchy, IT monarchy, feudal, federal, IT duopoly and anarchy. In addition, Brown and Grant argued that Weill and Ross [47] expanded contingency analysis by combining strategic and performance goals, organizational structure, governance experience, size and diversity and industry and regional differences. For Brown and Grant [6] this marks an important point in the history of IT governance research. IT governance researchers can either follow the bridging-stream approach of Weill and Ross or create an entirely new stream as proposed by Sambamurthy and Zmud [36].

Brown and Grant provided a thorough review of what can be considered enterprise-wide IT governance research but do not spend time on streams of research that have begun to focus on particular elements of IT governance. Two of the most prevalent are studies on IT outsourcing and studies focused on the process of control in IT governance. Both are briefly discussed next.

2.3. IT Outsourcing

Researchers have begun to analyze IT outsourcing as a key element of IT governance. Research has focused on determining the appropriate degree of IT outsourcing as well as provided prescriptive models to assist with IT outsourcing decision-making. Ang and Straub [3] looked at the various costs associated with IT outsourcing and found that production costs were able to explain the degree of IT outsourcing in an organization. Aubert, et al. [4] focused specifically on transaction costs between organizations and found that transaction costs are able to at least partially explain the degree of IT outsourcing.

Another stream has move beyond focusing on the transactions that take place between organizations involved in IT outsourcing to include the cost of the relationship or contract between agents. Loh [25] found that an expanded model of IT governance that includes agency costs was able to explain IT decision-making. Oh [27] showed that agency risks negatively influenced IT outsourcing decisions.

2.4. IT Control

Research focused on the decision of whether, and how much, IT should be outsourced moves beyond the realm of IT governance towards studies of general corporate governance. Similarly, the Sarbanes-Oxley Act of 2002 placed emphasis on tightening the control of corporate governance with control of IT seen as an important piece of the overall governance picture [42]. Accordingly, some research has begun to focus on the audit and control aspects of IT governance. Of particular importance is the work surrounding the IT Governance Institute’s Control Objectives for Information and related Technology (COBIT). COBIT is a framework used as a standard for control of IT investments and processes in organizations (ibid.). While the academic community has not yet focused much attention on COBIT, the practitioner community is embracing it [34]. Recently, Tuttle and Vandervelde [42] began to examine the COBIT framework from an academic perspective as it relates to auditing and found the framework valid and useful. The authors argued for increased research on COBIT as a way of developing a theory of internal IT control.

Rather than examine key general questions of IT governance, the research on IT governance has become narrower, focusing even more on prescriptive models and applications to the point where researchers are largely worried about analyzing a narrow set of costs or control as part of corporate governance. We argue that it is premature to become so narrowly focused and suggest broadening the research questions. This will require the application of new theories in the research because as we will show next, the current research remains confined to rational theories of organizations.
3. Rational Theories of Organizations

We now examine the body of IT governance research more broadly. From a theoretical perspective it is clear that while the research has made important contributions to our understanding of the phenomenon, it remains grounded in the rational theories of organizations. This one-sided theoretical framing, though seldom explicitly mentioned, has followed IT governance through the various stages of research. The most dominant of the approaches describes effective governance as a matter of achieving ‘fit’ with the environment which has at its roots contingency theory. The recent work on IT outsourcing more explicitly focuses on managing transaction or contracts and is based on transaction cost theory as well as agency theory. Agency theory also provides a basis for much of the research that has begun to move towards understanding IT governance using the concepts of audit and control.

While contingency, transaction cost and agency theory have different levels of analysis and applications it is important to note that all three are grounded in a rational choice theory of organizations. At their core, each theory assume managers’ ability to systematically be aware of, rank, and then choose best alternatives based on certain criteria (e.g. costs and benefits) to achieve a desired performance outcome (e.g. improved efficiency). If we are to have a more complete understanding of IT governance e.g. how IT governance actually works and changes over time - we must look at the phenomenon from different perspectives. In this section, and in Table 1, we briefly review the dominant rational theories of organizations used in IT governance research, which is followed by a section on institutional theory as one promising alternative.

3.1 Contingency Theory

Contingency theory began with the work of Thompson [41] but was extended and gained its title from Lawrence and Lorsch [24] who argued that there are different types and amounts of uncertainty, or contingencies, that a firm can face in the environment, each requiring a different approach by the firm in order to achieve ‘fit’ between the firm and the environment that cannot otherwise be controlled. Galbraith [17] picked up the banner and argued that fit is important but that there exists no one best way to organize, to which Scott [37] added “the best way to organize depends on the nature of the environment to which the organization relates” (p. 14). While contingency theorists argue that there is no one best ‘fit’ they do posit that managers of organizations are able to rationally recognize the changing environment and then align their organization to match the environment. It is hypothesized that achieving fit leads to improved efficiency and performance.

3.2 Transaction Cost Theory

Transaction cost theory (TCT), first developed by Coase [11] and later extended by Williamson [48], has as key assumptions a limited, or bounded, rationality in individuals as well as opportunism (‘self interest seeking with guile’) in order to determine and control transaction costs - the costs associated with the friction inherent in imperfect transactions commonly due to a lack of information. In TCT the focus is on transactions as the unit of analysis with the aim of managing transactions by assigning transactions to governance structures in the most efficient way [46].

Unlike classical economic theorists who emphasized the role of the market as the most efficient method for organizing transactions, Williamson and other transaction cost theorists argued that the firm, rather than the market, could be more efficient in organizing transactions under certain circumstances. More specifically, TCT posits three approaches to efficiently organizing transactions – market, hierarchy and hybrid-- with the utility of each depending on the environment.

3.3. Agency Theory

Agency theory, like TCT, is focused on transactions and assumes bounded rationality and opportunism in individuals [16]. However, agency theory approaches, unlike TCT, emphasize the intraorganizational transactions, or contracts, between principals and agents [23]. It is assumed that both goal incongruence and asymmetric information exist between the principal and the agent [16]. When a principal delegates authority to an agent, these assumptions are brought to light as the interests of the principal and agent typically diverge and the principal cannot easily obtain the same information as the agent (ibid.). Arguably the most influential agency theory research comes from Jensen and Meckling [23] who studied corporate ownership structure and discussed the use of equity ownership as a way to align principals and agents, an idea that has found widespread acceptance in the governance of corporations today.
Contingency, transaction cost, and agency theory, similar in many of their assumptions, share also many of the same criticisms. Chief among the criticisms is the argument that the theories neglect the social influences that exist in markets and organizations. Not every motivation is financial, and the actions of individuals are “embedded in concrete, ongoing systems of social relations” [19: p. 487]. Theories based on the rational perspective are unable to adequately account for dynamic and ongoing social relations and pressures in IT governance, yet to this point few researchers have attempted to move beyond the dominant theories, resulting in an unfulfilled view of IT governance.

### Table 1: Common rational theories used in IT governance

<table>
<thead>
<tr>
<th>Organization Theory</th>
<th>Key Tenets &amp; Assumptions</th>
<th>Weaknesses</th>
<th>Seminal Work</th>
<th>IT Governance Examples</th>
</tr>
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</table>
| Contingency Theory          | - Organizations must achieve ‘fit’ with their environment  
- No one best way to organize  
- Achieving ‘fit’ leads to improved performance  
- Rational actors | - Assumes ‘fit’ can be recognized & achieved (rational knowledge)  
- A static view of organizations  
- Fails to consider social embeddedness | Thompson (1967)  
Lawrence & Lorsch (1967)  
Galbraith (1973) | Olson & Chervany (1980)  
Ein-Dor & Segev (1982)  
Ahituv, et al. (1989)  
Tavakolian (1989) |
| Transaction Cost Theory     | - Bounded rationality  
- Opportunism  
- Transaction costs can be measured | - Fails to consider social embeddedness  
- Assumes transaction costs can be monitored & separated | Coase (1937)  
Aubert, et al. (2004) |
| Agency Theory               | - Bounded rationality  
- Opportunism  
- Goal incongruence  
- Asymmetric information  
- Risk Aversion | - Fails to consider social embeddedness  
- Assumes motivations are financial  
- Assumes monitoring is possible | Jensen & Meckling (1976)  
Oh (2005) |

### 4. An Alternative Perspective

One notable exception is the work of Ang and Cummings [2] who began with the contrarian assumption that institutional and not rational pressures were at work in decisions to outsource IT capabilities in the banking industry. The authors’ approach is enlightening in that they take a narrow dimension of IT governance – IT outsourcing – and begin not with an analysis of the transaction or agency costs associated with outsourcing but rather with a much broader look at the institutional influences organizations face. Transaction and other related costs are considered but only in the broader sense of organizational response to institutional pressures.

Yet another example is the recent work of Pardo and colleagues [30] who sought to understand the determinants of governance structures for cross-boundary information sharing initiatives. Like Ang and Cummings [2], Pardo and her co-authors [30] look at the larger environment in which these governance structures exist. Their findings include propositions similar to early IT governance contingency research such as executive involvement as a key influence but also include enabling legislation and knowledge of participating organization as important determinants from the broader environment. Both of these papers address
institutional influences and organizations’ response to these influences. Framing the research in this way leads to a more holistic view of IT governance and is grounded in institutional theory which is discussed next as one alternative to the dominant perspective.

4.1. Institutional Theory

Scott [38: p. 493] stated that, “the beginning of wisdom in approaching institutional theory is to recognize that there is not one but several variants.” However, attempts have been made to gather the variants into one overarching theory. As an example, ‘old’ institutionalism, with its emphasis on conflicting interests, competing values and community influence, and ‘new’ institutionalism, with its focus on legitimacy and the embeddedness of organizational fields, have been combined into what is now commonly labeled neo-institutionalism [21]. Institutional theories, however diverse, move beyond assumptions of rationality and efficiency to include socially constructed beliefs, norms, and rules and the impact of these social constructions on the behavior of organizations. These critical concepts can be found in the seminal works of Meyer and Rowan [26] and DiMaggio and Powell [14].

Meyer and Rowan [26] argued that organizations do not adopt organizational structures and forms rationally but rather incorporate societally-rationalized (institutionalized) structures to achieve legitimacy, regardless of the impact on efficiency. They argued that, “institutionalized products, services, techniques, policies, and programs function as powerful myths, and many organizations adopt them ceremonially” (p. 340). External legitimacy may be more important for an organization than legitimacy and the quest for legitimacy may actually reduce efficiency (ibid.).

DiMaggio and Powell [14] wondered why organizations were so similar and reasoned it was due to isomorphism – a concept articulated by Hawley [22] to describe how units in a population, when facing the same environmental conditions, are forced to become more similar. DiMaggio and Powell [14] posited three forms of institutional isomorphism – coercive, mimetic and normative. Coercive isomorphism comes from legal pressures, political pressures or the kind of intense pressure powerful organizations are able to exert on less-powerful, dependent organizations. Mimetic isomorphism – the tendency to mimic other organizations, is posited as a response to uncertainty; in uncertain environments organizations will mimic those organizations seen to be successful. Finally, normative isomorphism is associated with the professionalism associated with formal education and professional networks.

Scott [39] categorized the literature into three ‘pillars’ of institutional theory – cognitive, normative and cultural-cognitive (see Table 2). The pillars differ along key attributes of institutional life and broadly match DiMaggio and Powell’s [14] isomorphic pressures. The regulative pillar has expedience as its basis of compliance. Legitimacy is legally sanctioned and indicated by the presence of rules, laws and sanctions. Under the normative pillar compliance is a social obligation and the existence of certification and accreditation among organizational fields points to a morally governed legitimacy. The third pillar, cultural-cognitive is based on a shared understanding. Common beliefs and shared logic lead to a recognizable and culturally supported basis of legitimacy.

Institutional theory is essentially concerned with how organizations are influenced by the wider cultural and social environments in which they operate. Static assumptions of rational choice, opportunism and profit maximization are replaced with a more dynamic view of organizations situated in an institutional field, influenced by history and involved in a process where institutions both enable acting and constrain action [38]. It is this broader view of the influences on organizations and the process of institutional change that we argue will lead to new insights, new directions, and new meaning for IT governance.

| Table 2: Three pillars of institutional theory (from Scott, 2001). |
|------------------------|-----------------|-----------------|-----------------|
| Regulative Pillar | Normative Pillar | Cultural-Cognitive Pillar |
| Basis of compliance | Expedience | Social Obligation | Shared understanding |
| Indicators | Rules, laws, sanctions | Certification, Accreditation | Common beliefs |
| Basis of Legitimacy | Legally sanctioned | Morally governed | Recognizable Culturally supported |
4.2. What Institutional Theory Can Offer – Additional IT Governance Insights

We take our lead from Ang and Cummings [2] and others [30] and argue that by removing the assumptions of rationality and efficiency from the beginning we can begin to view IT governance through new lens leading to new insights. What does considering IT governance through an institutional lens have to offer? We propose three questions, yet to be adequately addressed by rational theories of IT governance, where institutional theory can provide insight:

1. How is IT governance actually done?

While Scott [39] and others [13], [28] have argued that institutional theorists too often assume organizations as passive players, recent research has begun to view institutional pressures as both context and catalyst for action [2], [21]. Greenwood and Hinings [21] argued that institutional theory could add value as a framework for understanding “the interplay of organizational context and organizational action” (p. 1024). Ang and Cummings [2] found that institutional theory accounts have the ability to uncover “individual organizations’ ability to respond proactively, creatively, and strategically to institutional influences” [p. 235]. Utilizing the perspective of organizational action within institutional context does not negate the importance of organizational attempts to rationally respond but rather places the responses in the larger institutional context. Ang and Cummings [2] began with the assumption that powerful institutional pressures exist and then studied how organizations were influenced by and strategically responded to these pressures. As part of the organizations strategic responses, for example, the authors found rational consideration of transaction costs played an important role [2].

IT governance is more than the process of rational actors working to achieve a static ‘fit’ with the environment. By understanding IT governance as something that takes place within a larger context researchers can utilize institutional theory to examine the organization responses (both formal and informal) to institutional pressures while continuing to gain value from rational theories of IT governance. Examining institutional pressures and context can illuminate how IT governance is actually done. A much more dynamic picture is likely to emerge of IT governance in a context that both enables and constrains action.

2. What are the links between IT governance and IT performance?

Recent research [46] has shown links between effective IT governance and IT performance. Under current rational theory approaches based on contingency theory it is argued that achieving the proper IT governance ‘fit’ leads to improved performance. The ‘fit’ is the link. While this research continues to provide a valuable contribution to the IT governance literature we argue that a more detailed emphasis focused on the links themselves is now needed. As the contingency theory approach assumes ‘fit’ leads directly to improved performance it is not an adequate theory for a deeper examination focused on uncovering and understanding the links to performance. This closer examination is made possible if we turn to institutional theory.

Unlike rational theories, institutional theory would not necessarily predict a direct impact on performance. As Meyer and Rowan [26] pointed out, organizations may seek legitimacy in spite of its influence on efficiency and performance. There may indeed be no direct impact, as the core of the organization is protected even as legitimacy is sought externally. Using this decoupling of the core from the external environment “the assumption that formal structures really are working is buffered from the inconsistencies and anomalies involved in technical activities” [26: p. 357]. Another possibility is that the impact is indirect, as the legitimacy gained leads to the securing of valuable resources, which leads to the positive performance impact predicted by the rational perspective [26].

It may be that the link from IT governance to improved performance is direct. However, rather than assume that is the case, institutional theory approaches can determine if that is the reality as well as potentially illuminate alternative links to performance. For example, research could focus on whether coercive, normative, and mimetic pressures are taking precedence over financial considerations. Or perhaps a quest for legitimacy still results in improved performance – even if that is the case, showing that achieving improved performance in reality does not happen as rationally as the dominant theory assumes is an important contribution to research and practice.

3. How does IT governance change over time?

Rational theories of organizations provide a static view of organizational life. Equilibrium is achieved when governance structure and the environment are in alignment or when transactions or contracts have been properly organized. Yet organizational life is much more dynamic than what this view espouses. For example, even under the contingency theory approach, little research has been...
focused on how organizations change in order to achieve ‘fit’ or how organizations must change to maintain fit over time.

Institutional theory has not typically been considered a theory of organizational change [21]. However, Greenwood and Hinings [21] argued that neo-institutional theory is up to the task because it combines the ‘old’ institutionalism’s internal emphasis on power, coalitions and values and ‘new’ institutionalism’s external emphasis on legitimacy and organizational fields. The result is a theory able to explain “the response of the individual organization to pressure in the institutional field as a function of the organization’s internal dynamics” [21: p. 1032]. Institutional theory thus offers researchers a tool for an investigation into how organizations change over time, particularly in a complex institutional environment of political, regulatory and technological changes [21]. As this describes the environment organizations find themselves in as they struggle with how to achieve effective IT governance, institutional theory has particular value in understanding how IT governance changes over time.

Change takes place over time and research that attempts to understand how IT governance changes will need to take time into account. Greenwood and Hinings [21] suggested longitudinal, comparative case studies as one method for research on organizational change over time in addition to being a method able to account for the dynamic context organizations operate in, a context which leads to difficulty in measuring institutional concepts and nonlinearity. As we have argued that an understanding of how IT governance is actually done as well as the links between IT governance and performance should also consider the dynamic context IT governance takes place in, we recommend comparative case studies as one way to begin to better understand IT governance in the light of institutional theory.

5. Conclusion

IT governance continues to be an important area of research in many disciplines. In this paper we briefly reviewed the history of IT governance in the literature. We pointed out the debates surrounding the definition, the continuing emphasis on contingency analysis and the recent move towards understanding specific dimensions of IT governance.

Next we reviewed the literature and the phenomenon more broadly based on the common underlying theories in IT governance research. While the rational theories of organizations continue to provide useful models, we have argued that we can no longer neglect how IT governance is actually done, what the links between IT governance and performance are, or how IT governance changes over time if we are to provide continued value to practitioners and new streams of research for researchers. Before tightening the focus we argue researchers should broaden their scope and suggest the insights that can be gained from institutional theory as a step in this direction.

6. References


