Attempting to Define IT Governance: Wisdom or Folly?

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Abstract

This paper describes the first phase of an ongoing program of research into theory and practice of IT governance. It conceptually explores existing IT governance literature and reveals diverse definitions of IT governance, that acknowledge its structures, control frameworks and/or processes. The definitions applied within the literature and the nature and breadth of discussion demonstrate a lack of a clear shared understanding of the term IT governance. This lack of clarity has the potential to confuse and possibly impede useful research in the field and limit valid cross-study comparisons of results. Using a content analysis approach, a number of existing diverse definitions are moulded into a "definitive" definition of IT governance and its usefulness is critically examined. It is hoped that this exercise will heighten awareness of the "broad reach" of the IT governance concept to assist researchers in the development of research projects and more effectively guide practitioners in the overall assessment of IT governance.

1. Introduction

It is widely accepted that IT governance directly influences the benefits generated by organisational IT investments [48, 49]. It is not surprising, then that IT governance is emerging as an important area of enquiry by academics and practitioners alike. Academic papers that use the term IT governance in the title of the paper began to occur only as recently as the late 1990s. Van Grembergen [45: pxi] in the acknowledgements of his edited book on IT governance describes it as "the relatively new concept of IT governance". Given this relative newness of IT governance a discussion relating to creating a definitive definition of IT governance might be expected to occur in the literature, to enable academics and practitioners researching and/or working in this area to arrive at a shared understanding of what is meant by "IT governance". There are a number of reasons why this exercise, requiring significant effort from both industry and academia, would be useful and necessary.

1. At least 50 countries have corporate-governance regulatory frameworks in place to encourage and in many cases, require, accountability of companies to their members and communities, while maximising the company's ability to work efficiently and effectively to achieve its goals and objectives [11].
2. Companies with better than average IT governance earn at least a 20% higher return on assets than organizations with weaker governance [34]
3. IT governance is an essential but weak link in the overall corporate governance structure [41].
4. There are disparate terms and diverse definitions of IT governance within the area of information systems (IS) research [8] and as such the meaning of the term, "IT governance" is unclear.

The lack of clarity of the concept of IT governance is not surprising given that information systems is a relatively new discipline that has emerged in an organic manner from a variety of different background disciplines including, but certainly not limited to, the social sciences and the computing sciences. The breadth and diversity of the background disciplines and emergent nature of the discipline has, perhaps naturally, resulted in many information systems terms and concepts being ill-defined and lacking consistent agreement on intent and definition by researchers and practitioners working within information systems. The Frisco Report points to this lack of clarity in that it inhibits and damages the effectiveness of communication regarding information systems within both academic and practitioner communities where participants often have different meanings for the same term or concept [13].

The goal of this paper is to systematically derive a definitive definition for IT governance and explore its usefulness. The mechanism applied in this paper operates from the premise that IT governance is a broad-reaching concept that consists of multiple components and that researchers and practitioners currently publishing in the field of IT governance collectively possess the knowledge and understanding necessary to derive a clear and agreed definition for the concept. Different researchers,

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however, focus on different aspects of the concept and may fail to encapsulate the true nature of IT governance in definitions currently found in the literature. On this basis this paper conducts an interpretivist content analysis of existing definitions from within the IT governance literature and discusses the results of this analysis in the context of the evolution of IT governance. It then offers a revised definition of IT governance that, it is argued, more accurately represents the quintessence of the concept. In so doing, it considers and discusses those aspects that are commonly used to describe IT governance i.e. structures, control frameworks and processes. Additionally, and in order to provide background for the evolution of the concept, it will consider the relationship between bodies of literature on corporate governance and strategic information systems in the development of IT governance. Practitioner literature makes a meaningful contribution to this emerging area and for this reason, where it adds value to the discussion it has been included. Given the widespread confusion not only about the scope and meaning of the term "IT governance" but also about "governance" in general, it is thought that doing so will make a valuable contribution to thinking in this area and generate some spirited discussion.

2. The Evolution of IT Governance

While the primary focus of this paper is on the recent and growing body of work that explicitly refers to IT governance as a named concept, it is important to explore two predominant areas of influence on the emergence of IT governance. One area is the relatively recent focus on corporate governance within organisations and the other is strategic information systems. Each of these concepts is discussed separately in the following sections.

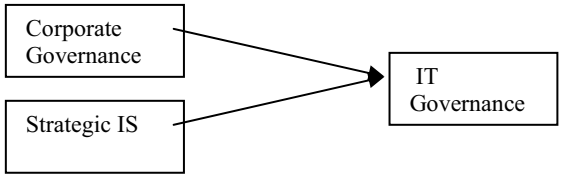

Figure 1- The Evolution of IT Governance

2.1. Corporate Governance

IT governance is commonly referred to as a sub-set of corporate governance [17]. It seems logical then that the definition of corporate governance will provide a useful starting point for an exploration of the definition and appropriate usage of the term IT governance. Consider the definitions of corporate governance presented below:

> Broadly speaking, corporate governance generally refers to the processes by which organisations are directed, controlled and held to account. It encompasses authority, accountability, stewardship, leadership, direction and control exercised in the organisation [2].
>
> Corporate governance is the system by which companies are directed and managed. It influences how the objectives of the company are set and achieved, how risk is monitored and assessed, and how performance is optimised [3].
>
> Good corporate governance structures encourage companies to create value (through entrepreneurism, innovation, development and exploration) and provide accountability and control systems commensurate with the risks involved [3].

Corporate governance is a responsibility delegated by shareholders and the public, defined by legislators and regulators and shared by boards, in some measure, with managers [15].

An important distinction between governance and management is made by Bird [5], who states that while executives and managers administer, develop, implement and monitor business strategies on a day-to-day basis, boards and other governance structures deal with overall organization policy, culture and direction. He goes on to state that *"Executives…manage organizations by virtue of the authority delegated to them by those who govern"*[5: p300], thus making a strong distinction between the diverse elements of corporate governance and management.

At a structural level, Barrett [4] suggests that a framework for corporate governance should include:

- Strategic direction
- Policies and procedures
- Control and accountability systems
- Performance management
- Risk management

2.2. Strategic Information Systems

The literature into IT governance also draws heavily from a strategic information systems background and there are clear links and areas of overlap between IT governance and strategic information systems planning and strategic information systems as a research discipline. Much of the reference material sourced by authors researching in the field of IT governance draws heavily on these areas [45].

The research area of strategic information systems encompasses a range of information systems. These systems may be purpose-built strategic systems or systems with some strategic potential [23]. Research

conducted under the heading of strategic information systems is not restricted to an analysis of the specifics of systems. It extends to discussion of how systems might be used for strategic advantage, how systems and organisations can identify, harness and exploit strategic advantage within their technologies, and the ongoing issues of strategic planning for and management of the technology.

It is from within the discussion of strategic planning and management that the concept of IT governance begins to emerge. Earl [12] identifies four areas from the literature that are included within strategic information systems planning:

- Aligning investment in IS with business goals
- Exploiting IT for competitive advantage
- Directing efficient and effective management of IS resources
- Developing technology policies and architectures (p1)

2.3 IT Governance

Given the nature of IT governance, it is commonly regarded as a subset of corporate governance [17] it would be subject to the same covenants and constraints. The purpose of IT governance is described in the IT Governance Institute Board Briefing on IT Governance [16: p10], as:

> to direct IT endeavours, to ensure IT's performance meets the following objectives:
> - For IT to be aligned with the enterprise and realize the promised benefits
> - For IT to enable the enterprise by exploiting opportunities and maximizing benefits
> - For IT resources to be used responsibly
> - For IT related risks to be managed appropriately

In today's organisation the IT baseline costs are significant and rising [20]. It has been reported that they make up about 75% of the operating budget and represent approximately four percent (4%) of gross revenue [14]. IT underpins an organisation's operations to such an extent that an IT related failure or breach can precipitate a significant financial loss or the development of serious legal risks and issues for an organisation [1,9]. Little wonder then that organisations are recognising the need for increased control of IT via IT governance. In a similar way to corporate governance, IT governance within organisations can only occur when there is high level involvement. To reiterate the words of Bird [5: p300] *Executives manage organizations by virtue of the authority delegated to them by those who govern*. By implication management and governance are separate activities and governance requires the highest level of direction, leadership and control. In a similar vein, Van Gembergen *et al* [45] centre their discussion of IT governance on the following four elements:

- Strategic Alignment
- Delivery of business value through IT
- Risk Management
- Performance Management [45: p7]

As can be seen from the discussion presented above, there is considerable overlap between the three concepts, Corporate governance, Strategic Information Systems Planning (SISP) and IT governance, on the basis of their constituent parts as described by these researchers. A review of the literature in each of these areas led to the development of Table 1 that shows how the salient elements in each of the three concepts are correlated.

On the basis of this simple analysis one could conclude that there is little to distinguish IT governance from corporate governance or SISP with the exception of the absence of risk management in SISP and of policies and procedures in IT governance and the explicit emphasis on control and accountability, provided through the existence of control and accountability systems, in corporate governance.

SISP literature often begins from a premise of the responsibility for IT being divided between the IT division and end users [42] rather than IT being a corporate executive responsibility. SISP researchers recognise the need for high level support from within organisations for IT decisions and this recognition is commonly reflected in the role and status of the Chief Information Officer (CIO) who is commonly a member of the executive committee [42]. Given the focus of corporate governance and the commonly held position that IT governance fits within corporate governance it is reasonable to suggest that IT governance differs from SIS in terms of its emphasis.

Similarly, corporate governance has more business focus than technology focus. IT governance reflects a movement away from IT managers or CIOs retaining control of, and responsibility for, IT to a position where the control of, and the accountability for, IT related decisions rests at the highest levels of the organisation and encompasses business and technology considerations. Decision making structures can facilitate the delegation of the responsibility for individual decisions to lower levels within an organisation both within and outside of the IT department. However, senior management and/or the board retain the accountability and control.

Table 1 - A Comparison of Frameworks

Corporate Governance	*Strategic Information Systems Planning*	*IT Governance*
Strategic Direction	Aligning investment in IS with business goals	Strategic Alignment
	Exploiting IT for competitive advantage	Delivery of business value through IT; exploiting opportunities and maximizing benefits
Performance management	Directing efficient and effective management of IS resources	Performance Management; IT resources be used responsibly
Risk management		Risk Management; IT related risks to be managed appropriately
Policies and Procedures	Developing technology policies and architectures	
Control and accountability		

Standards Australia [40] has recently released a Draft for Public Comment entitled Australian Standard Corporate Governance of Information and Communication Technology, that states "corporate governance of ICT is a business issue that sits above the operational or project level in an organisation" [40: p2]. The clear intention of the draft standard is to lift the focus of IT governance from within operational management ranks to the level of senior management and, where appropriate, the Board.

3. Elements of IT Governance

Structures, control frameworks and processes are terms that arise frequently in the IT governance literature. These terms represent important concepts and tools for the application, implementation and development of IT governance but they do not define IT governance. Organisational and decision-making structures are an important area of research and study within SIS. Boar [6] states that organizational structure is critical to facilitating strategy [6: p125].

Importantly he also acknowledges that, whilst structure is fundamental to facilitating the success of a strategy, structure is not strategy. Similarly IT governance is not structure; it is and can be, however, facilitated by an appropriate structure.

In order to understand better the concept of IT governance some discussion of the structures and control frameworks that operate in support of IT governance follows.

3.1 Structures

The majority of the existing literature approaches the topic of IT governance from the point of view of describing and categorising existing or proposed structures for IT governance [28]. For example, Sambamurthy and Zmud [35: p261], assert that three primary modes of IT governance have become prevalent: centralized, decentralized, and the federal mode. The adoption of a centralized mode is indicative of corporate IS having authority to make all IT related decisions, a decentralised mode can take on a number of configurations but reflects the movement of authority away from corporate IS to divisional IS and/or line managers, whilst the federal mode and its various configurations sees the IT related decision making distributed between corporate IS and divisional IS and/or line management [35].

This view is supported by at least one of the definitions that will be offered later in this paper and repeated below:

> the IT related *structures* or architectures (and associated authority pattern) implemented to successfully accomplish (*IT Imperative*) activities in response to an enterprise' *environmental and strategic imperative* [36: p131]

More recently Weill [49] identifies five major IT decisions that constitute IT governance (IT principles, IT architecture, IT infrastructure strategies, IT investment/prioritization and business application needs) and the six IT governance archetypes that describe the people who are involved in making these decisions (business monarchy; IT monarchy; feudal, federal, IT duopoly and anarchy).

3.2 Control Frameworks

There is little discussion of the term, "control frameworks", evident in the IS literature. One possible definition that could be suggested is that IT control frameworks are any set of processes, procedures and policies that enable an organisation to measure, monitor, and evaluate their situation in relation to predefined factors, criteria or benchmarks.

The motivation for implementing an IT control framework can come from a variety of focuses.

1) Regulatory or financial control
2) Control of decision-making regarding IT investment
3) Maintaining strategic alignment
4) Security

The existing IT control frameworks vary depending on the focus. For example, the intention may be to control financial aspects or to control acquisition, procurement and deployment, or even to control the alignment of IT with the business strategy. CobiT has been developed to manage IS control [21], SAC is a tool for internal auditors to use when auditing information systems and technology [10, 25, 32], COSO provides information for those seeking to assess and provide feedback about control systems and SAS 55 and 78 deal with external auditors and the effect of internal controls on financial statements [10]. The applications portfolio "is a means of bringing together existing, planned and potential information systems and assessing their business contribution" [47: p272]. Kaplan and Norton developed the balanced scorecard. It was originally developed as a mechanism for measuring performance in an effort to assist organisations to measure and monitor the success of strategies. It has subsequently been applied to measuring and monitoring IT [43, 46].

At least part of the imperative for maintaining strong internal controls is about reducing or mitigating risk. Information systems and technology advances have exposed corporations to a new range of risks, particularly in the area of exposure to fraud [29]. In addition to the financial risk associated with fraud as a result of poorly planned or managed IT deployments there are risks inherent in the IT planning process. In an environment that continues to demand that managers do more with less, effective and structured IT planning processes are becoming more necessary [37].

There is overlap between audit requirements and IT control frameworks, with IT control frameworks often providing the processes and information required by auditors. Information technology and electronic records storage has created issues for auditors in trying to evaluate the integrity of financial information held within and processed by those systems [30].

Palese [24] argues that issue management, as in the early identification of risk and opportunity and having the capacity to respond, will be important for corporations to maintain a competitive advantage in the future. He argues that issue management will become integrated into the corporate governance model. Again there is a role for IT and IT governance in supporting this process and the evolution toward it.

In summary then control frameworks, where organisations choose to adopt them, assist managers in the task of measuring and monitoring IT performance and effectiveness. IS control frameworks can co-exist with IT governance structures and can provide a useful tool for management, however, similarly to IT governance structures, their existence does not equal IT governance.

3.3 Processes

The effective management of organisational IT resources, enabling the provision of information needed by an organisation to achieve its goals, is done through a set of IT processes [27]. As with the alignment of IS strategy with business strategy, it is important that an organisation designs its IT governance processes to be closely aligned with those of its corporate governance. These processes might involve the assembly of committees, budgetary mechanisms, checks and balances, report generation, IT procurement, etc.). Accountability within the processes is essential and learning from one implementation to another, through iterative modifications in the processes must occur to ensure more adept sharing and reuse of IT assets [49]. It is the effectiveness of this set of processes that sets organisations with effective IT governance apart from those that do not. Similarly, the existence of policies and procedures is not evidence of IT governance. These are artificially created devices that assist and support the operation of IT governance but do not define it. For this reason it is suggested that policies and procedures be eliminated from a definitive definition of IT governance.

4. Diversity of IT Governance

The IT governance literature includes a range of definitions providing different perspectives on the concept of IT governance. Interestingly, while the literature does contain a range of definitions, some authors do not attempt to define the term, perhaps incorrectly assuming that the meaning of IT governance is agreed and well understood. The available definitions differ considerably depending upon the researcher's intention and approach to the research topic. Some definitions reflect the importance of alignment of IT with business [43: p41, 18: p9]. Other definitions equate IT governance with the IT related decision-making framework [7: p2]. Still others reflect a perceived importance of the structure of IT governance within an organization [36: p131].

The definition of IT governance has even been used to reflect the dynamic nature of the organisational environment 26: p46]. That said, it would seem that these definitions do not take into account the *broad reach* of IT Governance, but instead simply describe one aspect or other of the concept. Adopting a limited definition for application within a predefined context is a valid

approach enabling a researcher to more specifically scope the boundaries and intent of their research. However, in order for meaning and understanding to be preserved and maintained, this action is best undertaken within the boundaries of a well-defined framework.

Ideally a good framing definition need include only sufficient information to convey to the reader an appreciation of the general concept under study. It should include no extraneous information and should not unnecessarily limit or restrict the scope of the concept. . This is achieved not only by what the definition includes but also by what it excludes. If we apply this approach to IT governance, researchers might then choose to scope or limit within the broad definition with the advantage of greater shared understanding and clarity across the IS discipline. So is it possible to reach a definition for IT governance, and if so, how might we begin? The following sections will discuss the method and results of a content analysis approach used within this paper designed to raise awareness of the *broad reach* of IT governance.

5. Method and Data Analysis

The research method adopted in this paper applies a content analysis approach to analyse twelve definitions of IT governance identified from a review of previous literature (see Appendix 1). The underlying premise in content analysis is that there must be a stated aim, in this case to develop a definitive definition of IT governance, and "the kind of evidence needed to validate its results must be specified in advance or be sufficiently clear so as to make validation conceivable" [19: p28]. In this case the analytical constructs that provide the framework within which the content analysis takes place were developed based upon the IT governance literature. These are presented earlier in this paper (refer to Table 1). There are a variety of approaches to content analysis. This technique can be applied within either a qualitative or quantitative framework and, even within this dichotomy, a number of approaches are possible [33]. A qualitative approach within an interpretivist epistemology was adopted for this research because the nature of the research problem is better suited to a research methodology that supports consideration of the contextual situation and emergent themes.

The definitions were analysed in order to map the occurrence of or inference within the definitions to the elements included in the Comparison of Frameworks appearing in Table 1 and reproduced in Table 2 below. The first stage of the analysis was to validate the framework by demonstrating that the elements occurring within the framework do occur within the definitions. This involved analysis of the definitions and comparison with the elements of the framework to determine whether the definitions included reference, either direct or inferred, to the elements. The result of this analysis is discussed in the next section (refer to Table 2). The next step was to situate these results within the contextual setting of the definitions relying on inferences drawn from the literature. This process included challenging elements of the framework to determine which elements described IT governance and which, if any, defined IT governance. At the end of this process a new definition for IT governance is offered based upon the content analysis of the existing definitions and the contextual situation within the IT governance literature.

6. Findings

The results of the content analysis are summarised in Table 2 below where the columns represent the twelve definitions (A through L) that were used in the content analysis. It is evident from the table that there is support for the validation of the framework in the definitions. All aspects of the framework are reflected by the analysis of the definitions, although some elements have received greater attention (strategic alignment, delivery of business value, policy and procedures) than others (performance management, risk management, control and accountability).

As discussed previously, the framework naturally reflects the evolution of the concept from strategic information systems planning and corporate governance. It is also clear from the table that the available definitions are broad and diverse indicating a lack of clarity about the concept. None of the definitions reflect all of the elements of the framework, possibly indicating that authors do develop definitions to support their particular focus. For the analysis to be complete, the results that appear in the table are considered next within the context of the previous discussion of the IT governance literature.

What the table does not and cannot report is the content of the definitions that could not be mapped into the table. Interestingly there was one recurring element that did not appear in the table and did arise from the definitions. This element appeared under a number of descriptors but can be effectively encapsulated as structures. The discussion earlier in this paper provides support for a decision not to extend the framework to include structures, given that structures do not define IT governance but rather describe one element of it.

Table 2. Analysis of IT Governance Definitions

IT Governance: A Framework of Analytical Constructs	*Definitions (See Appendix 1)*											
	A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*
Strategic Alignment	✓	✓			✓						✓	
Delivery of business value through IT	✓	✓	✓			✓						
Performance Management					✓			✓				
Risk Management	✓		✓									
Policies and Procedures			✓						✓	✓		✓
Control and Accountability			✓	✓								

7. Defining IT Governance

In summary then five elements of the framework have been validated from this two-stage analysis including:

- Content analysis of the definitions and
- Consideration of the context provided by the IT governance literature

These five elements are:

- Strategic Alignment
- Delivery of business value through IT
- Performance Management
- Risk Management
- Control and Accountability

The five elements are offered as capturing the *broad reach* of IT governance, and as a result, it is suggested they provide the basis for the following proposed definitive definition of IT governance:

> IT Governance is the strategic alignment of IT with the business such that maximum business value is achieved through the development and maintenance of effective IT control and accountability, performance management and risk management.

8. Discussion

It can be persuasively argued that IT governance must be supported by a decision-making structure, not necessarily reflecting the common structures discussed in this paper, nonetheless able to be described and modelled in some manner. This paper has argued that evidence of the existence of a decision-making structure, or the policies and procedures that support it, is not evidence of IT governance within an organisation. If IT governance necessitates control and accountability then this implies leadership, control and direction from those persons within an organisation with authority to govern.

A content analysis of twelve definitions found in a review of previous literature revealed five different elements that constitute IT governance: strategic alignment, business value, IT control, accountability, performance management and risk management. Combining these twelve definitions and taking into consideration the context in which they have previously been discussed, a definitive definition of IT governance was derived and is proposed as a point of departure for further discussion of this important and highly topical area of study. The proposed definition includes the five elements that encapsulate the quintessence of IT governance. Arguably the control and accountability element is the element that differentiates IT governance from strategic information systems planning and the IT-specific focus of all the elements is what differentiates IT governance from corporate governance. Similarly, policies and procedures were omitted for reasons explicated above.

What then is the usefulness of this exercise? There are some who might argue there is little value in attempting to derive agreed definitions for any concept seeing it is a futile exercise, somewhat akin to creating a Frankenstein out of dead body parts. Others might say that practitioners and researchers will continue to approach the challenges of IT governance in ways that support their own particular situation and/or research preference. These views are valid and indeed the latter is a likely scenario. However, we feel there is value in this exercise to open up a discussion emphasising the breadth and scope of the concept and encouraging those at work in the field to actively challenge their preconceptions regarding the concept. In this way, more meaningful communication between interested parties on this research area will be facilitated.

While a definitive definition may not appear necessary or desirable, the capacity for clear communication and recognition of the *broad reach* of IT governance is important in both research and practice. Good IT governance is no longer a "nice to have", it is a "must have" and can contribute to higher returns on assets at a time when businesses are spending increasing amounts on technology investment. In addition, failure to adequately govern IT within an organisation can result in heavy financial losses, failure to achieve anticipated productivity gains and possibly increase the risk of legal action. This does not mean that all practitioners should or will adopt one definition unanimously. Rather that arming practitioners with knowledge about the diverse ways that the concept has been defined in the literature, it is hoped

that an increased awareness of the *"broad reach"* of IT governance will enable them to assess the relevance and focus of IT governance as it applies in their business and the areas to target for improvement. In addition it will assist practitioners in comparing their IT governance regimes with those of other firms and with the research literature in a way that is more meaningful for them.

Similarly for researchers working in the area, opening the discussion and highlighting the areas of difference serves to draw attention to the concept and the disparity of views inherent within it and enable researchers to consciously scope an area for study within or across the broad concept. This would help to make cross study comparison a useful and realistic endeavour and in turn increase the value of research conducted in the area.

9. Concluding Remarks

This paper has argued that corporate governance, strategic information systems and within that strategic information systems planning underpin the evolution and development of IT governance. We contend that the individual definitions of IT governance reflected in the existing IT governance literature do not adequately capture the *broad reach* of the concept, relying as many of them do, on description of one or other aspect of IT governance or its supporting mechanisms. The definitions of corporate governance, of which IT governance is a sub-set, present a need for leadership, direction and control and situate corporate governance at the highest levels of the organisation. Therefore IT governance must be driven from the highest levels within the organisation not from the IT department or business unit levels across the organisation. In order for IT to be governed there must be recognition of the need for governance and a shift in the accountability for IT related decision to the top of the organisation or even to the board.

It is acknowledged that IT Governance means different things in different industries. This is evident by the different regulations that have been developed (e.g., Sarbanes-Oxley, Gramm-Leach-Blile, and, HIPPA and in different countries. and by the different legislative documents (Sarbanes-Oxley - USA, Australian Stock Exchange Corporate Governance Council's Principles of Good Corporate Governance and Best Practice Recommendations - Australia, TSX Amended Corporate Governance Guidelines – Canada, and the UK Combined Code - UK). It therefore follows that implementing standards, whatever the industry, introduces the same IT challenges and developing a shared definition of IT governance is a useful step in promoting the establishment of these standards.

Before any progress can be made toward integrating the focus of research and practice in the area of IT governance, a heightened awareness of the need to consider the various elements of the concept that constitute its "broad reach" must occur. This paper represents an important step forward in raising the level of awareness and establishing a dialogue to provoke thinking that considers the *broad reach* of IT governance and the desirability of a definitive definition that provides a mechanism for building a body of comparative research and practice on this important and evolving topic of interest.

The next phase of this research will be to validate the proposed definition with business and IT practitioners and to conduct an in-depth case study of the reality of IT in theory and practice in a large multi-national organisation in Australia that will broaden the limited empirical survey research currently available to explore the "how" and "why" of the complex issues associated with IT governance in practice.

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APPENDIX 1 –

IT GOVERNANCE DEFINITIONS FROM THE LITERATURE (SEE TABLE 2)

A) to direct IT endeavours, to ensure IT's performance meets the following objectives:

For IT to be aligned with the enterprise and realize the promised benefits
For IT to enable the enterprise by exploiting opportunities and maximizing benefits
For IT resources to be used responsibly
For IT related risks to be managed appropriately (ITGI 2001: p10)

B) the organizational capacity to control the formulation and implementation of IT strategy and guide to proper direction for the purpose of achieving competitive advantage for the corporation [42: p41].

C) IS/IT governance concentrates on the structure of relationships and processes to develop, direct and control IS/IT resources in order to achieve the enterprise's goals through value adding contributions, which account for balancing risk versus return over IS/IT resources and its processes 18: p9].

D) IT Governance specifies the decision rights and accountability framework to encourage desirable behaviour in the use of IT [7: p2].

E) the IT related *structures* or architectures (and associated authority pattern) implemented to successfully accomplish (*IT Imperative*) activities in response to an enterprise' *environmental and strategic imperatives* [35: p131].

F) e-business IT governance has been conceptualized as encompassing both systematic and planned activities and organic emergent needs to ensure successful e-business applications development. E-business models need to cater for emergent requirements and regard suppliers, business partners, and especially customers as integral [26: p46].

G) IT governance refers to the patterns of authority for key IT activities in business firms, including IT infrastructure, IT use and project mgt [34: p261]

H) governance is referred to as the internal governance processes of an organisation. In this instance governance enables the creation of a setting in which others can manage their tasks effectively [38: p97]

I) the IT governance of an organisation comprises the rules or guidelines that determine the division of IT roles and responsibilities, and how decisions on IT are made [17: p2]

J) IT governance is the system of structures and processes for directing and controlling information systems [37: p2]

K) IT governance refers to how a firm assures its IT strategy and practices are used to support organization strategy and implement information practices [22: p5]

L) at the conceptual core of IT governance processes, is an organizational model of decision making, defined as the process of identifying and solving problems [30: p2]