Interorganizational IT Governance: An exploratory research

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ABSTRACT

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This research project aimed to better understand how IT governance supports organizations in their business exchanges with other organizations. A model for interorganizational IT governance was synthesized based on literature from network governance streams. Through interviews with senior interorganizational IT governance committee members and IT executives, the critical IT governance factors and tactics employed that bring about successful interorganizational relationships were identified. These factors included IT governance structures, process tools and participants when undertaking interorganizational relationships, as well as interorganizational maturity. Identifying these factors allowed for the creation of a strategic model of interorganizational IT governance. Patterns of interorganizational IT governance constructs were analyzed against the success of interorganizational relationships. Emergent interorganizational IT governance construct classes were identified from the gathered data: emergent structure categories included outsourced form, networked form and value-chain form; emergent process focus included inward and outward focuses; emergent participant groups included unilateral, bilateral and committees; and emergent maturity stages included market, network and hierarchy.

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CHAPTER 1 - INTRODUCTION

With the passage of the Sarbanes-Oxley Act in the USA (2002), the concept of transparency and oversight has been at the forefront of all progressive organizations' IT operations. Thus, IT governance has become a prime concern and focus of much research for both businesses and academics (Brown and Grant, 2005; Weill, 2004; Sambamurthy and Zmud, 1999). Furthermore, the strategic role of IT, from the firm perspective, is moving away from its traditional "back office" role of general operations support into a role meant to drive and shape new business strategies (Henderson and Venkatraman, 1993). As such, organizations are investing more and more capital, time and assets into IT in order to bolster research, production and delivery of their products and services with the ultimate goals of maximizing their competitive advantage, facilitating their customer relationship management and reducing costs (Chang, Torkzadeh and Dhilon, 2004).

However, even with all of today's latest advances in research, development and implementation of IT capabilities, organizations continue to struggle to attain alignment between IT activities and business objectives in order to achieve said value with their IT investments, modeling their processes for specific business needs and customized IT solutions (Henderson and Venkatraman, 1993; Ross et al., 2006). Furthermore, interorganizational exchanges continue to increase in frequency and value. While these exchanges evolve and mature, with this evolution comes opportunism, a negative yet inevitable consequence of interorganizational exchange (Goo et al., 2009). Businesses strive to couple their operational and IT processes in order to cut costs and increase efficiency (Tanriverdi, Konana and Ge, 2007).

Firms in today's volatile market strive to increase the value of their IT investments; in doing so, the current trends, and even the next generation of strategies, have come to

emphasize collaborative partnerships in the form of interorganizational relationships. The combination of firms' capabilities allow these firms to more easily control and adapt to market forces and uncertainties (Pearson and Saunders, 2004; Brown and Grant, 2005; Chi and Holsapple, 2005). These partnerships have brought about another shift – or, rather, an added role – for IT: that of a cooperation enabler between businesses (Hong, 2002). In fact, IT is now seen as the primary enabler of new business activities between firms; e-business has become the dominant paradigm in a progressively electronic economy (Patrakosol and Olson, 2007). A firm can only create so much competitive advantage on its own. A group of firms working together, however, can make all the difference (Hong, 2002).

It is because of this drive for interorganizational relationships that a necessity for IT governance during these business exchanges becomes formalized; adequate interorganizational IT governance should be foremost in the strategic planning of organizations that wish to foster growth of their relationships while maintaining value with their IT investments. This paper attempts to formalize a research model for interorganizational IT governance, bringing into consideration concepts from both interorganizational relationship research as well as IT governance research, and then synthesizing a new stream for interorganizational IT governance. No such research exists, to the best of our knowledge, and so to create a foundation on which to build, we borrow from the network governance streams (Powell, 1990; Winkler, 2006).

This research paper is organized as follows. First, current literature is reviewed outlining the basis of Interorganizational IT governance and its components; topics spanning from IT governance theory, interorganizational relationship theory and network governance theory make up the bulk of the review. Then, using these topics, a model is proposed for interorganizational IT governance and its basic components are described. The model is then

applied to case-based research data and the data analyzed. Observations are then provided regarding the analysis of the data, including research limitations and avenues for further research.

CHAPTER 2 - LITERATURE REVIEW

IT Governance

"IT governance is not about what specific decisions are made. That is management. Rather, governance is about systematically determining who makes each type of decision (a decision right), who has input to a decision (an input right) and how these people (or groups) are held accountable for their role. Good IT governance draws on corporate governance principles to manage and use IT to achieve corporate performance goals" (Weill, 2004; p. 3). This quote from Weill best summarizes current thoughts and trends in IT governance research. Peterson (2004) points out that business executives have come to the conclusion that they cannot conduct day-to-day activities, including production, marketing, or research, without relying heavily on IT and IT decisions; delegating and/or ignoring these decisions, therefore, is unwise.

IT governance has gone through several iterating definitions in academic literature; no term has been more skewed, stretched and distorted (Rau, 2004). Academics have long sought to come up with a uniform definition that best fits the term, though none so far have agreed. Thus, it is no wonder that IT governance is more often than not a weak portion of the overarching corporate governance structures (Trites, 2004).

Boynton et al. (1992; p. 32) originally state that IT governance has to do with "the location, distribution and pattern of managerial responsibilities and control that ultimately affect how IT resources are applied and then implemented." In a behavioural research sense, governance is a matter of establishing and employing power, subject to the overarching goal of coordinating the efforts of different channel members (Heide 1994). Loh and Venkatraman (1992) took a different approach at defining IT governance, stating that IT Governance is simply a set of mechanisms for ensuring the attainment of necessary IT capabilities. Sambamurthy and

Zmud (1999; p. 282) generalize IT governance as "the context, the rules, and the expectations that frame and filter the IT-related decision making occurring throughout all organizations." Meyer (2004; p. 24) combines and simplifies these original definitions, re-defining IT governance as the "processes that coordinate and control an organization's [IT] resources and actions." However, Peterson (2004; p. 8) stipulates further that IT governance is also "the enterprise management system through which the organization's portfolio of IT systems is directed and controlled." According to the IT Governance Institute (2005; p. 1), IT governance defines "the leadership and organizational structures and processes to execute the organization's strategy and objectives." It is evident that academics agree to disagree on the exact definition of IT governance; most fall within the same fundamental area, using terms like structure, process, control, and decision making, but every researcher has his or her own definition. However, no definition is simpler and more all-encompassing than Weill (2004; p. 3), who states that IT governance specifies "the framework for decision rights and accountabilities to encourage desirable behaviour in the use of IT."

As varied as the definitions of IT governance may be, the goals of effective IT governance are equally diverse. IT governance enables organizations to be more competitive (Brown, 2006), sustains and extends organization's strategies and objectives (Damiandes, 2005), assists in achieving strategic IT alignment (Brown and Magill, 1994), and increases profitability, revenue growth and innovation (Weill and Ross, 2005). Overall, IT governance should mimic corporate IT governance; it is meant to allow for the effective use of IT to achieve specific goals (Weill, 2004). IT governance should, therefore, increase value, manage risk, maintain accountability and measure programs and activities (Brown, 2006).

One of the most difficult things to achieve with effective IT governance is, essentially, to achieve effective IT governance: control IT decision making, but at the same time ensure that the decision-makers take the appropriate responsibility for their decisions (Peterson, 2004). Conceptually, IT decision rights and centralized control mechanisms are at the foundation of what defines effective IT governance (Brown and Grant, 2005).

Brown and Grant (2005) summarize the previous research into IT governance as falling under two streams: IT Governance Forms and IT Governance Contingency Analysis.

IT governance forms

IT governance forms research deals with the decision-making structures adopted by IT organizations, for example, the centralization/decentralization/hybrid forms for the locus of control of IT in firms (Zmud et al. 1986; Brown and Magill, 1994). Strictly speaking, centralized governance forms place the decision-making authority into the hands of a small group of individuals within the firm, often within the upper echelons of management and/or executives. Decentralized governance forms, on the other hand, relegate the decision-making authority to the business units, allowing each operator to create its own set of regulations and generate policy thusly (Brown, 1997; Kayworth and Sambamurthy, 2000). It was discovered within the research summary provided by Brown and Grant (2005) that centralizing IT governance provided more control and opportunity while decentralizing IT governance provided more flexibility and responsiveness.

More specifically, centralized IT governance places the burden of decision-making at the center of the IS function in the organization: the CIO, IS executives and management (Hvalshagen, 2004). A central IT governance mode is best suited for those firms seeking

strategies that, in some form or another, look for diversification strategies (Brown and Magill, 1994).

Conversely, decentralized IT governance spreads the decision-making authority to the various business units and their management; decentralization often requires business unit managers to have a firm grasp of IT activities and operations (Hvalshagen, 2004; Brown 1997; Sambamurthy and Zmud 1999). The overall effect is a redistribution of accountability; centralized forms allow for greater control while decentralized forms offer greater flexibility. While both forms have their pros and cons, neither form can claim optimality (Kayworth and Sambamurthy, 2000).

In summary, IT governance forms detail the various IT governance structures undertaken by firms in order to centralize-decentralize the decision-making rights.

IT governance contingency analysis

IT governance contingency analysis, on the other hand, deals with the fit of IT governance with respect to the individual organizations' needs in order to maximize success of their processes (Brown, 1997; Sambamurthy and Zmud, 1999). As such, most research in this stream attempts to identify contingencies best suited to a given governance form, allowing for the creation of frameworks for IT governance adoption. Contingency analysis searches for the best options for governance based on the affecting factors within or outside of the organization (Brown and Grant, 2005).

Tanriverdi (2006) identifies four dimensions of IT relatedness that directly affect firm performance: IT strategy making, IT vendor management, IT human resource management, and IT infrastructure. These constructs are seen as synergistic components, all critical to the performance IT, and indicative of form performance. Sambamurthy and Zmud (1999) identify

three categories of contingencies that affect mode of IT governance: Corporate governance, economies of scope and absorptive capacity.

Simply listing a strict set of contingencies when trying to determine IT governance policy, however, is not efficient. Providing an adequate background and identifying critical contingencies is situational and requires, rather than a list, a breakdown of the various intertwining factors. Thus, the genesis of multiple-contingency analysis (Brown, 1997; Brown and Magill, 1998; Sambamurthy and Zmud, 1999).

In summary, IT governance contingency analysis deals with the fit of IT governance with respect to the IT governance processes executed by the firm.

IT governance contemporary frameworks

Weill and Ross (2004) synthesized a modern approach to IT governance research by introducing a span of governance archetypes, using political parallels to describe the various decision-making structures.

Table 1 – IT Governance archetypes - Adapted from Weill and Ross 2004

Archetype	**Decision-making rights**
Business Monarchy	Business executives, possibly including CEOs and CIOs
IT Monarchy	IT executives, likely including CIO
Feudal	Business unit leaders and process owners
Federal	Business executives as well as business unit leaders, possibly including CIOs
IT Duopoly	IT executives partnered with one other group, likely business unit leaders
Anarchy	Each user

Each of these archetypes represent a point somewhere on the scale of centralized to decentralized, and this framework cements the case for a linear scale of centralization/decentralization in IT governance theory. Centralized IT governance increases IT synergy, IT standardization and IT specialization at the expense of business responsiveness, business ownership and business flexibility, while leading to greater specialization, economies of scale, consistency, and standardized controls. Decentralized IT governance provides the opposite (increased business, decreased IT) while enabling business control, a sense of business ownership, and provides greater responsiveness and flexibility to business needs. Federal IT governance, on the other hand, provides the "best of both worlds"; a federal governance structure is a governance mode whereby "a central unit has the primary responsibility for the IT infrastructures but the individual business units have the authority for decisions concerning the employment of strategic applications of IT" (Hvalshagen, 2004; Peterson 2004).

Research has demonstrated that intraorganizational IT performance will be high in centralized IT companies, moderate in decentralized organizations, and low in firms using hybrid mode (Tanriverdi, 2006). However, there's no one-size-fits-all model, mode or archetype (Rau, 2004). Furthermore, it has been posited that these traditional models may be inadequate, as they do not ensure that existing knowledge within the company be used to its greatest extent. For a governance form to emerge and thrive, it must address problems of adapting, coordinating, and safeguarding exchanges more efficiently than other governance forms. As such, the development of new models and a shift in paradigm is called for (Sambamurthy and Zmud, 2000; Brown and Grant, 2005).

Brown and Grant (2005) summarize the three primary questions pertaining to IT governance as:

- Who is responsible for IT investment activities?
- Who provides input into IT investment activities? And
- What controls are in place to ensure IT investment activities are carried out positively?

These questions fall in line quite well with Weill's (2004) definition of IT governance, and do much to cement the concepts of accountability and transparency in practical governance paradigms. Creating and maintaining a solid IT governance framework, or structure, within an organization can enhance the understanding of IT among executives and all those participating in the IT function. Furthermore, it can increase the quality of business decisions and processes, assist in the alignment and formalization of IT projects with business requirements, contribute to compliance and build standards, increase competitive advantage, enhance risk management and generally optimize operations (Damiandes, 2005). Harguem et al. (2007) tie these factors together by identifying a framework for IT governance research. A holistic view of IT governance practice is provided, categorized by structure, process and relational mechanisms, ultimately affecting flexibility, collaboration and value-creation control. These factors provide a solid foundation when it comes to deriving an IT governance framework. Identifying these factors from a practical perspective requires an understanding of the mechanisms that lie beneath.

In summary, contemporary IT governance frameworks deal with the idea of participants and who is involved in the decision-making rights.

Interorganizational Relationships

The formation of an interorganizational relationship is itself a strategic decision (Heide, 1994). There are two fundamental stances or views when it comes to interaction with other firms: competition and collaboration (Huxham and Vangen, 1996). While competition and

competitive advantage are a given in modern markets, cooperation is an attitude that requires appropriate strategy in order to guarantee success.

Firms create interorganizational relationships with other firms in order to achieve goals that each firm would not easily be able to attain when acting alone (Lee and Lim, 2005). External pressures, including environmental and technological standards, as well as internal firm pressures, are moving firms to seek cooperation in areas previously unsearched (Ring and Van de Ven, 1992). As such, interorganizational relationships allow firms to combine resources and share knowledge, minimize risks, optimize asset use, increase competitive or market power, maximize their ability to offer attractive products and services, increase efficiency, to reduce costs, increase flexibility, collective lobbying and neutralizing or blocking competitors, increase sales volume, accelerate technology development, open market access, or capitalize on opportunities for organizational learning (Doz & Hamel, 1998; Barringer and Harrison, 2000; Hamel, 1991; Koh and Venkatraman, 1991; Powell, 1990; Ritter, 1999). Other advantages exist as well, though often are not visible and/or definable at the beginning of the relationship (Lowndes and Skelcher, 1998).

However, the decision to undertake these relationships is often based on multiple factors or contingencies; firms will often weigh the pros and cons of each relationship, and each firm will have its own ultimate deciding factors that lead it to initiate the relationship (Oliver, 1990; Lee, Miranda and Kim, 2004; Goo et al., 2009). Firms tend to ease cautiously into relationships, sending signals as they progress, and define their evolution in stages, as step-by-step progress with the evaluation of potential partners and initial negotiations, and preliminary adaptation efforts (Larson, 1992; Dwyer, Schurr and Oh., 1987).

Barringer and Harrison (2000) summarize that the theories of interorganizational relationships fall within a gamut between economic rationale and behavioural rationale; Transaction Cost Economics, Resource dependency and Strategic choice tend to fall under Economic rationale; here, the fundamental decision element in transaction governance is "make or buy" (Lee, Miranda and Kim, 2004). Alternately, whereas stakeholder theory, learning theory and institutional theory are founded under behavioural rationale, the decision-making is not so clear cut, and falls under contingency theory. Each of these theories has several streams of research that provide a piece of the puzzle when it comes to deciphering the why's and how's of IORs. Overall, however, most literature is organized around the simple advantages of IORs and how those advantages outweigh the disadvantages.

These disadvantages have also been outlined by research. Aside from the fact that a large portion of IORs fail, or at least fail at meeting the expectations of their participants, loss of proprietary information, management complexities, financial and organizational risks, risk becoming dependent on a partner, partial loss of decision autonomy, culture clash, loss of organizational flexibility and antitrust implications are all potential worries that need to be accounted for and carefully weighed at the inception and development of any IOR, a difficult task to manage (Barringer and Harrison, 2000). Furthermore, relationship maintenance requires careful planning of future contingencies and changing factors (Barney and Ouchi, 1986; Macaulay, 1963), as well as mechanisms that adapt to the changes in the relationship itself (Wachter and Williamson, 1978), and maintaining an IOR requires heavy commitment from all involved (Lee and Lim, 2005). Furthermore, the formalization of commitments, in the form of contractual obligations – such as service level agreements – can cause opportunism, an "ugly" side effect of mutual dependence (Goo et al., 2009).

Barringer and Harrison (2000) provide a list of studied forms of interorganizational relationships, including Joint Venture, Network, Consortia, Alliance, Trade Association and Interlocking Directorate. Oliver (1990) identifies a slightly different set: trade associations, agency federations, joint ventures, social service joint programs, corporate-financial interlocks, and agency-sponsor linkages. However, the details of each of these forms of relationship rely on the specific definitions; indeed, their definitions overlap in many cases. What's more important, for this research, is how each form of relationship describes a degree of coupling between organizations. On one end of the spectrum, there exist tightly coupled forms of organizing, such as joint ventures and network structures. These forms involve some form of joint ownership and are linked by formal structures. On the other end of the relationship spectrum, there exist loosely coupled relationships, such as research consortia and trade associations. Structures at this end are more casually defined and lack joint ownership (Barringer and Harrison, 2000).

Oliver (1990) identifies six critical contingencies for the success of relationship formation: necessity, asymmetry, reciprocity, efficiency, stability and legitimacy. These can be paralleled with Lu, Huang and Heng's (2006) characteristics of interorganizational systems versus simple information systems: cooperation, standards, third party involvement, synchronicity, the need for relationships, and openness. Competitive necessity determines the need for relationships, and contributes to successful IOS planning and implementation (Lin, 2006). Asymmetry often requires the involvement of a third party to arbitrate, as smaller organizations seek to partner with larger companies to take advantage of financial resources (Slowinski, Seelig and Hull, 1996). Reciprocity begets cooperation, allowing all participants a web of resources between units, and thus each unit in the exchange is dependant to a certain degree on each of the other members; removing a unit will affect each other unit to varying degrees (Kumar and van Dissel, 1996).

Furthermore, the development of reciprocal relationships enables long-term collaborative development (Lowndes and Skelcher, 1998). Efficiency simply requires synchronicity; attempting to improve the use of all participants' resources requires coordination, and a lack of synchronicity simply implies a certain level of waste (Oliver, 1990). Standards are derived and adopted in order to satisfy a maximum of complexity (Gereffi, Humphrey and Sturgeon, 2005) in the processes, satisfying a requirement of stability by attempting to minimize error (Chi and Holsapple, 2005). Finally, relationships cannot be legitimate without a certain level of openness.

Interorganizational Systems

Interorganizational systems literature provides a few effective measures when evaluating network effectiveness and efficiencies. Chi and Holsapple (2005) conclude that networked interorganizational systems increase the efficiency of business processes through informal exchanges or semi-structured/unstructured knowledge sharing. However, Heide (1994) states that successful bilateral relationships require some form of locked or formal contract with dependence on either party and that unilateral relationships have been demonstrated as less successful. Interfirm coordination is achieved through organic or informal social interaction, whereas bureaucratic structures are achieved when formal contractual relationships are formed (Gerlach, 1992; Nohria, 1992). Therefore, mutual benefits are a fundamental requirement for relationships success (Lee and Lim, 2003); customized systems requirements, and therefore customized exchanges, create tighter linkages and higher dependencies between all involved parties (Jones, Hesterly and Borgatti, 1997).

Overall, interorganizational systems exist in order to support alliances and partnerships (Kumar and van Dissel, 1996). Furthermore, there is a greater need to increase

interorganizational participation throughout the formation of business relationships in order to succeed in interorganizational systems deployment (Hong, 2002).

There is no distinction in any of the literature as to which form of relationship suits a given situation or need best; rather, the literature states that the multitude of forms correspond each to contingencies of the situational needs of each and all of the relationship partners. No one theory of interorganizational relationship formation is complete in and of itself, and so Barringer and Harrison (2000) call for new perspectives and theories to be developed and tested.

Ultimately, the strict definition of the relationship – its rules, contracts and minutia – aren't as relevant as is the overarching structure; the way the relationship is shaped, how loosely coupled/tightly knit, and what factors define its success. Governance frameworks, therefore, must parallel the needs of the relationship; governing both the organization and the relationship is critical, and a new factor of alignment comes about. Theory behind finding the best governance fit when dealing with partners can be found in network governance literature.

Network Governance

What distinguishes traditional governance literature from interorganizational governance can be seen in the literature pertaining to network governance.

One of the latest trends in the modern economy is the vertical disintegration of corporations. The creation of a governance framework that allows for adequate control and flexibility when dealing with this disintegration is necessary. Powell (1990) describes three forms of relationship governance: market, hierarchy and network. Markets and hierarchies exist as endpoints on a linear scale: market governance seeks to enable transaction-specific straightforward business exchanges, while hierarchy governance is best suited for those

uncertain repeating relationships with non-standard requirements. However, Powell argues that this paradigm exists to create indebtedness between parties. The need for relationships definitions whereby the partners act reciprocally and in an accommodating way is left untouched in this scale. This, along with economic incentives and strategic rewards as precedent (Larson, 1992), has lead to new forms of network governance (Gereffi, Humphrey and Sturgeon, 2005).

Jones, Hesterly and Borgatti (1997) describe a network as the involvement of "select, persistent, and structured set[s] of autonomous firms (as well as non-profit agencies) engaged in creating products or services based on implicit and open-ended contracts to adapt to environmental contingencies and to coordinate and safeguard exchanges." Podolny and Page (1998; p. 59), define networks as "as any collection of actors (N >=2) that pursue repeated, enduring exchange relations with any one another and, at the same time, lack a legitimate organizational authority to arbitrate and resolve disputes that may arise during the exchange." Networks lack the bureaucratic structures often present in other formal governance paradigms (Jones, Hesterly and Borgatti, 1997).

The common link between these definitions is twofold: the repeated business exchanges as well as the informality of the relationship. Network forms are more social than markets or hierarchies; while not guided by formal rules, regulations or bodies, networks rely on the participants' mutual interests and respect, and are exemplified by reciprocal patterns of communication and exchange. Furthermore, social controls, including trust, mutual dependence and reputation, are inherent in the genesis of a socially-based relationship (Powell, 1990; Goo et al., 2009).

Lowndes and Skelcher (1998) argue that these network governance forms mirror a certain change in the stages or states of the network, not from a distinctly chronological scale, but from a more evolutionary scale. In that, it is argued that interorganizational relationships go through a lifecycle process whereby these same network governance forms are exemplified in the relationship as it progresses through its lifecycle, as follows:

- Pre-partnership collaboration – network governance
- Partnership creation and consolidation – hierarchy governance
- Partnership programme delivery – market mechanisms
- Partnership termination or succession – network governance

Interorganizational Success

There exists a driving behavioural force behind the psychology of network formation. The belief that reciprocal action is perceived to be beneficial is at the root of voluntary network formation (Koh, Ang and Straub, 2004). Relationships of this form come about because of the actions of each of the participants, creating a social relationships system, transcending the typical contractual motivators, such as self-interest and economic potential, and increasing the importance of trust and norms of reciprocity (Etzioni, 1988; Larson, 1992). This, combined with the research that shows that contractual obligations aligns well with strategic partnerships (Saunders et al., 1997), demonstrates a need for analysis in to how and why informal relationships are sought.

Larson (1992) argues that formal contracts do not necessarily provide the control often required by relationship participants. Customized exchanges play a part in the requirement for network forms of organization, as they require increased cooperation and synchronization (Miles and Snow, 1992:55; Jones, Hesterly and Borgatti, 1997). This cooperative/synergistic

form of relationship governance is best suited for those firms wishing to collaborate in ventures containing knowledge-intensive skills, reduce uncertainty, increase speedy access to information, increase reliability and responsiveness, as well as build new exchange structures with outside critical resources suppliers and enhance competitive market positioning (Powell, 1990; Larson, 1992; Jarillo, 1988).

Most network success comes from those firms that are capable of balancing their respective goals with those of their partners, and collaborate with those firms providing complementary expertise (Huxham and Vangen, 1996). However, as there exists diversity in the goals of each network member, there can be no distinct measure of success; rather, each network member must evaluate the relationship based on both their respective requirements and the joint goals that serve to stabilize the relationship (Winkler, 2006). It therefore falls upon each organization to define its own measures of interorganizational success with respect to the requirements of the relationship.

From an IT perspective, the success a given network, or any given relationship, is based on the fundamental factors governing the relationship from an entirely subjective perspective; subjective in that the measures need only be applicable to the extent that they assist in defining interorganizational success. It should be noted that given the broad and varying – theoretically infinite – definitions of relationship success, measures of success can be equally varied. While there are common measures from which to base relationship success, each organization in each relationship will evolve and generate its own specific measures through discussion and internal development.

While it is not the goal of this research to identify these specific measures, understanding the underlying contingencies will allow for further progress in this field (Brown

and Grant, 2005). Generating a model that adequately describes the contingent factors within an interorganizational relationship from an IT perspective can go a long way in furthering practical understanding of these relationships.

Summary

This literature review reveals a dearth of research in the area of interorganizational IT governance. Research in the field of IT governance is extensive, as is research in the field of interorganizational relationships. Harguem et al. (2006) provide a research framework for investigating interorganizational IT governance by considering organizational, interorganizational, and technological constructs that influence IT governance decisions and modes, and therefore IT governance performance. Little research has been performed, however, in the area of network governance, uncovering how groups of organizations are capable of governing their activities collectively in order to gain strategic positions in their markets. However, no research has tied the two together in attempting to tackle how organizations specifically govern their IT function during interorganizational business exchanges.

The recurring concepts of structure, process and participation with respect to governance frameworks, IT or otherwise, provide a research avenue as of yet unexplored from an IT perspective. Furthermore, the evolution, or maturity, of a relationship seems to provide hints as to how these frameworks can be applied to a relationship. It is this evolutionary maturity that distinguishes an interorganizational IT governance framework from a traditional IT governance framework.

The proposed study will attempt, using a positivist case-based approach, to ascertain how organizations govern their IT practices and create IT policies during business exchanges using the foundation of constructs in Powell's network governance framework (Powell, 1990).

CHAPTER 3 - RESEARCH MODEL

Current IT governance research, labelled "contemporary" by Brown and Grant (2005), represents the agglomeration of IT governance research, combining both streams into one framework for further research. As such, the current research attempts to fit into the latter stream; incorporating IT governance forms/structures with the relevant contingencies – in this case, interorganizational requirements – into one model. Traditional relationship governance is comprised of two basic underlying dimensions: (Zaheer and Venkatraman, 1995)

- The structure of the relationship – conceptualized in terms of the degree of vertical quasi-integration reflecting the degree of market or hierarchical structure of the transaction
- The process underlying the relationship – conceptualized in terms of the degree of joint action in the exchange relationship.

Ultimately, the synthesized model should be one that demonstrates, with some accuracy, how IT governance supports organizations in their business exchanges with other organizations. Borrowing from the network mode of governance (Powell, 1990) based on relational governance, and as per the literature review, we combine the concepts of structure, process and participants along with the overarching view of organizational and interorganizational maturity into a model that demonstrates various modes of interorganizational IT governance.

The present research derives its model from the constructs identified in the literature: structure, process, participants and maturity. It provides a control structure – interorganizational success – as a basing point on which to ground the model with practice.

Research questions

This research project aims to better understand how IT governance supports organizations in their business exchanges with other organizations. This study is designed to investigate interorganizational IT governance mechanisms and modes and discover what, if any, practices are undertaken by firms in their interorganizational dealings.

In order to attain this goal, critical IT governance factors and tactics - employed to bring about successful interorganizational relationships - will be identified through interviews with senior interorganizational IT governance committee members and IT executives. These factors include IT governance structure, process tools, participant selection and IT governance maturity, each as individual aspects of the interorganizational relationships.

The present research's primary independent variables – structure, process, participant, maturity – while well defined, are sometimes seen as abstract and unwieldy in the professional world. Organizations do not lay out these variables in a tidy manner in their governance charters to facilitate academic measurement. Indeed, even preliminary interviews with IT professionals regarding this research have led to confusions and ambiguities regarding these concepts; not because they were ill-defined or misunderstood, but rather because it seemed difficult to extract these variables from the professional's knowledge of their current governance.

As such, the present research attempts to translate and extract meaning from concepts that are more concrete for IT managers and professionals. The following research questions are posed:

Research Question 1: What IT governance structures exist during interorganizational relationships?

Research Question 2: What IT governance processes are used during interorganizational relationships?

Research Question 3: Who participates in the IT governance creation and decision-making during interorganizational relationships?

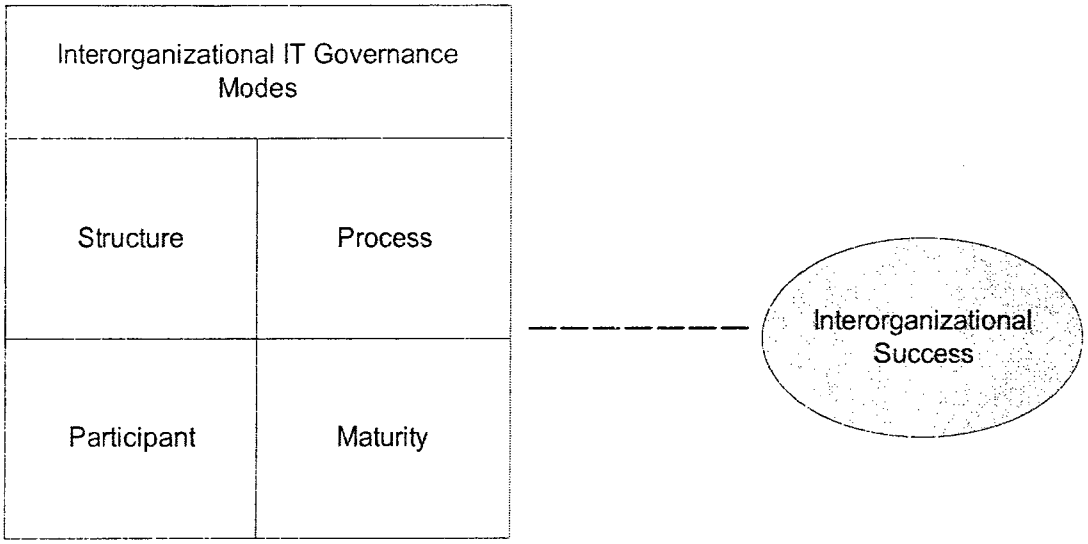
Research Question 4: To what extent does governance maturity play a factor in interorganizational relationships?

Research Question 5: Are there any emergent patterns of interorganizational IT governance that may influence the success of the interorganizational relationship?

Research Model

The following figure, based on the research model presented by Croteau and Bergeron (2009), represents the pilot research model as inferred by the five primary constructs: structure, process, participant, maturity and success. These five constructs make up the core of the research.

Figure 1 - Research Model



Research constructs

While the concepts as outlined in the research model are well defined and explored in academic literature, they are less evident to practitioners, be they executives, managers or other professionals. Organizations do not necessarily formally define these variables in their governance policies and, therefore, these constructs must be interpolated from the data provided by the research. The use of these variables in day-to-day operations is obfuscated in their meaning. Structure is a theoretical concept encompassing several common governance mechanisms, including the synthesis of a project management office (PMO), the integration of external IT development teams, and the reorganization of the IT function underneath the CFO.

Governance mechanisms, including the implementation of Service Level Agreements (SLA) for outsourced IT vendors, or the integration of a Major Incident Officer (MIO), are examples of interorganizational processes, though they may not be identified readily by IT professionals. As such, the present research will attempt to translate and extract meaning from concepts that are more concrete for IT managers and professionals.

The following section provides an overview of the research constructs that are to be investigated.

Structure

The present research borrows from Zaheer and Venkatraman's (1995) explanation of governance structure, whereby structure is "viewed as the interunit or interfirm framework within which exchange takes place." Furthermore, the advice of Lowndes and Skelcher (1998) is followed in distinguishing structure from overall mode of governance in order to provide more critical analysis of multi-organizational collaboration.

Huxham and Vangen (2000) define the structure of a collaboration as the "organizations and individuals associated with [the relationship] and the structural connections between them." This definition has a certain level of recursion and should therefore be expounded upon. Mintzberg (1993) defines organizational structure as "the sum total of ways in which its labor is divided into distinct tasks and then its coordination is achieved among these tasks". Robey and Sales (1994) clarify by stating that structure "defines the expectations for each role and the connections between each role." From an interorganizational context, structure can therefore be seen as the way in which work is divided between participants. This fits well with Nidumolu (1995) who identifies the centralization of decision-making, a fundamental aspect of structure, as "the extent to which the power to make and implement decisions is concentrated in one of

the firms." Thus, the present research will define structure as the degree of centralization within a firm's governance framework.

An appropriate IT governance structure is meant to adequately distribute power and responsibility, and so each organization's structure will play a role in defining the relationship. Structures emerge from the formal and informal interaction between members of an organization and their collaboration with other organizations (Winkler, 2006). Power asymmetry can play a critical role in the structure of the relationship (Gereffi, Humphrey and Sturgeon, 2005). As such, structure is identified as explanatory variable to define interorganizational relationships, further enforced by Winkler's (2006) research whereby structure was one of the key variables in network organization. Furthermore, structure influences organizational and interorganizational processes, and therefore the members, or participants, involved. Conversely, processes can have an effect on the emergence of structures. Finally, participants are involved in the design of structure and execution of processes (Winkler, 2006). However, not every appropriate structure, adequate as it may be for a given organization, will necessarily lead to the optimal processes, and vice-versa. Structures and processes only explain a small amount of variance between each other (Zaheer and Venkatraman, 1995).

The present research will attempt to identify structures formed or put in place by participating organizations that increase the value of the relationship. Brown and Magill (1994) provide an operationalized scale for governance structure. A centralized governance structure is one whereby the power and responsibility lies in the hands of a few individuals, whereas a decentralized governance structure is one whereby this power and responsibility is diluted

throughout the organization(s). A hybrid structure is one whereby IS functions are divided between a central IS organization and autonomous business units (Brown and Magill, 1994).

Process

Processes refer to "the interunit or interfirm activities that accompany exchange within the framework of the governance structure" (Zaheer and Venkatraman, 1995). These processes allow partnership members to communicate efficiently and effectively, providing appropriate resources given the structure. Processes affect participant behaviour and therefore performance of the organization hinges on the effectiveness of processes; after all, poorly designed processes can be counterproductive (Meyer, 2004). If participants invest adequately into the processes, and not just the structures, IT value is more likely to be increased (Weill and Ross, 2005). IS processes are heavily influenced by standards, market, or otherwise (Markus et al., 2006; David and Greenstein, 1990).

Winkler (2006) further refines this and defines process as "the formal and informal instruments by which a network's communication takes place". These formal and informal instruments are often influenced by standards set about by the firm, industry or market. Standards can be defined as an agreed-upon specification for a way of communicating or performing actions (David and Greenstein, 1990). The present research will take both of these aspects into account and attempt to identify whether a firm is using formal or informal and standardized or non-standardized processes in their interorganizational dealings.

Participants

The present research teams the concepts of governance and relationships into a new hybrid research avenue – an all-inclusive paradigm that views not just both sides of the coin, but the coin itself as an entity. Thus the collaborative participants defined here include not just

those involved in the governance of IT on either side of the relationship(s), but rather all those people – executives, managers and other leaders – who have a stake in the success of the business relationship, both directly and indirectly (Huxham and Vangen, 2000). While there exists several combinatorial participant forms, including boards, steering committees and groups, a line is drawn that separates policy-makers from other participants (Huxham and Vangen, 2000).

For the purposes of this research, and in order to maintain a level or manageability to the data, the participant construct will simply be defined as belonging to one of two categories: those with executive participation and those without, as these categorical restrictions parallel the leadership roles suggested by Huxham and Vangen (2000).

Maturity

Batonda and Perry (2003) review the literature regarding relationship process in inter-firm networks and divide the literature into three theoretical frameworks: stages theory, states theory and joining theory. While stages theory looks at the linear progress or change of the inter-firm relationships in a sequential manner, states theory removes the linearity and sequentiality of these stages and claims that these "states" can happen at any point in a non-predictable or non-uniform manner; the relationship itself progresses logically but may back-track to a former state, or may indeed skip states that stages theory suggests should come next in the progression. Finally, joining theory looks at the specific movement of entry process, repositioning, and finally exit from within a network (Thorelli, 1986).

There is no generally agreed upon model for network development. Batonda and Perry (2003) have synthesized a stages model from the six growth-stages models: Searching, starting, development, maintenance and termination processes. This model is more comprehensive and

summarizes quite nicely the previous models. However, the overall accuracy of the stages model(s) is in question, as it is, by nature, irreversible (Lindert, 1986). Furthermore, stages theory does not seem to adequately provide a solid base for to explain network development (Batonda and Perry, 2003). Similarly, joining theory, while accurately explaining drivers behind the beginning and the end of network formation, does not explain any form of progress throughout the relationship, and thus the model proves insufficient for our research.

Batonda and Perry (2003) conclude that, through their research, network relationship development more closely follows the states theory models rather than the development and evolution in stages models. Furthermore, joining theory was found to be mostly irrelevant. However, it was also discovered that there are certain situations whereby the stages model is accurate, though these are in the minority. The 6-states model was found to be very accurate. The relationship-development model demonstrates great potential for understanding successful IOR creation and process. Batonda and Perry's research focused strictly on Asian and Australian firms and should thus needs to be tested in an American context; they recommend further research into the viability and the applicability of states theory in international networks.

Lowndes and Skelcher (1998) argue that a life cycle exists within each relationship that causes various modes of governance to coexist and overlap. This life cycle closely mirrors the network modes of governance provided by Winkler (2006).

The present research chooses not to limit the scope and definition of this variable. Because of this, the definition of maturity remains open, as a liberal ambiguity allows for a subjective view of the firm's maturity in this untested research. When applied to both the governance forms and the relationship, there is intent to match the state, or progression, of the

relationship, with the life-cycle governance stage in order to synthesize an overall maturity of the interorganizational governance.

Interorganizational Success

Barringer and Harrison (2000) provide an exhaustive review of the various forms of interorganizational relationships and how successes are measured. However, most of these measures of success fall under the general category of "value adding" rather than any one measurable statistic. The reasons for entering into any given relationship are broad and far reaching. From market penetration to research consolidation to knowledge transfer to economic factors, a firm may even have multiple reasons for entering into a partnership.

After having identified the four primary variables - structure, process, participant and maturity - the success of an interorganizational relationship is to be defined by the firm(s) partaking in the relationship. Defining a single, concrete measure of success can prove difficult and may limit the potential of the present research. Any given firm will define its interorganizational relationship goals using mechanisms that may or may not be in conflict with its partners. Furthermore, joint goal creation may not be in the best interest of the firm (Winkler, 2006). The present research therefore does not rely on a specific objective definition of interorganizational relationship success. Rather, situational measures of success, as provided on a case-by-case basis, are identified. While there may be aspects of the relationships that were more successful than others, an overall judgement of "successful" or "not successful" will minimize the complexity of the results. These measures of success may ultimately prove to be an adequate construct to act as a control variable with respect to the four primary research variables.

CHAPTER 4 - METHODOLOGY

Research Design

As stated in the literature review, very little study has been done – to the researcher's knowledge – on interorganizational IT governance. Therefore, an exploratory study into this topic seemed the most feasible and rational method to approaching this subject. Following guidelines provided by Strauss and Corbin (1998) and Dubé and Paré (2003), subjective data provided by case studies would provide the most comprehensive picture of the proposed constructs while allowing for the freedom to expand the subject of study given research findings.

While the proposed research model has been generated based on findings from previous studies, it exists as a hypothetical model. As such, it is untested and unverified. A prolific survey-style research method, for example, may prove entirely ineffective and inefficient approach, as the results may end up being irrelevant given the potential inaccuracy or inapplicability of the research model. Therefore, a subjective approach to the model verification and data collection seems to be the best fit for this research. Case studies seem to therefore be the best fit for this form of research, as per Lee (1989).

Case-based research is currently seen as one of the leading approaches to academic research in IT (Dubé and Paré, 2003). Case studies allow for current-day data to be proliferated into academic research. Furthermore, the case-study approach allows for a flexible and dynamic form of data collection, paralleling the dynamic nature of the data itself. Lastly, case analysis allows for researchers to spawn new ideas and generate interest and questions in the research stream that were unforeseen or unknown during the research genesis (Dubé and Paré, 2003).

The following steps were undertaken when designing this research in order to create a robust exploratory case-based investigation, as per recommendations provided by Dubé and Paré (2003):

- Clear, concise and precisely defined research questions were devised from the literature in order to provide an accurate understanding of the research goals.
- A pilot research investigation was devised and undertaken in order to reveal potential inadequacies in the initial research model.
- A multiple-case research design was effected in order to provide robust positivist data to answer the proposed research questions.
- All data collection processes were elucidated in order to provide transparency.

Research format

This research was an exploratory study that used interviews with managers and executives from select firms in order to create case studies. These managers and executives were required to:

a) Be knowledgeable about the concepts of IT Governance

b) Be involved with the IT governance of their organizations

c) Be involved in interorganizational dealings

d) Be involved in the decision-making process of each of the above

Qualitative data was gathered by interviewing individuals from participating organizations. There were no limits placed regarding the size or market of the organization; the only requirement was that IT play a role in their day-to-day operations. Participation in the study was voluntary on the basis of the individual executive/manager (participant) being able to provide time for informal, discussion-based interviews with the researcher regarding this study.

A minimum of one hour was required by the researcher for each interview, though the interview may have lasted longer depending on the nature of the conversation and the participant's available time. The participants were also informed that a second interview would be requested if clarification was required. A questionnaire was provided to each of the willing participants ahead of time via email and participants were informed that questions would be of this nature during the interview, though not necessarily following the specific questions outlined. It was deemed by the researcher that given the informal nature of the interview as well as the variability of participants' knowledge and experience, following a strict questionnaire script would limit the effectiveness of the interview. Face-to-face interviews were requested by the researcher and, failing this because of logistical or scheduling barriers, phone interviews were requested as a second option.

In order to maintain the strictest academic and research practices, the names of the participants and the organizations has been withheld to ensure privacy and anonymity. It is deemed by the researcher that the specific name of the organization and the willing participant are irrelevant to this research. Rather, the organization's operations and market are relevant, and so each organization has been "nicknamed" appropriately.

Sample and Data collection

The goal of the data collection was to ascertain as much about the proposed research constructs – structure, process, participants, maturity and success – as possible from studied organization. Furthermore, as this research was to study these variables from an interorganizational perspective, data from organizational partners would be ideal in verifying the research model and generating an appropriate picture of each interorganizational relationship.

However, not all organization partners were accessible for the researcher in order to generate these ideal case studies. As such, certain cases were built from a one-sided perspective; studied organizations provided their perspective on the relationship as a whole and provided as much detail as possible regarding their partners.

Table 2 - Data statistics

	Sample size
Organizations canvassed	32
Organizations interviewed	11
Interviews conducted	15
Data collected for organizations	14
"Second-hand" interviews	3

32 organizations were canvassed for interviews with IT managers and/or executives that might be able to provide data in order to build case studies. Of these organizations, 15 interviews were conducted across 11 organizations over a period of 6 months, sporadically given participant availabilities, in order to maximize the number of case studies and thus the vigour of this research. This resulted in a 34% respondent rate. Data was gathered on 11 organizations during face-to-face and phone interviews. Data on the remaining 3 organizations was provided by individuals from the former 11 interviewed organizations, and was considered "second-hand" data, provided in order to explain the partner perspective in a given interorganizational relationship. Questions, mostly based on those provided in the questionnaire, were asked during this interview period that lasted between one hour and three hours. It should be noted

that the questions were not limited to those provided in the questionnaire, as follow-up questions were posed given the context or importance of a given question, as well as the participant's willingness to respond and capability to expound on any given topic. This was done to further explore topics that seemed to the researcher that they may provide more insight into any given construct or situation.

In order to ensure maximal construct validity, multiple questions were asked regarding any given construct. Term definitions were provided by the researcher in the case where the participant claimed ambiguity and requested clarification. Whenever possible, multiple individuals were interviewed within any given organization in order to provide multiple references and data sources, and supplemental evidence was requested in the form of documents, reports, news references and third-party corroboration. All of the participating organizations and individuals were documented in interview notes to ensure data validity, including titles, addresses, positions, job functions and other coordinates, though are not presented here in order to maintain confidentiality, as was verbally promised by the researcher and/or agreed to via signed contract.

Data Analysis

As miscellaneous combinations and/or permutations of the four primary research variables – structure, process, participants, maturity and success – were to be observed in this research, overall modes of interorganizational IT governance are expected to be identified. As such, this research hoped to identify distinct gestalts, defined by Miller (1981) as "a limited number of richly described and common organizational forms". It was expect these distinct groupings to be tightly interdependent and mutually supportive and thus become useful in the analysis of the data when referencing them as a whole instead of measuring specific quantities

on some form of numeric scale. Thus, no assumptions were made regarding the predictability or patterns of these emergent gestalts. Instead, the analysis of the data attempted to search for any number of organizational groupings and configurations in order to potentially identify patterns that allow the measurement, albeit qualitatively, of interactions between the independent and dependent variables (Miller, 1981).

Pilot research design

A pilot research design was created in order to determine viability and feasibility of the study. Using the aforementioned variables of structure, process, participant, maturity and success, a five dimensional model for research was devised. It is hypothesized that, to some degree the four dimensional constructs affect the success of the interorganizational relationship. It was therefore imperative to derive a research methodology that could in fact analyze this hypothesis.

Pilot research design: methodology

This research's first objective was to discover whether or not this research model was feasible in practice as well as from an academic perspective, and that the research model's variables were measurable and would provide interesting and/or informative results. The preliminary model design was therefore used in 2 pilot interviews, designed as test cases, with industry practitioners in order to test for feasibility and comprehensiveness. Some of the key aspects to test for were:

- Was the model reasonable?
- Did the model make sense?
- Was the model understandable?
- Were each of the model variables coherent and cohesive?
- Was the research objective feasible?
- Was the research objective interesting to practitioners?

Pilot case study: Airline carrier

In 2005, a major Canadian airline carrier, hereto referred to as CARRIER, underwent a restructuring of its various independent business units in order to provide more autonomy and

self-government to each unit, as CARRIER was facing several internal organizational issues that required them to refocus energies and processes to match their business values. One of the primary goals was to increase effectiveness and value of the IT function, and thus a governance and policy remodelling was in order. The current picture of the governance of IT within each business unit resembled a federal model (Weill, 2004); each independent business unit had a say and a voice in the direction and strategy of IT – which mimicked the overall corporate governance formula – and decision-making involved all levels of management and executives in order to achieve consensus. From a structure standpoint, this falls almost directly halfway between a centralized-decentralized continuum. Essentially, their structural maturity had evolved, but their processes were playing catch-up.

The ultimate goal at CARRIER was to create a more decentralized, perhaps feudal-style governance model, providing each business unit the opportunity to achieve corporate goals using processes and people that suited them best; the hope was that business units would collaborate without interference at the corporate level. Thus the foundation for network-based interorganizational governance was laid; each business unit had weakly-structured relationships with other units, and their co-operative goals were informally outlined.

New individuals were brought in by CARRIER executives to assist in directing the various business units, as well as to assist in the overall directing of the reorganization. It was management's hope that new ideas brought about by new thinkers would result in a positive outcome in this restructuration. Unfortunately, these new thinkers acted independently without consulting other members in the network. This led to no improvement in the process maturity, as processes evolved independently within each unit, but the maturity of the interorganizational processes stymied progress. As such, the structure reorganization was a

failure. Because of this lack of mature processes, each business unit decided to attack their immediate goals and ignore the requirements of other units, as well as those outlined by the organizational strategy.

As was evident, there was an attempt to increase the maturity of the structure using mature individuals, but mature processes were missing, and thus failure was the result.

Pilot case study: Manufacturer

In 2007, a large Canadian industrial manufacturer, hereto referred to as MANU, was acquired by a foreign organization in a friendly takeover deal that required a complete restructuring of the new entity and new governance policies to be formed. The acquiring firm, hereto referred to as TAKEOVER, intended to create a hybrid entity that maximized the benefits of both TAKEOVER and MANU's policies. From an IT perspective, the goal was to attempt to adopt the governance of the acquiring firm, though still allow for the mature processes in MANU to facilitate policy- and decision-making; thus, a hybrid governance structure would be formed, ultimately allowing for the spinoff of all assets into the new entity. These "best practices" policies would hopefully allow for smoother adoption of the new governance forms.

Unfortunately MANU's IT governance was considered to be more mature than TAKEOVER's, and the new structure intended to use the majority of the aspects from TAKEOVER's structures and processes, bringing over MANU's people and talent in order to accomplish this. Furthermore, MANU's governance structure was fundamentally distributed and decentralized, and TAKEOVER intended to centralize the IT decision-making to a more federated model. This resulted in an increase in the maturity of the individuals involved; the best individuals were chosen from both organizations to adopt and implement governance policies. However, the "best practices" policies ultimately decreased the overall process

maturity; "best practices" became "average practices" whereby processes from both MANU and TAKEOVER were considered, and, while MANU may have had stronger and more robust processes, TAKEOVER would still implement their current policies in many cases and thus implement conflicting processes resulting in sub-optimal results.

In this case, the acquisition was ultimately successful, though there was an overall drop in process maturity and structure maturity; the former being unintentional, the latter by design.

Analysis

The research model was used in two preliminary test cases. It was deemed that the model was reasonable, as it fit with the expectations of the researchers and the interviewed participants. The model made sense to the participants upon review, and participants understood the model. Each of the 5 research constructs were deemed important and identifiable by the researcher and the participants. The research objective was declared as very interesting to the participants. As such, the research objective was deemed feasible by the researcher.

The research questions asked during the pilot study were expanded in order to include more probing questions for all 5 research variables. The pilot research questions (Appendix A) were found to be too open ended; more specific information was required in order to be able to draw conclusions regarding the 5 main research variables. The research questionnaire was updated (Appendix B) to including more specific questions, as well as a question regarding anecdotal evidence and/or stories that interview participants could answer in order to illustrate specific points with regard to any of the research variables.

The research then progressed to the next phase, as per Dubé and Paré (2003): the gathering and presentation of case studies.

CHAPTER 5 - CASE STUDIES

Case Study – Outsourced Bank IT

Introduction

A major Canadian national bank, heretofore referred to as BANK, has fully outsourced their IT development, operations and resources to a large IT functions organizations, heretofore referred to as ITSOURCE. As most large organizations that outsource their entire IT function, BANK has done so in order to increase operational efficiencies provided by ITSOURCE as well as take advantage of expert knowledge and systems without requiring the research and development of said systems in-house as well as the incurred costs. Thus, the small division of ITSOURCE that supports BANK is meant to mirror the structure that the bank previously used for their IT. Currently, BANK is undergoing a recentralization to increase overall operational control within the organization, and because of this ITSOURCE will need to mimic this restructuration, adapting within its outsourced IT unit. Steering committees have been formed to discuss structure from both ITSOURCE and BANK, and external third parties are being brought in to consult on all matters of concern.

BANK places great importance on formalizing all corporate governance policies, stating that "corporate governance standards allows [BANK], as a corporate citizen, to contribute to the efforts of regulatory bodies, governments and companies worldwide towards maintaining investor confidence in capital markets." As such, BANK attempts, in all aspects, to maintain a high level of transparency and discipline, citing these as core values. ITSOURCE, as BANK's primary outsourcing supplier, must therefore maintain these standards in all practices and policies, shared or otherwise. ITSOURCE relies on several industry and market standards when implementing its own governance policies, including those set out by ISO. These policies are in

line with the organization's own partnership framework, which governs its fundamental operation: that of IT outsourcing solutions.

Structure

ITSOURCE, through its operational relationship with BANK, maintains an IT governance mechanism that allows its outsourcing division to mirror BANK's governance structures. With BANKs restructuring and recentralization of IT control, ITSOURCE follows suit by acquiring such things as reporting diagrams and hierarchies, as well as redistributing decision-making rights, all in accord with BANK's new policies. The creation of these mirrored structures requires steering committees from BANK and ITSOURCE, as well as external consultants. The overarching BANK corporate governance structure change is a slow and elongated evolution of structure that occurs in small, sequential steps in order to maintain control at each step in the evolution. BANK arrived at this structure by researching and consulting with internal consultants and executives, as well as consultants from ITSOURCE. All structure changes are documented, tested and implemented over long periods of time to allow for each organization to adapt to the change; old and new reporting authorities work in tandem to increase this adaptability and minimize conflict.

Process

As the relationship between BANK and ITSOURCE evolves, so do all relevant interorganizational processes. When it comes to operations, BANK authorizes projects and ITSOURCE follows the mandates. Models for processes are developed by ITSOURCE and then approved by BANK; approval from both sides is mandatory for every project ITSOURCE undertakes. Furthermore, all of ITSOURCE's processes are audited from all angles – internal audits, partner audits and external audits – in order to ensure transparency.

Similarly to the structure changes, these processes evolve in smaller sequential steps in order to maintain a sense of control in these changes; making large leaps in process evolution causes insecurity and concern among those having to implement them, and "so the trade-off in this case is a certain lack of agility, which is normal in such large organizations." Also, changes require the involvement of steering committees, audits, recommendations from senior management, analysts, and there are fewer and fewer informal processes because of strict organizational guidelines and environmental effects of having informal relations; the Sarbanes Oxley law requires of organizations a certain level of accountability and transparency which is not afforded in loosely defined business relationships. Senior management agrees that, while this does not necessarily make for the most efficient and/or effective process development or execution, it is nonetheless a requirement for doing business in the current economy. During restructuration, ITSOURCE believes it likely that current processes will change once the structure has a new structure at BANK has been defined an implemented, given that "a new structure will bring about a new vision, which itself will lead to new processes."

Standards

These processes are normalized to industry standard by ITSOURCE, as all partnership-derived processes undertaken or adapted by ITSOURCE are normalized, as well as influenced by external standards such as ISO, CMM, and SOX. As their client in this case is a bank, a firm with rigorous IT policies who rely heavily on industry standards, everything needs to be designed and implemented to exact specifications. Normalized processes are therefore a requirement, and without these processes, there is opinion of senior IT management that "without these normalized processes, it would be chaos." A lack of normalized processes would cause a de-synchronization between the two organizations, resulting in a loss of efficiency and

effectiveness, both organizations attempting to undertake projects in their own fashions, neither successfully integrating with the partner organization.

However, this is not to say that the relationship regulations cannot be changed or improved. Small adaptations and/or tweaks in the methodology are ideal in situations where transparency must be maintained but efficiency increased. For example, in the case of a time-sensitive issue, BANK can request a fast-tracked project, whereby ITSOURCE can get the standard approval processes bypassed, as this project is considered an "emergency situation". The process for exception handling is ideally outlined in the contract ahead of time, and is accomplished on a case-by-case basis when deemed appropriate and/or necessary by project managers, though this decision and approval ultimately lies in the hands of BANK directorship. This is done to maintain a certain level of accountability in the case of a negative result.

Participants

IT executives at BANK are in charge of creating all of the interorganizational processes and defining all of the interorganizational requirements. The minutia and details within the outsourcing agreement come about by designing a portfolio of requirements acquired from the various IT managers within the organization. Ultimately, any decision rests in the hands of the BANK CIO with respect to any aspect of the interorganizational relationship. Project managers at ITSOURCE handle all aspects of the relationship with BANK, as for ITSOURCE this relationship is considered a project given ITSOURCE's central function is providing outsourced solutions. Finally, external auditors and steering committees comprised of members of both organizations are present for all decision-making that involves both parties in order to maintain transparency.

Maturity

Both BANK and ITSOURCE are organizations that have undergone several restructurings, allowing their IT governance processes to evolve naturally over time. As such, both organizations consider themselves subjectively mature in their IT governance. ITSOURCE has developed an outsourcing solution model and has made it a core business function to provide a mature product for their outsourcing partners. As such, BANK has inherited this increased level of maturity. Furthermore, their outsourced relationship, as it stands, has existed for over 9 years, and is continually evolving in order to suit their respective needs. As the maturity of the organizations and their relationships increase, it is ITSOURCE's belief that stronger, more effective IT governance structures should come about, and with them stronger processes and better people.

Interorganizational Success

Ultimately, senior management at BANK measures the success of their relationship with ITSOURCE using an effective bottom-line: quality. For BANK, quality represents the overall subjective value attained from the relationship. Measures and standards of quality are set by both ITSOURCE and BANK in order to evaluate performance and relationship success. These measures have evolved over time and have changed greatly throughout the life of the outsourcing contract, as they are dependent on the relationship stage, as well as market forces, including competition, security and environment.

Table 3 – Outsourced Bank IT summary

	Structure	Process	Participants	Maturity	Success
BANK	Re-centralizing in order to increase control	All formal and transparent as per SOX requirements	IT executives	Highly developed organization	IT executives at BANK measure relationship quality.
ITSOURCE	Mimicking BANK's recentralization	Industry standardized; requires approval by BANK	Project managers	Highly developed organization	
Interorganizational Relationship	Outsourced relationship forces the vendor to mirror the client's structure	All formalized and standardized as per BANK's requirement	External auditors and steering committees comprised of members of both organizations	9-years old and continually evolving	

Analysis

First and foremost, it is evident in this case that the requirements of BANK, given the nature of the financial industry, are stringent and precise in all operations, and therefore outsourcing any function requires a partner that is capable of following strict guidelines. Thus, partnership regulations are drawn out specifically in the outsourcing contract and must be followed. The relationship itself is very close, and therefore strictly defined processes build a solid foundation of regulatory conduct between these two entities. Informal processes, on the other hand, play very little role in this relationship. There is very little left undefined in any given transaction, and therefore each party must play "by the book".

Structurally speaking, this relationship falls under a predefined value-chain/outsource umbrella, very common in the current market. As such, the rules governing IT policy and behaviour are rather standard, even industry-wide, and therefore not uncommon and easily devised. A centralized decision-making authority is present at BANK and, while recommendation committees from both ITSOURCE and BANK, as well as third parties, are

present, they exist simply to provide guidance to IT executives at BANK which will have the final say in terms of policy genesis for the relationship.

The governance of IT policy on ITSOURCE's side falls under project management and direction level, as ITSOURCE's primary activities is the outsourcing of organizations' IT function. Thus, while overall company policies may differ from each client's required policies, the sourced portion follows direction from BANK rather than ITSOURCE. That being said, both organizations follow environmental/market standards for certain basic IT governance regulations, opting to do so in order to remain market friendly and appealing to current and future customers and/or partners.

The relationship itself is categorized as mature, not simply because of the age of the contract, but also because of the maturity of each organization. As both firms are large and have several years of outsourcing/IT experience, they are capable of recognizing what to bring to the table in order to maximize the relationship value; ITSOURCE bases its business on providing customer-centric IT value based on customer policy and requirement, while BANK's core business is on requiring hefty oversight and thorough governance policy generation, and thus its IT governance requirements are robust and proven.

Under the present research model, this relationship falls under a centralized governance structure and locus of control, with formal and standardized interorganizational processes. The participants include upper management and directors from both sides of the relationship, though strategic IT decisions for BANK are relayed to project-level management at ITSOURCE, and ITSOURCE's overall internal strategic IT decisions are not affected by BANKS's policies. Overall structures and processes are considered mature and evolved, with personnel from both

sides having had much exposure to the relationship. Lastly, this relationship is considered highly valued and successful by both parties.

Case study - University

Introduction

UNI is a large Canadian university with over 20 faculties and professional schools offering over 300 programs at the undergraduate and graduate levels. UNI prides itself on being at the forefront of educational systems development. The department of development and alumni relations at a major Canadian university, heretofore referred to as ALUM, has a separate IT group from its mother location, referred to as UNI. This IT group was created in order to provide systems development and support, as onsite support was deemed necessary when the IT group at ALUM was created. ALUM was established in 1963 in order to assist and advise the university on fundraising activities. ALUM provides complete IT solutions to their department from the ground up, including hardware and software, communications and independent management of each.

Structure

ALUM's IT management reports to both ALUM direction as well as UNI's IT management. ALUM's IT department has subsisted independently since its inception, but due to control issues and other senior management decision, it is being merged with the main UNI IT group at every level, including DBA, tier 1 support, networking and servers. The CIO of UNI has decided to do this for political reasons, including pressure for control and a refocus on centralization, budgetary constraints, and external auditors' opinions of "best practice". This form of recentralized IT governance structure should, in UNI's opinion, allow for an increased level of accountability at the executive level.

Process

ALUM's governance policies are mostly inherited from UNI, though several policies are modified and adapted in order to best suit ALUM's IT operations. Currently, IT drivers parallel ALUM's mission statement. Processes are designed by the group itself and developed from need rather than being applied by management because of organizational guidelines or policies. Procedures within each policy are often ad-hoc, but specific methods of operation, including daily functions, are procedural and outlined. All ALUM-derived processes work well for ALUM because of the closeness of the team's requirements with the direction of the team itself. Furthermore, because of ALUM's agility, they are able to adapt to all interorganizational process requirements set about by UNI.

Participants

The IT governance authority occurs at the ALUM IT management level, unless overridden by UNI IT direction. The ALUM IT team is very small and agile, approximately 15 people including minimal direction and management. Managers view the department as tightly-nit and able to turn on a dime for any requirements that may come about at any moment in time.

Maturity

ALUM has existed since 1963 when it was created by UNI in order to handle fundraising-related activities for the university. However, from an IT perspective, ALUM has never developed any significant IT governance policies or structure. ALUM has, for the most part, inherited policies from UNI. While operationally independent, ALUM has never been able to allow its IT governance to evolve. The interorganizational policies inherited from UNI, according to ALUM IT management, have stifled growth. The view is, therefore, that ALUM's governance

policies have not been able to mature, and thus the relationship has not been conducive to fostering growth.

Interorganizational Success

ALUM measures the success of its relationship with UNI by how independently it is able to run operationally while still maintaining the standards and inherited processes set by UNI. There are many doubts, from ALUM's perspective, that this recentralization activity will be successful. ALUM expects that this recentralization will cripple ALUM's current IT operations and their potential for independent growth. The predicted "culture-shock" when the ALUM team merges with UNI will be high, as the "best-practice" culture used by central UNI IT is very different from ALUM's "family" style IT group. The change comes about not from a business case, but from a "best-practice" consultation firm, and therefore ALUM management believes these decisions to be ill advised. It is ALUM's view that this form of top-down style of management is often found in troubled bureaucracies, and commonly found in universities. There is general fear that this style of management subdues the entrepreneurial spirit and limits employee ownership of a given process. Ultimately, there is fear of diminished success of operations because of this recentralization and homogenization of processes.

Table 4 – University summary

	Structure	Process	Participants	Maturity	Success
ALUM	Decentralized IT with independent control and management	Very informal and independent/agile	IT managers design most policies, though ultimately report to UNI IT direction	Immature; inherited processes from UNI	ALUM's ability to operate independently while still function within the framework set by UNI
UNI	Centralized IT with rigid control structures and decision-making				
Interorganizational Relationship	Re-centralizing in order to increase control and because of political pressure	ALUM will acquire many of UNI's processes, assimilating their business models as they reintegrate.	All ALUM managers will be assimilated to UNI management and no longer be involved in governance design.	Undeveloped policies with little collaboration and low maturity	

Analysis

ALUM governs its IT in a feudal (Weill, 2004) fashion, with the locus of control lying squarely on managers and IT operators, including developers and administrators. UNI, on the other hand, acquires its IT governance policy from the overall corporate governance policies, and decision is centralized to IT executives. As such, under these conditions that mirror that of a merger or acquisition, the transition from decentralized to centralized IT is what is of great concern to ALUM. The cross-organizational policies are loosely defined, often one-way, and largely ignored by ALUM which polices itself independently. Inherited processes are only used when applicable, and interorganizational exchange occurs only when necessary – a standard for exchange is set by UNI and ALUM will follow it only to the extent that is required during the period of exchange.

Interorganizational IT standards are not followed during these exchanges, nor are they of concern to ALUM or UNI. IT managers work together at UNI and ALUM during business exchanges with no executive direction. The relationship between these two groups has existed

since ALUM's inception, though the relationship's evolution has been a slow one, as both organizations have existed with each other at arm's length.

The effectiveness of the relationship seems to hinge on the incompatibility between the two organizations' respective governance modes. ALUM has evolved with a decentralized structure and informal governance policies, while UNI has inherited a centralized IT structure and strictly defined and formalized policies. The merger of the two groups, therefore, brings about discontent and ennui, as organizational culture clash is foreseen by ALUM IT managers.

Under the present research model, this relationship falls under a decentralized governance structure and locus of control, with informal and non-standardized interorganizational processes, if any. The participants include management from both organizations, and strategic IT decisions are made independently, though certain processes must be inherited by ALUM due to the nature of the bureaucracy at UNI. Overall structures are independently considered mature, though interorganizational processes are immature and, for the most part, nonexistent, even though the relationship between these organizations is longstanding. Measures of success are loosely defined and not thoroughly evaluated by both parties, and therefore the success of interorganizational exchanges is difficult to observe.

Case Study - Cooperative Bank venture

Introduction

A cooperative venture between several large Canadian financial institutions resulted in the creation of an independent entity responsible for maintaining a standard national payment network. This network allows Canadians to access their money through automated banking machines (ABMs) and point-of-sale (POS) terminals across Canada. This case focuses on one specific Canadian financial institution, BANK2, and their relationship with the independent

payment network entity, VENTURE. BANK2's governance policies are based around having independent and well-informed directors who promote ethical behaviour and seek continuous improvement.

Structure

BANK2's IT governance structure is similar to several other industry majors, in that they use a federal model of management/direction/executive accountability – a mostly centralized structure that ensures that everyone is responsible for their own actions, but ultimately executive decision-making takes priority. BANK2 has two major IT divisions – application development and infrastructure – each with their own direction, ultimately reporting to an IT executive. BANK2 is governed using a standard organizational model. Three-legged stool: business, operations, IT; these make up a project management framework that remains centralized and aligned with business value. BANK2's direction realises there is a need to stay focused on value-adding initiatives and ensure that the ultimate goal of the relationship is aligned with the driving forces.

Process

BANK2's IT processes are constantly evolving, as small changes occur frequently and frameworks only represent a snapshot of the governance at a given time. The implemented IT processes do not change greatly at any given moment; rather, a gradual evolution, one that comes naturally to those implementing the process, is preferred. BANK2 is always very selective in how and why any given process is implemented or redesigned/upgraded. Their shared processes with other institutions, therefore, also share this evolutionary quality. BANK2's management is always aware of the risks and dangers of relationships becoming a form of "captive audience", whereby the partners become lazy in their current drive to improve their

respective processes and they become rote, effectively ceasing their natural evolution. Therefore, BANK2 strives to press the evolution of their partners' processes in order to consistently increase the value of each given relationship.

Participants

BANK2 follows a standard project management format, lead by an executive steering committee, with at least a VP or senior VP; they build working steering committees whereby there is often a "hand off" between the inception team and the operation team once the relationship is underway. As such, the accountability is also transferred between parties, whereby each team is responsible for its portion of the relationship management: The project inception team is accountable for all relationship definitions, including contract negotiations, and the operations team is accountable for all matters revolving around the execution of all matters presented with the aforementioned contract.

Maturity

BANK2 touts a continuously redesigned IT governance framework that fosters growth and continually adds value to its IT function. BANK2 has not only been evolving its IT processes consistently for the past 20 years, but it claims to be at the forefront of IT development in the financial sector in Canada. As such, BANK2 considers itself a highly mature organization.

Venture

In 2000, BANK2 underwent a joint venture with several other large Canadian financial institutions to create VENTURE, an independently run and governed entity responsible for creating and maintaining a standard national payment network allowing Canadians to access their money through automated banking machines and point-of-sale terminals across Canada.

Most of BANK2 relationships with other financial institution rely on key aspects of synergy and collaboration, though they must always be weighed against the competitive advantage potential. BANK2 has undertaken several cooperative ventures with other industry majors in order to satisfy market demand, share transaction costs, and generate new revenues. VENTURE was one of these collaborations. VENTURE is an organization governed by the banks in order to generate more efficient cheque processing systems, ultimately to reduce risk and share costs. VENTURE is in an interesting situation whereby the owners are also the clients. VENTURE provides cheque processing for each of its owning banks, including BANK2. This creates "cooperative competition", a sort of vertical chain integration between competitors. These relationships are formal, contractual, and fully documented.

VENTURE is completely independent of BANK2 as well as each of its other shareholders and is therefore governed by their own policies, albeit influenced by bank policies. The genesis of VENTURE was brought about by common goals and objectives between the banks. Trust was an important issue, whereby hefty scepticism needed to be outweighed by foresightedness. Furthermore, there was a need to look beyond "dollars and cents" and look at total value of these projects. Rather, VENTURE's board of directors sought to "enhance competition, as well as outline requirements for the organization's governance, access to the network and revenue model."

Structure

VENTURE uses an IT governance structure influenced by BANK2, though it also borrows from each of its other shareholding institutions, as well as its other clients, whereby rigorous policies form the basis of its governance. VENTURE's IT governance structure was ultimately designed in order to ensure compatibility between all of its founders. Thus, a centralized IT

governance framework, considered "industry standard" for the mere fact that it was the "industry", effectively, that designed it, is what makes VENTURE compatible with most of its partners.

Process

VENTURE needs to be selective about their processes, given their clients. In design review meetings, there is an attempt to be consistent. The mentality for most processes is simply "If it was right before, it is most likely to still be right (lest there be a need for change)." Processes can be solid, but there is still the possibility of failure, requiring flexibility. Using processes that are both top-down and bottom-up, as well as industry standard, each process is mapped to various banks. BANK2 will then inherit bits of processes generated not simply by VENTURE, but by the fragments of optimal policies shared by VENTURE's other clients. The VENTURE PMO manages each of these projects, which lives inside the product group. Program managers line up each of these projects, as defined by VENTURE and requested by a given client, though the specific processes at these points are often acquired by the bank/client.

Participants

People at VENTURE are accountable for their processes. "People, after all, are more important than processes and are often more flexible." Teams, as well as their participants, are recycled as much as possible; new teams are formed from people of other relevant teams in order to keep as much knowledge and experience as possible, and it is rare that outside help is called for. These team members, as directed by participating executives and often CIOs, are selected from all levels within the organization, from operations through management and executives.

Maturity

VENTURE, while not nearly as old as BANK2 or any of its founding banks, has acquired many of the highly mature governance policies and processes from a "best-of" perspective. As such, VENTURE touts itself as a highly mature organization.

Interorganizational success

BANK2's IT strategies are very tightly knit to business initiatives, and are enforced in every exchange with VENTURE, and ultimately their exchanges with other participating institutions. This is ensured by the closely aligned industry standard processes, which are themselves enforced by the industry's financial institutions. It is rare that there is any veering from this "cookie-cutter" approach, and this normally depends on the client. In high maturity situations, such as those dealing with VENTURE, informal processes come about with higher variation from standards. With these more mature processes, however, comes a "thicker" lair of governance policies. As the organization grows, so do the policies, and they attempt to follow the growth along with VENTURE. Certain aspects of these processes become "concrete", but they are constantly evolving. There is a certain level of situational awareness that must be present at all times. And, of course, there must always be a set of checks and balances when delivering to the customer; stale processes are not an option. VENTURE responds to the requirements of the bank using their own formally developed set of processes.

As an example of a "cookie-cutter" approach, VENTURE describes their process for IT request handling:

> There is an intake group, or "engagement services" that responds to client/bank requests, and is evaluated by requirements management. This is redirected to an executive team for approval and then moved to project management stage. Finally, after development, the project is

handed over to the transitions group, whereby BANK2's project managers become the client.

Ultimately, measures of success at VENTURE are based entirely on client-happiness, which is their critical success factor. Measures of success at BANK2, on the other hand, lean towards their ultimate success dealing with other financial institutions through VENTURE. Measures of success are then defined to involve quality, architecture, risk and added value. These measures of success allow BANK2 to measure factual results and give insight into the value of their projects, from an interorganizational perspective or otherwise.

Table 5 - Cooperative Bank Venture summary

	Structure	Process	Participants	Maturity	Success
BANK2	Centralized governance allowing for independent accountability as well as executive control	Constantly evolving in order to meet market demands	Executive steering committees design most IT policies	Highly evolved over a great period of time.	Multiple measures of success, including client-happiness and subsequent interorganizational successes
VENTURE	Centralized IT framework influenced by BANK2 as well as other partners	Industry standard processes, often influenced by BANK2 and other partners	Project teams are each accountable for their actions	Acquired maturity.	
Interorganizational Relationship	VENTURE exists as a 3rd party link between BANK2 and its other partners	Industry standard processes, often dictated by BANK2 and other partners	Executives from each firm form committees and steering groups	Shared maturity; "thick layer" of governance	

Analysis

Both BANK2 and VENTURE use a rather centralized IT governance structure, whereby policies are defined by executives and upper management, and subsequently divested unto the

organizations. However, the governance processes themselves, especially when it comes to their respective interorganizational relationships, are inherited and shared, albeit industry standard and rigidly formalized. As such, a network of processes is shared between participants in order to maximize efficiency of transactions with each other. Given that VENTURE inherits much of its initial processes from several sources, including BANK2, it becomes a hub of process generation that can be adapted and delivered to each of its clients, mirroring its operational function as a centralized cheque processing facility.

While initially VENTURE inherited many of its governance modes and organizational structures from its founding members (currently its main clients), it has evolved its own set of guidelines and its proper governance structure to optimize its function. However, this structure has had to adapt to each financial institutions' regulatory requirements, and thus it can be seen as a sort of hybrid mode crafted both independently and collectively. It is evident, then, that the structure of the relationship is contingent on the governance factors laid out by each participant. Furthermore, as participation in this relationship occurs at all levels, though governing bodies, especially over IT standards, occurs at the highest level of IT management and direction, it is clear to see that IT executives play a key role on both sides of the relationship in maintaining the strict process standards set about by the organizations and industry.

Under the present research model, this relationship falls under a centralized governance structure and locus of control, with formal and standardized interorganizational processes. However, more interestingly there is a decentralization of influence of processes that occurs because of the nature of the network of participating firms. As such, a new hybrid "third-party" governance mode is visible whereby the relationship between each financial institution is mediated by a centralized third-party, represented here by VENTURE. Relationship participants

include executives and managers from all organizations, and cross-organizational processes are developed both independently, jointly and through natural evolution of a centralized entity; the evolution of VENTURE's processes from those inherited by the participating institutions, including BANK2, represents the dissemination of process design and a subsequent reverse inheritance of each process by each of the financial institutions. Measures of success, therefore, exist partly as measures between each financial institution and VENTURE, as well as those between each financial institution as a result *of* VENTURE.

Case Study - Railway Collaboration

Introduction

A major Canadian railway company, heretofore referred to as RAIL, has a long history of corporate governance redesigns. RAIL has evolved through multiple iterations of governance over the past 20 years stemming from an organizational overhaul that coincided with the instatement of a new CEO. RAIL sees IT governance as one branch of the considerations of the organization with respect to its business. Traditionally, RAIL views partnerships as another operations branch of the business, and thus the integrating of both activities – governance and relationship management – make up an emergent sector of development for RAIL.

Structure

RAIL views traditional modes of IT governance as taboo; as a former crown corporation, RAIL's organizational culture has historically been one of negative connotation with all business activities related to bureaucracy. RAIL believes that the organization requires looser forms of governance, relying on the flexibility, agility and independent decision-making of its employees. As such, RAIL's models of IT governance are constantly fluctuating and changing depending on several factors, including economic state, market fluctuations, intrinsic needs and extrinsic

influence and technology. Currently, this form of decentralized decision-making includes the IT department, whereby a decentralized IT governance structure ensures this agility and flexibility.

RAIL's governance philosophy is "less is more", as a hands-off approach minimizes bureaucracy and allows the organization to remain agile. At the core of this philosophy is the idea that governance models require an owner, and that owner needs to be accountable. However, no one governance model is perfect. Structures have a life cycle, and governance models only represent a snapshot of a framework. As such, the constant evolution of governance is what keeps RAIL agile. There is no one-size-fits-all model. Rather, RAIL utilizes a simple equation to represent its governance at any given period:

Needs + risk + maturity + environment + corporate culture = processes and structures.

Process

One of the most important reasons for this is the genesis of EDI and e-Business, which requires a dynamic set of processes that can adapt to the constantly evolving and changing online world. RAIL views this as one of the greatest drivers in their market and requires informal processes that evolve naturally, and are thus, from an evolutionary perspective, are more robust. The subsequent formalization of processes is heavily dependent on the natural evolution of industry-wide standard processes. These processes evolve at a slower pace and are acquired by RAIL only after they have been proven "tested" and "robust". From an interorganizational perspective, partners in different industries will each have separate standards and requirements for formalized interorganizational processes, both at the operational level (such as EDI and data interchange) as well as at the strategic level (such as service level agreements and committee formations).

As an example, RAIL's methodology for mergers and acquisitions is a "cookbook" set of processes which has evolved naturally over the years. 20 years ago, RAIL completely redefined its organizational structures and processes, with a radical new approach to doing business, led by its new CEO. RAIL completely reinvented itself in order to remain competitive with the changing industry. IT processes were included in the M&A cookbook in order to require industry-standard approaches to each case, but at the same time RAIL requires that the "recipe" be flexible enough to adapt to any situation, and thus the informal processes of agreement, including interpersonal negotiations and conciliatory considerations, are required on a case-by-case basis. As such, RAIL sees itself as a highly mature organization, especially in the IT sense, where processes are naturally evolved and do not require much management in the traditional sense.

Participants

The decentralized nature of the IT governance at RAIL is made possible by a CIO who participates heavily in several partnerships and associations in order to bolster RAIL's competitiveness and advance business practices. RAIL relies heavily on their partnerships and associations in order to advance business and increase competitiveness, both within the railway industry and across all transport industries.

Maturity

Having gone through a recent overhaul of its governance practices, RAIL's structures and processes have reached the next phase in their evolution. At the same time, RAIL does not see itself as having reached any form of pinnacle or ultimate phase. Rather, RAIL sees its governance practices as current "best fit", representing a snapshot of policies that are the best for this point in time.

Interorganizational Relationships

Because of this, RAIL belongs to several industry-wide associations, with the ultimate goal of increasing the effectiveness not simply of the organization, but of the industry as a whole. These include:

- NORTHAM, a formal organization, setup by the collective of North American rail firms in order to facilitate in cross-organizational talk about rail standards;
- ITRAIL, an organization governed by CIOs of North American rail organizations in order to set standards for IT governance;
- BOARD, an informal national standards board that meets quarterly to influence "best practice" within the industry and to drive the genesis of standards, allowing for broader checks and balances.

NORTHAM is exempt from anti-trust laws, and has defined standards for information exchange in order to allow for all participants to share in an industry-wide competitive advantage. However, the IT function within this association is directly involved with the business function, and thus there is no separate IT governance credo; rather, there is business governance which covers the IT function; as such, IT is one of many groups - including finance, railway operations, marketing – that participate in this cooperative venture, ensuring that there exists a centralized industry system to control common tasks, improving synchronization and allowing the various rail partners to split the costs, creating economies of scale.

ITRAIL acts as an industry reference and derives security policies (especially for government agencies, including those involved with homeland security), as well as helps with data interchange policies. Ultimately, there is a need for this organization, and need is a driving force. The governments have formed standards and are imposing policy, and there are

environmental standards such as SOX, that are required in order to be competitive and successful. ITRAIL has existed for almost a decade and has evolved very slowly, with baby steps.

BOARD has recommended that IT be made an equal partner at the table and that organizations allow IT to drive processes. For RAIL, the bottom-line measure of success is financial gain because it is the most fundamental strategic measure. The business is, after all, market-driven and the product/service offered by any railway organization is very simple.

For each of these organizations, committees are formed with a point person/relationship manager – often a relationship executive – from each organization, including RAIL, whereby discussions are held to advance all processes jointly. However, at the same time the industry has grown sufficiently as to reduce the requirement of cooperation and increase competitiveness, and so with each cooperative advance, RAIL seeks to increase its competitive advantage not simply over other industries, but within the industry as well.

As there was a need foreseen, NORTHAM attempted to develop a uniform scheduling system (similar to American Airlines SABER system) as there was a dire need to devise scheduling and logistics systems for industry-wide, cross-organization communication. Because of this, each participating organization realized that they cannot be isolated from one another. Unfortunately, this was never implemented, as there was ultimately too much competition within the industry. Instead, RAIL devised a system of bilateral arrangements among choice participants; deals were brokered with each organization independently in order to remain competitive. In doing this, RAIL would balance their need to remain competitive with the benefits of playing cooperatively. For example, logistic and freight systems, while not industry-standard, are shared between organizations in order to increase participating organizations effectiveness given the nature of their product; moving freight on a railway from point A to

point B often requires the cooperation of multiple participating railway firms. As such, current business conditions have dictated a need for alliances with larger players in the field; while not industry standard, each alliance has its own specific requirements, and thus the networks run deep rather than wide.

Interorganizational Success

Measures of interorganizational success are not directly related to the partnership(s). Rather, the success of said partnerships is represented by the success that RAIL has, financially or otherwise, in the knowledge and experienced gained from these relationships. Knowledge transfer, standards generation and industry collaborations all play a part in giving RAIL a competitive edge with respect to other competing logistics industries, including road freight, waterway and air transports. As such, RAIL sees its partnerships with NORTHAM, ITRAIL and BOARD as critical and one of the mitigating factors when it comes to competitive capability.

Table 6 - Railway Collaboration summary

	Structure	Process	Participants	Maturity	Success
RAIL	Minimal structure, often decentralized and continually evolving	Industry-driven "tested" processes that evolve slowly over time	CIO-driven IT governance policies, and heavily influenced by CIOs and directors from partnering firms	Evolved to "best-fit" for current needs	Financial measures, as well as knowledge and experience gain, increasing competitive capability
NORTHAM	IT governance is part of the corporate governance		All participating CIOs form the basis of the governing body		
ITRAIL		Collectively derived processes that meet everyone's needs			
BOARD	Informal governance body/group	Industry-driven standards to ensure inter-industry efficiency	All participating CIOs form the basis of the governing body		
Interorganizational Relationship	Interorganizational groups act as third-party references between RAIL and other railroad organizations within the industry	Collectively defined processes to increase cooperative efficiency while maintaining competitiveness	CIOs and committees with point-people to act as relays between the organizations	Longstanding partnerships with partners	

Analysis

RAIL sees its position in the market as a cross between competitive drive and cooperative necessity; while it seeks to differentiate itself from its competitors in order to capitalize on market opportunities, it is still reliant on partnerships in order to foster industry growth and competitiveness. As such, centralized governance paradigms exist, albeit with decentralized influence. Inter-industrial environmental pressures force rail to cooperate with its partners in order to gain market share from other logistics and transport industries, and thus cooperative governance structures with informal influence is where RAIL positions itself strategically. Furthermore, RAIL views strictly defined governance structures as "weighty",

paralleling abundant "bureaucracy", and therefore chooses to keep its governance structures fluid, especially from an interorganizational perspective.

RAIL touts naturally evolved processes that are self-managed. These governance processes rely on the informality of relationship management from an interpersonal perspective; RAIL partnership management participants, including directors and executives, view the interpersonal aspects of a business relationship as paramount and definitive of the relationship itself, and thus the processes must be flexible enough in order to accommodate changes and unpredicted events. Similarly, RAIL's processes, while not industry standard, are heavily influenced by industry doctrine, as cooperative ventures require compatible processes between organizations. While RAIL may choose, if it wishes, to devise non-standard processes, environmental factors are enough to persuade RAIL that standard IT processes, such as EDI compatibility, are highly advantageous.

RAIL's participant involvement lies heavily on the directorship/executive slant, whereby the CIO will participate in most of the informal boards and groups that the railway industry has created, and is often the representative of the IT function for RAIL. As such, interorganizational IT concerns are managed from the top down during business exchanges, whereby the industrial effect of informal IT process redesign affects both RAIL and its partners, given that each of RAIL's industrial partners also participate in these informal executive groups.

RAIL's overall IT governance mode is an evolved one and considered highly mature. The relationships it maintains with its partners are mediated by the industry groups, including NORTHAM, ITRAIL, and BOARD. While not necessarily considered subjectively mature, the partnerships are longstanding bringing about a certain level of effectiveness in informal cooperation and driving informal standards between participants.

Under the present research model, this relationship falls under a centralized IT governance structure and locus of control, with informal and non-standardized interorganizational processes. However, in this case the centralized governance structure is heavily influenced by industrial groups, and ultimately partnerships. These industrial groups elicit informal discussion between IT executives, and improvements to the IT structures and processes are brought back to each organization on a regular basis in order to improve the efficiency of IT operations. Measures of success, in this case, are not formalized nor are they measured; rather, stories of success are conveyed to the industrial partnership groups, and then conclusions are drawn collectively, and then disseminated to each organization through its participating executive; namely, the CIO.

Case Study - Gaming Commission

Introduction

A Canadian provincial gaming and lottery commission, heretofore referred to as GAMING, operates all of the province's public lotteries, as well as controls several major casinos and a large majority of video lottery games and interprovincial lotteries. GAMING belongs to an interprovincial council of gaming commissions, heretofore referred to as COUNCIL, which exists to provide governing standards and activity organization to each of its members.

This case study was the most extensive one performed, consisting of 5 interviews at various levels of the organization. Because of this, there was a significant amount more qualitative data to analyze and present, providing for a broader picture and an ultimately more comprehensive case study.

Structure

At GAMING, the IT governance structure is itself an integral part of the corporate governance structure and is defined thusly. Specifically, given the hefty amount of internal oversight and auditing, all critical processes must be evaluated for risk and the results are reported to the president. Over time, the amount of governance has increased, specifically with respect to IT policies and practices: security matters have increased, as have audits, and processes have becomes much stricter; leaving bits of lottery paper lying around is strictly forbidden, given the inherent security risks of fraud and counterfeit. Similarly, lottery ticket printing partners have a very important and formal relationship for IS security with GAMING. GAMING enforces their own standards upon these printing partners, and the processes are heavily audited. The organization's governance has evolved naturally and is not necessarily viewed as goal-oriented; rather, it is situationally oriented to reflect the current needs of the organization which are ever-changing. This hints at an evolution of governance structure heavily reliant on organizational maturity.

GAMING's governance structures evolve over time, though they are often planned in order to adapt to current needs. Multiple groups work together to agree on structures and direction. Generally, it's top-down (executive-level) and marginally centralized, as it is the direction's opinion that strategy cannot be designed from the bottom-up. Decisions are made by committee, and then recommendations are made to an executive, often a director or the CIO, to undertake the final decision. It is rare that an executive will countermand a recommended decision, but they have the power to do so. Some decisions must ultimately be undertaken by the president/CEO, who has the right to have a final say on any decision, large or small.

Decision-making, from an IT perspective, is almost entirely committee-based. These committees are formed to assess relevant needs, and decisions are made jointly. There is no external knowledge brought in, and the committee compositions often change depending on current needs. Often, committee member heads remain in place in order to maintain accountability and ensure experience for each given direction. From a systems perspective, GAMING keeps its governance policies separate from the rest of the organization, centralizing the decision-making process to within the IT function at the directorship and CIO level. At the same time, all the various departments have their own policies that reflect the overall governance structure implemented by IT.

GAMING's decision-making structures are similar for both interorganizational and intraorganizational perspectives:

- Shared direction committees, made up of service level managers, directors and a VP, design and administer most of the policies, governance or otherwise.
- When other organizations need to partake in policy genesis or review, committees are made to discuss and review these policies.
- At all times, unilateral decision making is avoided, as GAMING believes it causes disagreement, resent, and there's a need to redirect efforts because of it.

Most relationships are treated as vertical connections in order to create a more efficient supply/production chain, and so all relations have formal contracts that require negotiation and approving by provisioning, and subsequently by executives. Given the complexity of these relationships, the organization generally brings in people from sales, marketing, security, IT, etc. in order to consult regarding the details of the contract. Focus groups and committees are formed in order to handle this to provide analysis and a common direction.

Process

The processes that classify and control each interorganizational relationship undertaken by GAMING are predefined, and come from a standard contract book created by GAMING. These are not industry standard, however, and these processes and practices continue throughout the relationship and do not evolve much. These contracts are of a proprietary form to GAMING and are not based on industry standard; rather, they are based on years of experience as to how GAMING most effectively and efficiently done business. Each contract is different; while skeleton contracts and standard terms are common, there is no "generic" contract for any given relationship.

The processes that govern how these contracts are generated have been stable over the years, often using a "if it isn't broken, don't fix it" mentality. Most changes are minor changes that occur over time to suit the slow evolution of each relationship. Overall, the contracts do not change very much over time, and neither do the relationships. However, each relationship is re-evaluated at specific periods in order to guarantee that results are being provided. The processes do not necessarily change given the closeness of the relationship; rather, it is simply the complexity of the contract itself that changes. Vendor contracts are complex and thoroughly outlined, while subsidiary contracts are thinner and less stringent.

From an interorganizational perspective, in the lottery and gaming industry, there is no normalized format for data interchange, nor are there any centralized tools; the processes seem to be rather young, but it may be that there is no need for formalized tools in this sort of "informal" relationship. At GAMING, there is a minimum of "director" level that oversees each and every business exchange, though committees are put in place to verify the requirements of

each relationship, and the provisioning department is always present for regulatory reasons, ensuring that GAMING governance policies, IT or otherwise, are met.

Reasons for strict and formal relationship definition and control are plenty. As an example to illustrate why GAMING chooses such strict policy, a joint venture undertaken by GAMING and a smaller service provider failed ultimately because of a lack of communication. Each organization had its own definition of the project and its own goals and measures of success. Furthermore, there was an imbalance of power when it came to decision-making. The initial contract had not thoroughly outlined each organizations' responsibility accurately and to the standards normally set by each contract. Had the contract more thoroughly defined each organization's respective roles and responsibilities, as well as strict requirements and expectations, the likelihood of miscommunication and misunderstanding could have been minimized and the relationship may have ultimately been successful.

This example also illustrates why GAMING chooses to advertise its requests for partnership using calls for offers. Contracts are started with offers that lay out specific needs and minimum requirements. The details are ironed out by software engineers, project committees and provisioning departments; all have a hand in directing the final requirements document, a call for offers. Calls for offers require participant organizations to agree to the terms set out by GAMING ahead of time in order to pursue further business transactions. Larger contracts, which are normally value-chain based, are also passed through law offices to guarantee organizational regulatory standards.

Calls of interest, as opposed to calls for offers, are calls for specific business transactions, such as materials purchasing or service requests, whereby the details of the transactions are defined subsequently. It is GAMING management's view that, regarding any

form of contract, calls of interest are ineffective. For GAMING, it is more important to produce requirements internally and find the perfect partner than to look at the various partners and see what it is that they offer. The former allows for more control in the relationship while maintaining defined governance policies, while the later has the risk of putting demands out of sync with strategy, and often allows the partner to dominate aspects of the relationship which should otherwise be strictly controlled, or at least defined ahead of time by the organization.

Process - Standards

GAMING heavily emphasizes the concept of standards within its organization for every strategic and operational decision. As such, analyzing how GAMING uses standards within the organization and during interorganizational dealings can lead to a greater understanding of standard practices.

With respect to calls of interest, intraorganizational standards are used extensively when generating these documents. The inception process itself is formally outlined within the organization, and mechanisms are in place to guarantee certain standard contractual obligations, including time-frame minimums, technical demonstrations, and skeleton documents for standard offers. There are no specific tools used, however, to generate and execute any given business transaction; each relationship has its own requirements, and often two parties agree on specific tools on a case-by-case basis. Formal processes are directed by provisioning department, however, as ultimate financial control is a strict requirement of GAMING.

Contract modification always requires corporate escalation; depending on the scope of the decision to be made and how it ultimately affects the bottom-line, it may require higher executive authority, even reaching the president/CEO. However, contracts are constantly under review to ensure relationship success, and so when contracts get renewed, they are often

heavily modified to incorporate the updated requirements. As an example, GAMING has a consultant hiring process, and this process ensures that contracts are initially good for three years. Subsequently, all processes relating to this consultants work are reviewed and revisited every five years.

GAMING follows both their internal standards and, whenever possible, industry standards. Theoretically, industry standards are naturally evolved and therefore likely very efficient and effective. PMI, ISO standards are followed whenever possible, and audit standards are of the highest priority; every attempt is made at maintaining every ISO standard, though it is not formally required given the nature of the business and the strict provincial government controls, who audit and enforce minimum standards on the company. These industry standards allow GAMING to operate more efficiently with other industry-standard organizations. Partnered organizations not following these standards often end badly: GAMING attempted to form a partnership with a small firm that provided handheld computing devices. However, as a small, immature firm, this partner had few well-defined processes, and those that were defined were not industry standard. This relationship was ultimately deemed a failure and terminated simply because business practices with this organization were considered too difficult and costly to maintain.

Participants

Every relationship has at least one senior individual involved in order to guarantee accountability of the decision-making process. Once the contract is in place, relations on a day-to-day basis are informal. The contract administrator becomes fully responsible of this relationship, and the original committee is phased out in order to better manage the relationship. This also provides for a more intimate relationship and a single point-of-contact.

There is rarely any turnover of this administrator. According to GAMING, handoffs make for weaker relationships, less knowledge and ultimately less control.

Maturity

The governance policies at GAMING are naturally evolved rather than goal oriented. Governance mandates are often set in order to keep up with external policy and provincial government oversight requirements. GAMING's IT governance policies follow the evolutionary scale with the corporate governance policies; because of hefty external and internal pressure to keep up with transparency standards, the IT governance at GAMING is continuously changing. Subjectively, GAMING considers itself highly mature in this sense.

COUNCIL

GAMING participates voluntarily with other provincial gaming groups in COUNCIL, and have executive directorship over the organization. Once per year, the COUNCIL sends out surveys to query the various organizations about their current state of affairs. Furthermore, the COUNCIL commissions external auditors to verify that each organization is following the recommended standards. The COUNCIL provides a centralized interorganizational governance committee in order to more easily determine audit standards for each organization, in both marketing, operational, and IT activities. Process development itself is rather informal with the COUNCIL; people gather and share ideas, but ultimately it's up to each executive to outline his or her own processes and structures for each gaming organization. However, every attempt is made to follow world-wide industry standards from the World Lottery Association, which provides accreditation, which is heavily sought after.

While IT is generally managed and governed independently by each organization, standards are enforced by strict auditing controls defined by COUNCIL. However, the COUNCIL

itself does not control any of the organization's processes; rather, it provides recommendations given each member's input. COUNCIL takes a defensive stance when it comes to process redesign; there are no market forces pushing development forward, and the industry itself is heavily regulated by the government.

While COUNCIL does not control participating organizations' processes, process evolution itself has evolved at GAMING because of collective change within of the organizations as they privately adapt individual processes in order to remain effective. The Canadian lottery and gaming industry is very collaborative; the Canadian gaming organizations work together to gain experience, share knowledge and advance the industry as a whole. As each organization has a monopoly within its area and/or province, and thus there is no reason not to pursue the highest and most efficient regulatory standards. However, each organization's standards are dictated by the government, and so the regular monopoly-type rules don't necessarily apply. Thus, COUNCIL's overall success is not measured; rather, each participant will have its own measure of success, given what it chooses to bring and take from COUNCIL.

Interorganizational success

As it stands, GAMING has no measures of success when it comes to its relationship with COUNCIL; it is a voluntary commission, and thus the organization subjectively evaluates its reasons for participation. However, there are a theoretically infinite number of reasons why, ultimately, participating is beneficial, though none are formally defined, as there is no contractual obligation for the COUNCIL. There is a dependence on the relationship, however, when it comes to success of operations. This affects how flexible the IT governance, at a given point, must be, and how the policies must be defined.

In GAMING's view, interorganizational relationship success can have multiple measures: depending on the requirement set out by the business, the success of the relationship is often outlined in the contract. There is no standard set of success measures, however, as each contract is different and so the "bottom-line" is an inherent business requirement, but not the goal of each relationship. One of the most common measures is one of social responsibility and goodwill, and this is often a product of the relationship rather than a requirement. Long-term relationships change, and there are stages in a relationship that are predictable. While GAMING does not strictly follow a maturity classification system in order to analyze the stages of a relationship, GAMING attempts to predict these reactions by looking at past relationship evolution and how, exactly, the relationship should be governed given these reactions. It is always possible that the processes used to effectively govern IT during these relationships do not change, but people's reaction to the relationship change, and so the organization has to adapt. Unfortunately, it is always possible to miss-measure success, and so organization's needs, as well as the relationship's needs, must constantly be re-evaluated.

Table 7 - Gaming Commission summary

	Structure	Process	Participants	Maturity	Success
GAMING	Centralized, top-down, committee-based IT governance	Formal, "cookbook" processes based on internal standards	Senior administrators at the contract level, IT executives at the governance level	Highly mature and evolved to maintain standards	No formal measures of success. Instead, partnership is voluntary and viewed as beneficial for infinite subjective reasons
COUNCIL	informal, committee-based group with decentralized authority and collective decision-making	Internal audits on behalf of COUNCIL to ensure transparency in GAMING and participating organizations	IT directors of participating organizations		
Interorganizational Relationship	COUNCIL acts as a 3rd party governing body between GAMING and its national counterparts	Processes are recommended collectively between participating organizations	Executive-level cooperation, including IT directors and the CIOs of participating organizations	Long-standing, but informal and voluntary	

Analysis

GAMING's IT governance structure, given its requirements for tight control and heavily mandated oversight, is very centralized, with much of the IT decision-making occurring at the directorship and executive level. GAMING uses recommendations from COUNCIL in order to continually re-evaluate its governance structure and ensures that a continued executive involvement with COUNCIL brings in cooperatively-based ideas for new structure and governance paradigms. While committee-based decision-making occurs for most projects, especially when concerning partnership agreements, the final say always resides at the director level or above, thus maintaining a centralized locus of control, inferring a "bottom-up" approach. The centrality of these decision-making systems ensures that GAMING is capable of enforcing tightly controlled policies while maintaining accountability and transparency. There is a slight decentralization of the locus of control from an IT execution perspective, as the

provisioning department provides ultimate financial and budgetary control. This execution decentralization increases oversight and ultimately makes for a more regimented and fiscally responsible organization. Ultimately, however, the structures of the internal governance change with respect to the processes; as processes evolved from either internal or external influence, the governance structure is redefined to better suit these processes.

The processes, in fact, define the structure. These processes are based on industry-standard processes and then adapted and fine-tuned to the specific requirements of each department. GAMING's processes are all very tightly controlled and are the product of an organization that values both internal process generation as well as collaborative standards. Most of GAMING's partnerships exist as parts of a value chain, and therefore standard IT processes work well to ensure that both GAMING and its partners work together both efficiently and effectively, sharing information and mutual expectations and deriving as much from each business exchange as possible. GAMING maintains these strictly defined processes through continued and repetitive use, only modifying them when need arises, and only in rare cases. The use of skeleton contracts and calls for offers, for example, provide GAMING with an internal baseline standard for relationship generation.

GAMING's longstanding, mature relationship with COUNCIL is a voluntary one, though an executive stake is held within COUNCIL in the form of CEO/CIO participation, and thus success is measured simply by what GAMING brings to and from COUNCIL: discussions, ideas, standards and collaborative processes. Given that there is no competition with other members of COUNCIL, GAMING has nothing to lose and can only gain from full participation with COUNCIL. This virtual monopoly is tightly controlled by Canadian federal regulations, as well as

relevant provincial legislation, and thus GAMING measures the success of its business practices and partnerships by the goodwill generated by said practices and partnerships.

Under the present research model, GAMING's relationship with COUNCIL falls under a centralized IT governance structure and locus of control, with informal, yet standardized interorganizational processes. With its value-chain partners, however, GAMING maintains a centralized IT governance structure, but enforces rigid and standardized formal processes. Much of GAMING's internal structure is influenced by COUNCIL and ultimately other industry non-competing partners. GAMING's voluntary participation in COUNCIL, as well as its executive stake, ensures an ever-evolving governance mode that is capable enough to adapt to changing environmental needs, yet rigid enough to with stand scrutiny by federal and provincial regulation. GAMING does not directly measure the success of its relationship with COUNCIL, yet ultimately GAMING's success with value-chain partners is a measure of the value of the information exchange brought about within COUNCIL.

Sub-case study: MEDIA (GAMING Research and Development subsidiary)

Introduction

One of GAMING's subsidiaries, heretofore referred to as MEDIA, provides information systems and multimedia gaming products using modern technologies and the internet, both for its parent company and for the market. MEDIA was created by GAMING in order to develop and designed all of the information systems for all of Casinos in GAMING's Canadian authority, as well as internet gambling, coin machines and digital tables. MEDIA works with partners, including lotteries, casinos to design new games. MEDIA enjoys a successful, tightly-nit value-chain relationship with COIN, a coin-operated lottery machine production company.

Structure

From a structure perspective, MEDIA allows the IT function to work side-by-side with the project management office (PMO) function in terms of decision-making, especially when it comes to interorganizational relationships. The two departments work together in order to guarantee detailed development, communications and quality assurance for any IT project. All relationships are categorized as a project, and so the organization values them thusly. Project committees, made up of members of both IT and PMO, integrate the management of business relationships. MEDIA's IT governance structure has changed over time, and this in turn has had an effect on everything else in the organization. Overall, there has been a decentralization of policy-making, as seen by the integration of the PMO, though this does make things more difficult to manage. Strategic plans are reviewed every three years to guarantee that they are aligned with the business and to ensure that the IT function remains agile. MEDIA views this centralization of decision-making as a way to increase the agility of the IT function.

Process

All discussions that take place between MEDIA and its partners are formal; communication is an essential component of success, and organizations must agree on final protocols to integrate into their respective IOR processes. MEDIA has certain security protocols and metrics, some inherited from GAMING and some developed internally. Processes and structures change over time and evolve at a natural rate; whatever is needed by either organization, hopefully the organization is agile enough to adapt.

Participants

Media relies on having the "right people to do the job", and that "If the right participants aren't active within the relationship, the [IT governance structures and in-place processes] are irrelevant." MEDIA believes that there is no need to bring in people from the

outside – external consultants ore even consultants from GAMING – as it is often easier to manage people in-house. Furthermore, MEDIA views internal experience as more important than "new blood"; the former being more important from a strategic perspective, while the latter tends to be better suited to operational decisions.

Maturity

MEDIA also touts that highly mature organizations produce highly mature processes, which will themselves affect the way the relationship is run, and not vice-versa. The challenge of producing such processes is organizational, not technological, and from MEDIA's vantage, highly mature organizations try to use standard technologies and processes, such as service oriented architectures (SOAs), as well as environmental standards (including but not limited to those developed by the internet), and thus MEDIA does its best to stay aligned with these standards in order to remain compatible with COIN, as well as all current and future partners.

COIN

COIN is a provider of coin-operated lottery games, and also provides a software development kit (SDK) for designing game systems. The goal of MEDIA's relationship with COIN is three-fold: innovate for new game ideas (product-centric), take advantage of the synergy produced by undertaking interorganizational research and design (market-centric), and guarantee game machine certification given the tightly-nit development environment (industry-centric).

There is a significant amount of cross-organizational learning between MEDIA and COIN. Tools for sharing this learning include conference calls and meeting minutes. The processes used in this relationship are strictly defined and outlined, but not necessarily shared, as operations are distinct enough that each organization knows how to run best. The relationship

is contract-defined and still vertical, however, as any vendor/client relationship is ought to be. The nature of the relationship has evolved over time, though the structure of the relationship hasn't necessarily changed.

Interorganizational Success

Measures of success between MEDIA and COIN are broad and far-reaching. As this is one of MEDIA's more tightly integrated relationships, the success of the relationship is as outlined in the contract; measures are by overall product and development timescales. Thus, the measures of success between these two firms and, more importantly, their relationship, are broad and far-reaching, and thus there is not one specific metric that can be used. The relationship has a good track record, whereby processes remain mature.

Table 8 - Media Subsidiary summary

	Structure	Process	Participants	Maturity	Success
MEDIA	Hyrbrid structure with the IT function working alongside the PMO	Formally outlined processes, some inherited by GAMING	Internal project managers and executives; no external consultants	Technologically mature	Product development timescales are outlined in the relationship contract
COIN					
Interorganizational Relationship	Contract-based vertical relationship between client and vendor	Formal processes, discussed between MEDIA and COIN, though not necessarily shared	Executives define objectives and policies while project-level managers define metrics	Mature processes underline a mature relationship	

Analysis

MEDIA's IT governance structure is a hybrid duopoly structure that balances IT's decision-making between the IT function and the PMO. As most of MEDIA's operations have to do with interorganizational relationships, each relationship is governed by the PMO and thus all

IT processes must be run through both outfits in order to match a given project's requirement. While this decentralization limits the power and authority of the IT function, it allows for a tighter integration with business activities that are often centered on various partners. Ultimately, the profitability of each project/partnership relies on the ability for the IT function to align itself with both the PMO and the partners' requirements.

MEDIA's tightly integrated processes with COIN offer a great degree of interorganizational knowledge transfer and a highly efficient product development life cycle (PDLC). While the relationship is contract-based, both parties seek to gain with tightly integrated systems of control and governance mechanisms, as well as standardized processes, both formal and informal. However, there is still a degree of separation between each firms' IT processes that allows for a degree of flexibility, as well as adaptability when it comes to business exchanges with other organizations. Because of this, MEDIA treads a fine line, balancing interoperability in the IT function with intraorganizational optimization and internal process efficiency.

As the relationship between COIN and MEDIA exists at the project level and is managed at this same level, operational efficiency and cost savings ultimately trump strategic motivations, as would befit a value-chain oriented business relationship.

Under the present research model, MEDIA's relationship with COIN falls under a hybrid IT governance structure and locus of control, with formal, unshared processes that allow for both efficiency and flexibility; the former to increase the effectiveness of the various knowledge-sharing aspects of the contractual relationship, the latter to provide a means to properly create and maintain partnerships with other organizations, as well as guarantee a degree of internal IT

competence. This relationship is managed at the project level and is therefore not considered strategic; rather, operational value is the ultimate measure of success.

Case Study - Outsourced Airliner IT

Introduction

A major North American airline, AIRLINER, outsourced its entire IT function in 1994 to SOURCER, subsequently back-sourcing certain strategic portions in 2004 including business analysis and software development.

Structure

AIRLINER centralizes its entire IT budget under the CIO in order to maintain a maximal level of control and ensure accountability at the highest level. AIRLINER uses several committees to generate all propositions and recommendations to the executive committee, including standards committees and architecture committees. All committees generate business cases and present them for budgetary approval from the CIO. Steering committees provide all recommendations to the business.

All of AIRLINER's relationships exist at the business level, and most of them are structured as sourcing relationships. As such, the business always speaks directly to the outsourcee. As SOURCER sees AIRLINER as a project client, SOURCER's organizational structure is an outsourcer project model. SOURCER mimics AIRLINER's IT structure; the executive relationship manager at SOURCER reports to the AIRLINER CIO for all decisions, budgetary or otherwise. Independently, however, SOURCER structures its own IT governance without heeding to its various clients. For all intents and purposes, SOURCER's IT structure does not affect the IT policies of its project groups.

Process

AIRLINER's MIS groups attempt, whenever possible, to maintain organizational and industrial standards. SOURCER provides customized solutions for AIRLINER using AIRLINER's previously designed and engineered tools, and so all of SOURCER's governance processes and regulations are inherited from AIRLINER. At the same time, SOURCER continuously updates these processes using knowledge and experiences gained from all of its contracts. As SOURCER is an experienced IT outsourcing contractor, they are capable of adapting AIRLINER's current tools and providing thorough solutions customized to AIRLINER's needs.

AIRLINER uses formal, contract-based methods to dictate the processes used in each interorganizational relationship, and AIRLINER's relationship with SOURCER is no exception. At all times, AIRLINER attempts to use industry standard/compatible tools, including online interaction, though these tools are always mutually agreed upon. There is always an attempt to use industry standards in order to ensure interoperability, making it easier to integrate with new vendors and to reduce the number of possible exceptions.

Interorganizational processes tend to evolve throughout the life of any given business relationship. As such, each renewed contract ensures that any given process is reviewed. Overall, however, the rate of change is gradual to emulate a natural process evolution. The specific tools used in any given situation might change with the advent of new technologies, but these changes are gradual and the repercussions of change are minimal. In general, each process is optimized for any given point in time. AIRLINER attempts at all times to maintain the "tried and true" approach to process redesign. The only exceptions to this approach are when exceptions are warranted on a case-by-case basis. In an attempt to keep processes standard across all IT operations, process changes that might affect the business are minimized. Business

executives are involved whenever an IT process, interorganizational or not, is changed that might affect business operations. For the most part, AIRLINER allows the business to affects its processes and attempts, at all times, to adapt current IT processes to suit the business needs.

For example, Service Level Agreement (SLA) is an interorganizational tool that AIRLINER uses in order to cement the value of a relationship from a service perspective. The concept of service level agreements has existed throughout the lifetime of the relationship between AIRLINER and SOURCER. However, the details and measures used have slowly changed to fit each renewed contract's current needs.

Participants

As this relationship exists as a vertical vendor-client relationship, formal authorization is required for all operational IT changes, especially those changes that move against the standard sets set by AIRLINER. Authorization can come from various administrative levels at AIRLINER, but interorganizational governance processes are often dictated and designed by the executive in charge of the relationship.

All of AIRLINER's IT operations projects and capitalized projects require that the CIO sign off and authorize their budget. Accordingly, all IT improvement projects and changes authorized by AIRLINER's CIO are passed through to the relationship managing executive at SOURCER for execution. This framework for authorization ensures that accountability remains centralized for each partner. Subsequently, authorization of capital goes to finance committees first, and they use the "KISS" principle (Keep It Simple, Stupid) to prioritize projects, ensuring that money is fairly allocated while minimizing potential project risk. Joint steering committees – made up of relationship management as well as internal operational consultants from both AIRLINER and SOURCER – provide business recommendations and make recommendations to joint executive

committees. This way, accountability stays high and is not passed down the business "ladder". For most interorganizational relationships, executive pairs meet, management committees meet and operations committees meet at every level in order to ensure smooth processes and ensure efficient and frequent communication. Rarely, if ever, are any external participants or consultants involved in any of the interorganizational governance decision-making.

Maturity

AIRLINER sees its outsourced model with SOURCER as being highly mature; after over 15 years partnering with SOURCER to increase the efficiency of the IT function, AIRLINER believes that they exist at a "later" stage of maturity, though they do not define nor measure this in any formal manner. However, at the same time, their multi-sourced model, having back-sourced some of the IT functions, is immature in their eyes, as they are striving to design and develop new mechanisms for governing this modern paradigm.

Interorganizational Success

The measures of success of the interorganizational relationship between AIRLINER and SOURCER do not exist at an individual, identifiable level. Rather, it is the composite effect of the overall efficiency of the IT function, including research, development, deployment, support and management. Each of these IT areas has different requirements and therefore the relationship must demonstrate that it is ultimately beneficial to said areas. AIRLINER emphasizes that strictly defining measures of success and numerical/quantitative evaluation of this relationship can lead to an inadequate understanding of the nature of the relationship, or a lack of a "big picture" point of view. Ultimately, a subjective valuation of the relationship ensures a more "all encompassing" view.

Table 9 - Outsourced Airliner IT summary

	Structure	Process	Participants	Maturity	Success
AIRLINER	Centralized under the CIO; committee-based recommendations	Heavily standardized and formalized; tried and true	CIO has budgetary control	Mature outsourced IT model	A composite view of multiple requirements and IT functions
SOURCER	Aligned with AIRLINER structure for strategic control mechanisms; independently governed	Aligned with AIRLINER's processes	Sourcing project managers and executives	Mature outsourced IT model from the sourcer's perspective	
Interorganizational Relationship	Centralized policies governed by AIRLINER	Mutually agreed upon processes	Joint steering committees and executive committees make the bulk of the governance decision-making	Immature multi-sourced model as it is a new IT paradigm.	

Analysis

AIRLINER governs its IT from an IT duopoly perspective (Weill, 2004); the majority of the IT decision-making occurs under the CIO, though the business executives are consulted whenever the business processes may be affected. SOURCER, as it is an outsourced entity, has two layers of governance: its independent IT governance policies as well as its inherited governance policies. As such, it must balance between these two in order to maintain effective relations with AIRLINER as well as keep up its own internal standards. SOURCER makes it a priority to ensure that all of its activities are in the best interest of AIRLINER.

Contractually, this partnership's regulations are very strict and well defined, and thus follow several standards, both internal to each organization as well as those of the IT outsourcing industry. The same goes for each party's practices and processes in order to maintain interoperability. Thus, partnership regulations are drawn out specifically in the

outsourcing contract and must be followed. There is no room for informal and non-standard practices in this relationship.

AIRLINER's IT policies are all governed at the highest level under the CIO. Similarly, all of the interorganizational IT governance policies go through the CIO for approval after having been decided on by joint steering and executive committees. The centrality of this form of accountability is crucial to AIRLINER and is in line with their core business values and strategies. At the same time, however, AIRLINER admits that "... sometimes, committees don't work and can be short-sighted, which make them ineffective." This is why they maintain that a central accountability figure is paramount to the success of the IT function and the success of the interorganizational relationship. Furthermore, the multi-sourced processes are seen as mature in order to "get the job done, but are not perfect, as there's too much hand holding". Evidently, AIRLINER and SOURCER still have much work to be done to perfect this multi-sourced relationship.

The relationship between AIRLINER and SOURCER is seen as mature; both organizations have mature IT operations and experience in their respective fields, and both have developed applications and processes to suit their respective needs, as well as their partners' needs. At the same time, AIRLINER's recent backsourcing of several IT functions has meant that both parties have needed to adapt to a new paradigm. As per AIRLINER's admittance, this model remains "far from perfect." AIRLINER chooses not to speculate as to what may make this relationship improve and/or evolve.

The success of the relationship is ultimately determined rather subjectively. Executives and relationship managers and AIRLINER and SOURCER analyze all facets of the relationship and how the relationship affects the IT function at AIRLINER. SLAs, cost cards and project

evaluations are always formally evaluated, but the objectives of these evaluations are often informal and judged by subjective criteria. AIRLINER believes that it is difficult to be objective when it comes to relationship valuation, and not necessarily advantageous to formalize a bottom-line measure of success. The requirements of each project vary greatly, and thus the measures of success vary greatly. Most of the time, AIRLINER simply asks the question "Are we happy?" This allows AIRLINER and SOURCER to generate a vehicle for discourse between the two organizations which acts as an evaluator.

Under the present research model, this relationship falls under a centralized governance structure and locus of control, with formal and standardized interorganizational processes. The participants include IT executives from both parties, with a focus on AIRLINER's CIO for the majority of the decision-making, and a relationship executive manager on SOURCER's side. Overall structures and processes are considered mature and evolved, though the recent back-sourced model still has many unsolved issues that need to be repaired in order to increase the efficiency and effectiveness of the relationship.

CHAPTER 6 - CASE ANALYSIS

Structure

Table 10 - Structure

	Organizational IT structure	Categories
BANK	Re-centralizing in order to increase control	Centralized
ITSOURCE	Mimicking BANK's recentralization	Centralized
ALUM	Decentralized IT with independent control and management	Decentralized
UNI	Centralized IT with rigid control structures and decision-making	Centralized
BANK2	Centralized governance allowing for independent accountability as well as executive control	Centralized
VENTURE	Centralized IT framework influenced by BANK2 as well as other partners	Centralized
RAIL	Minimal structure, often decentralized and continually evolving	Decentralized
NORTHAM	IT governance is part of the corporate governance	Centralized
ITRAIL		
BOARD	Informal governance body/group	Non-structured
GAMING	Centralized, top-down, committee-based IT governance	Centralized
COUNCIL	Informal, committee-based group with decentralized authority and collective decision-making	Decentralized
MEDIA	Hybrid structure with the IT function working alongside the PMO	Hybrid
COIN		
AIRLINER	Centralized under the CIO; committee-based recommendations	Centralized
SOURCER	Aligned with AIRLINER structure for strategic control mechanisms; independently governed	Centralized

Of the 16 organizations studied in this research, 9 of them structured their IT governance in a centralized fashion. 3 organizations emphasized decentralized structural tendencies, 1 organization had a hybrid IT governance structure and one organization did not have any form of IT structure. No independent IT structure information was found for two of the studied organizations. For the most part, organizations emphasized that an identifiable

locus of control, preferably the CIO, is key in maintaining operational control and transparency. Furthermore, most organizations stressed that too much decentralization, from both an operational control perspective as well as a decision-making perspective, caused a level of instability and stifled growth.

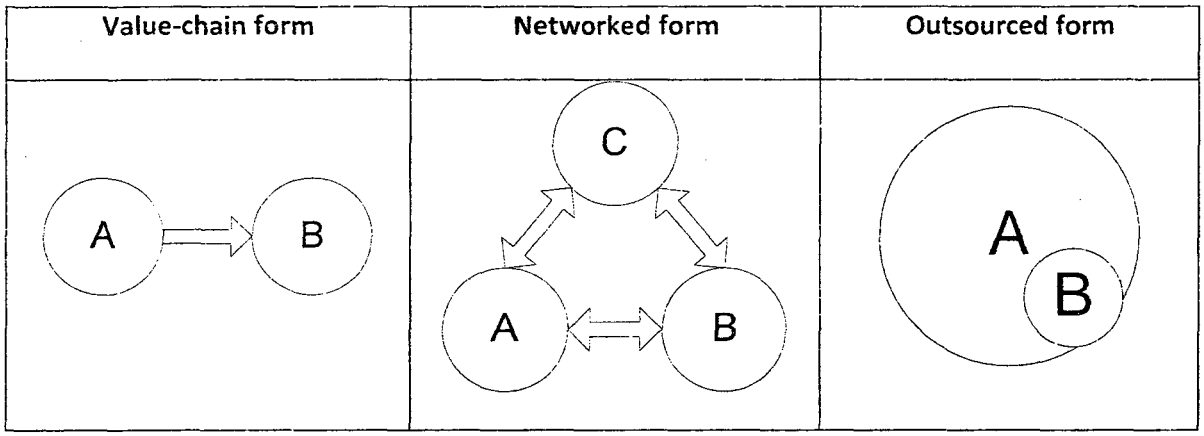
Table 11 - Interorganizational IT structure

	Interorganizational IT Structure	**Categories**
Outsourced Bank IT	Outsourced relationship forces the vendor to mirror the client's structure	Outsourced form
University	Re-centralizing in order to increase control and because of political pressure	Outsourced form
Cooperative Bank venture	VENTURE exists as a 3rd party link between BANK2 and its other partners	Networked form
Railway Collaboration	Interorganizational groups act as third-party references between RAIL and other railroad organizations within the industry	Networked form
Gaming Commission	COUNCIL acts as a 3rd party governing body between GAMING and its national counterparts	Networked form
GAMING Research and Developrnent subsidiary	Contract-based vertical relationship between client and vendor	Value-chain form
Outsourced Airliner IT	Centralized policies governed by AIRLINER	Outsourced form

Three identifiable forms emerge from the research into interorganizational IT governance structure. Each of these forms represents a new paradigm in interorganizational IT governance structure, a paradigm defined by closeness in the relationship. This paradigm also closely relates the form of the relationship, as defined by Barringer and Harrison (2000), with the shape of the IT governance used by firms partaking in interorganizational transactions. It seems that joint ventures, networks and consortia fall within the shape of relationships that define a subjectively "close" relationship, whereas alliances and trade associations define a

subjectively "distant" relationship. These relationship forms define a new scale that parallels the interorganizational IT governance structures found in this research.

Figure 2 - Interorganizational IT governance structures



The naming of these three forms is not based on the literature. Rather, given their emergence, they are based on what it is that they represent from a structural perspective. While the original identified IT governance structures are based on the centralized/decentralized nature of the organizations IT governance, these three forms each represent a range on a scale of closeness between two or more parties. A value-chain form, based on a value-chain partnership, represents an arms-length governance structure whereby the two organizations do not exchange governance policies and maintain an operations-level-based contract. In this form of relationship, as with most vendor-client relationships, each organization governs their IT independently, and each organizations' respective governance has no bearing on its partners. Network forms represent a multi-lateral governance structure, whereby the third-party entity represents a linkage between other parties and this third party is heavily influenced by its partners. The third party's governance structure acquires elements from its partners, including policy generation, decision-making regulations and loci of control. Finally, outsource forms represent a close and integrated governance structure, whereby the

outsourcer's policy heavily, if not entirely, influences the outsourcee's governance structures at the level of the relationship.

Process

Table 12 - Process

	Organizational IT process	Categories
BANK	All formal and transparent as per SOX requirements	Formalized
ITSOURCE	Industry standardized; requires approval by BANK	Standardized
ALUM	Very informal and independent/agile	Informal
UNI		
BANK2	Constantly evolving in order to meet market demands	Formalized
VENTURE	Industry standard processes, often influenced by BANK2 and other partners	Standardized
RAIL	Industry-driven "tested" processes that evolve slowly over time	Standardized
NORTHAM		
ITRAIL	Collectively derived processes that meet everyone's needs	Collective
BOARD	Industry-driven standards to ensure inter-industry efficiency	Standardized
GAMING	Formal, "cookbook" processes based on internal standards	Formalized
COUNCIL	Internal audits on behalf of COUNCIL to ensure transparency in GAMING and participating organizations	Standardized
MEDIA	Formally outlined processes, some inherited by GAMING	Formalized
COIN		
AIRLINER	Heavily standardized and formalized; tried and true	Formalized/Standardized
SOURCER	Aligned with AIRLINER's processes	Formalized/Standardized

Six of the organizations studied rely heavily on formalized processes. Seven of the organizations studied focus more on organizational or industrial standards. Only one organization defines its processes through a collective derivation. None of the organizations

studied rely specifically on informal or non-standard processes, though aspects of both of these categories of processes are likely introduced, inadvertently or otherwise. This is because each organization does not formally define how or why it adheres to any given process design methodology. Rather, the reasons for adhering to any given methodology evolve naturally over time. While it may seem as though process evolution is linked to maturity, there is no causal link, nor is there any form of magnitude. Instead, process maturity is simply situational and reliant on a multitude of factors, including industrial situations, market forces and organizational variables, all of which are beyond the measure of this research. Observations can be made regarding the reasons for formalizing and standardizing. Most organizations tout that industrial standards are evolved as "best-practice", which follows ITGI recommendations for mutually evolved processes, as well as "good, tested and global practices to ensure the implementation of effective governance within an enterprise" (IT Governance Institute, 2005).

The presented data seems to indicate that formalized processes are, most often, created via inward/internal influence. Organizations formalize processes in order to maintain a certain level of consistency and transparency, allowing for tighter controls when translating these processes interorganizationally. Conversely, process standardization seems to come about most often because of outward influence; namely that of market and industry. Firms are more likely to assimilate standard processes in order to more easily coordinate with partnered firms as well as increase their ability of undertaking new partnerships.

Table 13 - Interorganizational IT governance processes

	Interorganizational IT Processes	Focus
Outsourced Bank IT	All formalized and standardized as per BANK's requirement	Inward and outward
University	ALUM will acquire many of UNI's processes, assimilating their business models as they reintegrate	Inward
Cooperative Bank venture	Industry standard processes, often dictated by BANK2 and other partners	Outward
Railway Collaboration	Collectively defined standards to increase cooperative efficiency while maintaining competitiveness	Outward
Gaming Commission	Processes are recommended collectively between participating organizations	Outward
GAMING Research and Development subsidiary	Formal processes, discussed between MEDIA and COIN, though not necessarily shared	Inward
Outsourced Airliner IT	Mutually agreed upon processes	Inward

In these cases, it seems as though formalizing interorganizational IT processes was more about focusing inwards on the firms and the relationship, whereas relying on and/or developing standards was more about focusing on the industry and the market, potentially for future partnerships. Three of the studied relationships focused inwards on the relationship and the partnered firms. Three of the studied relationships focused outwards on the firms' positions in the market and potential for future partnerships. One studied relationship seemed to split its focus and rely on both internal formalizations and external standards.

From a gestalt analysis perspective, most interorganizational IT processes revolve around the practice of borrowing processes from parent or partner companies. Shared processes and borrowed processes seem to genesis of organizational as well as interorganizational/market standards. The goal of these shared processes seems to be to increase efficiency and effectiveness within each interorganizational transaction. This seems to

be the most logical way of minimizing conflict and extraneous work; reusing processes maximizes the use of resources (Zaheer and Venkatraman, 1995).

Participants

Table 14 - Participants

	Organizational IT participants	Categories
BANK	IT executives measure relationship quality	Executive
ITSOURCE	Project managers handle all aspects of the relationship.	Managerial
ALUM	IT managers design most policies, though ultimately report to UNI IT direction	Managerial
UNI		
BANK2	Executive steering committees design most IT policies	Executive
VENTURE	Project teams are each accountable for their actions	Project Teams
RAIL	CIO-driven IT governance policies, and heavily influenced by CIOs and directors from partnering firms	Executive
NORTHAM	All participating CIOs form the basis of the governing body	Executive
ITRAIL		
BOARD	All participating CIOs form the basis of the governing body	Executive
GAMING	Senior administrators at the contract level, IT executives at the governance level	Executive/Managerial
COUNCIL	IT directors of participating organizations	Executive
MEDIA	Internal project managers and executives; no external consultants	Executive/Managerial
COIN		
AIRLINER	CIO has budgetary control	Executive
SOURCER	Sourcing project managers and executives	Executive/Managerial

Of the organizations studied, 10 firms held executive participation as key to proper IT governance, 5 organizations ensured there was managerial participation as part of their IT governance, one organization governed IT using project teams, and there was no information obtained for three organizations. This data points to a heavy use of high-level/top-down

governance generation, which follows the centralization logic for leaders on profit, whereby high-level participation is key for profit maximization (Weill, 2004).

Interestingly, elements of a feudal model, whereby IT project managers and business units govern their own IT does not show up very frequently in Weill (2004) in terms of top performers under any metric, though elements of the feudal model show up in five of the presently researched organizations. This may be an indicator of governance performance.

Table 15 - Interorganizational IT governance participants

	Interorganizational IT Participants	**Groups**
Outsourced Bank IT	External auditors and steering committees comprised of members of both organizations are present for all decision-making.	Committees
University	All ALUM managers will be assimilated to UNI management and no longer be involved in governance design.	Unilateral
Cooperative Bank venture	Executives from each firm form committees and steering groups	Committees
Railway Collaboration	CIOs and committees with point-people to act as relays between the organizations	Committees
Gaming Commission	Executive-level cooperation, including IT directors and the CIOs of participating organizations	Bilateral
GAMING Research and Development subsidiary	Executives define objectives and policies while project-level managers define metrics	Bilateral
Outsourced Airliner IT	Joint steering committees and executive committees make the bulk of the governance decision-making	Committees

It seems that there is an emergent scale that exists from an interorganizational perspective. Here, a scale from Unilateral (a single unit in charge) to Bilateral (two units in charge) to Committees (Multiple units in charge) is seen. The data acquired shows four interorganizational groups that use committees as the base for their participant construct, two interorganizational groups whereby decision-makers and executors are a single, unilateral unit

or person, and one interorganizational group whereby decision-making is bilateral between two groups of people.

This data, however, does not demonstrate that there is a consistent and/or viable way to allocate decision-making rights based on the relationship. Bilateral and committee-based groups were the most common, and only one case provided a unilateral set of decision-makers from a participant perspective. Furthermore, no conclusions can be drawn regarding the optimality of unilateral versus bilateral versus committee decision-making.

Maturity

Table 16 - Maturity

	Organizational IT maturity	**Categories**
BANK	Highly developed organization	Mature
ITSOURCE	Highly developed organization	Mature
ALUM	Immature; inherited processes from UNI	Immature
UNI		
BANK2	Highly evolved over a great period of time.	Mature
VENTURE	Acquired maturity.	Mature
RAIL	Evolved to "best-fit" for current needs	Mature
NORTHAM		
ITRAIL		
BOARD		
GAMING	Highly mature and evolved to maintain standards	Mature
COUNCIL		
MEDIA	Technologically mature	Mature
COIN		
AIRLINER	Mature outsourced IT model	Mature
SOURCER	Mature outsourced IT model from the sourcer's perspective	Mature

Most of the studied organizations reported themselves as subjectively mature in their IT policies and practices that make up their governance. However, it seems from these results and by the analysis of these results that all of the various organizations were at varying stages of

governance maturity. Each organization that reported itself as mature did so for a variety of reasons, and each is mature in their own right. Because of this, a subjective measure of maturity is, likely, not an adequate measure of maturity, as each organization believes itself mature. It may very well be that each of these organizations has matured to a certain extent; however, there needs to be an external measure of maturity. These organizations do not have a way of comparing, objectively, their maturity, nor do they have any form of scale with which to measure. Concepts such as Ross' IT architecture scale (Ross, 2003) may be useful for organizations to adequately measure themselves on an objective maturity scale.

Table 17 - Interorganizational IT governance maturity

	Interorganizational IT Maturity	**Stages**
Outsourced Bank IT	9-years old and continually evolving	Market
University	Undeveloped policies with little collaboration and low maturity	Hierarchy
Cooperative Bank venture	Shared maturity; "thick layer" of governance	Network
Railway Collaboration	Longstanding partnerships with partners	Network
Gaming Commission	Long-standing, but informal and voluntary	Network/Market
GAMING Research and Development subsidiary	Mature processes underline a mature relationship	Market
Outsourced Airliner IT	Immature multi-sourced model as it is a new IT paradigm.	Market

Using Lowndes and Skelcher (1998) as a basis for measurement of interfirm governance stages and paralleling these stages with those proposed for industrial organization by Powell (1991), we can see the two dominant forms of interorganizational governance are network forms and market forms. However, Lowndes and Skelcher (1998) propose that each of these governance forms parallel stages in the interorganizational relationship. As an objective

measure, relationships ideally begin with network forms, graduate to hierarchy forms, thrive in market forms and terminate in network forms. It may be possible to infer information regarding the objective stage of the interorganizational relationship from this, however these forms are presented as ideal and do not necessarily reflect reality.

The only interorganizational grouping that displayed hierarchical properties was University, and similarly this was the only studied interorganizational grouping that was deemed unsuccessful. These results suggest that network and market forms may be more suitable for mature interorganizational relationships and warrants further research. These results also infer, albeit lightly, that the partnership/consolidation phase may indeed be the most difficult relationship phase.

Maturity does not seem to have any measurable effect on the outcome of a relationship. Rather, the phase of the relationship is an indicator of interorganizational maturity. Mapping these phases to governance modes may be a powerful tool for organizations to analyze their interorganizational situations and modify their governance structures and processes accordingly. It may be, however, that maturity is a condition of interorganizational relationship success.

Interorganizational Success

Table 18 - Interorganizational success

	Interorganizational Relationship Measures	Success
Outsourced Bank IT	IT executives at BANK subjectively measure relationship quality	Yes
University	Fear for lack of successful recentralization and differences in organizational culture leads to conflict	No
Cooperative Bank venture	Multiple measures of success, including value-adding measures, quality and risk	Yes
Railway Collaboration	All relationships are seen as critical success factors in competition with other logistics industries	Yes
Gaming Commission	No strict measures of success – often contract-based	Yes
GAMING Research and Development subsidiary	Product development timescales are outlined in the relationship contract	Yes
Outsourced Airliner IT	A composite view of multiple requirements and IT functions	Yes

Evaluation of the success of an interorganizational relationship is, first and foremost, entirely situational. For each case study, relationship success was based on multiple factors related to both the goals/objectives of the relationship, the organizations, as well as the nature of the relationship itself. All but one of the studied relationships was evaluated as successful. Furthermore, the single unsuccessful case seemed to have been based on an organizational culture factor leading to management and operational conflict.

Most studied organizations do not use objective measures of success. Rather, most relationships are evaluated subjectively. Each relationship is evaluated using multiple measures, given all available information by executives and relationship managers. Formal measures of success include financial information, contractual obligations and SLAs. However, given the discrepancy of measures between these cases, however, analytically comparing one relationship to another is impractical.

CHAPTER 7 - CONCLUSION

Observations

The present research attempted to create a research model for interorganizational IT governance that could be used to uncover and classify information regarding the four primary research constructs: structure, process, participant and maturity. A research model was created, tested and proven successful at representing interorganizational IT governance at a conceptual level. Each of the constructs measured play a significant role in the determination of interorganizational IT governance policy, and the identified emergent interorganizational IT governance classes seem to corroborate current literature in IT governance, network governance and interorganizational relationships. Furthermore, this research aimed at answering questions regarding said constructs.

Research Question 1: What IT governance structures exist during interorganizational relationships.

Findings uncovered 3 emergent interorganizational IT governance structure categories: outsourced form, networked form and value-chain form. These three categories demonstrate a relationship closeness that defines the structure of the interfirm governance, with the outsourced form representing a highly interdependent, highly strategic venture; a value-chain form representing a loosely connected, relatively simple trade partnership; and a networked form representing a somewhat interdependent, collaborative venture.

Research Question 2: What IT governance processes are used during interorganizational relationships.

Findings uncovered 2 emergent interorganizational IT governance process focuses: inward focus, representing a focus on interorganizational process formalization, and outward focus, representing a focus on market process standardization.

Research Question 3: Who participates in the IT governance creation and decision-making during interorganizational relationships.

Findings uncovered 3 emergent interorganizational IT governance participant groupings. The unilateral group is represented by one firm dominating participation and making unilateral decisions, often as per the recommendation of a single executive or CIO. The bilateral group is represented by the two participating firms in equal partnership, providing equal input, often at the level of paired executives being the ultimate decision-makers. Lastly, the committee group is represented by a multi-person collective, often with several representatives from multiple levels at both organizations, gathering in order to make decisions by committee.

Research Question 4: To what extent does governance maturity play a factor in interorganizational relationships.

Findings uncovered 3 emergent interorganizational IT governance maturity stages. These stages mirror Lowndes and Skelcher (1998) proposed life-cycle stages in that the observed maturity stages corroborate said proposed life-cycle stages: those of network, hierarchy and market.

Research Question 5: Are there any emergent patterns of interorganizational IT governance that may influence the success of the interorganizational relationship?

Due to the limited sample size, the present research's findings did not uncover any readily identifiable or recurring patterns of interorganizational IT governance structures,

processes, participants and maturity with respect to the success of interorganizational relationships; of the organizations studied, all but one claimed a successful relationship with its partner. The one failed relationship – that between ALUM and UNI – stands out only in that it is the only relationship that exists at the Hierarchy stage of maturity. However, this should not be seen as indicative of relationship failure.

It should be noted the goal was to identify whether or not there may be a link between interorganizational IT governance and the success of the interorganizational relationship.

Figure 3 - Interorganizational IT governance class summary

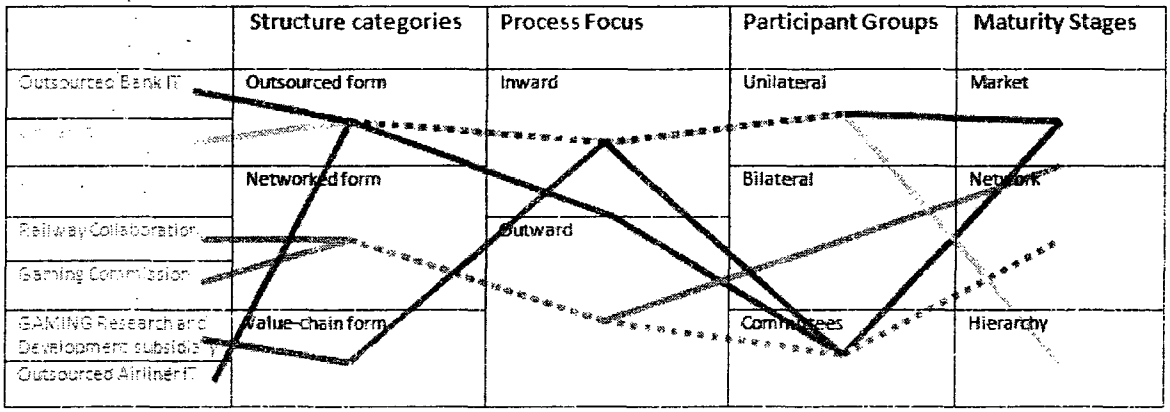


Figure 3 presents a summary chart of each of the emergent interorganizational IT governance construct classes. While this figure demonstrates that there is no distinctly dominant pattern or configuration of constructs, a few observations can be drawn.

Firstly, both the outsourced form and the network form were equally popular governance structures. This may simply be a product of the sample of the firms that were chosen for interview. Conversely, the value-chain form was not a particularly attractive governance structure category. While this may also be a product of the sample of firms represented in this research, it may also be that the value-chain form is not seen as particularly strategic in nature. Governance, generally being seen as a strategic paradigm, is not often

tightly linked with an operational relationship such as one found in a standard vendor-client value chain (Weill & Ross, IT Governance: How Top Performers Manage IT Decision Rights for Superior Results, 2004, p. 147).

Secondly, process focus was evenly split between inward and outward focus. This suggests that organizations may put equal weight on both standardizing and formalizing governance processes. Furthermore, it may be that process focus may be situational; given the specific requirements of an interorganizational relationship, firms may choose to focus their interorganizational processes inwards and formalize, or they may choose to focus their interorganizational processes outwards and set/adopt standards.

Thirdly, committee-based participant groupings were by far the most popular choice when it came to deciding where the responsibility and decision-making would lie. Committees infer both a generally decentralized approach to interorganizational governance as well as a shift away from dominance in partnerships – a level playing field between each organization. At the same time, only one relationship studied demonstrated properties of the unilateral participant grouping. This is likely a rare case; given the seemly overwhelming popularity of committee-based participant groupings, a unilateral grouping is likely representative of the form of the relationship. In this case, ALUM was simply being re-absorbed by its parent UNI and, given organizational structure, had no say in the matter. As such, IT governance policies followed suit.

Finally, the market level of maturity seemed to be the most frequent relationship stage observed during this research. Lowndes and Skelcher (1998) argue that a life cycle exists within each relationship that causes various modes of governance to coexist and overlap. It is argued that partnerships – the mature phase of an interorganizational relationship – mirror

mechanisms found in a market stage of a life cycle. This coincides with the findings in this research. Most organizations claimed themselves mature in their business dealings with their respective partners.

At the same time, only one observed relationship existed at the hierarchy stage of maturity, again the relationship between ALUM and UNI. As is a new reorganization, and therefore a new partnership generation, these findings corroborate those proposed by Lowndes and Skelcher.

Little insightful observation is possible with respect to the process focus interorganizational IT governance construct. Both inward and outward focuses were equally frequent. This demonstrates that both formalization and standardization of processes are likely given equal consideration in the formation of an IT governance policy during business exchanges; depending on the situational requirements of both the nature of the interorganizational relationship as well as the goal of relationship, focus may be required outwardly, in the case of a multi-partner or network relationship, or inwardly, in the case of a single-partner outsource of value-chain relationship.

While little can be noted regarding consistency in observed measures of interorganizational success, of interest is the situational aspect of these measures. It is clear that no standards have evolved given this inconsistency. However, each relationship fills a need and/or objective for each of the studied organizations. Be they strategic or operational, arms length or highly integrated, the relationship reason founds the basis of the measures of success across the board. Therefore, as varied as are the reasons for entering into interorganizational relationships, so are the measures of success for these relationships.

Furthermore, many organizations chose to evaluate the success of the relationship subjectively by agglomerating affected factors such as increased efficiencies, value-adding aspects, increased competitiveness, product development ability, synergies and functional/operational requirements improvement. Therefore, it can be observed that the success of the relationship, while not strictly defined, can be derived by the operational goal of the relationship.

Contributions

The present research uncovered several construct classes with respect to interorganizational IT governance, including structure categories, processes focuses, participants groups and maturity stages. Case study analysis from the present research has revealed emergent interorganizational classes of structure, process, participant and maturity.

Structure categories were identified – outsourced form, network form and value-chain form - as pictured in Figure 2. These structures are of note because of the previously undiscovered link between governance structures and interorganizational relationship forms.

The value-chain form represents an arms-length relationship as a structure that neatly identifies all forms of governance whereby the two parties are self-governing; their IT governance structures remain independent, neither partner relying on external influence in order to generate IT policy. Here, interorganizational governance of any sort is simply the derivation of both firms' independent policies. As such, little information is shared, each firm works independently, and policy-makers/direction communicate with each other at the operational level, similar to the relationship itself.

The networked form represents a mid-level relationship as a structure that demonstrates all forms of governance whereby two (or more) parties have joint interest and/or common goals from a strategic vantage. These IT governance forms are tightly related to the joint-venture and alliance forms of interorganizational relationships, and thus IT governance structures tend to follow a cooperative effort whereby allowances and policies are joined together, either in a new organization or as part of a combined strategy, in order to maximize the benefit of the relationship. IT Policy-makers and directors often share in the recreation and

reformation of new policies together, thus moving the relationship from an operational benefit to a strategic one.

The outsourced form represents the most tightly-nit structure of interorganizational IT governance whereby one firm's policies, practices and participants are heavily, if not entirely, dependent on another firm. This occurs in outsourcing relationships whereby a section of a service-providing organization – the section that takes part in the outsourcing project – must redirect its policies to fall in line with the outsourcing client – the "outsourcer". This allows for a "branching-out" of the interorganizational IT governance, as well as a full adoption of policies from the outsourcer's perspective. The IT management and direction of the service-providing organization must, in this case, discuss and/or yield to the appropriate requirements of its outsourcing clients, thereby virtually rendering the two organizations a conglomerated unit from a structural perspective.

Emergent process focuses were identified in the organizations' tendencies to concentrate their IT governance process creation and implementation. Certain relationships tend to formalize their interorganizational IT processes, emphasizing a need for inward control over these processes. A formal process allows for stricter command and greater ownership of tasks within the relationship. Inward emphasis such as this comes about generally during interorganizational business exchanges based on specific business exchanges and those that exist at an operational level.

Other relationships tend to standardize their interorganizational IT processes, emphasizing a need for flexibility and market openness as well as compatibility and forward thinking. Outward emphasis such as this comes about generally from relationships whereby the

goal of the relationship is strategic, be it in a market position or from an industry competition perspective.

Emergent participant groups were identified, wherein two dominant categories emerged: executive and managerial. These seem to be directly related to strategic/operational level at which the relationship exists for a given organization.

For example, in the outsourced form of a relationship, the outsourcing provider sees the relationship as an extension of one of its products and therefore involves relationship managers from an operational perspective. As such, much of the IT governance policies are inherited from an operational perspective. On the other hand, when a partnership is seen as strategic – in the networked form, for example – IT executives are often involved and, more often than not, the partnered firms' CIOs. This makes sense given the sensitive nature of such a relationship; all decision making (and thus IT governance) should rest on the shoulders of a participant with the greatest possible accountability within the firm.

Lastly, emergent patterns of theoretical maturity stages were identified as relationships evolve. These emergent patterns broadly emulated the interfirm governance stages proposed by Lowndes and Skelcher (2000). This observation demonstrates that the evolution of interorganizational IT governance may parallel that of general interfirm governance theory, and opens several research avenues.

Propositions

Given the above observations, a few hypotheses are proposed. These propositions may prove applicable to practitioners as well as may drive future research in the field of interorganizational IT governance.

It can be observed that a few commonalities exist with regards to the outsourced interorganizational IT governance structure. The studied outsourced forms often focus their processes inwards and maintain a unilateral position with regards to the participants. This corresponds with the idea of an outsourcing relationship: the client of an outsourcing relationship defines and maintains their processes as well as direction, ensuring that the outsourcing vendor adapts.

As such, the following is proposed:

Prop 1. Interorganizational relationships exhibiting the outsourced structure will maintain an inward process focus and a unilateral participant group.

Furthermore, commonalities can be observed with regards to the networked form of IT governance structure. The studied networked forms relied heavily on an outward process focus while relying heavily on committees with regards to participant groups. This corresponds the idea of network cooperation. In this, each organization provides to the network while adapting to and adopting network processes – processes derived by the group – and ensuring the same group/committee-based decision-making.

As such, the following is proposed:

Prop 2. Interorganizational relationships exhibiting the networked structure will maintain an outward process focus and a committee-based participant group.

Limitations

Interorganizational IT governance is an emergent field with very little research having been done in it. As such, there were very few sources from which to pull methodology and therefore few analytical venues. The following limitations were identified.

One of the central limitations of this research stemmed from the nature of the research and its thesis. Creating case studies regarding IT Governance required access to individuals within organizations that are knowledgeable and active in governance creation and operation. Furthermore, these individuals had to be knowledgeable about the organizations partnerships and how exactly their firms govern IT during said exchanges. This limited the total number of firms in a possible interview data set. Once organizations that met these criteria were found, there was the matter of getting access to these individuals; gaining access to appropriate individuals within these organizations was challenging.

Related to this limitation is the second descriptor of this research – the interorganizational aspect. Not only finding suitable candidates for interview, but finding partnering organizations with similar individuals also willing to participate was difficult.

To compensate for this, information regarding partnered organizations was gathered from the focus organization, introducing a source of bias in the data acquired. While the greatest effort was made in order to acquire information from organizations on either side of a given interorganizational relationship, this was not always possible.

To the best of the researcher's knowledge, there has been no case-based research performed on interorganizational IT governance, and therefore a limited pool of tested scales and measurements to draw from. Every effort was made in order to ensure reliability and validity in this case

As a result, there were gaps in the data – as is evident by the tables in the results section. While certain follow-up interviews were possible to obtain to fill in these gaps, others were not.

Avenues for further research

With a solid foundation built from the present research model and identified research constructs, several avenues for further research are opened. Firstly, a more in-depth study of the constructs and the research model via a broadly spanning survey would provide more statistically relevant data. This could uncover the relative power of each construct, objectively identifying each factor and its relationship with the other independent variables. This would also allow for further testing to be done on the proposed research questions (Appendix 2); fine-tuning these questions could lead to more accurate and complete case data.

A long-term study on the evolution of IT governance of a single firm partaking in multiple interorganizational relationships would be beneficial in discovering the extent to which relationship maturity plays a role in the success of the relationship, and how maturity may be a mitigating or perhaps conditional factor in this success.

Researchers and practitioners may be interested in a quantitative analysis of the effects of interorganizational IT governance archetypes – the repeating patterns and groupings of the various interorganizational IT governance constructs – and how these archetypes may affect a specifically relevant dependent variable, such as asset utilization, profit and growth (Weill, 2004).

An investigation into the causal and mitigating factors regarding the choice of specific interorganizational IT governance structures, processes and participants may prove beneficial in explaining how, exactly, firms come into their governance plans. Investigating influential

variables might prove valuable in further cementing the interorganizational IT governance theories proposed in the present research as well as unlock further avenues of research in this relatively immature and unexplored topic.

Ultimately, this will allow corporate strategy makers, using the present research data, to reduce costs, increase growth and potential market share, and increase returns by minimizing ambiguity and indecision in formulating appropriate IT governance strategies when undertaking interorganizational relationships, thereby increasing efficiency by reducing the amount of time that strategy-building takes, and increasing effectiveness by maximizing the likelihood of success.

Conclusion

Traditional forms of governance are often considered bureaucratic, leading to a need for new, dynamic, emergent forms of IT governance. This research project aimed to better understand how IT governance supports organizations in their business exchanges with other organizations. A drive to increase interorganizational business exchanges has led to an increased requirement for formal IT governance during these exchanges. The present research attempted to formalize a research model for interorganizational IT governance and discover what, if any, interorganizational IT governance structures and processes were in place using a subjective case-study exploratory research.

A research model based on network governance constructs was created and successfully tested. Several case studies were performed and interorganizational IT governance construct classes were uncovered that accurately describe the nature of interorganizational IT governance. Several emergent patterns of structure, process, participants and maturity were

identified from an interorganizational perspective. These patterns were classified and demonstrated as viable fundamental interorganizational IT governance constructs.

Interorganizational success was discovered to be entirely subjective and situational, proving difficult to define and therefore create repeatable and identifiable measures. Winkler (2006; p. 130) confirms that interorganizational goals "are not prescribed by a superordinate position but are negotiated between network members with different interests." This substantiates the findings that specific measures of interorganizational success are not generalizable but rather situational. Using the identified constructs, further tests could be carried out in order to discover how these classes, used as primary constructs, can objectively affect interorganizational success, as well as other relevant dependent variables, such as growth or financial performance.

The formalization of an adequate model for interorganizational IT governance leads to growth in this field of study. With this formal model comes the potential for new ideas and research avenues to better understand the role of IT governance in today's ever-changing competition/cooperation based marketplace. The synthesis of a new stream of research drives the need for new ideas, both academically and from a practitioner perspective. A continuing drive to increase the value of IT investments has brought about a new generation of strategies, and collaborative partnerships as an interorganizational relationship play a key role in cementing organizations' advantages in an ever-increasing competitive market. As Hong (2002) points out, a group of firms working together can make all the difference.

References

Barney, J. B., & Ouchi, W. G. (1986). *Organizational Economics.* San Fransisco: Jossey-Bass.

Barringer, B. R., & Harrison, J. S. (2000). Walking a Tightrope: Creating Value Through Interorganizational Relationships. *Journal of Management , 26* (3), 367-403.

Batonda, G., & Perry, C. (2003). Approaches to relationship development processes in inter-firm networks. *European Journal of Marketing , 37* (10), 1457-1484.

Boynton, A. C., Jacobs, G. C., & Zmud, R. W. (1992). Whose Responsibility is IT Management? *Sloan Management Review , 33* (4), 32-39.

Brown, A. E., & Grant, G. G. (2005). Framing the Frameworks: A Review of IT Governance Research. *Communications of the Association for Information Systems , 15*, 696-712.

Brown, C. V. (1997). Examining the Emergence of Hybrid IS governance Solutions: Evidence from a Single Case Site. *Information Systems Research , 8* (1), 69-95.

Brown, C. V., & Magill, S. L. (1994). Alignment of the IS Functions With the Enterprise: Toward a Model of Antecedents. *MIS Quarterly , 18* (4), 371-403.

Brown, C. V., & Magill, S. L. (1998). Reconceptualizing the Context-Design Issue for the Information Systems Function. *Organization Science , 9* (2), 176-195.

Brown, W. C. (2006). IT governance, architectural competency, and the Vasa. *Information Management & Computer Security , 14* (2), 140-154.

Chang, J. C.-J., Torkzadeh, G., & Dhillon, G. (2004). Re-examining the measurement models of success for Internet commerce. *Information & Management , 41*, 577-584.

Chi, L., & Holsapple, C. W. (2005). Understanding computer-mediated interorganizational collaboration: a model and framework. *Journal of Knowledge Management , 9* (1), 53-75.

Croteau, A.-M., & Bergeron, F. (2009). INTERORGANIZATIONAL GOVERNANCE OF INFORMATION TECHNOLOGY. *Proceedings of the 42nd Hawaii International Conference on System Sciences*, (p. 8).

Damianides, M. (2005). Sarbanes-Oxley and IT Governance: New Guidance on IT Control and Compliance. *Information Systems Management , 22* (1), 1-14.

David, P. A., & Greenstein, S. (1990). The Economics of Compatibility Standards: An Introduction to Recent Research. *Economics of Innovation and New Technologies , 1*, 3-41.

Doz, Y. L., & Hamel, G. (1998). *Alliance advantage.* Boston, MA: Harvard Business School Press.

Dubé, L., & Paré, G. (2003). Rigor in Information Systems Positivist Case Research: Current Practices, Trends, and Recommendations. *MIS Quarterly , 27* (4), 597-636.

Dwyer, F. R., Schurr, P. H., & Oh, S. (1987). Developing Buyer-Seller Relationships. *Journal of Marketing , 51*, 11-27.

Etzioni, A. (1988). Normative-affective factors: Toward a new decision-making model. *Journal of Economic Psychology , 9* (2), 125-150.

Gereffi, G., Humphrey, J., & Sturgeon, T. (2005). The governance of global value chains. *Review of International Political Economy , 12* (1), 78-104.

Gerlach, M. L. (1992). The Japanese Corporate Network: A Blockmodel Analysis. *Administrative Science Quarterly , 37*, 105-139.

Goo, J., Kishore, R., & Rao, H. R. (2009). The Role of Service Level Agreements in Relational Management of Information Technology Outsourcing: An Empirical Study. *MIS Quarterly , 33* (1), 119-145.

Hamel, G. (1991). Competition for competence and inter-partner learning within international strategic alliances. *Strategic Management Journal , 12*, 83-103.

Harguem, S., Bergeron, F., & Frayret, J.-M. (2007). La gouvernance des TI à l'ère du e-business. *ECIG*, (p. 19).

Harguem, S., Bergeron, F., & Frayret, J.-M. (2006). La gouvernance des TI dans un contexte inter-roganisationnel : développement d'un cadre d'analyse. *Administrative Sciences Association of Canada*, (p. 16). Banff.

Heide, J. B. (1994). Interorganizational Governance in Marketing Channels. *Journal of Marketing , 58*, 71-85.

Henderson, J. C., & Venkatraman, N. (1993). Strategic alignment: Leveraging information technology for transforming organizations. *IBM Systems Journal , 32* (1), 472-486.

Hong, I. B. (2002). A new framework for interorganizational systems based on the linkage of participants' roles. *Information & Management , 39*, 261-270.

Huxham, C., & Vangen, S. (2000). Leadership in the Shaping and Implementation of Collaboration Agendas: How Things Happen in a (Not Quite) Joined-up World. *The Academy of Management Journal , 43* (6), 1159-1175.

Huxham, C., & Vangen, S. (1996). Working together, key themes in the management of relationships between public and non-profit organizations. *International Journal of Public Sector Management*, *9* (7), 5-17.

Hvalshagen, M. (2004). Transforming the IT organization for the state of Virginia. *Information Systems Management*, *21* (4), 52-61.

IT Governance Institute. (2005). *Best Practices*. Retrieved 10 12, 2009, from IT Governance Institute: http://www.itgi.org/template_ITGI.cfm?Section=Best_Practices&Template=/TaggedPage/TaggedPageDisplay.cfm&TPLID=44&ContentID=6574

Jarillo, J. C. (1988). On Strategic Networks. *Strategic Management Journal*, *9* (1), 31-41.

Jones, C., Hesterly, W. S., & Borgatti, S. P. (1997). A general theory of network governance: exchange conditions and social mechanisms. *Academy of Management Review*, *22* (4), 911-945.

Kayworth, T., & Sambamurthy, V. (2000). Managing the Information Technology Infrastructure. *Baylor Business Review*, *18* (1), 13-14.

Koh, C., Ang, S., & Straub, D. W. (2004). IT Outsourcing Success: A Psychological Contract Perspective. *Information Systems Research*, *15* (4), 356-373.

Koh, J., & Venkatraman, N. (1991). Joint venture formations and stock market reactions: An assessment in the information technology sector. *Academy of Management Journal*, *34*, 869-892.

Kumar, K., & van Dissel, H. G. (1996). Sustainable Collaboration: Managing Conflict and Cooperation in Interorganizational Systems. *MIS Quarterly*, *20* (3), 279-300.

Larson, A. (1992). Network Dyads in Entrepreneurial Settings: A Study of the Governance of Exchange Relationships. *Administrative Science Quarterly , 37*, 76-104.

Lee, J.-N., Miranda, S. M., & Kim, Y.-M. (2004). IT Outsourcing Strategies: Universalistic, Contingency, and Configurational Explanations of Success. *Information Systems Research , 15* (2), 110-131.

Lee, S., & Lim, G. G. (2005). The impact of partnership attributes on EDI implementation success. *Information & Management , 42*, 503-516.

Lin, H.-F. (2006). Interorganizational and organizational determinants of planning effectiveness for Internet-based interorganizational systems. *Information & Management , 43*, 423-433.

Lindert, P. H. (1986). *International Economics.* Homewood, IL: Irwin.

Loh, L., & Venkatraman, N. (1992). Diffusion of Information Technology Outsourcing: Influence Sources and the Kodak Effect. *Information Systems Research , 3* (4), 334-359.

Lowndes, V., & Skelcher, C. (1998). The dynamics of multi-organizational partnerships: an analysis of changing modes of governance. *Public Administration , 76*, 313-333.

Lu, X.-H., Huang, L.-H., & Heng, M. S. (2006). Critical success factors of inter-organizational information systems - A case study of Cisco and Xiao Tong in China. *information & Management , 43*, 395-408.

Macaulay, S. (1963). Non-contractual relations in business: a preliminary study. *American Sociological Review , 28* (1), 55-67.

Markus, M. L., Steinfield, C. W., Wigand, R. T., & Minton, G. (2006). Industry-Wide Information Systems Standardization as Collective Action: The Case of the U.S. Residential Mortgage Industry. *Management Information Systems Quarterly , 30* (Special issue), 439-466.

Meyer, N. D. (2004). Systemic IS Governance: An Introduction. *Information Systems Management , 21* (4), 23-34.

Miles, R. E., & Snow, C. C. (1978). Organizational Strategy, Structure and Process. *The Academy of Management Review , 3* (3), 546-562.

Miller, D. (1981). Toward a new contingency approach: the search for organizational gestalts. *Journal of Management Studies , 18* (1), 1-26.

Mintzberg, H. (1993). *Structure in fives: Designing effective organizations.* Englewood Cliffs: Prentice-Hall.

Nidumolu, S. (1995). The Effect of Coordination and Uncertainty on Software Project Performance:Residual Performance Risk as an Intervening Variable. *Information Systems Research , 6* (3), 191-219.

Nohria, N. (1992). *Networks and Organizations: Structure, Form, and Action.* Boston: Harvard Business School Press.

Oliver, C. (1990). Determinants of Interorganizational Relationships: Integration and Future Directions. *Academy of Management Review , 15* (2), 241-265.

Patrakosol, B., & Olson, D. L. (2007). How interfirm collaboration benefits IT innovation. *Information & Management , 44*, 53-62.

Pearlson, K., & Saunders, C. (2004). *Managing and Using Information Systems, a Strategic Approach* (2nd Edition ed.). New York, NY: Wiley.

Peterson, R. (2004). Crafting information technology governance. *Information Systems Management , 21* (4), 7-22.

Podolny, J. M., & Page, K. L. (1998). Network forms of organization. *Annual Review of Sociology , 24*, 57-76.

Powell, W. W. (1990). Neither Market Nor Hierarchy: network Forms of Organization. *Research In Organizational Behavior , 12*, 295-336.

Rau, K. G. (2004). Effective governance of IT: Design objectives, roles, and relationships. *Information Systems Management , 21* (4), 35-42.

Ring, P. S., & Van de Ven, A. H. (1992). Structuring cooperative relationships between organizations. *Strategic Management Journal , 13*, 483-498.

Ritter, T. (1999). The Networking Company. *Industrial Marketing Management , 28*, 467-479.

Robbins, S. (2004). IS Governance. *Information Systems management , 24* (1).

Robey, D., & Sales, C. A. (1994). *Designing Organizations.* Homewood: Richard Irwin.

Ross, J. W. (2003). Creating a Strategic IT Architecture Competency: Learning in Stages. *MIS Quarterly Executive , 2* (1), 31-43.

Ross, J. W., Weill, P., & Robertson, D. (2006). *Enterprise Architecture As Strategy: Creating a Foundation for Business Execution.* Boston: Harvard Business Press.

Sambamurthy, V., & Zmud, R. W. (1999). Arrangements for Information Technology Governance: A Theory of Multiple Contingencies. *MIS Quarterly , 23* (2), 261-290.

Saunders, C., Gebelt, M., & Hu, Q. (1997). Achieving Success in Information Systems Outsourcing. *California Management Review , 39* (2), 63-79.

Slowinski, G., Seelig, G., & Hull, F. (1996). Managing Technology-Based Strategic Alliances between Large and Small Firms. *SAM Advanced Management Journal , 61*, 1-10.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* . Thousand Oaks: Sage Publications.

Tanriverdi, H. (2006). Performance Effects of Information Technology Synergies in multibusiness Firms. *MIS Quarterly , 30* (1), 57-77.

Tanriverdi, H., Konana, P., & Ge, L. (2007). The Choice of Sourcing Mechanisms for Business Processes. *Information Systems Research , 18* (3), 280-299.

Thorelli, H. B. (1986). Networks: between markets and hierarchies. *Strategic Management Journal , 7* (1), 37-51.

Trites, G. (2004). Director responsibility for IT Governance. *International Journal of Accounting Information Systems , 5* (2), 89-99.

Wachter, M. L., & Williamson, O. E. (1978). Obligational markets and the mechanics of inflation. *The Bell Journal of Economics , 9* (2), 549-571.

Weill, P. (2004). Don't Just Lead, Govern: How Top-Performing Firms Govern IT. *MIS Quarterly Executive , 3* (1), 1-17.

Weill, P., & Ross, J. (2005). A Matrixed Approach to Designing IT Governance. *MIT Sloan Management Review , 46* (2), 25-35.

Weill, P., & Ross, J. W. (2004). *IT Governance: How Top Performers Manage IT Decision Rights for Superior Results.* Boston, MA: Harvard Business School Publishing.

Winkler, I. (2006). Network Governance Between Individual and Collective Goals: Qualitative Evidence from Six Networks. *Journal of Leadership and Organizational Studies , 12* (3), 119-134.

Zaheer, A., & Venkatraman, N. (1995). Relational Governance as an Interorganizational Strategy: An Empirical Test of the Role of Trust in Economic Exchange. *Strategic Management Journal , 16*, 373-392.

Zmud, R. W., Boynton, A. C., & Jacobs, G. C. (1986). The Information Economy: A New Perspective For Effective Information Systems Management. *Data Base* (Fall), 17-23.

APPENDICES

Appendix A - Pilot questionnaire

A. Structure
    a. What makes for a successful interorganizational IT governance committee?
    b. How are interorganizational IT governance committees improved?
    c. What sort of decisions need to be made in order to guarantee effective and efficient IT governance from an interorganizational perspective? From an Inter-unit perspective?
    d. How does the decision-making parallel the organizational strategy in order to increase synergy between business and IT? Does this increase the effectiveness of the interorganizational relationship?
    e. From an interorganizational perspective, to what extent is IT decision-making collective, and to what extent is it individual?
    f. How integrated are these decision-making mechanisms within each unit?
    g. To what extent does the evolution of the IT governance structure, over time, affect its performance?

B. Processes
    a. Are there any formal or informal tools used to facilitate communication between participants and IT governance members?
    b. Are there any specifically outlined methods and/or mechanisms used to influence interorganizational decision-making?

C. Participants
    a. Who within the organization participates in interorganizational relationships?
    b. At what level of the organization are these individuals? What form of organizational authority do these individuals have? How much responsibility do these individuals have within the context of organizational accountability?

D. Maturity
    a. At what level of organizational maturity must the above variables (structure, process, participants) be in order to execute a successful interorganizational IT governance mode?
    b. Does the maturity, state, or stage of the relationship affect the genesis of IT governance?

E. Interorganizational Relationship Success
    a. Are there advantages to formalizing measures of success/goals in terms of interorganizational governance?
    b. What are the disadvantages to formalizing measures of success/goals in terms of interorganizational governance?

Appendix B - Final questionnaire

Interorganizational IT Governance

F. Structure
   a. Is there an overarching strategy/blueprint for deciding on the structure of the governance?
   b. What scope does IT governance cover between business units and business networks?
   c. What mechanisms are in place to assist in appropriate structure design and implementation?
   d. What sort of decisions need to be made in order to guarantee effective and efficient IT governance from an interorganizational perspective? From an Inter-unit perspective?
   e. How does the decision-making parallel the organizational strategy in order to increase synergy between business and IT? Does this increase the effectiveness of the interorganizational relationship?
   f. From an interorganizational perspective, to what extent is IT decision-making collective, and to what extent is it individual?
   g. How integrated are these decision-making mechanisms within each unit?
   h. To what extent does the evolution of the IT governance structure, over time, affect its performance?
   i. **Are there any anecdotes or examples of any of the above that can be used to build a case study?**

G. Processes
   a. Are there any formal or informal tools used to facilitate communication between participants and IT governance members?
   b. Are there any specifically outlined methods and/or mechanisms used to maximize the effectiveness of the IT governance in an interorganizational context?
   c. Are there any standard practices? Are they organization-standard? Are they market standard? Are they industry standard?
   d. Do these practices evolve over time as the relationship evolves?
   e. Do these practices, tools or processes change depending on the structure of the governance? The form of the relationship?
   f. Throughout a relationship's existence, do the IT governance policies and/or practices change based on time or any other factors?
   g. Are there any anecdotes or examples of any of the above?

H. Participants

a. Who makes decisions when it comes to IT governance from an interorganizational perspective?
b. Who is involved in the inception, creation and/or implementation of IT governance structure during the creation of a new relationship?
c. Who is involved in the inception, creation and/or implementation of interorganizational IT governance process(es)? What is their association with the organization, the relationship and the IT function?
d. At what level of the organization are these individuals? What form of organizational authority do these individuals have? How much responsibility do these individuals have within the context of organizational accountability?
e. Are there interorganizational IT governance committees? If so, how are they formed? Do they work, and how do they work well?
f. Do the individuals and/or groups involved in IT policy creation during interorganizational relationship change frequently? Is there turnover and/or management change?
g. Are there any anecdotes or examples of any of the above?

I. Maturity
   a. At what level of organizational maturity must the above variables (structure, process, participants) be in order to execute a successful interorganizational IT governance mode?
   b. Do each of the above variables fluctuate and/or vary greatly from one governance mode to the next?
   c. Overall, how does the maturity of the organization affect the maturity of its IT structure, IT processes and participants?
   d. Does the maturity, state, or stage of the relationship affect the genesis of IT governance?
   e. Are there any anecdotes or examples of any of the above?

J. Interorganizational Relationship Success
   a. How is the success of the relationship measured? How does appropriate and effective IT governance increase the success of this relationship?
   b. How is the success of the IT governance measured? How does the appropriate and effective management of an interorganizational relationship affect the success of each organization's IT governance design, policies and practice?
   c. Are there advantages to formalizing measures of success/goals in terms of interorganizational governance? Disadvantages?
   d. Are there any anecdotes or examples of any of the above?