

THE CONCEPT OF GOVERNANCE IN IT OUTSOURCING: A LITERATURE REVIEW

Complete Research

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Abstract

The significance of governance has been recognized in IT Outsourcing (ITO) research and practice. While the concept of governance is rooted from various reference disciplines, as a leading knowledge resource for outsourcing, the discipline of IS has contributed to the conceptualization of ITO governance with multiplex interpretations and from different aspects. To synthesize these contributions of IS scholars, we conducted a literature review within IS discipline, and identified two research strands: governance structure and governance mechanisms. With our findings, we describe how “structuring” the governance means defining the combination of an appropriate portfolio of governance structures, together with different coordination mechanisms at different stages of the ITO lifecycle. Furthermore, we discuss how the ITO research community can be informed by reference disciplines on the conceptualization of governance. On this basis, we suggest the existing gaps and future directions of research on ITO governance.

Keywords: Governance, IT outsourcing, Literature review, Governance structures, Governance mechanisms.

1 Introduction

In the earliest comprehensive literature review on Information Technology Outsourcing (ITO), Dibbern, Goles, Hirschheim and Jayatilaka (2004) delineate the historical landscape of ITO research during the years 1992-2000. They argue that the research domain was already maturing, having developed a diversity of focal objectives, theoretical bases and relevant methods during the first decades since the emergence of ITO practice. Considering the lifecycle of ITO practice, research attention had been shifted from the initial decision process to post-adoption implementation issues. By the end of last millennium, researchers had started to scrutinize the client-supplier relationship beyond the scope of outsourcing contract, including the psychological aspect of relations. More recently, Lacity, Khan, Yan, and Willcocks (2010) reviewed 164 empirical papers on ITO published during 1992-2010, in which they identified the two most important relations among ITO concepts, i.e. between ITO decision and contractual governance, and between contractual and relational governance. Furthermore, both contractual governance and relational governance are recognized as important categories of constructs to build endogenous theories in ITO (Lacity, Willcocks, and Khan, 2011); whereas implying to practice, governance is also identified as crucial for ITO success (Lacity, Khan, & Willcocks, 2009) and innovation (Weeks & Feeny, 2008).

The concept of governance is rooted from various reference disciplines, such as economics, marketing, management, and organization studies. The perspectives on governance vary with different philosophical stances and in different disciplinary traditions. For instance, Bevir (2009) counts fifty definitions and concepts of governance. In the concept of governance often we find terms as rules, control, order, govern, guidance, authority. Lynn (2010) defines governance as “*the action or manner of governing – that is, of directing, guiding, or regulating individuals, organizations, or nations in conduct or actions*” (p.671). Hughes (2010) combines the Latin term “*gubernare*” with other meanings to frame the

concept of governance around three sub-themes: leading organizations, organizing firms, and defining procedures to drive organizations. Salamon (2002) defines governance as the set of rules, concepts and processes that drive and regulate the individual interacts to get common intents. In Salamon's (2002) perspective governance is embedded into social, political and economic interactions; while Dixit (2009) define governance mainly with reference to the rules of the game (i.e. the institutional framework) rather than the play of the game (i.e. as between the parties to a transaction, with emphasis on private ordering). Such multiplicity of interpretation results in indeterminate and vague understandings of the concept, especially when different definitions are simultaneously adopted in interdisciplinary studies such as outsourcing.

In the field of IS research, governance is primarily studied in the subject of "IT governance", which is regarded as a constituent part of enterprise governance (Van Grembergen, 2004). In particular, Weill's (2004) definition of IT governance, "*the framework for decision rights and accountabilities to encourage desirable behaviour in the use of IT*" (p.3), has been widely adopted. In the research of ITO governance such conceptualization of governance, considering ITO as a specific form of IT governance (Loh and Venkatraman, 1991), is related to the predominance of transaction cost approach (Williamson 1975, Barth d'emy 2001, Lacity and Hirscheim 1993). In this view many scholars have pointed out the role of contracts for successful management of outsourcing processes (Saunders et al. 1997, Lacity et al. 1995), and contract is identified as a mechanism to regulate and govern the transaction. However, Transaction Cost Economics (TCE) may not serve as a comprehensive analytical lens for ITO, especially in collaborations emphasizing relational characteristics where contracts become "incomplete" (Willcocks et al., 1999) and additional governance mechanisms must be used. In response to such needs for alternative theoretical understandings, studies on relational mechanisms have emerged and informed governance research in the last decade, with various perspectives such as psychological contract (Kim, Shin, & Lee, 2013; Koh, Ang, & Straub, 2004), trust (Heiskanen, Newman, & Eklin, 2008; Sabherwal, 1999) and clan control (Chua, Lim, Soh, and Sia, 2012b). As such, prior ITO research has generated a rich knowledge base on the understanding of governance from many aspects and under different contexts. Many scholars claim (Bapna, Barua, Mani, & Mehra, 2010; Lacity et al., 2009, 2011; Miranda & Kevan, 2005), indeed, the study of governance is important for ITO research and practice, whereas the concept of governance is built upon a multiple paradigm approach (Lewis & Grimes, 1999), bridging different perspectives from reference disciplines, such as economics, marketing, organization and management studies. For instance, Lacity et al. (2009) relate ITO success to stronger governance, both contractual and relational, through a clearly definition of contracts and expectations, open communication, open sharing of information, mutual dependency, and high levels of trust. While most of prior studies focus on one or a few aspects on the understanding of ITO governance, a comprehensive literature review is needed to synthesize these aspects into a general framework. To our knowledge, such literature review on the specific topic of outsourcing governance is still missing, especially in the discipline of Information Systems (IS), which actually serves as a leading knowledge resource for outsourcing research (Dibbern et al. 2004).

As mentioned above, since the concept of governance in ITO has multiplex interpretations and has been studied from different angles, our inquiry is to develop a comprehensive framework of ITO governance that delineates the various mechanisms leading to the effectiveness of the overall ITO process. Motivated by this purpose, we analysed scholarly contributions on the concept of governance in the particular field of ITO. We have to emphasize that this review focuses on the contributions of outsourcing governance in the discipline of IS, as ITO is essentially different from the outsourcing of other business functions, such as manufacturing, logistics, human resource, etc., due to the pervasiveness of IT/IS and its tight interrelationship with other functions in modern organizations (Dibbern et al. 2004; Willcocks, Fitzgerald, & Lacity, 1996). Therefore we choose to concentrate and position our review on the outsourcing literature in mainstream IS journals to identify main research strands. These findings are then commented thoroughly with comparison to understandings in reference disciplines. While the concept of governance in reference disciplines has been evolved through multiple theoretical perspectives, within ITO it is has been analysed overwhelmingly through the few lenses of contract

and relations, restricting the impact and the diffusion of ITO research to other disciplines. We conclude this analysis identifying, within the line of reference disciplines, other mechanisms that could be investigated by the ITO community and integrated into a new framework of ITO governance.

2 Literature review approach

In this study, one of the purposes is to trace the research development on the governance of ITO, which is distinctive from the outsourcing of other services or products. Moreover, from the beginning of ITO research, the discipline of IS has contributed as a leading knowledge resource for outsourcing research in general (Dibbern et al. 2004). Therefore, we choose to first focus our literature search within the “Senior Scholars’ Basket of Journals”¹ of IS, including European Journal of Information Systems (EJIS), Information Systems Journal (ISJ), Information Systems Research (ISR), Journal of Information Technology (JIT), Journal of Management Information Systems (JMIS), Journal of Strategic Information Systems (JSIS), Journal of the Association for Information Systems (JAIS), and MIS Quarterly (MISQ). The keywords for our literature search include “outsourcing”, “offshoring” and “governance”, and the original search resulted in a list of 85 articles. With this preliminary list, we first read each abstract to select the articles with a primary focus on the topic of ITO. Then, we browsed the full text of each article to locate and analyse the parts that relate to governance in particular. With this step we selected the articles that have discussed ITO governance either as a primary topic, or as a part of an integrated framework. We decided not to filter out the latter cluster of articles because they have shown various contexts where governance has been studied, and therefore are also important contributions to the understanding of ITO governance. This is also the reason why we did not adopt the filtering strategy by browsing the abstract first, as many of the latter articles does not specifically mention governance in their abstracts. As a result of this process, 34 relevant articles are identified from the basket journals, dating from 1992 to 2014 (See Appendix).

Our design of filtering process, as mentioned above, has also been the first step of our analytical process leading us to two groups of articles based on the positioning of governance in the research: 1) ITO governance as a primary topic, or 2) ITO governance as a part of the entire framework. Within the first group, we browsed each article’s introduction and conclusion, and coded it with the aspects of governance in its focus. For articles in the second group, we analysed the contents dedicated to governance, and also generated codes according to the relevant governance aspects. These codes are compared and aggregated constantly during the course of analysis. The findings of this part are presented in section 3.

Besides IS journals, the topic of governance has also been actively discussed in other reference disciplines such as economics, marketing, organization and management studies. These alternative disciplines have generated a rich body of knowledge on governance in general. As these findings are dispersed in myriad journals and books in different research fields, considering the scope of this paper, we choose to synthesize prior knowledge in reference disciplines on the basis of seminal works, used primarily by the ITO community, instead of another comprehensive literature review. The aim of this part (see section 4) is to provide an overview of governance in different disciplines in order to provoke comparison with the findings from ITO research and detect opportunities for new studies on ITO governance.

3 Findings on Governance in ITO Research

The process of literature analysis has led us to find two strands on the research aspects of ITO governance, i.e. the structure and the mechanisms of governance. On one hand, in the original texts, different

¹ <http://aisnet.org/?SeniorScholarBasket>

articles address these two concepts in distinctive terms as “governance structure” and “governance mechanism”; on the other hand, most articles study either one of governance structure or mechanism, although a few exceptions have included both concepts in the discussion. For example, Clark, Zmud, and McCray (1995) view governance mechanism as one aspect in the governance structure. In the specific context of multi-sourcing, Bapna et al.’s (2010) research comment involves not only multi-sourcing governance structure such as the guardian vendor model, but also contractual and relational mechanisms of governance. The distribution of articles, respectively on governance structure and governance mechanisms, is illustrated on publication years in Figure 1, manifesting the growing research interest on governance mechanisms in recent years. However, governance structure dates back from earlier studies, and has also had stimulated research attention in certain periods of time. The reviewed articles are listed in Table A1 in the Appendix, with information on their theoretical accounts. In the following sections, we will show our findings on both governance structure and mechanisms, particularly how they are defined and discussed in the literature, as well as emerging themes and context in each strand.

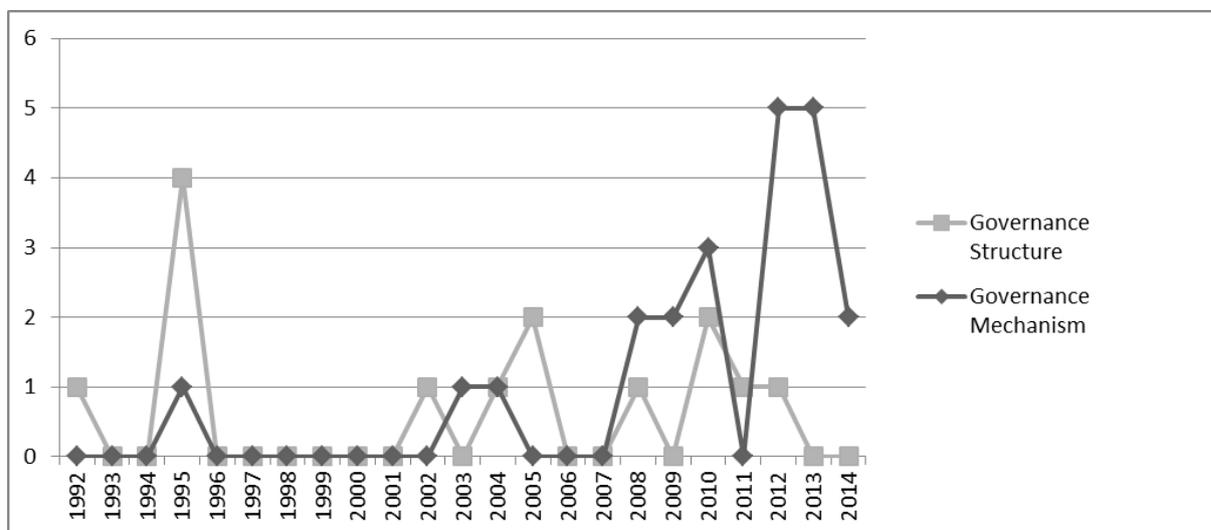


Figure 1 Distribution of articles on publication years²

3.1 Governance structures: Market, hierarchy, and network

Recognized as the earliest research article on ITO (see Dibbern et al., 2004), Loh and Venkatraman (1992) regards ITO itself as a new governance structure besides Inter-organizational IT governance. Through ITO contractual arrangement, the traditional IT governance constructed in internal hierarchy is shifted and extended to the external market. Thereafter, this original view is complemented and enriched with the proliferation of ITO literature. In recent works, the concept of ITO governance structure is increasingly being separated from the field of IT governance. The boundary of research perspective also expands from the client’s decision (e.g. make-or-buy) towards the understanding and management of ITO relationship as an entity. Increasingly, governance structure is referred to as the structure to organize the whole ITO relationship, instead of a set of separate firms. As a representative example, Mani, Barua, and Whinston (2010) defined ITO governance structure as “*the ownership and control structure used to formalize the relationship, and distinguish among these structures by the lev-*

² In this figure, the total number of articles is 36, because the two articles, i.e. Clark et al. (1995), Bapna et al. (2010) are included in both strands of governance structure and governance mechanism.

el of hierarchical control, length, and extent of formalization” (p.44-45), manifesting the holistic approach with relational focus.

Consistent with ITO research in general, specifically on governance structure, the theoretical foundation mostly derives from Transaction Cost Economics (TCE); besides the term of “governance structure”, synonyms such as “governance forms” and “governance modes” are also widely adopted from Williamson’s work on TCE (Williamson, 1975, 1979, 1986, 1994). Determined by the properties of transactions, three types of governance structures are recognized: i.e. market, hierarchy, and network (Miranda & Kavan, 2005). The understanding of governance structure types is shown as manifold in the ITO literature. Earlier literature mostly discusses about the choice of governance structure as a part of the sourcing decision, focusing on the two types of market and hierarchy. In Figure 1, we can observe a peak in terms of publication numbers on governance structure in 1995, where all the contributions are from a special issue in JIT, on “Information Systems Outsourcing in Theory and Practice”. Many articles from this special issue have synthesized early works on ITO governance, and are valuable sources for us to learn about this research strand in early 1990s. Following Loh and Venkatraman (1992) and appropriating Williamson (1975, 1979), Cronk and Sharp (1995) attributes market governance to the “outsource” option and hierarchy governance to the “insource” option, suggesting the choice of governance structure to be consistent with the “make-or-buy” decision. This dichotomous definition of market/external governance as outsourcing and hierarchy/internal governance as insourcing has been adopted by many subsequent studies, especially from the theoretical perspective of TCE. The three characteristics of transaction, i.e. asset specificity, frequency, and uncertainty are considered to impact the cost aspect of governance, including both production cost and transaction cost. The option of outsourcing and market governance structure leads to lower production cost and higher transaction cost; vice versa for insourcing and hierarchy governance (Alaghehband, Rivard, Wu, & Goyette, 2011; Cheon, Grover, & Teng, 1995; Wang, 2002; Watjatrakul, 2005). Besides TCE, other theoretical foundations are also discussed in the study of governance structures. For example, Cheon et al. (1995) examined the two governance structures in TCE, as well as in Agency Cost Theory (ACT) and Resource-Based Theory (RBT). ACT attributes different agency costs to different sourcing options, and evaluates respective advantages of governance choices in relation with contracting choices, i.e. outcome-based contract for market governance, and behaviour-based contract for hierarchy governance. Meanwhile, RBT explains the trends towards market governance and the outsourcing option with the resource and capability gaps in the existing IS function of a firm (see also Grover, Cheon, & Teng, 1994). Other studies, though adopting the similar view on ITO as a governance structure of vertical disintegration, have questioned the internal versus external dichotomy on governance structure. As a part of ITO decision making framework, De Looff (1995) pointed out that the “real life” of governance exists between the pure “market versus hierarchy” dichotomy. Elements of these two types of “pure structures” are intertwined in various outsourcing contracts and relationships. This is to say, hierarchy contracts/relationships can involve market elements and vice versa. In addition to vendor selection, this study also argues for the importance of taking the relationship and various arrangements of outsourcing into consideration in the decision phase. Furthermore, Aubert, Houde, Patry, and Rivard (2012) extend the dichotomous view by adding the third option of mixed-governance to the conventional choices between in-house and total-outsourcing. However, in their perspective to governance, outsourcing is still one option of the governance structures, and the disintegrative view of ITO still serves as a premise of the analysis.

With the increasing adoption of outsourcing, more research attention on ITO has been attracted from the “make or buy” decision to the management of relationships. Hence, a holistic approach to ITO research emerges besides the traditional view of ITO as vertical disintegration. In effect, the notion of network governance is introduced as a new type of governance structure (Adler, 2001; Miranda & Kavan, 2005; Powell, 1990; Thorelli, 1986). Actually, the definitions of the market, hierarchy and network governance are all transformed in this new holistic view of ITO. As defined by Miranda and Kavan (2005) in their synthesis on ITO governance, “*the market is an institutionally derived and transaction- or contract-based governance form; the hierarchy is an institutionally derived authority-*

based form; the network is a socially-derived informal form” (p.153). This definition shows the expansion of research perspective from the participating firms to the overall level of ITO relationships. In contrast to the traditional view where ITO is only one of the three structural options, here all three structures of governance relate to the ITO relationship as an entity. Corresponding to the new understanding of market, hierarchy, and network governance, Lee, Miranda, and Kim (2004) identified three gestalts of ITO strategy, respectively arm’s length, independent, and embedded. Arm’s length strategy is related with market governance, where the structure is loosely coupled and vendors are interchangeable. The independent gestalt, corresponding to the hierarchy governance, is similar to the insourcing strategy, but resources are acquired through minimal outsourcing arrangement and then managed internally. The strategy for network governance appears in form of embedded gestalt, with comprehensive outsourcing, and a strong relational focus. Although no clear effects of the independent/hierarchy strategy is indicated in their findings, the cost-efficient effect of arm’s length/market strategy and best performance of embedded/network strategy on technology catalysis are confirmed. In addition, Miranda & Kavan (2005) circumscribe elements of the three governance structures into each outsourcing stage. They inscribe market and hierarchy governance into the structural alternatives on the decision stage (i.e. promissory contract), and attribute hierarchy and network governance as the options on the post-adoption stage (i.e. psychological contract).

Besides the typology of market, hierarchy and network, governance structure of ITO is also studied with different terminologies and in emerging contexts. As an early contribution, Clark et al. (1995) discuss governance structure as the decision structure of ITO, with inherent trade-offs including the length of contract, the amount of governance costs, and the level of flexibility in the governance mechanism. Bapna et al. (2010) present a research agenda on governance structure specifically in the context of multi-sourcing to foster cooperation and coordination among multiple vendors in the ITO relationship, proposing more research on new structures such as the guardian vendor model. In the evaluation of Business Process Outsourcing (BPO) performance, Mani et al. (2010) regard governance structure as a component of information capabilities. With the information processing view, they extend the traditional TCE view which focuses only on incentive alignment; in addition, they argue that different governance structures also support the cross-boundary coordination and information processing in different extent. Mahnke, Wareham, and Bjorn-Anderson, (2008) examine the role of intermediaries in the offshore outsourcing of IT. This “middlemen” model emerges as a tailored governance structure to overcome the cultural, cognitive and operational obstacles in cross-border inter-firm relationships.

3.2 Governance mechanisms: Contractual vs. relational

Governance structures, reviewed in the last section, are different options to define a framework shaping the governance of ITO. Under a certain opted governance structure, governance mechanisms refer to the synergic processes and practices through which ITO governance is realized and embodied. The mainstream literature recognizes two categories of governance mechanisms, i.e. contractual and relational governance (Huber, Fischer, Dibbern, & Hirschheim, 2013; Lioliou, Zimmermann, Willcocks, & Gao, 2014; Poppo & Zenger, 2002). In search for endogenous theory in ITO research, Lacity et al. (2011) recognize both contractual and relational governance as important categories of constructs in the potential theory of ITO. They also concisely define contractual governance as “*the formal contractual controls used to govern ITO*”, and relational governance as “*the informal controls and relationship attributes between client and supplier firms*” (Lacity et al., 2011, p.150). This succinct definition clearly manifests the dichotomy of formal and informal nature of control mechanisms in governance, which is also a key aspect elaborated in the literature of ITO governance. In addition, with the emerging notion of psychological contract (Kim et al., 2013; Koh et al., 2004; Lioliou et al., 2014), the type of contract mechanisms become another key aspect in both categories of contractual and relational governance. The characteristics of these two aspects in contractual and relational governance are mapped in Table 1 and will be discussed in the following sections.

Governance mechanism	Contractual	Relational
Contract	<i>Specified legal contract</i>	<i>Psychological contract</i>
Control	<i>Formal control</i>	<i>Informal control</i>

Table 1 Key aspects of governance mechanism

3.2.1 Contractual governance: Contract and control mechanisms

Contractual governance is realized through the mechanisms of formal contract and controls. On ITO governance contracts, prior research has investigated the design of contractual structure (Chen & Bharadwaj, 2009; Gefen, Wyss, & Lichtenstein, 2008; Mani, Barua, & Whinston, 2012) and the consequence of contractual choices (Bhattacharya, Gupta, & Hasija, 2014; Mani, Barua, & Whinston, 2013). We observe two forms of contract structures prevailing in the studies of ITO contractual structure, either based on fixed-price (FP) or time-and-material (TM) assessment (Gopal, Sivaramakrishnan, Krishnan, & Mukhopadhyay, 2003). FP contracts adopt an ex-ante negotiated fixed-price payment method, while TM contracts opt for ex-post payment based on the evaluated time and effort of vendor to produce the deliverables for the client. Drawing on TCE, Chen & Bharadwaj (2009) analysed the effects of transactional characteristics on different governance provisions, including monitoring, dispute resolution, property rights, and contingency provisions; they found such effects will vary under different contracting conditions of FP or TM. Introducing business familiarity as an emerging aspect on contractual governance, Gefen et al. (2008) examined its role on the contractual choice between FP and TM; they argue that increased business familiarity does not directly grant vendors with higher prices in the ITO contracts, but rather changing the ITO relationship towards the more profitable TM contracts. In the specific context of BPO, Mani et al. (2012) incorporate information structure into contract structure; their findings suggest that the impact of information structure in form of use and performance is greater in TM contracts than in FP contracts. In a more recent study, Bhattacharya et al. (2014) categorize the two dominant contracting structures into a synthesized type of cost-plus contract, and compared its contractual efficiency with gain-share contract on the incentive for coordination in joint improvement efforts. Their findings account for the optimal combination of different contractual types, which is contextualized in the observability of efforts. In addition, Mani et al. (2013) provide an interesting approach using the variation of equity price to evaluate the consequence of contractual choices between fixed- and variable-priced contracts; their results indicate an alert on the danger of shareholder value loss due to the mismatch of contract choices with the nature of ITO relationships and outsourced tasks.

Besides ITO contracting designs and consequences, research on contractual governance also examines different control mechanisms on the basis of formal contracts. Choudhury and Sabherwal (2003) position control as an important aspect of ITO governance. In their study of outsourced software development projects, the portfolio and dynamics of two modes of controls are examined, respectively formal and informal controls. In each mode of control, two categories of control mechanisms are investigated; formal controls include outcome and behaviour control, while the informal mode involves clan control and self-control. With an evolutionary view, the authors illustrate the dynamics of control portfolios throughout the course of outsourced projects, where outcome control dominates the starting portfolio and behaviour control is added in a later stage. These formal control modes mobilize mechanisms of specification and monitoring on both outcomes and behaviours of vendors, which are carefully considered and heavily reliant on the formal contract. The informal control mechanisms are found to be more difficult in this study under outsourcing context, and will be discussed in the next section. An example of a typical formal control mechanism is the concept of mechanistic governance established by Srivastava & Teo (2012), which requires the specified formal contract to be closely followed in a mechanistic manner, “*not allowing for any deviations from the pre-specified outcomes and procedures*” (Srivastava & Teo, 2012, p.118). As in its definition, this governance mechanism strictly exercises both outcome and behaviour controls, while accentuating contract specificity. The authors argue

for the viability and significance of mechanistic governance for better performance of offshore outsourcing, whereas its effects on other contexts are not elaborated.

3.2.2 Relational governance: Contract and control mechanisms

While the significance of contractual governance has been underscored for outsourcing success, the importance of relational governance has also been recognized since the early years of ITO research. For instance, Clark et al. (1995) noted that “*Those happiest with their current outsourcing arrangements were those with a limited set of tightly defined contractual elements with a larger portion of the relationship handled through joint agreements consisting of broader performance objectives and appropriate governance mechanisms.*” Although the concept of relational governance was not fully established at that time, we can already observe the essential elements of this governance mechanism from this early account. On one hand, in such governance mechanisms, tightly defined contractual terms are limited or are being used in a limited extent. On the other hand, the control mechanisms with relational characteristics are emphasized, as distinct from document-based formal controls in contractual governance. This understanding is also consistent with a recent study of Lioliou et al. (2014), who conceptualize relational governance with both elements of psychological contract and informal control mechanisms.

The theory of psychological contract is first introduced to ITO research by Koh et al. (2004) as a lens to study ITO relationships. Contrasting from formal contract, the contractual nature of psychological contract is based on the mutual belief of obligations between the exchange parties. The sense of obligation is therefore psychological binding on the individual level. The authors also reveal that individual’s psychological contract, in both client and supplier firms, can influence ITO success. From a reverse aspect, Kim et al. (2013) focus on the breach of psychological contract to study its role on ITO governance and performance. Their results show that the effect of contractual governance, with formal legal contract and partnership agreement, on ITO outcome is fully mediated by vendor’s breach of psychological contract perceived by the client. Lioliou et al. (2014) explicitly add psychological contract as an important mechanism in relational governance, and examined its substitutive effect to the formal contract, as well as its complementary association with other relational aspects.

According to Choudhury and Sabherwal’s (2003) elaboration on control mechanisms, relational governance involves informal control mechanisms such as self-control and clan control. In their study, the authors conclude that self-control is encouraged and enabled through behaviour control, and clan control is found to be more difficult in outsourcing context. However, the importance of trust, which is closely related to informal controls, has been recognized in ITO literature. On one hand, trust and control is regarded as two sides of a coin (Heiskanen et al., 2008); on the other hand, it is generally agreed that informal control mechanisms are trust-based (Fink, 2010; Sabherwal, 1999; Tiwana, 2010). The study of Heiskanen et al. (2008) show the dialectical relationship between trust and (formal) control in an ITO project, and posit that trust and control are “the different sides of the same coin”. Here trust is regarded as a governance mechanism complementary to formal controls. Tiwana (2010) extends the understanding of both formal and informal controls, and arguing that contract-based formal controls and trust-based informal controls are mutually compatible, as they can act as complements and substitutes simultaneously. Underscoring the significance of relational mechanisms, Fink (2010) attributes informal controls (i.e. self-enforcement and social controls) as “effective governance” which enforces the ITO relationship. Therefore, despite the difficulty of implementing informal control in ITO context (Choudhury & Sabherwal, 2003), its positive influence on ITO outcome justifies the necessity to use this mechanism. To explore possibilities of informal control implementation, the study of Chua et al. (2012b) on clan control enactment in complex IT projects may shed some light in the context of ITO as well.

3.2.3 Emerging themes on governance mechanisms

During our review on contractual and relational governance above, we have already recognized that these two categories cannot be discussed in absolute separation. In ITO practice, the establishment of relationship immediately follows contracting; in some cases, relationships start simultaneously as, or even before, contracts are signed. Therefore the consideration of both contractual and relational governance is inevitable in the lifespan of ITO. An emerging theme in this research strand is on the complementarity and substitution of the two categories of governance mechanisms on the general level, which is discussed with different approaches (Goo, Kishore, Rao, & Nam, 2009; Huber et al., 2013; Lioliou et al., 2014). Zooming in from the general categories, a few studies (Gopal & Koka, 2012; Tiwana, 2010) have scrutinized the interactions between specific mechanisms from each category, e.g. contracts and controls. Tiwana's (2010) work explores the interaction between formal and informal controls, providing suggestions on the combination of different control mechanisms under various situations. Gopal and Koka (2012) problematize the prevailing view of the universally beneficial role of relational governance by arguing for its asymmetric benefits on client and vendor. Such asymmetry of benefits of relational governance is in turn circumscribed under different contractual types, i.e. FP contract or TM contract.

Beyond the dichotomy of contractual and relational governance, other governance mechanisms are also being explored in two of the articles (Cao, Mohan, Ramesh, & Sarkar, 2013; Chua, Lim, Soh, & Sia, 2012a). In the context of vendor transition, where the reliability of both contractual and relational governance is limited, Chua et al. (2012a) adopt the perspective of threat balancing as a theoretical lens to support client strategies and governance during vendor transition. Cao et al. (2013) acknowledge the conflicts between contractual and relational mechanisms, and propose the process of "*ambidexterity pendulum*" to achieve the balance between them in the evolution of ITO relationships. Besides ITO in general, governance mechanisms in other specific contexts are also investigated, such as BPO (Rai, Keil, Hornyak, & Willenweber, 2012), offshoring (Mathew & Chen, 2013), and multi-sourcing (Bapna et al., 2010).

In summary, governance mechanisms could be considered as mechanisms finalized to the orientation of the inter-organizational action, conditioned by the characteristics of the relation; while structures, as in Williamson's view, are the way to organize transactions. So ITO governance, differing from IT governance, is a concept that not only embraces the concept of internal and external control, but also includes elements of setting up and structuration of the external exchange relationship, as well as monitoring and reinforcement aspects (Heide, 1994).

4 Discussion

The perspectives of governance vary with different philosophical stances and in different disciplinary traditions. The concept of governance has been used for years in many disciplines with different meanings. Many studies adopt Williamson's (1996) definition of governance, as "*the means by which to infuse order, thereby to mitigate conflict and realize mutual gains*" (p.12). Williamson's work is an important contribution to the transaction cost tradition, also for ITO studies. Recognizing that economic activity across such interfaces cannot proceed in an orderly manner in the absence of a structure for the governance of contractual relations, Williamson seeks theoretical understanding of the forces or processes responsible for modern-day capitalism's "endlessly varied" systems of governance in which markets, hierarchy, and relational contracting are particularly prominent. Asset specificity, transaction recurrence, and the opportunism and bounded rationality of "contractual man" are positioned to be central elements in determining the nature of the optimal—that is, transaction cost minimizing—contractual process for any particular type of transaction between two parties. However, in his work "The Mechanisms of Governance", Williamson (1996) asserts the economics of governance needs to be informed both from the *level of the institutional environment contributed by sociology*, and from the *level of the individual participants where psychology is implicated*. Williamson summarized in that work the principal aspects in which "Organization Theory" can support Transaction Cost Economics

(Williamson, 1996). ITO researches has primarily focused on the classical perspective of TCE, investigating different option of outsourcing and market governance structure (i.e. lower production cost and higher transaction cost versus insourcing and hierarchy governance) and the characteristics of transaction (i.e. asset specificity, frequency, and uncertainty), emphasizing the cost aspect of governance, while leaving out more contextual and psychological aspects.

Contract is still the main mechanisms in Jensen and Mackling's (1976) Agency Theory, where the principal binds the agent through a formal agreement to perform a specific task representing principal's interests, where the main issue is to align agent's goals and interest through a better information sharing and the use of incentives, mostly during the pre-contracting phase. During the post-contracting phase the main problem is related to the effectiveness of control and its costs. The objective is to minimize controlling costs thanks to a complete contacting, and lower risks due to a lack in information sharing. The main assumption is that contracts are complete specifying all responsibilities. However, contract can be incomplete, and according to Hart (1995), governance has the role to specify residual control rights, optimizing the trade-off between risks and incentives. However, the concept of control has been widely discussed with Organizational Control Theory with a twofold perspective: internal, within organizational boundaries, and external. The control is strictly related to the interpersonal influence and the concept of power. Some scholars (Oliver and Anderson, 1995) consider governance forms as tantamount to control systems. Others (Lai and Nevin, 1995; Stump and Heide, 1996; Brown, Dev and Lee, 2000) bear that control mechanisms allow governing such opportunistic behaviours. Ouchi (1980), similarly to Williamson, suggests a trichotomy of control mechanism: market, bureaucracy, social and informal controlling i.e. clan control. In the market control, the price is still the main mechanism that includes all information useful to complete the transaction. Obviously, the market is efficient when the performance is unambiguous. Furthermore, based on Mayo (1945), Weber (1947) and Barnard (1968) studies, Ouchi claims that information useful to complete the transaction could be included into rules, where activities and outcomes are specified. Rules represent a *standard* to align the performance. As to rules that are costly and difficult to define, i.e. standards, it is possible to set such performance indicators as controlling mechanisms. The rise of complexity and ambiguity of tasks make the bureaucratic control ineffective, and any standard will be arbitrary and not fair. In the latter case, the governance of clan as normative process of socialization, defining and sharing a common set of values, is more effective. Today, indeed, we are experiencing rapid changes of the business needs, due to an accelerated growth and/or diversification of the markets, combined with the highly dynamic nature of technology; contract, as a governance tool, has some limits where the levels of uncertainty of the business and technology increase. Contract emerges as a successful tool where the business is relatively steady. Therefore, it is necessary to add elements of flexibility and dynamism when the uncertainty increases. Moreover, in the ITO community, we still have little knowledge about the use of standards and their role as inter-organizational interfaces, as well as the effectiveness of normative processes of socialization across firm boundaries and different cultures.

Pfeffer and Salancik (1978) introduce, for instance, the issue of inter-organizational influence, as social control processes. They analyse the phenomenon of *behavioural interdependency* where organizational activities depends on actions set by a different social player. Mechanisms of governance could be: acquisitions, members in the board of directors, and/or political actions and succession plans across the top positions of companies. A position into Boards of Directors, for example, can increase the level of information, the understanding about the relation between the organization and its environment, the access to critical resources and the reputation and identification. Again, in ITO literature, we still know little on the interplay of mechanisms. For instance, the rules and the processes defined during the pre-engagement phase in terms of changing management, future service demand and improvement plans/actions, can influence social relations very much. Moreover, the adoption of a particular standard may play an important strategic role, in relation to the group that adopts the standard and all potential actors in the network, especially in presence of highly-specific technology. To sum up, we need more contingency studies on organization design (see e.g. Huber et al., 2013).

Other studies, as about Networks, Supply Chain Management, Marketing and Information Technology, have brought useful insights about governance structures. Network organization (Miles and Snow, 1986), network form of organization (Powell, 1990), organization networks (Uzzi, 1996), flexible specialization (Piore and Sabel, 1984), and quasi-firms (Eccles, 1981), are structures based on informal social systems that exchange, *persistently* in the long term, resources between separated legal entities (Perrow, 1992). These structures of governance are in contrary with hierarchical organizational structure with formal contract-based mechanisms. In this literature stream it is also clear that the critical role of the *coordination process* among the nodes of the network, as essence of the governance itself. Reciprocity, mutual adjustment, trust, cooperation, social norms allow high levels of coordination and control (Walker, 1988; Doz, 1988; Hakansson and Johanson, 1988; Dore, 1987). Supply Chain Management literature, instead, has widely used the concept of inter-organizational coordination and the use of structures to approach to the governance topic. The governance represents the way to get an effective management of the supply network and combine individual objective with the need of a superior performance in the chain (Richey et al., 2010). This goal is reached by an integration of activities and processes, from the provisioning to production and distribution, through the whole supply chain, and by sharing information among all member of the chain mainly in the planning phase (Novack et al, 1995; Ellram and Cooper, 1990; Cooper et al. 1997). About the structure, Cooper et al. (1997) consider the decisions related to the role, capacity and number of physical entities like stores, plants, retailers etc. The design of the structure has a critical role for the effectiveness of the inter-organizational governance. Moreover, Heide (1994), with “Inter-organizational Governance in Marketing Channels”, contributed to the analysis of the use of coordination mechanisms across all phases of engagement: starting; operating; closing. Timing is a critical variable in Heide’s concept of governance. The intensity of information sharing, transparency, incentive alignment, socialization should be high *ex ante*, because it has an impact on the development of relations during following phases. While the definition of roles, the allocation of power and decision-making, the definition of the performance monitoring systems and incentive rules should be set up during the operational phase. Characteristics of the structure of governance and mechanisms rely on the time frame considered. ITO studies should address the design of governance that avoids costly redundancy, and scrutinize much more into the concept of inter-organizational coordination and timing. As exercising governance is costly and resource consuming, it is inefficient to pursue several functionally equivalent governance mechanisms simultaneously (Huber et al, 2013). The debate should not be confined to complementarity and substitution of relational and contractual forms, missing contingency variables and the adaptation processes into event chains (Huber et al, 2013).

5 Research gaps and future directions

While different theories have been used in ITO research, manifesting the effort on theoretical understanding of the ITO phenomena from different aspects, we still lack an integrated theoretical framework to analyse the governance phenomenon in ITO. While indigenous theories are certainly desired to truly understand and engage with the phenomenon at hand, Benbasat and Zmud (2003) note that the usage of “reference disciplines” can still be effective for IS researchers if the theories are adapted and contextualized to the IS phenomena. Similarly, although Grover (2013) admits that reference disciplines can be a constraint for IS researchers, he still suggest us to engage with reference disciplines through “*two-way interaction*” (p.278), i.e. to be informed while also to challenge or even change the referenced disciplines with the IS context. In this way, theories can be incubated and the original theories can be enriched. Meanwhile, mobilizing reference disciplines can also elicit innovative theoretical contributions if multiple theoretical lenses are used instead of monistic theorizing (Grover, 2013). Since the beginning of ITO research, it is evident that much effort has been appropriated on the integration of multiple reference disciplines in both conceptual and empirical works, such as Cheon et al. (1995), Gefen et al. (2008), Kern and Willcocks (2000), Sankaranarayanan and Sundararajan (2010), etc. Beyond such theoretical integration, through more than two decades of knowledge accumulation

and exploration, the ITO research community now has opportunity to inform the reference theories as well.

Based on the emerging understandings from our analysis both in ITO literature and in reference disciplines, we establish that “*structuring*” the governance means defining the combination of an appropriate portfolio of governance structures, together with different coordination mechanisms at different stages of the ITO lifecycle. This combination should consider, in a contingency approach, the problem of uncertainty, in terms of technology’s dynamism and of the business evolution. For example, a strict contractual control in dynamic business can involve a vicious cycle of suspects and recriminations, in which the provider could adopt an opportunistic behavior in technological change situation, the real needs of the customer would be failed. The contract is not able to prompt in *itinere* the actions and reactions of the counterpart towards each other. On the other hand, abandoning the contract towards a purely trust-based relationship could also create an uncontrolled consequence, such as unreasonable increase of the demands from the customer which is detrimental to the provider. So “vicious” processes would start in which everlasting activities of negotiation could lead significant negative effects both about the behavior of the actors and the operative success of the relation, not mentioning the development of the trust is never an immediate process.

As defined above, we view governance as a mechanism to induce the orientation of the inter-organizational action, conditioned by the characteristics of the relation. In this definition we underline the concept of orientation, coordination and relational characteristics. This approach is not mechanistic when referring to the link between tools used for the management of the inter-organizational relation and the its outcomes, taking into account the socio-technical nature of inter-firm relations and the role of organizational actors executing the organization processes. Hence we propose the concept of “orientation”, emphasizing its dynamic nature. As for the same tool of governance, we practice a distinction between “characteristics of the relationship” and “coordination mechanisms”. Regarding the characteristics of the relationship, it is difficult to identify a complete set of conditions for its definition. Based on the theories analyzed, it is possible to focus on some of the key conditions to identify similarities and differences. The basic idea is that the relations, in the short or medium term, are characterized on the basis of certain dimensions, for instance, asset specificity, uncertainty, frequency, characteristics of the product, routinizing vs. flexibility (Becker, 2004), the existence of mutual dependency, conflict or trust. These dimensions cannot be modified by the actors in the short term and, therefore will affect the relationship regardless of the strategic intentions of the actors. Unlike for the characteristics of the relationship, the actors can choose and modularly use different coordination mechanisms. These include the structural mechanisms such as the level of information exchange (i.e. directionality, frequency, quality, type of information, utilities, etc.), the type of contract (i.e. duration, format, formalization, mechanisms of profit sharing), performance monitoring, and the instruments of knowledge integration (i.e. shared meanings, shared norms).

6 Conclusions

Our synthesis of prior knowledge support and enrich a deeper integration of the key governance structures and mechanisms, in order to achieve superior benefits of ITO and to organize the ITO efforts more effectively in different situations of uncertainty. In ITO research, we still lack an integrated framework of analysis on the governance between client and supplier, in terms of structure and mechanisms. Furthermore, both research strands of governance structure and mechanism need to be more closely associated with ITO performance, especially under a specific uncertainty and considering a specific object of the transaction. We still lack understanding on the effectiveness of governance under certain contexts. More studies are also needed on concrete governance mechanisms, such as organizing tasks, integrating processes, use of standards, use of digital technology to support transparency, etc. Analysing research streams across ITO and other reference disciplines further underline the need to clarify the relations between the chosen governance and the characteristics of the business and technology. Evident in our findings, research on different aspects and topics of governance is ongoing and

the body of knowledge is constantly being enriched. Such variety of investigation will indeed produce a richer array of insights into the nature, extent, and direction of evolution on governance studies in a more dynamic and uncertain world. Therefore, with our findings, we accentuate the needs for more interdisciplinary studies of governance in ITO in particular, and perhaps also in Information Systems in general.

This study has several limitations. Even though we defined an appropriate boundary serving principally the IS community working on the topic of outsourcing, our findings are primarily limited to data gathered within the “basket journals” of IS discipline. To continue and deepen this work, we need a broader scanning in different journal databases, looking also into interdisciplinary field. This wider analysis will help to develop a more comprehensive theoretical framework of analysis of ITO governance and identify operational variables to test new hypothesis on how to evolve governance practices in a more dynamic market.

Appendix³

Research Strand	Article	Journal	Theoretical Accounts ⁴
Governance structure	Alagheband et al., 2011	JSIS	TCE
	Aubert et al., 2012	JSIS	TCE
	Bapna et al., 2010	ISR	Incentive Theory
	Cheon et al., 1995	JIT	RBV, RDT, TCE, Contingency Theory
	Clark et al., 1995	JIT	TCE, Agency Theory, Power and Politics
	Cronk & Sharp, 1995	JIT	Organizational Theories, TCE
	De Looff, 1995	JIT	Division of Labour, Standard Economic Theory, Coordination Theory, TCE, Agency Theory, Power, Competitive Strategy
	Lee et al., 2004	ISR	Contingency Theory, Residual Rights Theory
	Loh & Venkatraman, 1992	ISR	Innovation Diffusion
	Mahnke et al., 2008	JIT	Boundary Spanning
	Mani et al., 2010	MISQ	Incentive Theory
	Miranda & Kavan, 2005	JIT	Psychological Contract
	Wang, 2002	ISJ	TCE
Watjatrakul, 2005	JSIS	TCE, RBV	
Governance mechanisms	Bhattacharya et al., 2014	ISR	Game Theory, Agency Theory
	Cao et al., 2013	JMIS	Organizational Ambidexterity
	Chen & Bharadwaj, 2009	ISR	TCE, Agency theory, Relational Exchange Theory
	Choudhury & Sabherwal, 2003	ISR	Control Theory

³ Bapna et al., 2010 and Clark et al. 1995 belong to both strands; to avoid repetition, we only mention them under “governance structure”.

⁴ This column includes reference theories, theoretical framework and streams of studies that are reviewed, adopted, or criticized by these articles. Some commonly adopted theories are mentioned in abbreviations: TCE (Transaction Cost Economics), RBV (Resource-Based View), RDT (Resource-Dependence Theory)

	Chua et al., 2012a	JSIS	Balance of Threat Theory
	Fink, 2010	JSIS	Configurational Theory
	Gefen et al., 2008	MISQ	Trust, Agency Theory, Incomplete Contract
	Goo et al., 2009	MISQ	Relational Exchange Theory, Control Theory
	Gopal & Koka, 2012	MISQ	Social Exchange Theory
	Heiskanen et al., 2008	JSIS	Control Theory, Power, Trust
	Huber et al., 2013	JMIS	Control Theory
	Kim et al., 2013	EJIS	Psychological Contract
	Koh et al., 2004	ISR	Psychological Contract
	Lioliou et al., 2014	ISJ	Psychological Contract
	Mani et al., 2012	ISR	Institutional Theory
	Mani et al., 2013	ISR	Institutional Theory
	Mathew & Chen, 2013	JSIS	Theory of Opportunism
	Rai et al., 2012	JMIS	Control Theory
	Srivastava & Teo, 2012	JMIS	Control Theory
	Tiwana, 2010	JMIS	Control Theory

Table A1 Reviewed articles on ITO governance

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