

# Inter-organizational Relationship Coevolution

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## Abstract

This paper proposes that transactional governance and knowledge governance are intertwined in the determination of firm capability. We try to identify the initial conditions, key mechanisms and co-evolutionary consequences of transactional governance and knowledge governance. Applying on the supplier and customer relationship context, our primary focus is on the “capabilities creation” of Taiwanese OEM suppliers in order to maintain the global sustainable competitive advantage. The capability creation process is the outcome of inter-organizational coevolution between Taiwanese OEM suppliers and overseas customers.

## Introduction

The outstanding performance of Taiwanese OEM suppliers creates the economic miracle of Taiwan as well as becomes the driver of industrial development and structure transformation in Taiwan. Moreover, Taiwanese OEM suppliers still play important roles in world wide production network in many of the important global industries. However, it has been expecting that Taiwanese OEM suppliers will face the critical competitions from China, India and Korea. It is no doubt that how to maintain the important roles in global specifications of OEM/ODM and in turn upgrade to higher

value position in the global configuration becomes one of the biggest challenges of Taiwanese OEM suppliers. According to Ernst (2000), the study of Taiwanese famous OEM suppliers such as Acer and TSMC, the “capability creation” is the key point to interpret the above considerations. Ernst (2000) also enhances that the capability creation comes from evolutionary process. Under the context of OEM suppliers are part of the global specification, the relationship between OEM suppliers and overseas brand-name customers is a typically “supplier – customer” inter-organizational relationship (Ernst, 2000). Base on the above arguments, our primary focus is on the “capabilities creation” of Taiwanese OEM suppliers in order to maintain the global sustainable competitive advantage. The capability creation process is the outcome of inter-organizational coevolution between Taiwanese OEM suppliers and overseas customers.

The main purpose of this paper is trying to find out: (1) the content of dual governance and the main theoretical interpretations; (2) the content of capability creation of Taiwanese OEM suppliers and what’s the dual governance between “supplier – customer” inter-organizational relationship? (3) Could the capability creation become the key factor for the performance (including growth and global competitive capability) of Taiwanese OEM suppliers? (4) How transactional governance and knowledge governance co-evolves together? What’s the co-evolutionary path?

### **The Nature of IORs**

Research of Inter-organizational relationships (IORs) is getting mature (Oliver & Ebers, 1998) in recent 20 to 30 years. Much of theoretical and empirical literature has been devoted in the research of types, formation, governance and dynamic evolution perspective of IORs (Ring & Van de Ven, 1994; Gulati, 1998). Recent studies focus on the strategic perspective of inter-organizational competitive advantage creations (Zheer & Venkatrman, 1995; Dyer & Singh, 1998; Lorenzoni & Lipparini, 1999). IORs literature is drawing on different organizational theoretical perspectives such as transaction cost theory, knowledge (resource) base view, social capital and network theory and resource dependent theory, etc. (Sobrero & Schrader, 1998).

Drawing on the research that call for IORs, much of the literature focus on inter-organizational exchange activities and production activities, and interactive relationship types of these activities (Grandori, 1997b, p. 903). The types of relationship shape interactive modes of inter-organizational exchange and production activities as well as affect the quality, quantities and directions of inter-organizational information flow and resource flow (Ring & Van de Ven, 1992; Heide, 1994; Sobreo &

Schrader, 1998; Buvik & Reve, 2002). From the embeddedness perspective, different relationship types in inter-organizations reflect relational context specific factors (Oliver & Ebers, 1998; Borgatti & Foster, 2003). In summary, the nature of IORs includes three components: (a) types of inter-organizational exchange and production activities; (b) the content of interaction – information flow and resource flow; (c) interactive modes – relational types.

### **Implications of Inter-organization Governance**

Inter-organizational governance is one of the most important research for IORs researchers. However, governance is a multidimensional concept (Heide, 1994), different theoretical frameworks make different assumptions about the nature of governance. In lines with the arguments of previous section, this paper discusses and defines inter-organizational governance that follow from “what”, “how” and “why” analysis approaches. “What” inter-organizational governance defines in this paper is structuring or architecturing of relationships (Sobrero & Schrader, 1998). The purpose (why) of inter-organizational governance is achieving organizational efficiency and effectiveness by alignment and design of information flow and resource flow in inter-organizational interaction. As for “how” to architecture relationship, it needs to build and maintain relationships by the design of coordinative, incentive mechanism which is what IORs researchers suggest as “inter-organizational governance mode” (Ring & Van de Ven, 1992; Heide, 1994).

The arrangement of information flow and resource flow, which also refers to the organizing and planning of the quantities, quality and directions of information or knowledge, is the most important implication in the definitions of inter-organizational governance. The former determines the efficiency of communication, coordination and problem solving in organizations as well as the appropriations of collective outcome (Zaheer & Venkatraman, 1995; Sobrero & Schdler, 1998; Subramani & Venkatraman, 2003). This perspective is in step with the transaction / contract governance concept of transaction cost theory. The purpose of knowledge flow arrangement is emphasizing the effectiveness of specific value activities through inter-organization knowledge transferring and sharing. It is associated with knowledge governance perspective in knowledge-base view (Grandori, 2001; Foss, Husted, Michailova & Pedersen, 2003; Grabler, 2004; Mahnke & Pedersen, 2004). These two perspectives in IORs research are complemented (Amin & Cohendet, 2000; Foss & Mahnke, 2000; Nooteboom, 2004). Table one presents the details of the above discussions.

Table 1: Transaction governance and knowledge governance

	Transactional governance	Knowledge governance
Assumptions	<ul style="list-style-type: none"> <li>● Opportunism</li> <li>● Knowledge is an input</li> </ul>	<ul style="list-style-type: none"> <li>● Bounded rationality</li> <li>● Knowledge is both input and output</li> </ul>
Nature of governance	Information flow	Knowledge flow
Issue of governance	Coordination, safeguard and adaptation	Allocation, exchange, transfer and integration
Challenge of governance	Measurement difficulty and interdependence	Knowledge embeddedness
Purpose of governance	Efficiency	Effectiveness
Strategic implication	Value appropriation	Value creation
Main theoretical perspective	Decreasing transaction cost of inter-organizational exchange activities by design of IORs	Increasing knowledge transfer and sharing in order to increase organizational learning, knowledge creation / accumulation and capability building.
Implications of inter-organizational governance in asymmetric IORs	Relational governance <ul style="list-style-type: none"> <li>● Joint action</li> <li>● Quasi-integration</li> </ul>	Sharing and community governance <ul style="list-style-type: none"> <li>● Loosely coupling</li> <li>● Islands of shared knowledge</li> <li>● Interactive learning</li> </ul>

Source: this study

### (1) Transactional governance perspective

Based on the behavioral assumption of opportunism and the transactional contract context, traditional transaction governance researchers emphasize the design of safeguard mechanism in order to lower transaction cost (Powell, 1990; Williamson, 1991; Rindfleisch & Heide, 1997; Gulati & Singh, 1998). This paper will only focus on the implication of relational governance. Relational governance is a governance mode maintaining with mid-term or long term relationship under specific context (Ring & Van de Ven, 1992; Heide, 1994; Zaheer & Venkatraman, 1995; Joshi & Campbell, 2003). The rationale of relational governance is in line with social perspective instead of economic perspective (Zaheer & Venkatraman, 1995). International OEM relationship emphasizes social norm to implement the purpose of safeguard (Roth et al., 2002), bilateral adjustment and mutual understanding to underlie inter-organization coordination (Joshi & Campbell, 2003), and on-going relationship maintenance decision-making standard to be the basic of inter-organizational adjustment (Dyer & Singh, 1998; Joshi & Campbell, 2003). Accordingly, this paper conceptualized these

specific activities as comprising two dimensions: *joint action* and *quasi integration* (Zaheer & Venkatraman, 1995; Subramani & Venkatraman, 2003).

(a) **Joint action:** joint action refers to inter-organization joint decision making about exchange activities, production activities and participation in joint problem solving (Subramani & Venkatraman, 2003). Zaheer & Venkatraman (1995) indicate that joint action serves an effective function of safeguarding firm's asset-specific investment.

(b) **Quasi-integration:** quasi-integration refers to informal and non-equity governance mode in inter-organizational relationship. Higher degrees of quasi-integration imply a stable and close relationship between buyer and supplier. The higher the level of quasi-integration, the more switching cost of terminating the relationship for the exchange partners will be, and the greater possibilities to continue long term partnership (Zaheer & Venkatraman, 1995).

## (2) Knowledge governance perspective

As compared to opportunism-based, transactional governance perspective, knowledge base view researchers take bounded rationality (limited cognitive ability) as a point of departure to build research (Conner & Prahalad, 1996). In addition, because of strategic organizational knowledge used to be tacit and sticky manifestations of knowledge, the arrangement of inter-organizational knowledge flow is an important issue for knowledge management. In contrast to transaction cost approach, KBV researchers view knowledge as necessary input of organization task and decision making as well as output of task and decision implementation (Amin & Cohendet, 2000). Indeed, the creation, exchange and accumulation of organizational knowledge are taken place simultaneously (Foss & Mahnke, 2000). Therefore, compare to information flow base transactional governance perspective, knowledge governance is more complex and dynamic.

The major rationale of inter-organizational knowledge governance perspective is the achievement of organizational learning, knowledge acquiring, knowledge creation and accumulation by structural arrangement of inter-organizational knowledge flow. Drawing on above literature reviews, effective knowledge governance includes: (a) Island of shared knowledge (Postrel, 2002) that build up a favorable platform or Ba (Nonaka, 1994) for inter-organizational knowledge sharing and contribute knowledge flow to search, consult, exchange and transfer knowledge. (b) Loosely coupling structure of inter-organizational knowledge flow: Closely knowledge flow linkages facilitate inter-organizational communication, sharing and transfer; however, it might impede the absorption, acquiring of novel for innovation (Hansen, 1999). Drawing on these rationales of knowledge governance as well as the implications of this paper, the main purpose of effectively knowledge governance in inter-organization is to increase knowledge creation and capability building between Taiwanese OEM suppliers and their international dominant buyers through knowledge flow arrangement between them.

### **Capability Creation**

The main purpose of capability creation is emphasizing on the resource deployment and arrangement in order to gain the competitive advantage (Teece, Pisano & Shuen, 1997). The original concepts are drawing on the research of Schumpeter (1934), Penrose (1959) and Nelson and Winter (1982). The recent research of capability is applying on different studies such as international business (Luo, 2002), entrepreneurship (Zahra, Sapienza & Davidsson, 2006), software service (Ethiraj, Kale, Krishnan & Singh, 2005), module (Mota & de Castro, 2004). Base on the supplier-customer relationship context, capability building reveals on two main points: exploitative and explorative capability (March, 1991; Koza & Lewin, 1999; Gupta, Smith & Shalley, 2006). Explorative capability refers to the capability to use and improve the existing resource and exploitative capability refers to the capability to crease new product or business opportunities.

### **Coevolution of Inter-organizational Relationship**

The co-evolutionary perspective is emerging as an important organizing framework for inquiring into organizational conduct and outcomes as a joint function of managerial efforts and selection pressures imposed by the environment (Lewin and Volberda, 1999; Volberda and Lewin, 2003).

According to Lewin and Volberda (1999), the properties of co-evolution includes: (a) Multilevelness/Embeddedness; (b) Initial condition and consequence (Doz, 1996; Koza & Lewin, 1999; Hite & Hesterly, 2001; Inkpen & Currall, 2004; Jacobides & Winter, 2005); (c) Positive feedback and recursive bidirectional causality (Volerda & Lewin, 2003); (d) Multidirection causalities; (e) Nonlinearity. Base on the above points, this study is trying to interpret the requirements of the perspective of co-evolution.

**(1). Multilevelness:** Co-evolutionary effects take place at multi levels within firms as well as between firms. This approach recognizes that process of variation, selection and retention operate within the organization and interact with similar processes operating at the population level. This paper focus on the inter-organizational transaction between supplier and customer will impact the knowledge governance of focal firm (supplier) and reveal as co-evolutionary relationship cross IOR and firm level.

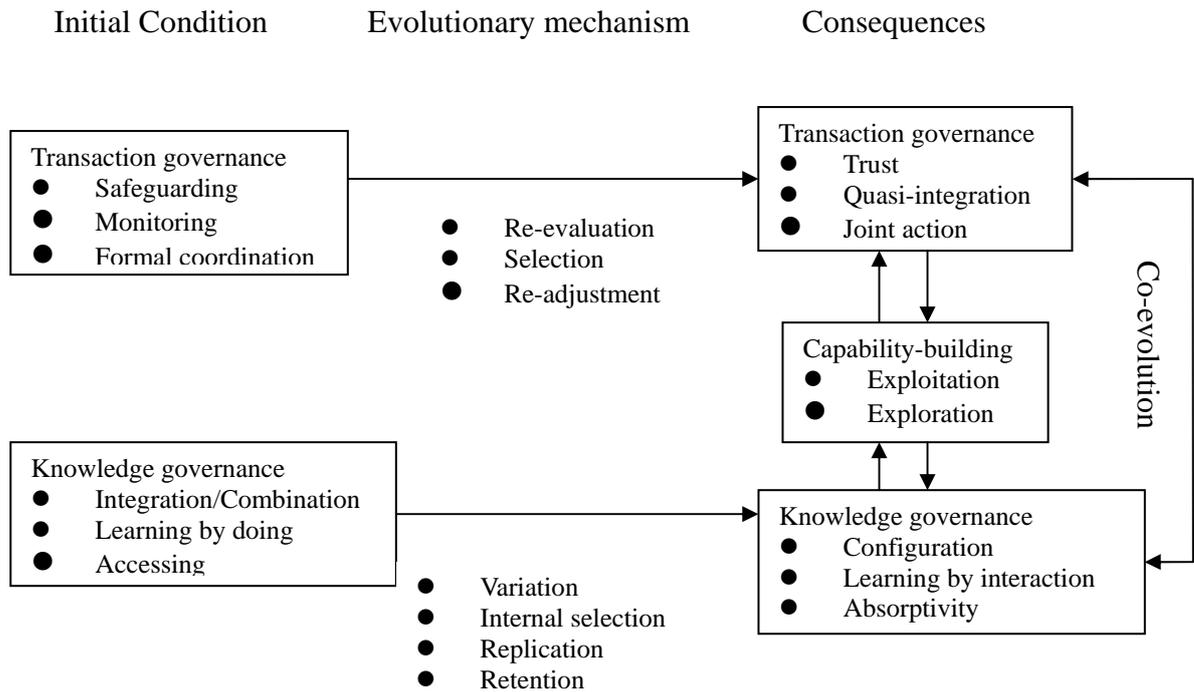
**(2). Initial conditions:** Because of the lacking of experience and information in the beginning of transaction activities between supplier and customer, transaction governance is taking contract based arm's length exchange at the initial period (Williamson, 1991). The focuses are safeguard, monitoring and coordination (Ring & Van de Ven, 1992; Rindfleisch & Heide, 1997; Mayer & Salomon, 2006). On the other hand, after receiving contract from customer, supplier needs to utilize internal resource in order to provide quality product for customer. Therefore, the initial condition of knowledge governance is focusing on (a) integrating and re-combining existing knowledge. (Grant, 1996; Van den Bosch, Volberda & Boer, 1999); (b) learning by doing: accumulate the experience (Pisano, 1994; Van den Bosch et al., 1999); (c) accessing external knowledge (Grant & Baden-Fuller, 2004).

**(3). Evolutionary mechanisms:** A Central idea of the co-evolution framework is that organizations and their environment co-evolve by a process characterized by multidirectional influences amount an organization, its environment and other interacting organizational populations (Baum, 1999; McKelvey, 1997). Adaptation is specifically viewed to take place through idiosyncratic exploration and exploitation process at the organization level. Both exploration and exploitation are deemed critical from the viewpoint of organizational survival and prosperity (March, 1991). Due to this study is focusing on the dual governance coevolution; we will describe the evolutionary mechanisms. In transactional governance, the drivers are: (a) re-evaluation: further understand of the existing or potential partners (Inkpen & Cullar, 2004) and evaluation of the contract relationship (Doz, 1996). (b) selection and Retention: select and keep the contract relationship (Jacobides & Winter, 2005). (c) adaptation/re-adjustment: base on the perspective of TCE, incomplete contract is caused by environmental uncertainty

and bounded rationality. The transaction process is re-negotiation and re-adjustment process and affects the relationship change (Doz, 1996; Rindfleisch & Heide, 1997; Inkpen & Currall, 2004). On the other hand, the drivers of knowledge governance are: (a) generative variation: after receiving the order from customer, supplier scan outside knowledge as well as recombine existing knowledge and in turn generate variation; (b) internal selection: after gaining outside knowledge or technology, supplier evaluate and select useful knowledge and skill; (c) replicate: diffuse useful knowledge and skill and conduct in each department; (d) enactment the best practice and routinization.

**(4). Evolution consequences:** The transactions (repeated exchange) between supplier and customer evolve after different evolutionary mechanisms. The evolve consequences of transactional governance are: (a) trust-based interorganizational relationship governance modes (Ring & Van de Ven, 1992; Zaheer & Venkatraman, 1995; Inkpen & Currall, 2004); (b) quasi-integration: inter-dependent relationship between supplier and customer (Zaheer & Venkatraman, 1995; Subramani & Venkatraman, 2003); (c) joint action: inter-organization joint decision making about exchange activities, production activities and participation in joint problem solving (Zaheer & Venkatraman, 1995; Subramani & Venkatraman, 2003). The evolve consequences of knowledge governance are: (a) knowledge configure: leveraging existing knowledge and infuse outside knowledge (Teece et al., 1997; Brusoni, Prencipe & Paritt, 2001); (b) absorptive capability: supplier has the ability to identify, interpret or knowing, integrate and embody on the performance of organization (Cohen & Levinthal, 1990; Van den Bosch et al, 1999; Zahra & George, 2002); (c) interactive learning (Nickerson & Zender, 2004). Research framework is showing as follow:

## Research Framework



## Conclusion

This strategic perspective of coevolution of interorganizational relationship implies firm can co-evolve by means of leveraging inter-organizational relationship and obtain knowledge resource and asset. Moreover, firm protects its appropriable assets through safeguard mechanism (Kale, Singh & Perlmutter, 2000) or receives reasonable appropriation and claim by joint action (Chi, 1994; Gulati & Singh, 1998; Kale et al., 2000). Specifically speaking, firm builds necessary and adequate relational capital (Kale et al., 2000), relational capability (Zaheer & Venkatraman, 1995; Lorenzoni & Lipparini, 1999), alliance capability (Kale, Dyer & Singh, 2002), networking learning (Powell, Kogut & Smith-Doerr, 1996; Gulati, 1999) and social capital (Nahapiet & Ghoshal, 1998; Yli-Renko, Autio, E. & Sapienza, 2001; Adler & Kwon, 2002) through IORs is able to generate benefits (value creation) and prevent disadvantages (value appropriation), and then accumulate inter-organizational competitive advantages (Dyer & Singh, 1998) as well as coevolve.

The most important implication of above IORs strategic perspectives for this paper is the Taiwanese OEM suppliers should devote to maintain specific supplier-buyer relationship with their international dominant buyers (Heide, 1994). Thus, international dominant buyers can recognize the value of Taiwanese OEM supplier and enhance their understanding of joint value creation and co-evolve in the specific supplier-buyer relationship (Subramani & Venkatraman, 2003). In summary,

this paper extends understanding of how Taiwanese OEM suppliers (vulnerable suppliers), who typically do not have the bargaining power to neither lower their safeguarding cost nor increase capability of value creation, though relational governance and knowledge governance that presented in previous section as dual governance coevolution.

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