

NETWORK MANAGEMENT: GOVERNANCE MECHANISMS, OPPORTUNITIES AND CONTRADICTIONS

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1. Introduction

A common approach to governing network functions has been whether to make or buy (e.g. Coase, 1937; Williamson, 1975). Transaction cost theory has basically focused on studying the ideal application of these two approaches. Making a product inside the firm organization has been applied to conditions in which the function is strategically crucial and related uncertainties exceed cost advantages in buying a product outside the organization. In case we consider firm management to be rational in attaining maximal economic utility, there can be distinguished situations in which these two options are exclusionary.

However, it has been argued since 1970s that there are situations in which both options can be valid. Additionally, the influence of social capital in economic transactions was added to the previous frameworks (e.g. Ouchi, 1980). The most complete approach to network governance mechanisms was introduced by Adler (2001). The model combined three mechanisms: market/price, hierarchy/authority and market/price (see figure 1.). It has been argued that a strong application of one of the mechanism can exclude the application of the other two mechanisms (Kohtamäki, 2005). For instance, heavy emphasis on competitive bidding and market price added with frequent supplier replacement erodes the development of social capital in network relationships.

2. Theoretical background

Hierarchy as a governance mechanism can be efficient in routine transactions (e.g. Bennis and Slater, 1964) but problematic in more innovation-intensive relationships (e.g. Daft, 1998). Main customer builds the structures of hierarchical governance in order to control supplier attributes, operating methods and outcome. Typical intra- and inter-organizational

hierarchical mechanisms are work time monitoring, quality systems, rules and contracts, process descriptions, reporting and operating procedures. A customer often applies these requirements related to delivery quantity, quality and timetable in contractual documents. In some cases the requirements are also extended to entire supply chain.

Target pricing and annual cost reduction targets may appear as market mechanisms but in reality are based on negotiations and related incentives and sanctions. A buyer may also open cost structure to its main customer for the basis of profit negotiations.

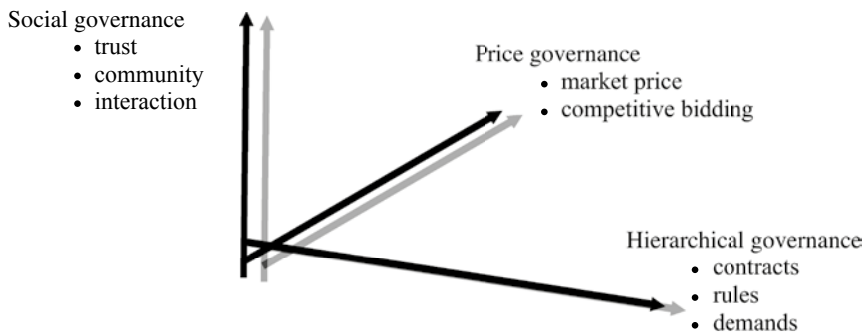
Market mechanism bases solely on the price to co-ordinate supplier selection. Competitive bidding and supplier replacement are effective methods when supplier risk is low and needed products can be standardized. Market mechanism can be enhanced by minimizing order batches and contract durations. It is also essential to continuously search for new suppliers.

As the focus is on the price of end product or service the monitoring and control of manufacturing process or the manufacturer itself is not central.

Social governance consists of more persevering and reciprocal approach to network relationships. The aim is not to maximize short-term profits or hierarchically monitor and control the other party. The benefits of the relationship are realized through the application of trust and community. This has been shown to decrease transaction cost and improve inter-organizational operations. Main characteristics in social governance are the decreasing need for back-up planning and opportunities for comprehensive purchases. The increase of trust in customer-supplier relationships enable long-term planning and mutual development. Furthermore, the inter-organizational learning is possible through reciprocal actions. A buyer may participate in product development, for instance.

When comparing the above-mentioned mechanisms, the development of social governance is more challenging than other approaches.

Figure 1. Network governance mechanisms (modified from Adler, 2001).



Ideal combination of governance mechanisms

The governance mechanism creates the basis of supplier operations and development. A customer may use all three mechanisms simultaneously and in varying degrees depending on the context. Therefore, it is possible to simultaneously invite bids, set requirements and develop trust in the relationship with a supplier (Adler, 2001; Kohtamäki, 2005). However, the governance mechanisms tend to be exclusionary and one mechanism cannot be over-emphasized or other mechanism become more difficult to apply.

In order to minimize the negative consequences and to select the optimal governance combination, there should be defined the contingencies that influence the governance structure. These include the number of possible suppliers, the information related to needed product, relationship-specific investments, the speed of market change, and the level and complexity of exchange.

3. Methodology

As the research questions are exploratory in nature (why and how) the case study is the most appropriate research strategy (Dubois and Araujo 2007; Yin 2003). The empirical data was gathered by interviewing general and supply managers from four Finnish firms between years 2003 and 2011. The data was tabled and themed in order to distinguish studied governance mechanisms, contextual factors and the related contradictions. Additionally, material for four comprehensive case studies was gathered.

4. Results

According to our study firms generally do not analytically weigh their governance mechanisms even though the value of purchases of the end product is often more than 50 per cent. In Finland the cost related to firm network and external suppliers is generally between 60 to 80 per cent of the firm total cost, which suggests that by affecting internal organization and operations constitutes only a small part of product's or service's value chain.

Using theoretical analysis, the main customer should proceed from analysing current and possible governance mechanisms to the application of relevant mechanisms. However, it appears that governance is more coincidental and depends more on the corporate culture than context. In short, firm purchasing operations or supplier governance does not depend on the type of purchases, i.e. simple components or large systems. The governance mechanisms are also often quite unilateral.

In the following chapters four cases are presented related to network governance. The names of the companies have been changed. Each case describes network practices, applied governance mechanisms. Additionally, alternative governance mechanism combinations are discussed.

Case Tinbox – influence of social bonds in networks

In practice networks of social bonds are complicated as the representatives of different firms are both a part of the internal network of their own firm and relationship network of external partners. In these power structures the decisions are not always made according to market mechanism but they are influenced by the tensions of various co-operation bonds.

In this case there has been analysed the business between two firms but there are also two other related firms. There are four central actors in the network. Let's name these four persons as A, B, C and D. A (chief executive officer) works for a metal industry manufacturer, B (marketing manager) works for a wholesale store in the same industry, C (product manager) works for a manufacturing firm that has international marketing operations with own products, and D works for a manufacturing firm (new supplier in the network).

A and B know each other already from childhood. B has been doing business with A a long time. Some time ago they decided to start a business where A's firm would start to manufacture a product that would be marketed through B's own channels. The product was designed by A and B together with B's product manager. A's engineers did the actual product technical design. After this, A's firm started to manufacture the product for B's firm. In three years the business grew favourably.

On an August day, a driver for A's firm heard from the storage worker in B's firm that the products would be ordered from another firm. Finally A heard the news and immediately contacted B's product manager who was the contact person. It was revealed the B's firm had decided to move the manufacturing of the product to D as their offer was much lower than the current price. However, A was never contacted for an offer. A was told that D's firm had more advanced and cost-effective manufacturing technology. Also, the new supplier's chief executive officer was a good friend of B's product manager.

A was not happy about the turn of events and contacted business friend C whose firm was also a large customer of B. Also, C's firm owned a part of A's firm. C contacted B and asked how it is possible to discard a firm in offer process that has designed and manufactured the product for three years. As a result of C's role, the manufacturing of the product was shared

between A's firm and the new supplier.

This shows how social bonds affect the beginning and changes in business relationship. D's firm had better manufacturing technology than A's firm but right persons did not meet in the beginning of the business process. The described business and relationship arose between two friends and developed into business between two firms. The relationship was nearly ended by moving the manufacturing to the new supplier without using proper offer process. This was prevented by the application of the third party that enabled A to at least slow the moving of the manufacturing to the new supplier. It appears that social bonds and related positions of power have a great influence on the birth, change and end of business relationships. In this case there can be also discerned economic factors in which win/win is created in the new business relationship, and the third party (A's firm) is losing its position.

Case Boxi – community and the birth of “double framing”

Boxi Ltd. is a small firm with four employees that markets a patented metallic post box line. Metal Shop Ltd. is a metal shop specialised in the production of thin metal sheets. It has significantly contributed to the product development of the post box line and is the contract manufacturer of all the post box products. They are fully manufactured, packed and sent to Box Ltd.'s distribution network.

There are four central actors in the study. Martti and Lasse are brothers that own Boxi Ltd. They have a background in marketing and consider relationship management as crucial to business success. Raimo is the chief executive officer of Metal Shop Ltd. and values openness, trust and consideration towards employees and external partners. Fourthly, Bengt is an employee that works in a Metal Shop Ltd.'s production cell, so-called Boxi-cell.

When the actors were interviewed it became evident that Martti and Lasse have extremely close relationship with Boxi-cell employees. This is due to the fact that they visit often the metal shop when they have product development needs or when they manage deliveries. They may be there also attaching delivery information to the delivery boxes or even taking Boxi-cell employees to a pizza lunch. The organisation to production cells (of which one is Boxi-cell), the management, commitment, rewarding and motivation of employees are naturally Raimo's and his supervisors' responsibility. The actions of Martti and Lasse as motivators are acknowledged in the firm and it is not considered as disturbing. Due to the unofficial motivation and official employee supervision the employees in Boxi-cell are both committed to their most important customer and the em-

ployer. This is well described by Bengts' comment: "We make work for Metal Shop and quality for Boxi."

This is a quite rare example of the development of unofficial organisation between two firms. Usually this type of social structure working side by side or under the official organisation is formed inside the organisation. The case describes a situation in which there has been formed a "Boxi community" in the context of two firms. It is characterised by mutual trust, similar goals and open interaction.

Case Metal Shop – the need for change in supplier role and governance

A large Finnish metal industry firm outsources approximately 80 per cent of the value of the end product to other firms. During the last two decades the main customer has decreased its functions and focused on its core capabilities that consist of concept design and product assembly. Twenty years ago the firm had all functions inside the organisation and purchased parts that it was not able to manufacture from external suppliers through offer process.

Previously the firm had hundreds of direct suppliers. Currently there are only about ten key system suppliers. They are also responsible for the design of their product areas and preliminary pricing already in tendering phase. The suppliers deliver extremely large systems and there are not many alternative suppliers. The main customer is very dependent on the supplier as it no longer has product development or manufacturing capabilities for the suppliers' product range.

The firm customers value especially quality, delivery reliability and speed, and possible new product development innovations and product concepts. The price of the end product is naturally important but manufacturing larger systems for instance in China is not possible at the moment.

The firm has due to its size evident power position in relation to many of its suppliers. Therefore, the firm is able to use strong market governance. However, the role of purchasing function has changed, as the purchases are larger systems that include product development. The main customer still uses price driven governance as before.

There can be considered the ideal governance combination in this situation. What is important in the network operations? What kinds of risks are related to the co-operation? What kind of governance mechanism would enable best possible competitiveness for the network and the main customer?

One could start by analysing the current governance mechanism, which is quite unilateral and price driven. All typical price mechanisms are acti-

vely in use even though tendering is not as easy as before when the purchases were more simple and smaller. Regardless of the new risks related to the deliveries the governance mechanism has not changed. Strong market mechanism is also combined with hierarchical governance in which firms that have already won tendering process are threatened with business cancellation if the price cannot be lowered even further. It is evident that trust towards the main customer's long-term co-operation will, reciprocity or mutual development is almost non-existent.

Would it not be sensible to raise the importance of reciprocity and co-operation between the main customer and the suppliers in this situation? Common product, production and assembly development could be a central development area in the relationship. There could be assigned responsible persons in charge of supplier relationships and built systematic means of relationship communication and trust towards the most important suppliers. Furthermore, there could be decided on common goals and discussed on strategic issues.

In practice, there could be mapped suitable persons to discuss with supplier about development work and considered suitable areas and means for development discussions. Current traditional supplier governance model does not allow the application these actions.

As the main customer's end customer is not solely interested in the price, the governance of the supplier network governance should not either be based on solely on price. The main customer already has challenges related to quality and delivery times and it is possible that the situation may become worse if the governance mechanisms are not reviewed. The application two other governance mechanisms, social and hierarchical, at the expense of price mechanism could provide good results. The hierarchical mechanism could focus on considering the production process as an entire value chain, as the quality defects and delays in long supplier chain could disable entire projects. The most important improvements could be attained in social governance. One could start by increasing interaction between the parties. The improved communication would enable more efficient sharing of information and therefore enable the generation of new innovations in products and production. The increase of interaction and trust may also increase the supplier investments and enable supplier specialisation and role in main customer network.

Case Construction Firm – need for stronger market mechanism

The next case describes governance mechanisms of a large construction firm in its supplier network. The firm had systematically developed

its supplier network for many years. However, the chief executive officer of the firm was not satisfied with the results. In his opinion, the supplier firms were too dependent on their orders. Orders from other customers had decreased increasingly. It was analysed that the competitiveness of the suppliers had declined. According to the chief executive officer their firm was too lenient towards the suppliers and had simply purchased products from familiar suppliers. This had led to business in which the prices did not force the suppliers to develop and consider more efficient production methods. If the main customer ended all purchases for a while the supplier would not be able to do business with other customers. That would lead to the collapse of the main customer supplier network. At that moment, the situation did not affect greatly the main customer but it was worried about the long-term situation. The main customer also had other suppliers that could be utilised.

The chief executive officer also considered the fact that they owned factories that manufactured parts only for them. As there is no competition these factories could have poor cost-effectiveness. One option was to sell these factories.

In this case the central challenge was the lack of network price governance. The main customer had partially neglected the search of alternative suppliers and more cost-effective solutions in the industry of great price competition. The end customers had several options and the products can be easily compared against each other. Therefore, the network governance should also focus more on the needs of the end customers than its cost-effectiveness.

The solution for increasing the market governance could be splitting up own units to smaller and possible sales of certain units. In this case the monitoring and development of cost-effectiveness could be easier. New alternative suppliers could be searched and certain products or services could be purchased simultaneously from several suppliers. More efficient suppliers could be rewarded with increasing production volumes in addition to monetary rewards. These measures could increase price pressure in the network and the need for the suppliers to find new solutions. In the described network, the focus was possibly too much on product and quality development even though cost-effectiveness was more central in the industry. Even though the development of social bonds had been successful, it had led to excessive stability and community. That prevented efficient price competition. The situation was complicated by the fact that the industry was changing rapidly and the customers could be lost suddenly as there are many direct competitors.

5. Conclusions

The described cases highlight the application and combination of network governance mechanisms in practice. The mechanisms are not often analysed as a whole by the practitioners even though they are familiar from daily business operations. Firm management should be able to consider all three governance mechanisms and their relatedness in network relationship. In practice there can be very different combinations of the mechanisms.

According to our studies business relationships based solely on social governance (trust and mutual commitment) appear most often between small firms. Similarly, relationships that apply only market mechanisms appear between firms that exchange standard and inexpensive goods. Strong hierarchical mechanism often prevents the appearance of market and social mechanism as there usually is not any real market available and there cannot be created close relationships between firms' employees.

Normally business relationships are combination of all three mechanisms. Relationships of large corporations and their subcontractors seem to be often as *hierarchic market relations*. Large corporations are willing to control their suppliers and the other cooperative companies and at the same time they are trying to get the price pressure to the network by utilizing suppliers globally. *Social-hierarchic* relations could be seen especially local supplier networks, where customers are controlling the suppliers based on social capital and relatively strict hierarchic governance with relatively weak market mechanism, because of the low number of potential new subcontractors. The combination of *social and market mechanism* is common especially in the relationships of SME-companies, where the governance mechanisms and contract policy is not yet developed.

Well-developed and integrated networks utilize normally more various governance mechanisms than pure market based networks. This is the result of two main reasons. First, integrated relationships are normally more interdependent, which is the incentive for both to sharpen the control of the relationship. Second, continuing communication and interaction of the parties brings sooner or later the social capital and control into the relationship, even though relationship could have been planned to be controlled initially by other mechanisms.

The challenge of the governance is the difficulty to combine the three mechanisms at the same time with strong effort. How to utilize strong hierarchical and market governance and develop social capital at the same time? And when considering the behavior of the companies which are aimed to make profit, there is always market mechanism involved. All

the suppliers are changeable and every relationship could be ended when pursuing higher profit. The main task of the companies is to find out the optimal balance of the governance mechanisms in their supplier network.

The main message of this paper to the analysts or managers of the networks is, that it is good to be aware of the three governance mechanisms of the business relationships, their applications and utilization in practice, and the fundamental contradictions of them when applied simultaneously. The managers of SME-companies may be able to improve the power position of their firm in networks if they analyse the contingency factors behind the governance mechanisms. For instance, offering more advanced and complex products or services may reduce the negative influence of market mechanism.

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Abstract

This paper aims to describe different governance mechanisms and the opportunities and contradictions related to their application in network management. Three general governance mechanisms: market, hierarchy and trust have been identified in previous studies. The study advances the discussion of the application of governance mechanisms by comprehensively describing four network relationships and their governance mechanisms. Additionally, the influence of governance mechanisms to SMEs is discussed.

Riassunto

Il lavoro descrive i diversi meccanismi di governante, le opportunità e le contraddizioni legate alla loro applicazione nella gestione delle reti. Il mercato, la gerarchia e la fiducia sono i tre meccanismi di governance identificati e maggiormente studiati in precedenti ricerche. Questo paper fornisce un contributo al dibattito circa l'applicazione dei meccanismi di governance attraverso una esauriente descrizione di quattro relazioni di rete e dei loro meccanismi di governance. Il lavoro discute inoltre l'impatto dei meccanismi di governante sulle reti popolate da piccole imprese.

Jel Classification: M11

Keywords (Parole chiave): network management, governance mechanism, contradiction, application, SME (Gestione della rete, Meccanismi di governo, Contraddizioni, Applicazioni, Piccole e medie imprese).

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