What is Learning in Customer-Supplier Relationships?

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Abstract

Inter-organisational learning has received increasing attention from researchers in the fields of organisational theory and industrial networks. Much of the research on such learning emphasises relationships with deliberate learning goals. However, knowledge and learning are involved in the daily practices between firms (Araujo 1998) and such learning may contribute just as much to knowledge development as more formal co-operations (Håkansson and Johanson 2001). Hence, this paper will look at learning in regular customer-supplier relationships. According to Håkansson et al. (1999) this kind of learning is as yet rather unspecified in the literature.

The understanding of customer-supplier relationships in this paper is based on studies within the industrial network approach focusing on resources in particular (see for example Håkansson 1993; Håkansson and Snehota 1995; Holmen 2001; Wedin 2001; Håkansson and Waluszewski 2002).

Since it is impossible to cover all aspects of the learning phenomenon, we will in this paper concentrate on the role of routines. Organisational learning has been defined as changes in routines (Levitt and March 1988), and inter-organisational learning will

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here be related to changes in the inter-organisational routines established around the joint use and combination of resources in a customer-supplier relationship.

The paper uses a case example of a change in the distribution routine in a customer-supplier relationship. The case is analysed based on themes from the organisational learning literature and the industrial network approach. The paper contributes as such to existing literature by providing an understanding of learning in customer-supplier relationships related to changes in routines and resource interfaces.

1. Introduction

In the last decades inter-organisational learning has received increasing attention from researchers in the fields of organisational theory and industrial networks. Much of the research on inter-organisational learning emphasises relationships between so-called knowledge intensive firms and co-operations with deliberate learning goals. However, in this paper we will look at learning in regular customer-supplier relationships, that is, on- going relationships between firms that would traditionally not be associated with great product developments and knowledge production. As knowledge and learning are involved in the daily practices between firms (Araujo 1998), such relationships may contribute just as much to knowledge development as more formal co-operations (Håkansson and Johanson 2001). According to Håkansson et al. (1999) learning in existing relationships between customers and suppliers is as yet rather unspecified in the literature.

Studies within the industrial network approach focusing on resources in particular provide the basis for understanding relationships in this paper (e.g. Håkansson 1993; Håkansson and Snehota 1995; Holmen 2001; Wedin 2001; Håkansson and Waluszewski 2002). As no company can provide all the resources needed by

themselves, they have to rely on external sources, such as customers and suppliers, and hence relationships emerge.

Organisational learning has been defined as changes in routines (Levitt and March 1988). The role of routines in relationships relates to that relationship partners establish routines around the joint use and combination of their resource collections. One way of approaching the inter-organisational learning phenomenon is hence to look at changes in such routines, that is, in terms of how the use and combinations of the resources embedding them change.

First in this paper we briefly visit the organisational learning literature. Next a description of customer-supplier relationships based on the industrial network approach will be provided. Routines will then be discussed as one way to link learning and business relationships. A case example of the relationship between a Norwegian world-wide distributor (WWD) of equipment and services to the international marine industry and one of its supplier is presented, centred on a change in the distribution routine. The case is preliminary commented upon based on themes from the literature. Finally some central aspects about the case study and the literature will be discussed, including suggestions for further work with the paper.

2. Theoretical framework

2.1. Inter-organisational learning

Compared to learning within organisations the literature on inter-organisational learning is still scarce. However in the past decades we have witnessed a growing interest in this kind of learning and an awareness of the inter-relatedness between inter-firm relationships and learning. Many have acknowledged that business relationships are important sources to create unique resource combinations,

underpinned by a learning process (e.g. Håkansson 1993; Håkansson and Snehota 1995; Grant 1996; Dyer and Singh 1998; Lane and Lubatkin 1998; Powell 1998; Araujo, Dubois, and Gadde 1999; Holmquist 1999; Bångens and Araujo 2002; Håkansson and Waluszewski 2002). The literature has up to now mainly focused on formal collaborations with deliberate learning goals (e.g. Hamel 1991; Lane and Lubatkin 1998; Powell 1998; Holmquist 1999; Dyer and Nobeoka 2000; Lane, Salk, and Lyles 2001; Zollo, Reuer, and Singh 2002). Many of these writings report on how companies learn *from* each other through imitation or in a so-called 'learning race'. However as Larsson et al (1998) claim inter-organisational learning also includes a joint learning process where companies learn *with* each other.

According to Holmquist (1999; 2003), Larsson (1998) and Zollo et al (2002) inter-organisational learning is the process in which mutual knowledge represented by inter-organisational routines is produced and changed. The role of routines in organisational learning has long been recognised. Levitt and March (1988) state that "organizations are seen as learning by encoding inferences from history into routines that guide behavior" (Levitt and March 1988:319). Underpinned by an experiential learning perspective the focus is here put on how the experiences of individual organisational members are shared and embedded into routines that involve several members in an organisation. An interactional dimension is hence involved in this learning process. Learning is however even more complicated when bringing it up to an inter-organisational level. Central in this respect is to what extent learning in customer-supplier relationships can be seen in a similar way as intra-organisational learning, or in other words, what difference does the relationship dimension really make in the organisational learning process?

In the next section we will try to understand learning in customer-supplier relationships, based on the industrial network approach and its notion of resources and resource interfaces.

2.2. Resource interfaces and learning

Business relationships are valuable as they make available different resource elements and possibilities for combining these. In the industrial network approach resources are seen as heterogeneous, that is, their value depends on how they are combined with other resources (see for example Håkansson and Snehota 1995; Håkansson 1993).

Recent studies within the industrial network approach have focused on the role of resources in industrial and technological development in particular (e.g. Holmen 2001; Wedin 2001; Håkansson and Waluszewski 2002; von Corswant 2003). Håkansson and Waluszewski (2002) identify four resource types involved in and developed through interaction processes between industrial firms: products and facilities (physical resources) and business units and business relationships (organisational resources). Industrial and technological development relates to the process where new resource interfaces are created through interaction, either by using or combining existing resources in new ways or introducing new resource elements into the existing use and combination structure. Any resource element can be involved in several resource combinations across different firms. The increased utilisation of resources in one specific combination in one relationship will hence affect their utilisation in combinations in other relationships (Håkansson and Waluszewski 2002). As only business units can co-ordinate, exchange and learn, business unit resource interfaces are crucial in order to understand how resources are used and combined and new resource interfaces developed (Håkansson and Waluszewski 2002).

The development of resource interfaces entails a learning process (Håkansson and Waluszewski 2002). Interaction between companies in a business relationship implies developing knowledge of how different resources can be combined and changed in order to increase their utilisation within a certain use structure.

According to Håkansson (1993) learning with respect to resources can be accomplished through the direct experiment of a single actor, through the use of other companies' knowledge and experiences and through joint learning based on several actors' knowledge and experimentation. Industrial networks consisting of multiple inter-related relationships favour collective learning as they allow for both stability and variety, which are perceived crucial for learning. Håkansson and Waluszewski (2002) note that teaching is also important in the joint learning process. The companies teach each other about their own resources and about the effects of changes in resource interfaces and how compatible changes can be made.

Despite the emphasis on possibilities for learning in terms of using and combining resources in different ways, there are also limitations. Håkansson and Waluszewski (2002) point out that companies are not free to learn. Relationship partners impose on each other directly or indirectly what to learn if one of them change the resource interfaces involved in the relationship.

We have earlier stated that inter-organisational learning can be related to the establishment and changes in routines. Routines have been defined as ”multi-actor, interlocking, reciprocally-triggered sequences of skilled actions” (Cohen and Bacdayan 1996:554) and as ”a collection of procedures which, taken together, result in a predictable and specifiable outcome” (Nelson and Sampat 2001). According to Edmondson et al. (2001) organisations develop routines around the use of resources.

In a similar vein, Nelson and Sampat (2001) argue that routines and sub-routines are embedded in tangible resources.

A business relationship embeds both organisational and inter-organisational routines, aimed at co-ordinating and connecting the two companies' resource collections. In a relationship there is always a need of routines co-ordinating the operational tasks involved in the relationship, whether it concerns purchasing order routines or delivery routines. These are what Nelson and Winter (1982) and Zollo and Winter (2002) term operational routines. However there may also be routines developed in order to modify operational routines or to handle specific processes or projects that recur in the relationship. Such routines have been called search routines (Nelson and Winter 1982), dynamic capabilities (Zollo and Winter 2002), and meta-routines (Adler, Goldoftas, and Levine 1999) and may be seen as drivers of change in the operational routines.

Because only business units can co-ordinate, exchange and learn, routines will be embedded in the interface between business unit resources. Crucial in this respect is to acknowledge that complex routines are linked together, that is, the performance of one routine depends on the activation of other routines. Hence, changes in one routine will necessary impact on other routines, and the interface between routines becomes a central issue.

How can this notion of routines aid our understanding of learning in customer-supplier relationships? By identifying changes in important routines and their related routines in a relationship and consequently changes in the use and/or combination of resources embedding these routines, we may be able to identify some interesting learning situations. It is important in this respect to decide upon what would qualify as a learning situation. It is not very interesting to look at the situations where

accumulation of knowledge through merely repetition of a routine has occurred. Rather it is the more substantial changes that are of interest and changes in the interfaces between routines.

3. Case

3.1. Background

The case in this paper reports of a change in the distribution routine in the relationship between a world-wide distributor (WWD) of equipment and services to the international marine industry, and one of its main suppliers, the Scandinavian subsidiary of a gas equipment supplier group, Supplier A.

The case has been written based on several interviews with staff from both the customer and supplier companies, primarily purchasing and sales staff respectively, as well as information gained through sit-ins in supplier meetings between the two companies.

The use of case has been discussed by several authors (see for example Eisenhardt 1989; Yin 1994; Dubois and Gadde 2002). The case method is beneficial as it allows for in-depths studies, and it is appropriate to study relational phenomena as it allows for grasping the dynamics and complexity of such phenomena (Dubois and Araujo forthcoming).

The particular case in this paper is chosen based on two main considerations. First, it reports of the kind of relationship that is of interest in this paper, that is, a regular and on-going customer-supplier relationship. Second, what we have is an example of a change in routines, which we may assume is likely to occur in such relationships. This change is a major one, and involves extensive changes in resource interfaces as well, and may as such presumably qualify as a learning situation.

3.2. The relationship between WWD and Supplier A

The relationship between WWD and Supplier A goes back to the early 1980s. The two companies have what is described as a 'family-like' relationship as their origins can be traced back to the same company.

WWD is a large customer to Supplier A and Supplier A is a large supplier to WWD. Employees from Supplier A describe the relationship with WWD as both standard and unique at the same time[2]. WWD requires more attention than other customers. One of the main reasons for this is that WWD's customers never 'sit' still. This is a challenge, not at least from a logistics perspective.

In 2000-2001 WWD decided to challenge their fifty most important suppliers in a project called SWOP. The result of the project was the replacement of multiple suppliers and a consolidation of the supplier base. When WWD searched for alternatives for Supplier A, cheaper alternatives were found. However the costs of switching were estimated higher than the perceived savings at that time. In addition the complexity and range of the different products supplied by Supplier A is high.

The relationship has been characterised by 'business as usual'. The interaction on commercial side is very problem-oriented. When things are smooth less interaction is needed, while when there are problems the interaction is intensified. In the last year the interaction has been more frequent due to problems with deliveries. One of the purchasing managers noticed that when WWD started to evaluate their suppliers' performance it turned out that Supplier A was not that good and "this illustrates that business as usual is not necessarily good business"[3]. In addition to the problems WWD run a campaign in 2003 for a Supplier A product. This also required more interaction in terms of co-ordination of distribution and stocks.

[2] Order handling staff at Supplier A 27.05.03
[3] Purchasing manager at WWD 23.01.03

WWD has a rather stable product range, and there have been few changes during the last twenty years. The workshop industry is very conservative and WWD's philosophy has been that the customers shall always know what they get. This means guaranteeing that the customer ships get exactly the same product whether they are at a fulfilment point in Malmö or Singapore. This philosophy has been reflected in WWD's distribution pattern, where an International Distribution Centre (IDC) in Rotterdam plays an active role. The IDC was established in the beginning of the 1990s and it supplies WWD's internal network and customers in the region. WWD's network of hubs is hence not supplied directly from suppliers but from the IDC.

WWD also moved their central warehouse facility from Oslo to Rotterdam simultaneously with the establishment of the IDC. Hence, Supplier A started to deliver to Rotterdam instead of to Oslo. Earlier Supplier A had their production unit in Malmö, Sweden, but it was first moved to the UK and then to the Czech Republic. Now WWD is supplied from the Czech production unit and a sub-supplier to Supplier A in Oslo. The goods are sent from the Czech Republic to Supplier A's central warehouse in Malmö, from where it is send further once a week to Rotterdam. In Rotterdam the goods are delivered further to WWD's internal network or to customers and ports in the region.

95% of Supplier A's deliveries goes to Rotterdam. The remaining are direct deliveries of medical products to WWD's customers. 21% of the total purchase from Supplier A is sent further from IDC in Rotterdam to Singapore and 7% goes to Hamburg. The other places count for 1-4% each.

3.3. Changes in the distribution pattern

There are some perceived problems internally in WWD related to the centralised distribution pattern. There have been occasions where products bought from suppliers in the Far East have been sent to Rotterdam, for then to be distributed back to hubs and customers in the Far East. The IDC concept has as such being questioned, and WWD now wants some of their suppliers to deliver directly to WWD's other hubs and to customers in order to save costs. Additionally, despite the focus on standardisation, WWD's new policy is to 'buy where we sell', implying that while most of the suppliers are now European, WWD will start to buy more from Far East. As part of the new strategy, a purchasing centre has been established in Shanghai.

During the last year WWD and Supplier A have discussed direct deliveries to some of WWD's other hubs and customers. This is first of all from Supplier A's warehouse in Malmö, but eventually it may be direct deliveries from the Czech unit as well. Up to now this has been difficult, but from 1st of May 2004 the Czech Republic is a member of the EU, and it will be easier. Another problem is however that the Czech unit is not used to handle international customers. When it concerns the discussion about direct deliveries to WWD's customers, this is even more complicated. Supplier A is already doing this for one of their other customers, however the challenge is that WWD's customers are all over the world.

In a meeting in November 2003[4] Supplier A was asked by WWD to start delivering directly to WWD's hubs in Hamburg and Spain. The idea is that these sites shall order directly from Supplier A rather than from the IDC in Rotterdam. Supplier A reacted positively to the request, especially regards to the Hamburg site, since it is close to Rotterdam. However, Supplier A' sales manager noticed that Supplier A has had

[4] Meeting in Oslo 04.11.03

deliveries to other customers in Spain earlier and that it has been difficult to find a reliable transporting company for this purpose. WWD has an agreement with a global transporting company, and it may be that Supplier A can use the same for delivering to the site in Spain. WWD will now try out the new distribution routine for the Hamburg site and see how it goes, and whether it is possible or not to do it for other sites as well. The Hamburg site has a substantial turnover of Supplier A's products and small and regular orders. Hence it should be appropriate for a first attempt.

The discussions about direct deliveries the last year have been influenced by Supplier A's delivery performance. All the main suppliers are evaluated according to a delivering performance scale. Shipments are registered when they arrive at Rotterdam and this is the basis for the supplier performance evaluation. The goal for Supplier A deliveries are 96%, but it has been rather unstable the last couple of years. The sales manager in Supplier A explained the problems during autumn 2002 by difficulties with the Czech production unit as they decreased their stock levels. There were however also some inconsistencies in WWD's receiving unit in Rotterdam, as the deliveries were not reported in immediately. The registration procedure was improved, however Supplier A's delivery performance continued to be unstable during 2003. The fact that Supplier A implemented a new ERP system during summer 2003 and had some severe problems with this process did not make things easier. As a consequence of the delivery problems some of the WWD employees have expressed their concerns about Supplier A's abilities of delivering directly to other hubs and to customers[5]. Despite this concern Supplier A is now supposed to start delivering directly to Hamburg, because as one of WWD's purchasing managers put it: "we need to combine our resources!"[6]

[5] Meeting in Malmö 27.05.03
[6] Meeting in Malmö 27.05.03

4. Comments

The case reports of a long-term relationship between a customer and a supplier, and the beginning of a changing process in the distribution pattern embedded in the relationship. What are the interesting learning dimensions in this case?

The change in the distribution pattern involves the establishing of a new operational distribution routine, where Supplier A is supposed to deliver directly to WWD's hubs instead of to the IDC in Rotterdam. It is not yet a question of breaking the existing routine, but more of adding a new sub-routine to the overall routine. Adding this new routine involves the creation of new resource interfaces. Before we consider these new ones, what are the important resource interfaces embedding the existing routine? First of all it is the interface between Supplier A's operational sales unit in Malmö and the IDC in Rotterdam. In the interface between these two business units co-ordination, exchange and learning between the parties occur. It is also a business unit resource interface between the IDC and the operational staff at the regional and local hubs, and between WWD and the customers. Next there is an interface between Supplier A's central warehouse facility in Malmö and WWD's in Rotterdam. Further there is also an interface between the Rotterdam facility and the hubs, and between the hubs and customers' ships. How are these interfaces affected in the new routine? In the beginning the interfaces will persist, and new ones will just be added. First of all it will probably be a new business unit resource interface between the operational sales staff at Malmö and purchasing staff at the Hamburg site. There will also be a new interface between the warehouse facility in Malmö and the hub in Hamburg. Further if the new distribution routine is extended to other sites and hubs and even to customers, additional resource interfaces will be established. However, simultaneously some existing ones will probably disappear. This is particularly the

case for the interfaces involving the IDC if it is unrolled in its present function. We may expect that the way WWD and Supplier A handle the changes in the new operational distribution routine may become a routine itself, as the new routine is extended to other sites.

In a learning perspective we may say that the existing distribution routine is built on a knowledge base that has been developed through years of interaction. This knowledge regards to how the different resources work and how they are connected to each other. An example would be how the operational sales staff at Supplier A is organised to work with the operational staff at the IDC in Rotterdam. It will also concern how the warehouse facilities are connected, in order to ensure an efficient flow of goods. With the new routine, this kind of knowledge has to be built up with new business units and facilities involved. In the first stance this relates to the site and the warehouse in Hamburg, but it may also in the future be related to WWD's other hubs and sites, Supplier A's Czech production unit and WWD's customers.

The changing process is a result of a perceived dissatisfaction with the IDC concept within WWD. It is in the very beginning of the change process, and the suppliers have just been told. We see here not only a learning process, but also a teaching process as both WWD and Supplier A communicate their needs related to the change.

More information will be collected in this case related to what has triggered the change, how the supplier has been involved, and what has been done and will be further worked upon in order to embed the new routine.

5. Discussion and concluding remarks

In this paper we try to understand learning in regular and on-going customer-supplier relationships, by looking at changes in routines and the resource interfaces embedding

them. The case reports on the establishment of a new operational distribution routine, which may result in a severe change in the whole distribution pattern in the relationship. In addition a routine for handling such changes will presumably arise. Learning is here related to the embedding of these new routines in terms of how to combine existing resources, and further potentially establish a new distribution pattern. We have earlier stated that the notion of learning and routines is built on an experiential learning perspective. This means that companies learn as they are performing the routine and changes in routines are based on reflection on existing practices within the routine. What triggers these changes? Nelson and Winter (1982) point out selective pressures as triggering changes in organisational routines. However, as we here are talking about companies operating and interacting in a full-faced context, the drivers for change will presumably be quite different from Nelson and Winter's view. Here we have an interactive dimension included in the learning process. In the further work with this paper I will make use of an interactive perspective on learning and see how it can contribute to enhance our understanding of the inter-organisational learning process, that is, of how the relationship dimension makes a difference in organisational learning.

References

Adler, P.S., B. Goldoftas, and D.I. Levine. 1999. Flexibility Versus Efficiency? A Case Study of Model Changeovers in the Toyota Production System. *Organization Science* 10 (1):43-68.

Araujo, L. 1998. Knowing and Learning as Networking. *Management Learning* 29 (3):317-336.

Araujo, L., A. Dubois, and L.E. Gadde. 1999. Managing Interfaces with Suppliers. *Industrial Marketing Management* 28:497-506.

Bångens, L., and L. Araujo. 2002. The structures and processes of learning. A case study. *Journal of Business Research* 55:571-581.

Cohen, M.D. , and P. Bacdayan. 1996. Organizational Routines are Stored as Procedural Memory: Evidence From a Laboratory Study. In *Organizational learning*, edited by M. D. Cohen and L. S. Sproull. Thousand Oaks: Sage Publications.

Dubois, A., and L. Araujo. forthcoming. Research Methods in Industrial Marketing.

Dubois, A., and L.E. Gadde. 2002. Systematic combining: an abductive approach to case research. *Journal of Business Research* 55:553-560.

Dyer, J.H. , and K. Nobeoka. 2000. Creating and Managing a High-Performance Knowledge-Sharing Network: The Toyota Case. *Strategic Management Journal* 21:345-367.

Dyer, J.H., and H. Singh. 1998. The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage. *Academy of Management Review* 23 (4):660-679.

Edmondson, A.C., R.M. Bohmer, and G.P. Pisano. 2001. Disrupted Routines: Team Learning and New Technology Implementation in Hospitals. *Administrative Science Quarterly* 46:685-716.

Eisenhardt, K.M. 1989. Building Theories from CaseStudy Research. *Academy of Management Review* 14 (4):532-550.

Grant, R.M. 1996. Prospering in Dynamically-Competitive Environments: Organizational Capability as Knowledge Integration. *Organization Science* 7 (4):375-387.

Hamel, G. 1991. Competition for competence and interpartner learning within international strategic alliances. *Strategic Management Journal* 12:83-103.

Holmen, Elsebeth. 2001. Notes on a Conceptualisation of Resource-Related Embeddedness of Interorganisational Product Development, Institute for Marketing, University of Southern Denmark, Sønderborg.

Holmquist, M. 1999. Learning in Imaginary Organizations: Creating Interorganizational Knowledge. *Journal of Organizational Change Management* 12 (5):419-438.

———. 2003. Intra- and interorganisational learning processes: and empirical comparison. *Scandinavian Journal of Management* 19:443-466.

Håkansson, H. 1993. Networks as a Mechanism to Develop Resources. In *Networking in Dutch Industries*, edited by P. Beije, J. Groenewegen and O. Nuys. Leuven-Appeldorn: Garant.

Håkansson, H., V. Havila, and A.C. Pedersen. 1999. Learning in Networks. *Industrial Marketing Management* 28:443-452.

Håkansson, H., and J. Johanson. 2001. Business Networks Learning - Basic considerations. In *Business Network Learning*, edited by H. Håkansson and J. Johanson. Amsterdam: Pergamon.

Håkansson, H., and I. Snehota. 1995. *Developing Relationships in Business Networks*. London: Routledge.

Håkansson, H., and A. Waluszewski. 2002. *Managing Technological Development*, *Routledge Advances in Management and Business Studies*. New York: Routledge.

Lane, P.J., and M. Lubatkin. 1998. Relative absorptive capacity and interorganizational learning. *Strategic Management Journal* 19:461-477.

Lane, P.J., J.E. Salk, and M.A. Lyles. 2001. Absorptive capacity, learning, and performance in international joint ventures. *Strategic Management Journal* 22:1139-1161.

Larsson, R., L. Bengtsson, K. Henriksson, and J. Sparks. 1998. The Interorganizational Learning Dilemma: Collective Knowledge Development in Strategic Alliances. *Organization Science* 9 (3):285-305.

Levitt, B., and J.G. March. 1988. Organizational Learning. *Annual Review of Sociology* 14:319-340.

Nelson, R.R., and B.N Sampat. 2001. Making sense of institutions as a factor shaping economic performance. *Journal of Economic Behaviour & Organization* 44:31-54.

Powell, W.W. 1998. Learning From Collaboration: Knowledge and Networks in the Biotechnology and Pharmaceutical Industries. *California Management Review* 40 (3):228-240.

von Corswant, F. 2003. Organizing Interactive Product Development, Department of Operations Management and Work Organization, Chalmers University of Technology, Gothenburg.

Wedin, T. 2001. Networks and Demand. The use of electricity in an industrial process, Department of Business Studies, Uppsala University, Uppsala.

Yin, R.K. 1994. *Case Study Research. Design and Methods*. Vol. 2nd. ed. London: Sage Publisher.
Zollo, M., J.J. Reuer, and H. Singh. 2002. Interorganizational Routines and Performance in Strategic Alliances. *Organizational Science* 13 (6):701-713.