Realizing a New Supply Chain Strategy
-
Re-conceptualizing Actors' Meaning Structures of Information Logistics Activities

A. Joachim Timlon
Baltic Business Research Center at the Baltic Business School in Calmar
Sweden
Joachim.Timlon@Hik.se

Sigvald J. Harryson
Baltic Business Research Center at the Baltic Business School in Calmar
Sweden
Sigvald.Harryson@Hik.se

Introduction

Realizing a new supply chain strategy to increase supply chain integration is one way to cope with the dynamic business landscape of today's global world. If an actor does not cope with this kind of situation its competitive advantage will gradually be eroded and its strategic position threatened. It may to longer be perceived as the preferred supplier in its industry.

However, the realization of a new supply chain strategy often reaches status quo, hampering the intended strategic response. One compelling reason is that industrial network dynamics may give rise to a high level of complexity. Complexity becomes problematic only when an actor cannot comprehend and understand the meaning of a change in the variety and/or variability of some connection, because what is causing the change in the industrial network is obscured and ambiguous (Snehota, 1990). As a consequence of the actor's limited capacity to interpret and understand the meaning of the change, the actor will experience uncertainty about how to act. Since the equivocality of meaning that the change is causing creates uncertainty about the outcome and consequences of a choice to be made, the problem of complexity could cause the actor to fail to align and integrate activities and resources, which will have a negative impact on the realization of a new supply chain strategy. A central question is then how to realize a new supply chain strategy to increase supply chain integration?

A reasonable answer would be: through organizational learning, because it has the capacity to alleviate complexity. Organizational learning and strategy realization in general and of a new supply chain in particular is a subject that, to the best of my knowledge, has received very little research attention from the industrial network approach. One reason could be the lack of confidence in planned actions for effective strategy realization (Snehota, 1990). Although the importance of organizational learning in business relationships (cf. Håkansson and Ford, 2002; Håkansson and Johanson, 2001) and in internationalization processes (Blomstermo and Sharma, 2003; Forsgren, 2002) have been recognized, another reason is that the concept of organizational learning has received relatively little attention. Forsgren (2000) finds it reasonable that the industrial network approach could be further developed by the research that has been conduced on organizational learning. In particular there is *terra incognita* when it comes to strategic behavior and organizational learning. More specifically there is a need to further understand the repositories of organizational learning, learning that occurs at different organizational levels and within various contexts, which have a strong impact on strategic behavior.

Purpose

The overall purpose of this paper is to contribute to the strategic issue of supply chain integration by describing, analyzing and explaining how a new supply chain strategy can be realized through organizational learning.

Strategic Management in the Industrial Network Approach

From the industrial network approach, strategy realization of activities in business relationships is viewed as unplanned action. Håkansson and Snehota (2000) argue that realization of activities in business relationships is an ongoing process, which is very difficult to monitor and hard to predict or

plan. Customer-supplier relationship interaction consists of a series of acts and counteracts, which produce new situations that need to be handled. They further argue that the choice of how to handle new situations is thus made in interaction with the counterparts; at best they are a result of how the new situation is framed and made sense of.

From an industrial network approach, strategy realization is foremost a consequence of individuals responding to exogenous and endogenous changes (Håkansson and Snehota, 1995). This kind of realized strategy is what Mintzberg and Waters (1985) would label emerging strategy, which is continuously changed with changes in the external context. Strategy is treated as the outcome of an iterative interaction process constituting a pattern of acts and counteracts through which the situation can be acted upon as it continuously evolves. This process is characterized by mutual activity coordination in the form of reciprocal adaptations, which are dependent on how the situation is framed and interpreted (Håkansson and Snehota, 2000).

Strategy realization as planned action still means that it can be regarded as an ongoing change process. The difference would be how change happens and is organized, for example, that strategy realization as planned action, initiated by a change project, and then continuously reviewed and evaluated. When planned and realized, the handling of change is often organized as a change project. In a temporary project, the change is planned and realized. In the former case of a more emergent type of strategy where the change is continuous and unplanned, change is built into the relationship process.

The realization of a new strategy is viewed as the renewal of an actor's activity pattern, which occurs through an ongoing organizing networking process. Furthermore, realization of a new strategy as an organizing networking process is related to learning as it revolves around the question of how to motivate the counterparts to take active part, on a continuous basis, in developing the business relationship (Håkansson and Snehota, 1995). Snehota (1990) and Håkansson and Snehota (2000) suggest the management of strategy by managing organizational learning: "the actor has to learn from what is going on, learn about the counterparts but also about itself, to learn about when and how their own actor performs as an efficient interaction partner."

In this paper, the emphasis is on supply chain activities, or more specifically, on information business logistics, which can be defined as "the material, information, and monetary flows that run through a company from raw material to end customer…incorporating most business activities except brand building, after-sales service, and new product development" (Hoover, Jr. el al, 1996: 30). Furthermore, these activities refer to an intra-organizational network of business relationships between sales and production companies of a multinational company. Consequently, it is the realization of a new supply chain strategy, which is viewed as the renewal of the established activity pattern in an intra-organizational network.

A Cognitive Approach on Organizational Learning
Ever since organizational learning was mentioned in the mid 1960s[1], the topic has generated a substantial amount of interest. The literature on organizational learning is now voluminous.[2] Within business administration research, it seems that the focus has essentially been on strategic leadership, R&D, market introduction of new products and the organization of work. In addition, different questions relating to learning in the internationalization process of firms (Blomstermo and Sharma, 2003).

Coping with change is a core issue of organizational learning. Hellgren and Löwstedt (1997) raise the question whether it is possible that an organization (or an individual) learns without changing its behavior. Aligned with prominent researchers who regard learning as a conceptual change, their arguments for cognitive learning are that it does not necessarily result in change of organizational behavior but can result in a change of behavior in the form of minor adaptations and adjustments and/or in radical change of cognitive structure, which in turn, can involve radical changes in organizational behavior.

---

1 Crossan and Guatto (1995) claim that the notion of organizational learning was first mentioned by Cangelosi and Dill (1965).

2 The literature on the subject of organizational learning in this thesis has been selected with regard to its relevance for the theoretical area that I seek to develop.

Cognitive Structures as Repositories of Organizational Learning

In economic research, different more or less precise terms have been used to describe those cognitive structures that can be considered useful in an organizational context. Hellgren and Löwstedt (1997) argue that the term cognitive map is a more general term whereas cognitive schemata or implicit theory are explicitly used to describe people's internal representations of a perceived reality. This means that cognitive schemata or implicit theory constitute models of the reality, which reduce ambiguity and complexity in an unclear situation. The authors further explore the term implicit theory, which they argue, has foremost been used to understand the individual person's actions rather than her cognition. Similar to that which Dixon (1994) labels meaning structures, implicit theories are based on rather unarticulated perceptions of a set of cause and effect relations. Hellgren and Löwstedt (1997) argue that causal relations can be defined as a set of assumptions that an individual has about other people, their personalities and behavior. They further argue that the term schema is often used to specify the content and take account of the connectedness between cognition and social situation why they prefer the term 'person in situation schema' because it combines characteristics of both individuals and situations, resulting in specific as well as general cognitive structures.

However, in this paper, the situation is not of a general character but rather a specific situation of realizing a new supply chain strategy in business relationships focusing on organizational change and not individual change. The term 'person in situation schema' is, therefore, not a relevant kind of specification of a cognitive structure. I prefer Dixon's term since meaning structure is a better expression for cognitive structures than implicit theory. I will, therefore, refrain from using the term implicit theory when seeking to describe the cognitive structures relevant for strategy realization in business relationships. Aligned with Hellgren and Löwstedt (1997), cognitive structure that creates meaning, or what Dixon labels meaning structures, is in this paper a term that is exclusively reserved to capture and describe human cognition. Cognitive structures and meaning structures will be used interchangeably.

Cognitive Structures, Knowledge and Information

In this paper, the term cognitive structure is used rather than the term knowledge to represent and manifest not only the understanding that organizational members have reached but also how and why it was reached. The main reason for using the term meaning structure, and not knowledge, is that the former is more encompassing as it includes:

- how the understanding of organizational members is related to that of other organizational members;
- the logic by which the understanding was reached and the data that support it;
- the explicit/tacit assumptions behind the understanding.

Cognitive structures are also different from what is normally referred to as information. Information can be defined as organized data in a certain formation, such as charts, graphs, speech, written statement etc. Data can, then, be treated as sub-sets of information.

Organizational members can through their human sensory receptors perceive information, or more specifically a subset of the information, i.e. data.[3] They can re-organize the perceived data, classify and interpret it so that it makes sense. This means that information can reside in many different places in an organization whereas meaning structures can only reside in the heads of organizational members (Dixon, 1994).

A Dichotomy of Cognitive Structures

When seeking to define terms for analyzing human cognition, it is relevant to distinguish between whether cognitive structures are individual or shared among organizational members. Dixon (1994) argues that organizational members have meaning structures that can be categorized as private, accessible and collective. Private meaning structures are both explicit and tacit and refer to those parts of a person's meaning structures that are withheld from other organizational members. Reasons for retaining private meaning structures can be a wish to respect information that was given in confidence fear of punishment, embarrassment if the person's mistakes or incompetence are made public etc. Accessible meaning structures are those parts of an individual's meaning structures, which

---

3 For reasons of simplicity I will use the term information by which sub-sets of data is actually meant.

he or she is willing to make available to other organizational members. However, although individuals are willing to make their meaning structures available to others, there are times, space, political, intellectual and cultural factors that limit the access to other organization members' meaning structures.

Collective meaning structures are the sets of assumptions about how the work is divided and how tasks are performed that organizational members share with others in the organization. The notion of collective meaning structures relates to what in cognitive based research is labeled the aggregation problem, i.e. whether individual's cognition can be aggregated into a collective level (cf. Hellgren and Löwstedt, 1997). With the term 'collective', Dixon does not intend that organizational members have exactly the same meaning structure but that "there is 'close enough' accord that members function as if there were total agreement" (1994: 39). However, she concludes, when such meaning structures are carefully examined they often reveal significant differences. Thus, the point here is that 'social agreement' constitutes the essence of collective meaning structures rather then the lowest common denominator among the organizational members' experiences.

It is claimed by Dixon (1994) that many collective meaning structures are tacit, and that they have positive as well as negative effects on how an organization functions. She provides examples of collective meaning structures that may be tacit, e.g. that senior management is selected from individuals with financial backgrounds, that time to market is the most important means to accomplish competitive advantage etc. The usefulness of this kind of cognitive structure is that it enables an organization to act swiftly and in concert without any lengthy discussions. People simply accept it and 'get on with their work'. On the other hand, when there is such acceptance among organizational members there is risk that this collective meaning structure will become rigid (if no one in the organization challenges it). Dixon further argues that this kind of meaning structure influences how events are interpreted, the willingness to cooperate, the level of trust, etc. She concludes that collective meaning structures may make the introduction and realization of a new idea difficult if it is considered to conflict with the existing collective meaning structure. Thus, the implication for this study is that collective meaning structures are important for the introduction and realization of a new strategic idea. If it is in conflict with the existing collective meaning structures, the risk is that it will be resisted. Furthermore, realizing a new supply chain strategy in business relationships implies a change process, i.e. a change of collective cognitive structures. This kind of 'cognitive process' needs to be further clarified.

Organizational Learning as a Process of Relating Meaning Structures

Individuals can learn without an organization. However, an organization learns only through its members but cannot be dependent on any specific member (Argyris and Schön, 1978). This implies that individual learning affects learning at the organizational level through the influence on collective meaning structures (cf. Kim, 1993; Dixon, 1994). Individual learning is transformed into organizational learning when organizational members engage in the sequence of collectively interpreting information with other organizational members (who are themselves engaged in the same sequence), which result in a shared interpretation of the information on which they then can take action (Dixon, 1994). Thus, organizational learning occurs when individual meaning structures are related and become integrated into collective meaning structures.

A central condition for organizational learning to occur is that individuals have the intention and willingness to participate in an exchange between cognitive structures, discussing and negotiating their individual views. A potential problem, however, is when meaning structures are not shared; a problem that is aggravated when they are tacit. For the process of exchanging and communicating, meaning structures need to be 'surfaced', to become explicit. The critical issue for organizational learning to occur is then the need for the organizational members to make their individual meaning structures accessible to other organizational members so that they can influence one another. In that way, meaning structures can be surfaced, examined and altered by discussing the fundamental assumptions and beliefs on which they are based. When a critical mass of individuals has altered their meaning structures, a new collective meaning structure has been created (Dixon, 1994). In addition to individuals' intention and willingness to learn, communication, transparency and integration are salient conditions for organizational learning to occur (Klimecki, et al, 1994; Probst and Büchel, 1997). An organization then learns through the organizational members or, more specifically, through individuals' capacity to create new meaning structures from their interaction with one another. This does not mean that organizational learning is the sum of all that the organizational members know. It rather means

that organizational learning is the collective use of the learning capability of the organizational members. Organizational learning, therefore, occurs when the organizational members make a collective effort to use their capability for learning (Dixon, 1994).

Methodology

This research, from initial idea to final outcome, spans nine years. It is a process with the main characteristics of continuously and systematically moving between an empirical and a theoretical domain. One way of describing the systematic oscillation between the empirical and theoretical domain is abduction (Alvesson and Sköldberg, 1994). The abductive methodology is further developed by Dubois and Gadde (2002) who introduce the notion of systematic combining, which they define as the matching of theory with empirical findings, it may result in the redirection of the research process. They argue for the needs of a flexible research methodology to enable the researcher to continuously go back and forth between different kinds of research activities, and between theory and empirical observations because the understanding of theory and empirical observations are dependent on each other. The major strength of a flexible methodology is that it allows for the identification of unexpected yet interrelated issues to emerge and to be further explored. Systematic combining emulates from existing theories and emphasizes the discovery, rather than checking data, which is why it is different from triangulation. In systematic combining, multiple sources of findings are used to contribute to new dimensions of the research problem. This may result in the redirection of the study. The methodology is, therefore, more useful for theory development than theory generation. Furthermore, it is a useful methodology for describing a research process in which the empirical fieldwork parallels the theoretical conceptualization, and where theoretical models are used as the need for them emerges in the process.

Delimiting the empirical domain of the study is necessary but somewhat complicated because the boundaries are not evident. The structural boundaries of the empirical domain concern what actors, activities and resources to include and which interdependencies to consider (cf. Dubois and Gadde, 2002). In this study, the scope was initially to include all of case actor's subsidiaries in Western Europe, which at that time amounted to three production and eleven sales companies. Nine of these companies were selected due to access restrictions. After the first round of interviews at the eight companies, the complexity of the collected data seemed overwhelming. I, therefore, decided to narrow the scope. Since the new supply chain strategy originated from the Swedish production actor it seemed reasonable to keep it. Furthermore, since the literature review that I had conduced revealed some interesting tensions between production and sales companies in general, I settled for this kind of business relationship to make the study more intricate and relevant. This meant that I needed to study the relationship between the Swedish production actor and some sales companies from which I had gathered a profound plethora of data. This turned out to be the Dutch, German and British sales companies. Focus is, however, not on the production and sales companies per se, but rather to the business relationships between then. Thus, the structural boundaries of the empirical domain are in this study set by the activities and resources and consecutive interdependencies between the Dutch, German and British sales actor and the Swedish production actor. Had different companies of the group been selected the structural boundaries, the interdependencies and the interpretations thereof would probably have been different. The units of analysis in this study are, therefore, the three business relationships between:

- the Swedish production actor and the Dutch sales actor;
- the Swedish production actor and the German sales actor;
- the Swedish production actor and the British sales actor.

Throughout this study, the aggregation problem, i.e. whether individual's cognition can be aggregated into a collective level, has been constantly recurring. The first time I encountered this problem was after the first round of interviews in the three selected subsidiaries. Interestingly, however, there were normally only two interviewees who had relevant insight into the order-to-payment process. The solution was to regard the interviewees as representatives of the specific function in the actor in which they were working. The term actor representative was coined. This means that the interviewed are regarded as representatives of a specific sales or production actor. Also when analyzing the accounts of the actor representatives the aggregation problem recurred. More specifically it was about how the empirical accounts of the actors' representatives were translated into meaning structures.

The empirical evidence for this case study has primarily been collected through interviews. A main methodological problem in this study is to find out what is on and in the actor representatives' minds. Furthermore, it can be argued that a case study is strengthened by using interviews because they can give the researcher not only insights into the phenomenon under study but also suggest as well as provide access to sources of corroboratory evidence (Yin, 2003) that can be used not so much for checking the findings but rather to discover new dimensions of the research problem. Interviews, therefore, seemed to be a rational choice for collecting data on cognitive structures. In the first round of interviews, 64 interviews were conducted with 52 interviewees at sales and production companies in nine countries (Finland, Sweden, Holland, Italy, Spain, France, Denmark, Germany, UK). In addition, I made four interviews with four interviewees at the headquarters in Sweden. In the second round of interviews, data were gathered only from those who were directly responsible for, and involved with, logistics activities at the sales companies, more specifically for forecasting, order handling and stock-keeping. In the second round of interviews, 18 interviews were conducted with 13 interviewees in four countries (Sweden, Holland, Germany and UK).

Compared to other kinds of methodologies, the quality of a study that applies the systematic combining methodology is, therefore, evaluated to other criteria. Dubois and Gadde (2002) argue that systematic combining can neither rely on statistical sampling nor on statistical inference, essentially, because it involves a case study. The case study is, therefore, treated as a preset sample on which the data collection is based, and the quality of the research study relies on analytical inference. A foundation for analytical inference is what Dubois and Gadde (2002) label 'logical coherence', which refers to the adequacy of the research process and the extent to which the theories are empirically grounded. This means that logical coherence concerns whether a developed theoretical framework is a relevant representation of the empirical findings, i.e. *validity* in a basic sense (Yin, 2003). In this study, the basic notion of validity refers to the extent to which the integrated industrial strategic marketing management framework is a valid representation of the realization of a supply chain strategy in the case actor.

Dubois and Gadde (2002) further argue that the main concern is whether there is an appropriate match between the empirical findings and the theoretical constructs used. I have tried to be very selective about which empirical findings and theoretical constructs used. 'Being selective' is what they label 'parsimony' and is considered to be another important quality criterion for case study research. It seems that logical coherence is about the 'explanatory power' of the theoretical concepts used, and can be treated as synonymous with what Yin (2003) labels *internal validity*. It means that the theoretical concepts need to be genuine. In other words, the theoretical concepts and the empirical findings on which they are grounded should not be of spurious correlation. High internal validity presupposes acceptable logical coherence of the theoretical framework, as well as a high level of transparency between the theoretical constructs used and the empirical findings on which they are based. Furthermore, throughout the analytical process I have tried to make the correlation between 'construct' and 'empirical support' as transparent as possible.

Another concern that needs to be discussed is to what extent the results of a research study are generalizable, which refers to the *external validity* of a research study (Merriam, 1989). In this study, external validity concerns the extent to which the empirical and the theoretical results are general enough to be applied in situations other than the present case study. High external validity presupposes high internal validity. The overall purpose was to contribute to the strategic issue of supply chain integration by describing, analyzing and explaining how a new supply chain strategy can be realized through organizational learning. To accomplish the purpose I have studied the realization of a new supply chain strategy in a multinational company. The study was performed with an industrial network perspective, into which organizational learning theories were integrated. The results of this research study can be regarded as that which Merriam (1998, 209) labels "context-bound extrapolations rather than generalizations". How, and in which kind of strategic situations, the empirical and theoretical findings of this research study emerged, and whether they are consistent with the empirical findings collected, was discussed in previous parts of this chapter. Furthermore, throughout the study it has been argued that coping with a strategic situation that involves structural changes is a dynamic process. It requires, for instance, the capacity to reinterpret the external environment, and to incorporate this new understanding into new internal structures, systems and procedures, for instance through the realization of a new strategy. Although each situation and strategic alternative to cope with it is different, it is assumed that the results can be instrumental to

companies other than EPLSG for managing the consequences of structural change in complex global business landscapes. Thus, in this study, the external validity is considered to be acceptable.

Another often used criterion for evaluating the quality of a research study is *reliability*. Yin (1984) argues that a research study is reliable if the operations of a study, such as the data collection procedure, can be repeated with the same results. However, this conception derives from the logic of how to conduct experiments and is not applicable for this kind of research study. When research is done in a social context repetition cannot be used for establishing the same results in a novel study, because observations and people can be repeatedly wrong. Simply because a number of people have experienced the same phenomenon does not make the observations more reliable. Also, the situation being researched could on a later occasion have changed, producing different results. Merriam (1998) suggests that the reliability of studies in social science can be conceived in terms of whether the empirical and theoretical results are consistent with the data collected rather than whether the results will be found again. To avoid biases in the research situation, I tried to avoid technical jargon and theoretical concepts, which could only cause misunderstandings, and on no occasion did I use terms like 'learning' or 'cognitive structures'. Reliability was also improved through the establishment of a case-study base, which was reviewed several times by respondents.

A New Supply Chain Strategy at EPLSG

The growth of the global market for professional laundry systems had for long been stagnating. Historically, EPLSG played a central and dominating role in the industry being one of the most preferred suppliers. In recent years, however, its relative importance and dominating role has decreased. The rate of turnover and profitability had leveled out and lead times were considered to be too long.

The market could be divided into four segments dependent on application. Deregulations in the largest segment, public sector, had opened up for new actors resulting in tougher competition. Another factor driving change was increasing, new and more specified customer needs with focus on 'problem free operations'. Lead times were, therefore, becoming increasingly important for customer satisfaction. As a consequence, a new purchasing behavior among some customers could be perceived. Before the deregulations, the salesmen did business directly with local authorities, most often medical doctors. When some insurance companies entered this market they acquired several hospitals and the like. Local authorities were removed from purchasing responsibility, which instead was located centrally with MBA educated commercial managers.

To cope with the situation, senior management at EPLSG decided to instigate a new internal project. Project management was appointed who within short formulated a new information logistics strategy. The realization should, according to project management, further integrate the production and sales units of the group and thereby increase their capacity to respond to changing market conditions.

Coping with changes on the market was by project management understood foremost as a matter of translating the customers' needs and very fast transferring information about these changes among the relevant organizational members of the group companies. More specifically, this meant that the information flow between customers and the EPLSG should be re-organized. The re-organization involved the forecasting, ordering and stock-keeping activities. The following changes should be made:

- Sales companies should stop forecasting every second month and instead forecast only once a year and continuously inform the production companies about deviations from the annual forecast. The forecasts should be more specified in terms of product and quantity in stock.
- Production and sales companies should be connected via an on-line IT system through which customer orders should be processed. Instead of using product descriptions for a customer order, product numbers should be used.
- The production companies should start keeping stocks for the sales companies. Products should be classified either A, B or C products depending on their turnover. Sales companies should reduce their local stocks, which should contain only 'sold products', i.e. A-products.

The result of re-organizing the OTP process was to create a new order of organizational activities in which the involved parties would have the same kind of information regarding customers' orders almost simultaneously. By using a standardized language, in the form of product numbers, individual

interpretations and misunderstanding, when sending and receiving information, would be eliminated. By means of the re-organized process, confidence would thus be infused among the parties involved.

> "Because there is so much information we have to have a standardized language that makes individual interpretations impossible. Products, which the customer orders, should be specified as either A, B or C products. It is like in the military, a certain kind of order is required, because we must have confidence in each other that the information that we send to each other is correct." (The Logistics Manager, interview)

The new order of activities in the business logistics process was considered to capture some important benefits. Firstly, it would create more time for leaders to be leaders. Secondly, it would improve the productivity and optimize capital utilization. Thirdly, it would result in improved ability to foresee deviations in customer demand. Fourthly, and maybe most importantly, it would result in improved ability to handle changes in customers' demand, and thereby regain the strategic position as most preferred supplier in the professional laundry industry.

Thus, the re-organization of these business logistics activities aimed at adopting the local sales units to the new supply chain strategy. Focus is on the local situation of three sales units and the factors influencing the adoption to the new strategy enhancing their capacity to cope with the major changes in the local external environment.

Adoption to the New Supply Chain Strategy at the British Sales Actor

The position of the British sales actor can be considered to be relatively strong. The reason for this is foremost that it had one of the largest sales volumes in the group, which creates a high level of dependency with the Swedish production actor. Actor representatives, however, perceive themselves as relatively independent.

Change in the external local environment has occurred due to a deregulation. This is recognized by actor representatives. The strategic image was one of an innovative and successful actor that added more value than many other sales companies. The business was perceived as a non-growing replacement market, being a market where the customers' purchasing pattern had changed. Whether the position had changed was difficult to evaluate since the information system could not generate any kind of reports, for instance regarding the volume of sold products. Furthermore, logistics was not perceived to be a process of getting a product from one place to another.

Priority was given to solving the year 2000 problem why the work of the internal change project had been set a side. To cope with the change in the external environment, new sales channels with new brands had been developed. The approach applied by the British sales actor in coping with the change in the external environment was different from the planned approach. Furthermore, the involvement in the realization process in coping with the change in the external environment was relatively limited. One reason for the relatively low involvement in the internal change project was the low level of trust for the Swedish production actor due to historical reasons.

Adoption to the New Supply Chain Strategy at the Dutch Sales Actor

Predominantly due to having a relatively small sales volume, the position of the Dutch sales actor was perceived by actor representatives as relatively weak. There was a relatively low degree of interdependency between the Dutch sales actor and the Swedish production actor. The actor was, however, active in coming up with suggestions for increased cooperation with the Swedish production actor. Their relationship has improved overtime.

Change in the external environment had occurred due to a deregulation in its external environment, which was recognized by actor representatives. The strategic identity was one of a relatively small sales actor. The business was perceived as 'a non-growing market almost equally divided between replacing old products and selling new ones'. The customers' demand and purchasing pattern had changed. The competition had increased and there was a price pressure. Since the turnover and the rate of profitability were below group target, it implied a deteriorated market position in the market. Moreover, logistics was perceived as being connected with customer needs and different means for transferring information about these needs and how they may change

The Dutch sales actor was to compete through differentiation, i.e. by offering a differentiated range of products and services, stressing quality and not price. Attention had been given to the internal change project and changes had been made in organizational activities concerning forecasting, ordering and stock-keeping. Delivery times from the Swedish production actor were, however, claimed to have increased. Still, the confidence level between the Dutch sales actor and the Swedish production actor was relatively high. Moreover, the level of confidence had even increased because the Swedish production actor was considered to have become more honest and open than before, and were doing their very best to help the Dutch sales actor with delivery times. It can, therefore, be concluded that the approach applied to cope with the change in the external environment was similar to the planned approach and that the involvement in the realization process to cope with the change in the external environment was relatively high. This can partly be explained by the relatively high level of trust for the Swedish production actor and the commitment in helping the Dutch sales actor with satisfying local customers' need.

Adoption to the New Supply Chain Strategy at the German Sales Actor

The position of the German sales actor was relatively strong, which was primarily due to being one of the largest and most strategically important sales actors in the group. There was a relatively high degree of interdependency between the German sales actor and the Swedish production actor.

Change had occurred due to a deregulation in the external environment, which had been recognized by actor representatives. The largest market segment – public sector - was fully invested due to a new environmental law. The strategic identity was one of being responsible for sales and the brand on the German market. The business was perceived as increasingly a 'non-growing' replacement market of old product systems. A further decline in customer demand at public sector segment was expected, and there was a trend towards institutions becoming increasingly privately owned and financed. The position of the German sales actor was believed to be strong. Moreover, during the internal change project logistics was increasingly perceived as involving the handling of information about changes in customers' needs.

The applied approach to cope with the market situation was to shift the sales focus from the on-premises laundry for institutions to the dry cleaning segment, which was expected to grow. Although the business logistics process was not considered a priority, attention had been given to the internal change project and changes had been made in organizational activities concerning forecasting, ordering and stock-keeping. The Swedish production actor was considered to be somewhat inflexible, having a potential to provide better services and improve the delivery times. Still, the Swedish production actor was trusted when it came to delivering capacity because the impression was that representatives of the Swedish production actor understood the situation of the German sales actor

The Role of Meaning Structures for Realizing a New Supply Chain Strategy at EPLSG

Analyzing the role of meaning structures for realizing a new supply chain strategy at EPLSG aims to provide a more encompassing explanation of the realization of a new strategy in EPLSG. The fundamental idea is that the realization of a new strategy as planned action can be explained as organizational learning processes in which the meaning structures regarding the principles of organizing how to effectively cooperate in order to perform activities are re-conceptualized. This idea is based on the assumption that a strategy can be described in terms of principles for organizing how to effectively cooperate to perform activities and goals that are consequently to be accomplished. Here, however, the focus is on the perception of the activities that are performed to accomplish the goals. This means that the realization of the strategy in EPLSG can be explained according to the extent to which the collective meaning structures of the actors involved are congruent with the principles of the new strategy for organizing the forecasting, ordering and the stock-keeping activities. Therefore, it is instrumental to describe the fundamental principles on which the new strategy is based as well as evaluate the strategy realization process by analyzing the extent to which the collective meaning structures of the involved actors have been re-conceptualized as to be congruent with the principles of the new strategy.

The Meaning Structures Underlying the Activity Pattern of the New Supply Chain Strategy

The decision to renew the established strategy was based on the awareness of the discrepancy between the lengthy lead-times for handling customer order and the increasing importance of shorter lead-times. A representative of the Swedish actor states:

"I think that fundamentally those companies that are able to handle their logistics will be the winners in the future, because through the logistics flow almost every aspect of the actor is covered. In this kind of situation that we now are facing, the mechanic product is becoming less relevant and the lead-time to our customers much more important. It is difficult to say exactly how important the business logistics process is. From an operational point of view it is important that it functions well as a means of production in a wider sense, and from a strategic point of view it is important that it can be translated into good profitability. It is also important when we are facing structural changes, because it is through the business logistics process that we learn about these changes and can respond to them. Business logistics must therefore be part of customer satisfaction."

Thus, in the future, customer service is considered to be more important then the physical product. Information and knowledge about the customers' demands will therefore be important. Through the business logistics process it is possible to receive this kind of information and learn about changes in the customers' demands. This means that the business logistics process is considered to be of strategic as well as operational importance. The strategic importance comes from the potential to generate profitability by coping with changes in customers' demands. The operational importance derives from being a means to improve production and transportation flows. The business logistics process is, therefore, connected with customer satisfaction of which important aspects are customer service level and lead times regarding production flows.

A new strategy was developed aiming to re-organize the business logistics process in a more integrated way, which would encourage and facilitate information transfer between the sales and production actors as well as to safeguard the accuracy of the transferred information. The principles of the new strategy were the following:

- The actors connected to the information business logistics process have different roles and responsibilities. The purpose of defining roles and responsibilities is to describe the kind of business logistics activities and responsibilities of an actor in the internal network. The responsibility for performing the logistics activities forecasting, order-taking and stock-keeping is transferred from the sales actors to the production actors. The sales actors, however, maintain the role as local interface with the customers in possession of a minimal, local stock of categorized products. This means that the forecasting of future customer demand is no longer the responsibility of sales actors but that of production actors. However, information about deviations from the forecast should be transferred from the sales actors to the production actors.
- The production and sales actors use an on-line IT system to transfer information, such as about customers' needs and changes thereof. The purpose with the on-line IT-system is to facilitate the identification of changes in customer demand, the transformation and analysis of the changes as well as the transfer of this kind of information between the actors. The on-line connection enables the sales and production actors to almost simultaneously have the same kind of information. A representative of the Swedish actor says:

  "It is essential that each 'stock manager' has access to information about the content of the local stock. Production and sales companies should therefore be connected via an on-line computer system, which would make it possible to analyze information on a deeper level, identifying changes in demand and challenging the orders from the sales companies. We must become better in foreseeing the deviations in demand. We know there will be deviations but they are very difficult to foresee."

- The sales and production actors translate customers' needs by using product numbers. The product numbers can be seen as 'a standardized language' between the actors. When customers are using product numbers, instead of product descriptions, when placing an order with a sales actor, the risk for individual interpretations and misunderstandings among the actors of the internal network is reduced. Forecasts should therefore be specified in terms of product units and quantity in stock. Products should be categorized as either A, B or C products. To measure the performance of the actors, goals are formulated on individual as well as collective level.

Thus, the new supply chain strategy has the following principles: New specified roles and responsibilities that describe what kind of business logistics activities an actor in the business logistics process is responsible for performing. The on-line IT-system facilitates the identification and analysis of changes in customer demand as well as the transfer of information between the sales actors and production actors. Product numbers for the customer orders to be used when placing orders prevent individual interpretations and misunderstandings when sending and receiving information. Individual as well as collective goals measure the performance of the process. The new strategy emanates from the awareness and understanding about the information incongruencies between the external and the internal networks. This implies a fundamental meaning structure that recognizes information interdependencies. As a consequence, roles and responsibilities are defined to involve the responsibility of sending new information to another actor in the internal network. For instance, awareness of new information, such as changes in customer needs, should result in the transfer of this information among the actors. This information transfer is triggered by the understanding of how relevant the new information is for another actor in the internal network, but also of the consequences of refraining from transferring it. According to the new supply chain strategy, logistics is defined as an information dependent process of strategic importance because it integrates the production and sales actors with the customer.

The Meaning Structure of the Dutch Sales Actor Related to the New Supply Chain Strategy

The meaning structures of the Dutch sales actor regarding the new supply chain strategy can be described accordingly. The external dimension: 'We see the external market network as a non-growing, highly competitive business equally divided between replacing old and selling new products where customer service is a key means of competition.' The internal dimension: 'We see ourselves as a small sales actor, having a weak position in the group and a dependent role; we trust the Swedish production actor because it is committed in helping us satisfy the needs of our local customers.' The solution to cope with the structural change in the external market network was initially understood as a new forecasting system that would enable us to be more flexible in handling changes in customers' needs and, thus, the information dependencies between sales and production. Over time, the meaning structure regarding this latter aspect of the new strategy was re-conceptualized into what can be described as 'We see the solution as a new kind of ordering system that captures market information because it would enable us to be more flexible to handle changes in customers' needs and, thus the information dependencies between sales and production. It is important to notice that trust of the Swedish production actor has been consistent during the time of the change initiative essentially because it was perceived as being committed to the Dutch sales actor's ambition in satisfying the needs of the local customers. The meaning structures of the Dutch sales actor regarding the new strategy are illustrated in the figure below.

In the relationship between the Swedish production actor and the Dutch sales actor there is awareness of structural changes in the external market network as well as of that they have negative consequences for both parties' positions in the network. In this sense, 'widespread awareness' has developed in this part of EPLSG that constitutes the relationship between the Swedish production actor and the Dutch sales actor. However, there is a difference in the perceptions regarding the reasons for the structural changes in the external market network, what 'the business' is about and which means of competition is the most important. Still, the understanding of organizational consequences and of business logistics is similar. Also, the information interdependencies between 'sales' and 'production' are recognized as well as what role they play for an effective material flow. Furthermore, the understanding of roles and responsibilities is similar. For instance, that the new ordering and stock-keeping activities are more effective ways of organizing and performing business logistics activities than the previous ones is understood by the Dutch sales actor. However, although there is awareness of the Swedish actor's need for information to be able to forecast customers' needs more effectively, the level of understanding regarding how to improve the forecasting activities is low. Still, the actors share the understanding of strategic and organizational consequences and of the solution to cope with these. Thus, a collective meaning structure has been developed in the relationship between the Dutch sales actor and the Swedish production actor, which has reduced the equivocality and complexity in the relationship and facilitated the physical integration.

Two aspects of the previous meaning structures regarding business logistics activities were re-conceptualized: forecasting and ordering. The previous meaning structure behind the forecasting activity, being formulated as 'the Swedish production actor needs information from the annual forecast' was re-conceptualized into a new one: 'the Swedish production actor needs information from the

external market network that the sales actors have access to.' Also the previous meaning structure on the ordering activity was re-conceptualized, 'there is only one optimal ordering system' into a new one: 'the ordering system can always be improved'.

The Meaning Structure of the German Sales Actor Related to the New Supply Chain Strategy

The meaning structure of the German sales actor regarding the new strategy can be described accordingly. The external dimension: 'We see the external market network as a non-growing highly competitive replacement business where the leads times as a means of competition vary with different customers.' The internal dimension: 'We see ourselves as responsible for sales and the brand name, having important information about customers' needs that are useful for the production; we do not trust the Swedish production actor. Over time, the meaning structure regarding this aspect of the new strategy was re-conceptualized into what can be described as 'Our role is also to provide the production with information about customers' needs as soon as possible when we have this kind of information; we have more trust for the Swedish production actor.' The solution to cope with the structural change in the external market network was initially understood as 'changing the sales focus to market segments with better growth potential than the old ones; business logistics is important but neither conceptualized nor a priority.' Over time, this meaning structure regarding this latter aspect of the new strategy was re-conceptualized into what can be described as 'the solution is not only a change of sales focus but also business logistics, which is a chain of activities that connects sales and production and for providing market information.' Important to notice is that the re-conceptualization of the meaning structure occurred twice, and that the trust for the Swedish production actor increased during the time of the change initiative essentially because 'they got to know each other better'.

In the relationship between the Swedish production actor and the German sales actor there is awareness of structural changes in the external market network as well as of that the structural changes have negative consequences for both parties position in the external market network. In this sense, 'widespread awareness' has developed in the part of EPLSG that constitutes the relationship between the Swedish production and German sales actors. 'The business' is defined in a similar way, i.e. one of replacing customers' old products. The German sales actor differentiates the importance of delivery time to different kinds of customers. There is also a difference in the perceptions regarding the reasons for the structural changes in the external market network; new kinds of competition vs. deregulations. Still, there is 'widespread awareness' among the actors of strategic and organizational consequences caused by the structural change and of the need to start working differently.

Initially, however, the understanding of the solution to cope with these consequences differed. The solution was by the German sales actor understood as concerning a change in the sales activities. The meeting in Troyes increased the level of awareness and understanding regarding the new strategy and of business logistics in particular. The information interdependencies between 'production and sales' in the business logistics process were then better understood by the German sales actor. The actors, therefore, share the understanding of strategic and organizational consequences and of the solution to cope with these. Thus, a collective meaning structure has been developed in the relationship between the German sales actor and the Swedish production actor. This has reduced the equivocality and complexity in the relationship and facilitated the physical integration.

The Meaning Structure of the British Sales Actor Related to the New Supply Chain Strategy

The meaning structure of the British sales actor regarding the new supply chain strategy can be described accordingly. The external dimension: 'We see the external market network as a non-growing, highly competitive replacement business where customer service and lead times are an important means of competition.' The internal dimension: 'We see ourselves as an innovative, value-adding and successful sales actor, having a strong position in the group and a rather independent role; we do not trust the Swedish production actor to deliver on time and lead the change project.' The solution to cope with the structural change in the external market network was understood as 'restructuring the sales process by establishing new sales channels and new brands; logistics was considered as a process of efficient transportation.'

Important to notice is that during this time period the meaning structures of the British sales actor were not re-conceptualized. In other words, organizational learning processes did not occur. Furthermore, the mistrust for the Swedish production actor was consistent.

In the relationship between the Swedish production and the British sales actors there is awareness of structural changes in the external market network as well as of that the structural changes have had negative consequences for their positions in the external market network. In this sense, 'widespread awareness' has developed in this part of EPLSG that constitutes the relationship between the Swedish production actor and the British sales actor. Furthermore, 'the business' is defined in a similar way. A big difference, however, is how the means of competition in coping with the structural changes is perceived. They do not share the same understanding of organizational consequences. The organizational consequences of the structural changes are understood by the Swedish actor as the need for restructuring the business logistics activities whereas they are understood by the British sales actor as the need for restructuring the sales activities. In other words, 'shared understanding' regarding organizational consequences has not developed in the part of EPLSG that constitutes the relationship between the Swedish production actor and the British sales actor. One reason for understanding the organizational consequences differently is that the actors attribute different causes to the structural changes.

Furthermore, the meaning structure of the British sales actor regarding business logistics is rather functional. As a consequence, the information interdependence between the actors for an effective material flow are not recognized. A connection between the Swedish production actor's ability of short delivery times, information sharing and its own ability to deliver accurately and on-time to the customers is not made. This conclusion is based on some statements made by representatives of the British actor:

> "There is no critical thing for the factories that would dramatically improve their ability to deliver."…"The delivery times are not honored by the factories. If they want us to reduce our stock, they have to give us more reliable and shorter delivery times."…"Once we met the people from Sweden but they were locked into forecasts. Our reasoning was that: how has it ever benefited you to have a forecast that is meaningless if you don't have to confirm it until two weeks before the forecast is up."

Thus, the actors do not share the same understanding of organizational consequences because they understand business logistics differently. Whereas it is believed by the Swedish production actor that business logistics activities are best organized and performed in an integrated way the integrated dimension of business logistics is not recognized by the British sales actor. That the information interdependencies are not recognized by the British sales actor indicates a functional meaning structure regarding business logistics. Thus, a collective meaning structure regarding the new strategy to cope with structural change has not been developed in the relationship between the Swedish production actor and the British sales actor. The major reason is that the existing meaning structures of the British sales actor regarding the external and the internal dimension of the new strategy as well as 'how to cope with structural change' have not bee re-conceptualized. There is still a relatively high level of equivocality and complexity in the relationship that hamper the physical integration.

Evaluating Supply Chain Integration at EPLSG

In the case of the Dutch sales actor, the new strategy was different from the established strategy. The outcome of the change period indicates that the principles for organizing forecasting, order-handling and stock-keeping activities had been changed by the Dutch sales actor to be more congruent with the principles stipulated by the new strategy. The meaning structure regarding these principles had also been changed. The change had occurred in a re-conceptualization process, which indicates that the Dutch sales actor and the Swedish production actor have developed a shared understanding of the solution to cope with structural change. However, neither the internal nor the external dimension of the meaning structure was re-conceptualized during the change process. This was not necessary since the actors already at the initiation of the change project shared the same understanding thereof. Although the actors attributed different causes to the structural changes that had occurred in the external market network, they were aware that they had occurred. They were also aware of the detrimental effects, and consequently, of the need to start working differently. This implies that the Dutch sales actor had already before the initiation of the change project started to adapt to the structural changes. At the initiation of the change project the actors also had a similar understanding of 'the business' and of 'the means of competition' to improve the position in the external market network. Thus, shared awareness of structural changes in the external market network, shared understanding of the strategic and organizational consequences, and of the solution in coping with these seem to have facilitated the realization of the new strategy.

Furthermore, it seems that the re-conceptualization process occurred because the new strategy was accepted. The continuous trust in the Swedish production actor also seems to have played an important role. It can, therefore, be concluded that the new strategy has, to a major extent, been realized in the relationship between the Dutch sales actor and the Swedish production actor because the former trusted the latter and accepted the new strategy. The realization of the new strategy seems to have been facilitated by the Dutch sales actor, already at the initiation of the change project, had a similar understanding as the Swedish production actor of the external as well as the internal dimensions of the new strategy.

Similar to the Dutch sales actor, the German sales actor had, at the outcome of the change period, changed the principles for organizing the business logistics process with the Swedish production actor and the meaning structure thereof. Also the meaning structure of the internal dimension of the new strategy had been changed. This implies that the German sales actor and the Swedish production actor have related their meaning structures and become more 'mentally integrated'.

However, the meaning structure regarding the external dimension of the new strategy was not re-conceptualized during the change period. Similar to the Dutch sales actor, this was not necessary since the German sales actor and the Swedish production actor had already at the initiation of the change project shared the same understanding thereof. Both the German sales actor and the Swedish production actor were aware of the structural changes in the external market network. They had, however, a different understanding about what was causing them. Nevertheless, both actors understood the need for starting to work differently. Similar to the Dutch sales actor, this implies that the German sales actor had already before the initiation of the change project become aware of the need of changing the strategy in order to adapt to the structural changes in the local market network.

Furthermore, the German sales actor and the Swedish production actor had a similar understanding of 'the business' as well as of 'the means of competition' to improve the position in the external market network. However, at the initiation of the change project both parties had a different understanding of the solutions in coping with the strategic and organizational consequences of the structural change. The German sales actor understood that the best way to deal with these consequences was to change the sales focus to other parts of the local market network with a better growth potential. This meaning structure was, however, re-conceptualized during the change process, and at the completion of the change period it also included business logistics as part of the solution. Thus, as in the case of the Dutch sales actor, it can be concluded that shared awareness of structural changes in the external market network, shared understanding of the strategic and organizational consequences and of the solution in coping with these facilitated the actors in realizing the new strategy.

At the initiation of the change process, the level of trust for the Swedish production actor was low. This was different compared to the Dutch sales actor. Gradually during the change process, however, the level of trust between the German sales actor and the Swedish production actor increased. This seems to have affected the acceptance of the new strategy. The new strategy was accepted first when trust had been established in the relationships with the Swedish production actor. This then resulted in the development of a collective meaning structure of the new strategy, which facilitated the realization of it in the relationship between them.

The case of the British sales actor is somewhat different from the other two cases. Although at the completion of the change period, some of the principles for organizing the business logistics process between the Swedish production actor and the British sales actor had been modified, neither the new strategy nor the meaning structures had been realized at the completion of the change period, and therefore no changes had been made. A re-conceptualization process had, consequently, not occurred during this change period. Actually, at its completion, both the Swedish production actor and the British sales actor had different meaning structures regarding the external and the internal dimensions of the new strategy as well as of the solution to cope with the strategic and organizational consequences of the structural change. Thus, the actors had not related their meaning structures and become 'mentally integrated'.

The actors were aware that structural changes had occurred in the external market network. However, they had different understandings as to what caused them. They were also aware of the detrimental effects, and, consequently, of the need to start working differently. The British sales actor seems to have started to adapt to the structural changes already before the initiation of the change project.

Furthermore, the actors had a similar understanding of 'the business' and of 'the means of competition' to improve the position in the external market network. Therefore, they shared the same understanding of the external dimension of the new strategy. However, neither did they share the same understanding of the internal dimension of the new strategy nor of the solution to cope with the strategic and organizational consequences of the structural changes. The British sales actor understood the solution to best cope with the consequences such as the need for restructuring the sales activities, thereby having a similar meaning structure to that of the German sales actor. A major difference between the two sales actors, however, is that the meaning structure of the German sales actor was re-conceptualized first when trust had been established for the Swedish production actor. In the case of the British sales actor, trust was not established during the time period of the change process and, consequently, it did not accept the new strategy as a solution in coping with structural change. The new supply chain strategy was, therefore, not realized in the relationship between the British sales actor and the Swedish production actor because the former did not trust the counterpart and did not accept the new strategy. Essentially due to the lack of trust, a collective meaning structure of the new strategy was not developed between the actors.

At the initiation of the change project all three sales actors shared the same understanding as the Swedish production actor regarding the external dimension of the new strategy. During the project, the German sales actor re-conceptualized the meaning structure regarding the internal dimension of the new strategy. The Dutch sales actor did not have to because it had already at the outset of the project a similar meaning structure as the Swedish production actor. Similar to the Dutch sales actor, the German sales actor also re-conceptualized the meaning structure regarding the solution to cope with the consequences of structural change The British sales actor did, however, neither re-conceptualize the meaning structures regarding the internal dimension of the new strategy nor regarding the solution in coping with the consequences of structural change. A major difference between the German and the British sales actor is that the former re-conceptualized the meaning structures when trust had been established in the relationship with the Swedish production actor. However, trust was not established during the change period in the relationship between the British sales actor and the Swedish production actor. The Dutch sales actor's trust in the Swedish production actor remained high during the whole change project. Thus, trust was an important factor for the actors to re-conceptualize the meaning structures regarding the new supply chain strategy.

Finally, this case study is about the realization of a new supply chain strategy in EPLSG. The new strategy captured a potential to better translate and transmit information about changing customers needs. This could, in turn, result in enhanced ability to offer and provide variety to meet contingencies in customer relationships. The question is therefore: has the group of companies become more integrated and thereby enhanced its capacity to cope with industrial network dynamics? The Dutch and the German sales companies had made major changes in the existing business logistics activities and become more physical integrated with the Swedish production actor with regard to stock-keeping, forecasting and handling customer orders. At these sales actors a learning process had occurred in which the actor representatives had re-conceptualized there meaning structures regarding existing forecasting, order handling and stock-keeping activities and, consequently, re-organized these activities. This implies enhanced capability to better translate and transmit information about changing customers' needs and enhanced capacity to, in the future, better cope with industrial market dynamics in these parts of the external market network. Whether or not the development of new capabilities is enough to restore the position of the group as preferred supplier remains to be seen.

Conclusions

In this paper it is argued that meaning structures are repositories of organizational learning and a useful term for describing organizational learning process in different organizational contexts. Meaning structures can be categorized as private, accessible and collective. The major argument for using the term meaning structure, and not knowledge, would be that it is instrumental for capturing human understanding at different organizational levels and the explicit as well as tacit assumptions behind it. To circumvent the aggregation problem, i.e. whether individual's cognition can be aggregated into a collective level, the term actor representative was coined.

The business relationships of an intra-organizational network is never optimal or in state of equilibrium. Structural change, i.e., change in the pattern of connections with other actors, is rather the rule than exception. Managing change is, however, a difficult task due to overwhelming complexity and bounded rationality, i.e., limits on an actor's capacity to interpret and make sense of the

consequences of a change and, consequently, to acquire and transmit information about, for instance, changes in customers' needs. This increases the level of uncertainty about how to cope with the consequences. The complexity is attributed to the interdependencies of activities between actors enabling innumerous possibilities of new combinations to be generated.

One way of managing structural change is through the realization of a new supply chain strategy. A new supply chain strategy is the unique pattern of information logistics activities. The realization of a new supply chain strategy can be viewed as the renewal of the established activity pattern in an intra-organizational network. Supply chain strategy realization is the re-organization of information logistics activities in a novel pattern through organizational learning, resulting in enhanced supply integration. The realization of a new supply chain strategy could be described as organizational learning processes and evaluated according to the extent to which the actors involved have re-conceptualized their meaning structures, for instance regarding information logistics activities.

The change management approach, in terms of adapting to a new supply chain strategy that an actor will apply to cope with structural change depends on the single actor's perception of independency and mutuality in relation to other actors. Furthermore, it is strongly influenced by how the actor understands what is external of the intra-organizational network, the intra-organizational network itself and the solution to cope with the consequences of structural change. The external dimension can be understood as the degree of competitiveness, and be described in terms of (i) the existence of structural change; (ii) customer demands; (iii) customer's purchasing pattern; (iv) the business in which the actor is operating; (v) competitive means to improve the network position. The internal dimension can be understood as the degree of interdependencies perceived by other actors and be described in terms of (i) the actor's strategic identity; (ii) its role in the group of companies; (iii) other actors' role in the group of companies. Furthermore, a high level of trust for the counterpart and the role it plays in the internal network can partly explain a high level of involvement in a mutual effort in coping with structural change. A counterpart is perceived as trustworthy when being committed to help the single actor satisfying local customers' needs.

Furthermore, at the initiation of the change project the three sales actors had different understandings, for instance, about which strategy to apply to best cope with the structural change. At the completion of the project, two of the three sales actors had developed shared understanding thereof. This means that an interpretation process had occurred in the sense that shared understanding had been developed, enhancing the actors to take effective action. In other words, an organizational learning process had occurred. This process occurred because these two sales actors - the Dutch and the German - re-conceptualized their meaning structures regarding which strategy to apply to best cope with the structural change. A major contribution of this empirical study is that the interpreting process involves the re-conceptualization of meaning structures, which occurs when organizational members engage in the sequence of collectively interpreting information with other organizational members who are themselves engaged in the same sequence. However, the German sales actor changed the meaning structure first when trust had been established in the relationship with the Swedish production actor. On the contrary, the British sales actor did not re-conceptualize the meaning structures regarding the new strategy. During the change period trust was not established in the relationship between the British sales actor and the Swedish production actor. The Dutch sales actor's trust in the Swedish production actor remained high during the whole change project. Yet another contribution of this empirical study is that trust is an important condition for the re-conceptualization process to occur.

References

Alvesson, Mats, & Sköldberg, Kaj. (1994). Tolkning och Reflektion. Lund: Studentlitteratur.

Argyris, Chris, & Schön, Donald. A. (1978). *Organizational Learning: A Theory of Action Perspective.* Reading, Mass.: Addison-Wesley.

Blomstermo, Anders, & Sharma, Deo, eds. (2003). Learning in the Internationalisation Process of Firms: New Horizons in International Business. Cheltenham: Edward Elgar Publishing.

Cangelosi, Vincent. E., & Dill, William. R. (1965). Organizational Learning, Observations toward a Theory. *Administrative Science Quarterly, 10(2)*, pp. 284-295.

Crossan, Mary, & Berdrow, I. (2003). Organizational Learning and Strategic Renewal. *Strategic Management Journal, No. 24*, pp. 1087-1105.

Dixon, Nancy (1994). *The Organizational Learning Cycle - How we can learn Collectively.* London: McGraw-Hill Developing Organizations Series.

Drucker, Peter (1994). The Theory of the Business. *Harvard Business Review, September-October*, pp. 95-104.

Dubois, Alexandra, & Gadde, Lars-Erik. (2002). Systematic Combining: An Abductive Approach to Case Research. *Journal of Business Research, No. 55*, pp. 553-560.

Eden, Collin (1992). On the Nature of Cognitive Maps. *Journal of Management Studies, 29(3)*, pp. 261-65.

Ford, David, Gadde, Lars-Erik., Håkansson, Håkan, & Snehota, Ivan (2003). *Managing business relationships* (2nd ed.). Chichester: Wiley.

Forsgren, Mats (1989). *Managing the Internationalization Process.* London: Routledge.

Forsgren, Mats (2000). Some Critical Notes on Learning in The Uppsala Internationalization Process Model (No. 2000/2). Uppsala: Department of Business Studies.

Forsgren, Mats (2004). The Use of Network Theory in Multinational Actor Research, In: Mahnke, V. and Pedersen, T. (eds.), Knowledge Flows, Governance and the Multinational Enterprise. Frontiers in International Management Research, pp. 18-37

Håkansson, Håkan, eds. (1987). Industrial Technological Development: A Network Approach. Beckenham: Croom Helm.

Håkansson, Håkan (1989). Corporate Technological Behaviour - Co-operation and Networks. London: Routledge.

Håkansson, Håkan, & Snehota, Ivan (1995). *Developing Relationships in Business Networks.* London: Routledge.

Håkansson, Håkan & Snehota, Ivan (2000) The IMP Perspective: Assets and Liabilities of Business Relationships, In Sheth. J. N. & Parvataiyar, A. eds. (2000) *Handbook of Relationship Marketing*, Sage Publications.

Hellgren, Bo., & Löwstedt, Jan (1997). Tankens företag – kognitiva kartor och meningsskapande processer I organisationer. Stockholm: Nerenius & Santérus Förlag.

Hoover, William. E. Jr., Tyreman, Mats, Westh, Johan, & Wollung, Lars (1996). Order to Payment. *The McKinsey Quarterly, No. 1.*

Jansson, Hans (2006). *International Strategic Management in Emerging Markets - Global Institutions and Networks.* Unpublished manuscript. Baltic Business School, Department of International

Marketing.

Kim, Daniel (1993). The Link between Individual and Organizational Learning. *Sloan Management Review, Fall*, pp. 38-50.

Klimecki, Rüdiger., & Lassleben, Hermann. (1998). Modes of Organizational Learning: Indications from an Empirical Study. *Management Learning, Dec, 29(4)*, pp. 405-430.

Merriam, Sharan. (1998). *Qualitative Research and Case Study Application in Education*. San Francisco, CA: Jossey-Bass Inc. Publishers.

Mintzberg, Henry, & Waters, James. A. (1985). Of Strategies, Deliberate and Emergent. *Strategic Management Journal, 6*, pp. 257-272.

Probst, Gilbert, & Büchel, Betina. (1997). *Organizational Learning: The Competitive Advantage of the Future*. Harlow: Prentice Hall Europe.

Sharma, Deo, & Blomstermo, Anders (2003). A Critical Review of Time in the Internationalization Process of Firms. *Journal of Global Marketing, Vol. 16(4)*, pp. 53-71.

Snehota, Ivan (1990). *Notes on a Theory of Business Enterprise*. Uppsala: Department of Business Studies.

Timlon, Joachim (1997). Collective Learning in Business Relationships - A Way to Enhance the Capacity to Reach Common Objectives that Create Mutual Value. Göteborg: Gothenburg School of Economics and Commercial Law, Department of Business Administration.

Yin, Robert (2003). *Case Study Research: Design and Methods* (3rd ed.) (Applied Social Research Methods series, 5). London, Sage Publication.