

**Time and Space Dynamics in Networks:
Do Network Perceptions Reflect Network Positions?**

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Competitive Paper presented to the 26th IMP Conference in Budapest,
September 2010.

Special track: Time and Process in Business Network Research

Abstract

The network position of a company represents a pivotal concept in research on business networks within the tradition of the Industrial Network Approach. However, the existing literature has mostly been concerned with defining the term ‘network position’. Hence, the essence of the concept remains rather static, largely defined in terms of the constellation of relationships a company has with other actors. But networks are dynamic, and network positions change. The link between network position and network change relates to the interdependencies within a network, i.e. if one company’s position changes, this will in turn affect the position of other companies, resulting in a new configuration of the network. Therefore, issues around network position provide a conceptual link to the concept of network change. For the purpose of this research, network change is understood through actors’ perceptions, i.e. as cognitive schemata, in line with recent research on network pictures in the Industrial Network Approach. We specifically try to understand how actors’ perceptions of network dynamics (and their subsequent networking actions) will vary depending on the network position that their company holds. Our analysis suggests that although there are similarities between perceptions by actors holding similar positions in the network (i.e. those actors at periphery of the overall network have richer network pictures regarding change dynamics), network position alone cannot explain such differences in cognitive schemata. Rather, differences in actors’ interpretations and intentions in terms of their network role, as suggested by the role-and-position concept, are better at explaining differences in perceptions than the network position concept alone. Besides these findings which enrich the literature on network dynamics, a second contribution of this study is the use of a novel method for analysing and comparing actor perceptions in industrial networks. This method is applied to an extensive case study of the changing distribution structure for seafood in Norway and Japan.

Keywords

Network position, network roles, network pictures, network change, seafood distribution, Japan, Norway.

1. Introduction

Over the last thirty years, the concept of viewing business relationships not as separate entities but as interconnected and interdependent networks of relationships, has gained increased attention by researchers in the area of inter-organisational management (Achrol, 1997; Achrol & Kotler, 1999). Using this perspective, a business relationship is not seen as a marketing channel, a supply chain, or a value chain, but as being embedded in a business network (Ford et al., 2003). There are various approaches to analysing business relationships in terms of networks (see Araujo and Easton, 1996, for an extensive review). Our study will specifically adopt the Industrial Network Approach as it represents the most comprehensive framework for explaining the interdependencies between actors, activities and resources (Håkansson and Snehota, 1995; Ford et al., 2003). The Industrial Network Approach stresses the need to analyse the management of long-term buyer-seller relationships within complex network structures, rather than focusing on short-term purchasing decisions. After being introduced into the field of industrial marketing in the beginning of the 1980s (Håkansson, 1982) this approach has been developed by numerous studies, and today represents a major stream of research on business marketing and inter-organisational strategy (Håkansson et al., 2005).

In a business network, an actor will have a distinct *network position* based on his/her connections to other actors. This implies that networks are never stable, but dynamic entities because “*actors are constantly looking for opportunities to improve their position in relation to important counterparts and are therefore looking for opportunities to create changes in the relationships*” (Håkansson and Snehota, 1995, p. 275). The network approach is particularly

useful when analysing such networks dynamics, because it “*offers conceptual tools to the study of dynamics in business markets. It pinpoints the importance of both direct and indirect, close and distant relationships for understanding change and allows us to see that relationships may function in various important roles in the generation and transmission of change*” (Halinen, et. al 1999, p. 780). Moreover, an actor’s effort to change network position is subject to his *network perceptions*, i.e. the perceived understanding of the surrounding network and ties to other actors (Ford et al., 2003; Henneberg et al., 2006a; Holmen and Pedersen, 2003). Thus, network position, network dynamics and network perceptions are related concepts, but this relatedness remains largely unexplored. Our research is therefore aimed at understanding how network dynamics, here understood as perceptions of network change by various actors, are affected by the different network positions of actors in the overall network. Such network perceptions, or actors’ pictures of the network, are of interest because on the one hand these network perceptions are idiosyncratic to the individual actor. On the other hand, actors will have a perception of the network which can be assumed to be related to their specific network position. More insight into how companies perceive network changes will therefore help us understand their subsequent networking activities.

This article will start by exploring the concepts of network change, network pictures and network position in an attempt to develop a methodological framework to empirically investigate how actor perceptions vary depending on network position. This framework is then tested via a case study of Norwegian suppliers of fresh salmon to Japan, a distribution network currently under considerable pressure to change. Results are subsequently discussed in terms of contributions to knowledge, and finally, some limitations of the study and suggestions for further research are outlined.

2. Exploring Key Concepts

2.1. The concept of network change

Network change has received increasing attention amongst researchers in recent years, but it is still a relatively unexplored area (Halinen, et al., 1999). Network change has been described in terms of different dimensions: Håkansson and Snehota (1995) see its relation to *network stability*, arguing that stability and change are an inherent duality of networks (Håkansson and Snehota, 1995), and stability acts as a prerequisite for change (Lundgren, 1992). This duality has also been defined as *coalescence* and *dissemination* of networks (Håkansson and Lundgren, 1992). Others use concepts such as *expansion* and *contraction* (Mattson, 1987); *extension* and *consolidation* (Cook, 1982) and *splitting* and *joining* (Hertz, 1996). Halinen et al. (1999) introduce the term *confined change* to characterise stability. Confined change remains within the dyad of a business relationship, and is not acted upon by other actors outside the relationship. However, due to the interdependencies of relationships, change in one relationship often spreads to other relationships, subsequently affecting the whole network. This is defined as *connected change*; a change which influences or is acted upon in other relationships in the network. Change within a network may be seen both as an evolutionary process, or as a continuous process where stable periods are broken by radical changes (Halinen et al., 1999). However, such revolutionary change characterized by systemic discontinuities is possible but unusual (Easton, 1992). Radical change refers to a situation where actor bonds, resource ties and activities are fundamentally altered or dissolved and fundamentally new relationships established. Nevertheless, network change (and network stability) is an inherent characteristic of business networks and as such represents a constituent factor of the Industrial Network Approach (Ford, et al. 2003; Håkansson and Snehota, 1995).

In this study, the driving force of network change is seen as the interplay between the strength of bonds between the relevant *actors*, how *resources* are utilised, and how *activities* are linked together (the so-called ARA-model) which Håkansson and Snehota (1995) describe as: “*The most important dimension of change in business networks concerns the development of activity links, resource ties and actor bonds in relationships. These are not just recording the effects of change, they are also one of its main sources...As links, ties and bonds are developed within one relationship they are also combined and connected to each other. The development of relationships brings them together in different and sometimes contradictory ways. We thus believe that three dimensions of change in business networks can be identified with the interplay of links, ties and bonds as a starting point*” (p. 276). Thus, network changes are seen as manifested in, as well as transmitted through, connected business relationships with identifiable parties and unique counterparts rather than in response to changes in a faceless, exogenous environment (Ford, et al., 2003; Håkansson and Snehota, 1995).

However, to our knowledge no empirical studies of network change as an observable phenomenon have been undertaken. This issue relates to an underlying epistemological question whether it is possible to actually observe the *process of change*. Rather, we aim to understand the results or *products of change*, i.e. how change is manifested within a company (at actor level), in the relationship between two companies (at dyad level) or in connected relationships (at network level). These manifestations are generally observed in terms of respondents’ accounts of changes (e.g. during interviews), the researchers’ account of changes (e.g. in case studies) or comparisons of representations at several given points in time (e.g. longitudinal studies). Thus, we cannot observe change *per se*, but merely respondents’ accounts and perceptions of change, or how respondents make sense of change.

2.2. Making sense of change: The concept of network perceptions

Underlying the Industrial Network Approach is the interaction model (Ford and Håkansson, 2006). In networks, companies are seen to interact based on their *perceptions* of the relevant network environment and their subjective *sense-making* of the network logic and exchange mechanisms relating to the activities, resources, and actor bonds (Ford et al., 2003; Henneberg et al., 2006a; Holmen and Pedersen, 2003). Thus, network change may be studied in terms of how actors perceive changes in their related network, and consequently how they enact these perception via resulting action (managerial activities and strategic decision called *networking* by Ford et al., 2003). This apparent relationship between *network changes* and *network perceptions* has been noted by several authors: for instance, Halinen et al. (1999, p. 786) conclude that “*the mental process of enactment can be regarded as a key explanation for stability and change in networks*”; and Hertz (1992, p. 121) states that “*...the perceptions of integration might cause greater effects than otherwise might be expected from the actual change*”. Similar arguments are also found in other theoretical approaches, like the strategy and marketing channel literature. Guiltinan (1974) for instance emphasizes that it is not the market forces in themselves that represent the change, but the actor’s perception of them. Similarly, Achrol et al. (1983) argue that organisations do not perceive the environment as such, but they enact it.

Understanding how managers perceive changes in their surrounding network may therefore allow us to understand their decision-making and consequently their behaviours (Bogner and Thomas, 1993; Osborne et al., 2001; Stubbart, 1989), or, in IMP terms, their strategic networking (Ford et al., 2003). In this context it is of particular interest to gain insights into how actors explain and ascribe reasons for change because companies often base their decisions on these ascriptions (Daft and Weick, 1984; Gronhaug and Falkenberg, 1989; Reger and Palmer, 1996). However, comparing and contrasting different actor’s perceptions

have not yet received much attention by researchers, especially not in the context of a whole network structure. For this purpose, the concept of *network pictures* is well suited to capture such change perceptions of actors, as well as their sense-making efforts, e.g. their ascriptions.

Network pictures are managers' network theories. They have been proposed as textual and/or pictorial representations of what managers subjectively perceive to be pertinent in their environment and what the pertaining logic for actions and consequences of managerial activities in the network are (Henneberg et al., 2006b; Henneberg et al., 2010; Mouzas et al., 2008). As such, they are the 'theories-in-use' helping managers not only to make sense of their complex environment, but also to guide their decision-making and influence their managerial behaviour (Cornelissen, 2002; Welch and Wilkinson, 2002). Network pictures represent an individual's solution to the 'framing problem', i.e. knowing what knowledge or inferences may be relevant or irrelevant to a specific issue (Zaheer et al., 1998). Network pictures are therefore posited to guide networking activities (i.e. the activities of a company geared towards influencing or affecting interactions with other network actors), but they are also used to ascribe meaning to events in the network, such as activities instigated by other actors (Ford et al., 2003; Smircich and Stubbart, 1985). The individual decision-maker's cognitive schema is thus characterised by a bounded field of decision possibilities within the limits of expectations shaped by the framework of such network pictures.

Recent research in the areas of network management in the IMP tradition shows increasing interest in the concept of network pictures (Henneberg et al., 2009; Henneberg et al., 2010; Holmen and Pedersen, 2003; Leek and Mason, 2009; Tonge, 2010). For example, network pictures have been used to aid our understanding of how managers react to dramatically changing network environments (Kragh and Andersen, 2009; Oberg et al., 2007) and help to explain strategic decision-making behaviour (Borders et al., 2001). As such, the concept of network pictures is influenced by, and related to, the research themes of cognitive

strategic groups (Osborne et al., 2001; Porac et al., 1989) cognitive mapping (Fiol and Huff, 1992; Johnson et al., 1998; Tyler and Gnyawali, 2009), and managerial cognition/sense-making in organisations (Colville and Pye, 2010; Daft and Weick, 1984; Weick, 1995). Moreover, recent studies have outlined different ways of capturing these cognitive schemata (Henneberg et al., 2006b; Ramos, 2008). The idiosyncratic and socially constructed nature of network pictures means that there are never two identical network pictures. At the same time, network pictures are not solipsistic; they may be shaped by interactions as actors share inter-subjective understandings of their network environment (Daft and Weick, 1984; Weick and Roberts, 1993), suggesting that an actor's network picture must be seen in relation to its *network position*.

2.3. Network position

The concept of *network position* is useful when understanding how an actor relates to other actors within the surrounding network of actors (Easton, 1992; Johanson and Mattsson, 1992; Mattsson, 2002; Turnbull et al., 1996). Turnbull et al. (1996) define network position as “...a description of a company's portfolio of relationships and the rights and obligations that go with it. Network position is both an outcome of past relationship strategy and a resource for future strategy” (p. 12). They argue that in order to understand a company's network position one must analyse the resources it builds or is able to mobilise through interaction, and suggest three resource categories: access, reputation and expectations. However, business networks are dynamic, and thus network positions change. Such a link is discussed by Easton (1992, p. 134) who argued that “*positions in networks are primarily concerned with network connections. Thus they provide a language to talk about network changes.*” But changes in position are not easy to achieve. Other actors may resist change. In this context actors must decide whether they want to consolidate their existing network position or create a new

position by changing the combination of existing relationships to create a new one, as suggested by Ford et al. (2002).

Hence, it can be derived that actors having similar positions in a network (i.e. are engaged in similarly structured business relationships) also share some common understanding of network change, as suggested by Henneberg et al. (2006a) who conceive the proposition that “*network pictures are more similar for individuals in companies which are in a similar network position within a value-creating system*” (p. 11). They suggest several reasons for this: Greater sharing of beliefs and greater network picture homogeneity is likely to be present in companies who are similar in terms of their activity and business relationship portfolio (e.g. retailers share similarities in their portfolios which are dissimilar from those of manufacturers or raw material providers). Furthermore, greater overlap of network pictures may occur in more closely linked or centralised (dense) areas of the network. Actors sharing the same type of suppliers and buyers/customers are likely to be in competition and use each other for reference, and finally directly competing actors often share social and informational ties such as trade associations (Porac et al. 1989).

This discussion of key concepts, namely network change, network perception (network picture), and network position suggests that the driving force of network change is represented by actors looking for opportunities to change their network position (or resist change instigated by others) by exploiting their connected relationships to the larger network. Opportunities are therefore understood as cognitive manifestations (or network pictures) of how actors perceive themselves in relation to other actors in their surrounding network. Such manifestations in beliefs about the business network are imperative to understand because, by following a social constructionist perspective, change cannot be observed, only respondents’ representations of change can be interpreted. These manifestations or change perceptions are inimical to the individual actor, yet they are shaped by interactions with others as well. This

discrepant relationship is unexplored and poses therefore the main research question for this article: *To what extent are perceptions of change idiosyncratic to the actor, and to what extent are they a function of an actor's network position?*

4. Research Methodology

4.1. Case description

In order to address this question, a case study of the distribution networks of fresh Norwegian salmon to Japan was conducted. The current, traditional Japanese distribution system is based around the *Tsukiji*, the multi-layered fishmarket in Japan which aids distribution. The Tsukiji-based network is facing considerable pressure to change from both foreign exporters on the one hand, and Japanese retailers on the other. Traditional distribution is seen as inefficient and costly by actors demanding a more direct route to market, whereas actors related to the fishmarket defend its role (Bestor, 2004). The case study was conducted in 2007. Multiple interviews were held with Norwegian exporters, Japanese importers, wholesalers, distributors, processors, and retailers, and also government agencies (see Appendix 1 for a list of companies involved). Interviews traced the distribution route of the salmon through the two different systems: the traditional fishmarket system and the direct distribution system. The relevant business network was identified through a pre-study using interviews with a variety of different actors. This pre-study ascertained the suitability of the Norwegian/Japanese Salmon network for a study of network change, as well as the relevant actors which were all included in the main case study.

One way of presenting the resulting network involved in the study is shown in fig. 1. Here the actors are grouped in three ways: One way is horizontally, according to distribution levels or distribution functions in the network (position perspective). The other way is vertically, as a distribution channel where resources (e.g. goods, information and payments)

flow in a vertical direction (distribution flow perspective). Figure 1 also introduces an overview of the main actor linkages (payment interactions versus resource/salmon interactions), and what level of analysis they are subjected to (some actors were used to delineate the overall network, i.e. ‘tracing the fish’, others were used in the subsequent analysis of network pictures and network change). The traditional fishmarket actors are also indicated. For each of the actors involved, several interviews were conducted. During these interviews the respondents’ network pictures of past, present and future salmon distribution networks were collected (indicated by ‘five years ago’, ‘today’, ‘in five years time’). These network pictures (including both pictorial and textual data) (Henneberg et al., 2010) were then used to discuss how the actors understood and explained changes in their networks, using a template analysis incorporating time and space dimensions.

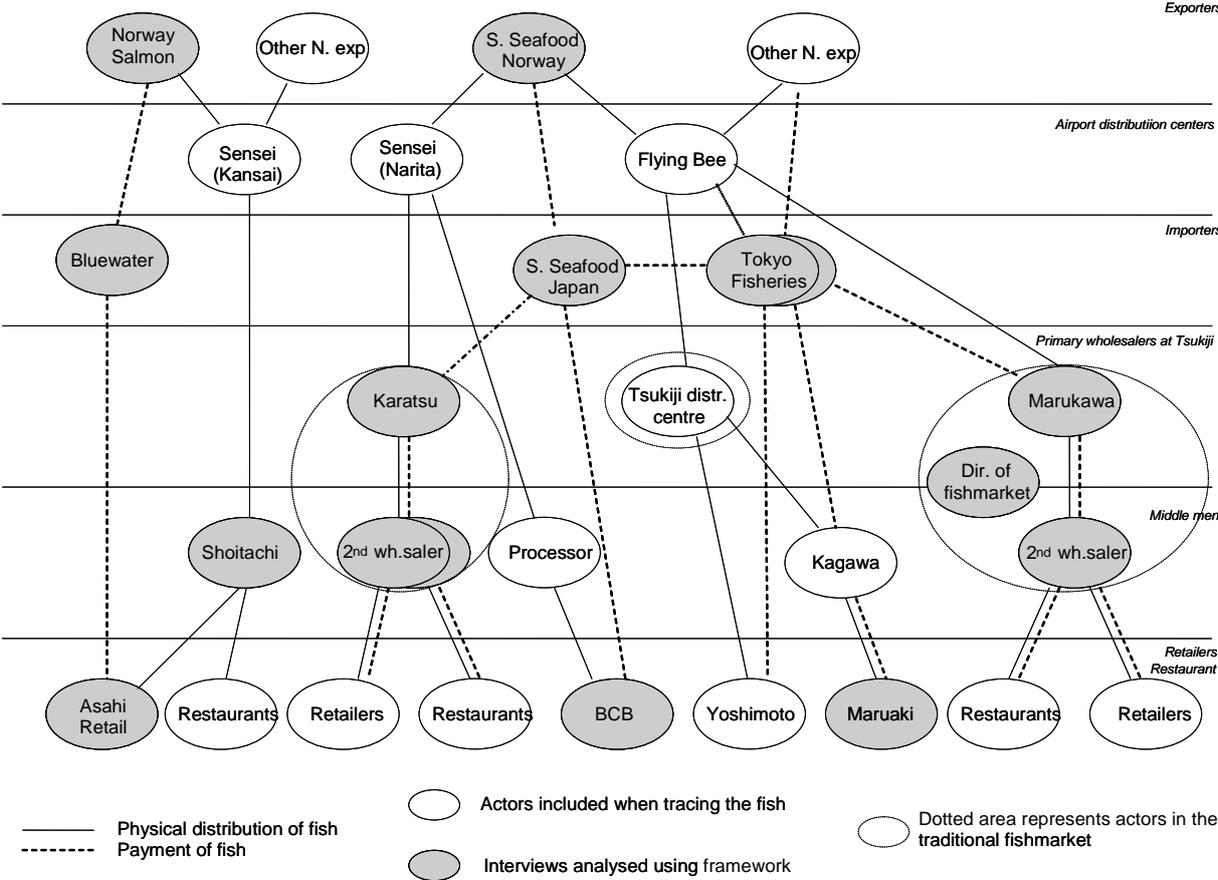


Fig. 1: Case study network: Norwegian/Japanese salmon distribution

4.2. A framework for analysing network change

Using template analysis (King, 2004), the interview statements as well as pictorial representation for each respondent were classified by their ADN levels, i.e. as to whether they considered any particular change to appear at actor level (A), dyad level (D), or network level (N). We distinguished between descriptions of network changes (i.e. what happened, currently happens, or will happen), and ascriptions of network changes (i.e. why did it happen, is happening, will happen). Correspondingly, the respondents' explanations or ascriptions for network changes could also be classified as to whether they resulted in actions by one actor (A), or because of changes in the relationship between actors (D), or due to changes in multiple or connected relationships (N). Individual statements (i.e. categories of meaning within a content analysis) were also classified as to whether the respondent discussed changes from past to present, or from present to future.

We can summarise the underlying logic of our analytical tool in Figure 2, which represents the structure for analysis of network change along several dimensions: the *time dimension* (when the changes are happening, e.g. 'from past to present' or 'from present to future'), the *space dimension* (where the changes are happening, i.e. which ADN level causes the change), and the *ascription dimension* (why the changes are happening). Consequently, four distinct boxes of network change are covered by our framework (boxes A to D).

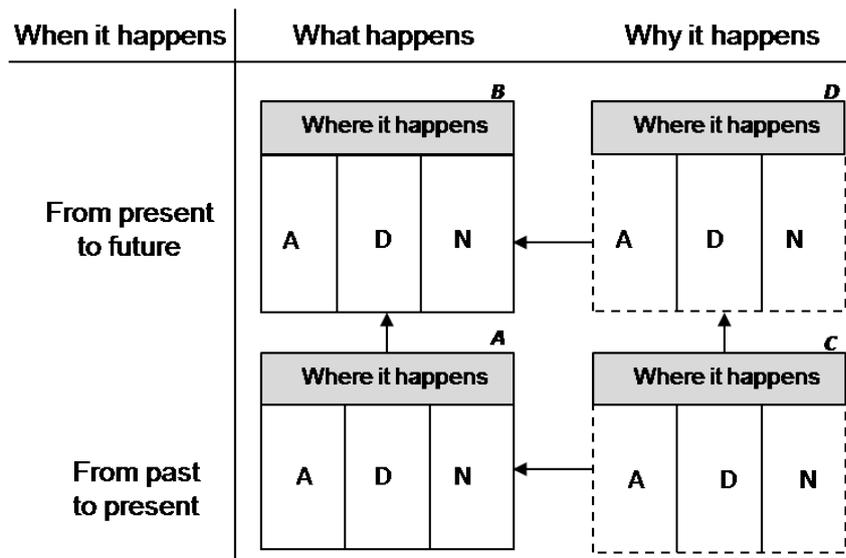


Figure 2. Conceptual model for the descriptions of network changes (what) and ascriptions for these changes (why) over time. **Note:** A – Actor; D – Dyad; N – Network.

This analytical framework not only captures an individual’s sense-making but it also enables a systematic comparison of multiple actors’ understandings and explanations of network changes across the network, and it allows several levels of comparative analysis. By identifying the number of changes (and their different levels) mentioned by respondents during data collection, the framework allows for an initial analysis of network change perceptions. Dots represent the occurrence of a network change description or ascription; the number of dots in each box or on each ADN level describes the change intensity which one individual perceives. The following example represents the changes identified by using the framework to analyse the responses from one of the respondents (Norway Salmon, see fig. 3):

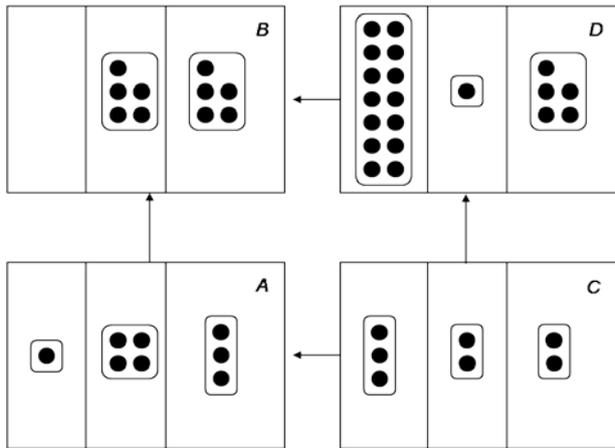


Fig. 3: Analysis framework applied to responses from Norway Salmon

For Norway Salmon, there appear to be more network changes concerned with changes from the present to the future (box B) compared to from past to present (box A). Most prominent are future changes at network and dyadic level, and nearly none at the actor level. However, explaining these future changes, the respondent attributes these changes to developments happening especially on the actor level, and only to a small extent on network level (with just one change explanation at the dyadic level; box D). He perceives future changes (which will mainly affect their relationships as well as the general network) to be driven by decisions and actions taken by Norway Salmon itself (as well as by other individual actors). Compared to these wide-ranging changes in the future, the change density relating to past and present developments is rather lower (box A): some changes are happening (especially at the dyad level), driven by events in all three areas of network constellation, dyadic relationships, and individual actor activities (box C). As a second step in the analytical process, by replacing the initial identification of changes with a more detailed description of the content represented by each of the dots, we could identify distinct categories which summarize related issues mentioned by the respondent. Thus, a further detailed framework allows for an analysis of network change on a different level of granularity (see Fig. 4, again exemplified for Norway Salmon):

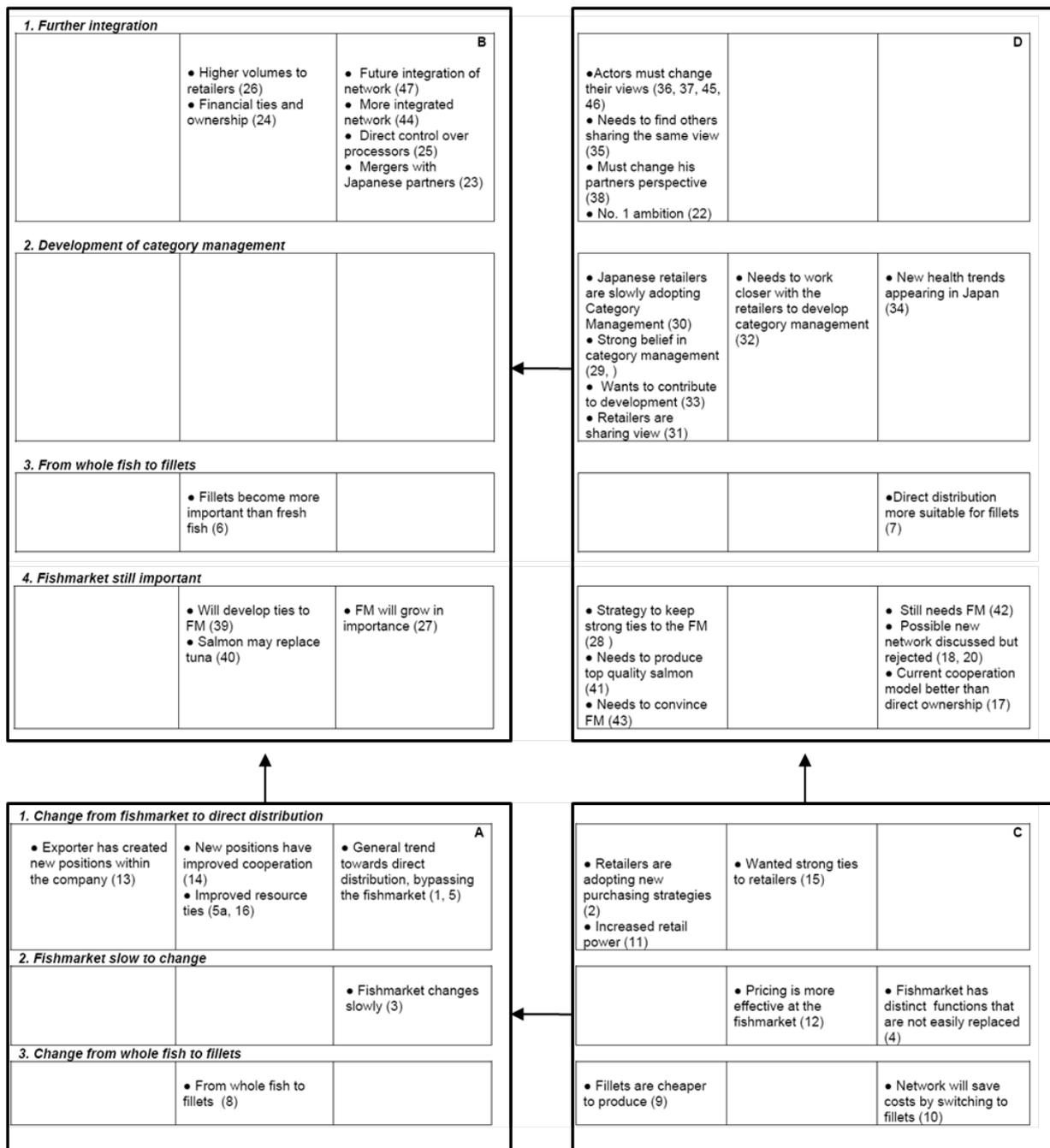


Fig. 4: Detailed analysis framework applied to Norway Salmon (Note: numbers in boxes refer to coding references)

Looking at one of the main themes identified, i.e. the change from fishmarket to direct distribution in box A, the respondent identifies a general trend towards direct distribution, where actors are bypassing the fishmarket (change at network level). As a result, Norway Salmon has created new positions within the company (change at actor level). This has

improved cooperation with their partners (change at dyad level). Furthermore, the increased ties and integration of the network has led to greater commitment between specific actors (change at dyad level). The way Norway Salmon explains these changes (box C) relates particularly to the role of the Japanese retailers who are perceived to be increasingly powerful. Particularly, Norway Salmon see much of the current change explained by retailers adopting new purchasing strategies (ascription at actor level), but also because Norwegian Salmon itself wanted to develop their ties to the retailers to understand en-consumers better (ascription at dyad level).

5. Analysis and Findings

5.1. Network pictures of change and network position

Using this framework to analyse responses from all the companies in the sample, it is possible to create the following initial comparative representations of network changes as perceived by different actors in the network (see fig. 5). Based on the overall delineation of the business network, five different network position types along the position perspective are analysed (based on the perceptions of the actors in the business network): Exporters (2 companies are included in the sample), Importers (4), Wholesalers (3), Intermediaries (3), and Retailers (3). For each, the 4-box framework with network change descriptions and ascriptions on the ADN level are represented:

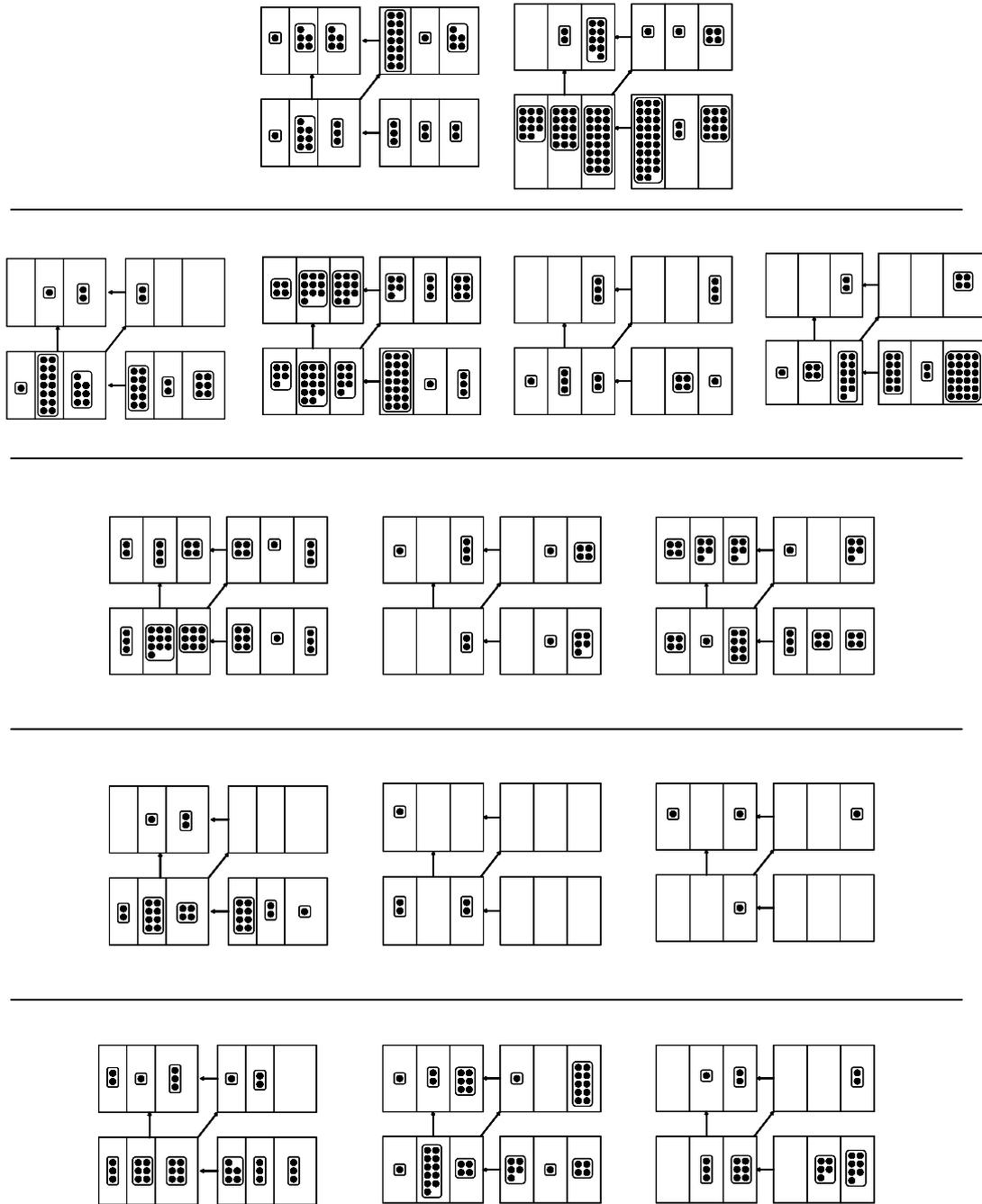


Fig. 5: Comparative initial representation of changes identified by network position

Figure 5 indicates that there exist clear differences with regard to individual actor's perceptions of change. Some actors perceive a large number of changes, and have a multiplicity of explanations whereas others do not see much change at all. Likewise, some actors see particular changes to the present situation while their belief structures are not rich regarding expected change in the future; and others have current and future change equally on their mind. Comparing the five position types, some important observations regarding differences of network change perceptions vis-à-vis different network positions of companies within the same network can be made: Exporters and importers perceive considerably more changes than the primary wholesalers and intermediaries. This also seems to be the case for retailers which also show consistently high change perception densities. As such the 'top' and the 'bottom' layers within the business network seem to perceive richer textures of network changes, and they seem to identify more changes than the middle layers. Another way to interpret this is to suggest that actors concerned with the fishmarket itself (which are positioned in the middle layer) do not have as rich perceptions of changes as actors outside the fishmarket structure. In general, the sample overall appears to be more concerned with changes in box B (from past to present) than from B to C (from present to future).

Thus, our findings provide some indications relating to the issue as to whether network pictures are predominantly idiosyncratic, or are shaped by the interactions with other actors in the surrounding network. Using the framework to analyse actors' description and ascription of changes, it is apparent that the respondents have very different perception of network change, as no single representation is identical. However, comparing the representations level by level, our case study indicates that there are indeed similarities in the way changes are perceived and represented depending on the *network position* the actor holds. The top (resource provider: exporters/importers) and bottom levels (resource distributors to final resource users: retailers) in terms of network positions have a richer representation than the middle positions

(fishmarket-related actors: wholesalers/intermediaries). There are clearly similarities in the roles and functions these companies hold, and the interactions they have with other actors in the network. For instance, from the interviews it is clear that exporters like Norway Salmon and Supreme Seafood have operations in a range of countries. This enables them to have a wider perspective on their network compared to companies which are exclusively embedded in an established and narrow distribution structure such as the Japanese fishmarket. The retailers on the other hand have firsthand knowledge about market trends from direct contact with Japanese consumers. This is filtered to other actors in the network. Conversely, actors in the traditional network such as intermediate wholesalers and secondary wholesalers have difficulties adapting as they are embedded in a rigid structure and have ties only to their immediate partners.

Using the initial representations to illuminate the impact of the network position on perceptions has provided some understanding of the relationship between these issues in the context of network change. A deeper probing is possible when using the detailed representations of the responses in terms of change content.

5.2. Network change content findings

For reasons of parsimony, it is necessary to limit the analysis of findings regarding network change content in the Norwegian/Japanese Salmon network to one specific theme extracted from all the different salient issues, and to use this to compare the actor's understanding and explanation of network change across the sample. The theme featured here, the *move towards direct distribution*, illustrates the relevant network changes as it was mentioned by the majority of companies in the sample, and relates to the main criterion for using this particular business network as an example of network change in the first place. Appendix 2 presents the detailed framework regarding representations and ascriptions of network change related to this issue, limited to changes from past to present (boxes A and C).

The themes identified in this table will now be analysed in terms of *what* is happening (boxes AA, AD and AN) and *why* it is happening (boxes CA, CD and CN).

Understanding first what kind of changes actors perceive to be happening in the past and thus affecting their current situation with regard to the move towards direct distribution, it seems that in the AN column (changes from past to present at network level) virtually all the respondents point to exactly the same trend: there exists a clear change towards direct distribution in the Japanese Salmon distribution network, thus bypassing traditional distribution structures. Looking at the themes it is apparent that all the respondents, exporters, importers, wholesalers and retailers, have similar descriptions of this change. More specific examples of this change theme are indicated, e.g. direct contact with retailers as instigated by Norwegian exporters (as mentioned by Supreme Seafood Norway, Karatsu and Maruaki), lower volumes traded through the fishmarket (mentioned by Karatsu, the secondary wholesaler at Tsukiji, and the Tsukiji General Director) and a reduction in the number of suppliers for retailers, for instance mentioned by Shoitachi and Asahi Retail.

The change towards direct distribution (change at network level), has an impact on the different business relationships within the network. Box AD shows that it is mainly the respondents Norway Salmon, Bluewater, Asahi Retail and Shoitachi (which are all linked within the distribution chain, see fig. 1) who talk about change at dyad level. In their view, direct distribution means more commitment, better communication, closer ties, more joint activities, increased volumes and stable supply, with these affecting certain business relationships positively. The other actors do not mention change at the dyad level at this point, but this does not mean that the dyads are not affected in their relationships. Concerning change at actor level (box AA), it is noteworthy that there are relatively few changes discussed; Norway Salmon has created new positions within the company, Bluewater has developed new marketing activities, and Asahi Retail have changed their sales and product

strategy in order to save costs. In contrast, the respondents at the fish market find it increasingly difficult to survive, i.e. their business model is under threat (Karatsu as well as the secondary wholesalers).

Secondly, the detailed framework allows for an understanding of how actors explain certain changes, i.e. why they happen. While the sample companies agree about the main change theme affecting them (moving towards direct distribution), they have different ascriptions for this change. Box CA exemplifies this manifold sensemaking at actor level: actors such as Norway Salmon, Bluewater, Asahi Retail and Shoitachi (i.e. a sub-net which can be called the 'Norway Salmon network') have very similar ascriptions or perceptions. They all point to the retailers' need for traceability as one reason for bypassing the fishmarket. In the other cases, there seems to be little in common in terms of sensemaking between the different actors. Supreme Seafood Japan talks about increasing direct distribution because of a need to save costs in their company, whereas Karatsu states that direct distribution is appearing because retailers want cheaper products. However, if we compare this to the retailers' responses, Asahi Retail is clearly concerned with traceability. Marukawa also says that they are concerned with stability, traceability and quality of Salmon deliveries, and that this is best obtained via direct distribution relationships (particularly because the actors at the fishmarket repack the salmon a number of times, and information about producer, production date and country of origin is lost on the way; thus jeopardising traceability).

If we look at sensemaking regarding ascriptions at dyad level (box CD) this is used by some actors, but not to the same extent as sensemaking at actor level. Asahi Retail for instance point to better information access within relationships, and Marukawa talks about traceability, stability and joint quality innovations. All these actors are retailers, and they talk about changes in resource ties. Karatsu, one of the wholesalers, talks about reduced costs. This is also a change in resource ties as it has to do with the cost of salmon. Marukawa, the

other wholesaler, sees this as a change in actor bonds as retailers are dissatisfied with wholesalers who do not sell directly.

In both cases (boxes CA and CD) there is a clear difference between what the retailers believe, and what the primary wholesalers think the retailers believe. The actors in the 'Norway Salmon sub-net' have a more concise description of the retailers' need for traceability, and the interactions within this sub-net is characterised by more communication and commitment between the actors. Norway Salmon, Bluewater, Shoitachi and Asahi Retail meet regularly; they share information and have joint marketing activities. The primary wholesalers are in effect barred from this type of communication because the structure of the wholesale market means that the secondary wholesaler is the main point of contact with the retailers and restaurants.

Sensemaking at network level (box CN) also shows significant differences in the way the actors' explain the change towards direct distribution. Bluewater explains that this is a 'Japanese trend' and that importers in other industries are doing the same; however, Tokyo Fisheries and Maruaki say that this is a 'Western trend' now coming to Japan; Supreme Seafood Japan ascribes the changes to a global trend. Supreme Seafood Norway argues that traditional distribution is ineffective and expensive on the network level, thus initiating optimisation activities. Karatsu, on the other hand, states that the Japanese economy is in decline and Japanese customers demand cheaper products. This point is also referred to by Maruaki.

Comparing these perceptions, there seems to be no clear, common explanation for the emergence of direct distribution between actors in the sample. One finding emerging from the data is therefore that the actors seem to explain changes from their own perspective, or from the perspective of actors close to their position in the network. For instance, Bluewater (an importer) talks about other importers with regard to the theme of 'direct distribution',

Supreme Seafood Norway (an exporter) talks about Japanese importers, Karatsu (a wholesaler) talks about the Japanese customers, Marukawa (a wholesaler) talks about the retailers, Maruaki (a retailer) talks about the Japanese consumers. An emerging explanation seems to suggest that actors, while experiencing and identifying the same changes in the network, explain the change from their position in the network. While all the respondents point to exactly the same trend (i.e. there is a change towards direct distribution in Japan, indicating that all the respondents, including such different actors as exporters, importers, wholesalers and retailers, have the same perception of this change), their explanations for why this trend is occurring differ greatly.

6. Discussion

These results will now be discussed related to the three concepts introduced previously: network change, network position and network perceptions.

6.1. Relating the concepts of network change and network position

The results of our case study analysis indicate that change is perceived overwhelmingly in the context of seeking a more favourable position in the network. Achieving a favourable network position, following a resource-dependence logic, implies gaining better access to resources (Pfeffer and Salancik, 1978). This is very much in line with Håkansson and Snehota's (1995) arguments that actors are constantly looking for opportunities to improve their position in relation to important counterparts, thereby serving as vectors for change in networks. All the interviews and company cases in this study describe different ways in which actors seek to change their network position. For instance, the Norwegian exporters and Japanese importers talk about the need to 'get closer' to the retailer/processor, to 'cut layers' or to 'bypass' the fishmarket. These are metaphorical statements, and as such reflect the previous discussions about moving the network around to

improve ones' network position. In the fresh salmon network, actors such as retailers want to have better access to resources in terms of information about product quality and origin. Therefore, they are perceived to engage in change processes to seek out from where to best obtain this information. As a consequence, they stop buying from the fishmarket and start buying directly from importers that have strong business ties to exporters or producers. Other actors such as producers and exporters want to have access to resources in terms of processing facilities or market (end consumer) information. They engage in change processes to connect to different kinds of actors such as processors or retailers. Actors such as the primary wholesalers at the fishmarket want to improve their network position by using resources and activities in new ways (such as offering new facilities and functions to retailers).

The relationship between resources and network position is also discussed by Turnbull et al. (1996). They posit that in order to understand a company's network position one must analyse the resources it builds through interaction, and suggest three resource categories: *access, reputation, and expectations*. The first element, access, is perhaps the most relevant for the present case analysis. Access relates to the ability to use the resources of other network members. "*The resources include their financial and spending power as well as the ability to transfer product or service. A company may also have access to the knowledge resources of other network members*" (Turnbull et al., 1996, p. 13). This is in line with our findings; actors want to change their position to exploit resources. But our analysis indicates that network position is not only an outcome of interaction, actors take an active part in manoeuvring their network to improve and change their position, thereby affecting what kind of networking activities they prioritise. This is an example of what Johanson and Mattson refer to as *strategic actions* (1992), i.e. *networking* in the terminology of Ford et al. (2003). There are several examples of this type of strategic action in our case, most notably the Norwegian importers' efforts to establish a direct distribution system, and in doing so breaking up an

established Japanese channel structures. This is also a good illustration of what Ford et al. (2002) refer to when they suggest that an actor must decide whether he wants to *consolidate* his existing network position or *create* a new position by changing the combination of existing relationships to create a new one.

However, position changes are not easy to achieve, and other actors may resist change. Easton (1992) argues that “*firms may be in preferred positions and defend those positions by any means at their disposal including other microposition changes to nullify the initiated change. Firms also have desired positions to which they may be seeking to achieve and which may be threatened by the proposed changes*” (p. 134). This is again evident in our case, particularly regarding Japanese actors in the traditional distribution system trying to defend their position and resisting the move towards direct distribution.

6.2. Relating the concepts of network position and network perceptions

On a higher level, it can be argued that we focussed on just one kind of change which is occurring – the emerging change from the traditional to a more direct channel of distribution. However, what our results show is that actors may experience the same changes, but their explanation of these changes varies depending on their network position. Similar thoughts have been suggested by Håkansson and Snehota (1995, p. 272) stating that “*given the complexity it is only natural that different individuals’ perceptions of the various activity links vary.*” Håkansson and Snehota (1995) found empirical support for this in a range of case studies, indicating that different views existed of how activities should be performed. But the present study goes further, suggesting that perceptions are related to the position of a company in the network, an issue which is not reflected in the extant network position literature.

This implies that two actors with similar positions are more likely to have similar perceptions than those with different network positions, similar to the suggestions by

Henneberg et al. (2006a). Our analysis suggests that actors 'closer' to each other in the network are more likely to share more similar perceptions. This may indicate that in business relationships where there are more intense interactions, especially information exchange, a greater degree of overlap of the network perceptions between the actors is expected (Porac et al., 1989). As actors become more involved with each other and share information, they are more likely to understand each other's perspectives. Their network pictures may be challenged by their partner's beliefs, and consequently they will over time see the world differently from what they used to. Trust and commitment may also play a role, as this tends to grow as relationships develop (Brennan and Turnbull, 1999; Ford, 1980; Håkansson, 1982; Morgan and Hunt, 1994). If actors see their partners as trustworthy, they may be more inclined to take up or buy into a new or different view of reality.

A similar proposition has been suggested by Henneberg et al. (2006a) arguing that "*network pictures are more similar the stronger the ties between individuals*" (Henneberg et al., 2006a p. 14). Referring to the cognitive group literature (Porac and Thomas, 1990; Porac et al., 1989), they hold that individual network pictures converge under the influence of social processes and contextual factors (Ford and Baucus, 1987) and hypothesise that the stronger the contextual ties, the more similar the network pictures between managers (Granovetter, 1985). The present study gives empirical support to these claims, highlighting the role of information exchange.

6.3. Relating the concepts of network position, network perceptions and network change

So far we have seen that there are apparent similarities in actor perceptions relating to how the actor is positioned in the network. At the same time our analysis indicates that actor perceptions are idiosyncratic to the individual actors. Thus, the network position concept alone cannot explain differences in actor perceptions when addressing this apparent inconsistency. The study indicates that although there are similarities in the way actors

perceive changes related to their network position, often actors have chosen different ways to enact, undertake, and influence these positions, i.e. their network pictures differ according to cause ascriptions and also resulting networking options. Hence the variety in perceptions is not merely related to network position, but to how the actors choose to perform within and affect this position. This issue is addressed by Andersen et al. (1998) through introducing the *role-and-position concept*. They argue that the network position concept in itself cannot explain network change, as it is concerned with static, *taken-on-activities* relating to the expectations that come with a network position. Rather, one must include the *made-up-activities* that come with the roles actors chooses to perform, as roles include behavioural aspects such and actor perceptions: “*We use the concept of role to express such actor activities as emanate from the creation of sense-making process that characterise each actor’s own intentions and interpretations*” (Anderson et al., 1998, p. 172). For instance, a retailer performs various functions which are expected of them, given their network position, e.g. taken-on activities such as bundling of goods, related to its position as in a distribution network. However, the retailer may assume the role of a dominant actor or a market follower, therefore defining made-up activities related to how it chooses to perform the role that comes with this position. Following Andersen et al. (1998) it can be argued that it is the interplay between made-up-activities related to network position and taken-on activities related to role that serves as vectors for change in network because “*...knowledge about any one network will never be final: actors come and go and continuously change their activities*” (p. 193).

In our study, one of the exporters, Norway Salmon, deliberately targeted actors sharing his understanding of the challenges which face the Japanese distribution system. It managed to create a net outside the traditional wholesale markets where importers (Bluewater), processors (Shoitachi) and retailers (Asahi Retail) have become highly integrated and where the roles that are performed are shared and have been developed in mutual

understanding. For instance, activities such as filleting of fish is sometimes performed by the processor or sometimes by the retailer, depending on the level of sales generated by integrated sales campaign at the retail outlets. A different interpretation of roles is illustrated by the second exporter in our study, concerning Supreme Seafood's decision to change the structure of its network in Japan by challenging the roles performed by its business partners. After a recent merger between Supreme Seafood and two other large Norwegian seafood exporters, Supreme Seafood used its increased market power to demand that customers such as Tokyo Fisheries and Karatsu now had to buy fish from Supreme Seafood's Japan office instead of buying from Supreme Seafood in Norway which they were accustomed to. This move was resented by the Japanese, but they had to comply. In this example, the role expectations of the actors differed greatly, but Supreme Seafood forced its way through because it assumed the role of a dominant actor. A third example is related to primary wholesalers at the Tsukiji Wholesaler. These actors acknowledge that in order to survive, they have to take on new functions such as processing, storage and filleting, in order to become more attractive. If not, they will gradually lose market share to direct distribution. This is an example of how a re-interpretation of their role has led them to perform new activities to strengthen their position vs. the other challenging their functions.

These examples highlight that differences in network position alone does not explain differences in network perceptions because actors having similar positions in their network (i.e. Supreme Seafood and Norway Salmon labelled "importers") may take on different roles in relation to other actors. Rather, we need to supplement a network position perspective by also using a network role perspective in order to understand and explain differences in network perceptions. Thus, network perceptions (such as network pictures of changes) are not merely idiosyncratic to the individual actor but they reflect different role expectations of the company in which they work as well. This case suggest that such differing role

interpretations may explain network dynamics, as suggested by Andersen et al. (1998, p. 184): “Actors act on a basis of their recurrent interpretations of their positions and roles, interpretations which evolve through the experience gathered through interaction...Thus, there is a dependence between the subjectively interpreted structures and the change patterns that can be observed within the same structures”. Our findings indicate that it is the reinterpretation of their role that leads actors in our case study to change their positions, thus creating changes to the wider network structure; furthermore, actors sharing a network roles also show evidence of overlapping network pictures.

7. Summary and Conclusion

In this paper we wanted to relate the concepts of network position, network change and network perceptions. These concepts are pivotal for understanding network dynamics as existing research indicates that actors continuously strive to change their network position on basis of their perceptions of their wider network, thus creating changes to the network structure. Our literature review suggests that these perceptions on the one hand are idiosyncratic to the single actor. On the other hand, research also suggests that differences in perceptions are related to the network position an actor holds. This discrepancy formed the basis of our research question. To address this, we analysed differences in perceptions of network change across a network of actors in the Japanese seafood distribution system. A novel methodology permitted comparisons between actors’ descriptions and ascriptions of changes within the company (actor level), between companies (dyad level) and between connected relationships (network changes) what changes the actors experiences.

The analysis suggested that although there were similarities between perceptions by actors holding similar position in the network, network position alone cannot explain differences in perceptions. Rather, differences in actors’ interpretations and intentions in terms of their

network role, as suggested by the role-and position concept, are better at explaining differences in perceptions than network position concept alone.

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Appendix 1: Company/respondent description for main study (names have been altered)

Company	Type	Key respondent
Norwegian sample		
Supreme Seafood Norway	Farmer, processor, exporter	Sales director , Managing director
Norway Salmon	Farmer, processor, exporter	Team manager, Asia
Japanese sample		
Sensei (Kansai Airport)	Distributor	Office Manager
Sensei (Narita Airport)	Distributor	Office Manager
Bluewater Trading	Importer	Vice President
Supreme Seafood Japan	Importer	General Manager
Karatsu Co. Ltd	Primary Wholesaler	General Manager, int. trade and marketing dept.
Tokyo Fisheries Corp.	Importer/secondary wholesaler	Deputy general manager, overseas department
Tokyo Metropolitan Fish Market /Tsukiji)	Wholesale market administration	Director General
Asahi Retail	Retailer	Head Buyer
BCB	Retailer	Head Buyer
Maruaki	Retailer	Office Manager
Shoitachi	Processor	President
Karatsu	Distributor	Office Manager
Kagawa	Distributor	General Manager
Norwegian Seafood Council	Gov agency	Counsellor, fisheries section
Tokyo Metro. Government	Gov administration, Tsukiji	Director General

Appendix 2: Detailed description and ascription of network change regarding 'move towards direct distribution' (Note: columns indicate boxes A and C by ADN level, i.e. column AA represents a current change at actor level; column CD ascribes a current change to the dyadic level; numbers in boxes refer to coding references)

Respondent	AA	AD	AN	CA	CD	CN
<i>Move towards direct distribution theme</i>						
Norway Salmon (Exporter)	Exporter has created new positions within the company (13)	- New positions have improved cooperation (14) - Improved resource ties (5a, 16)	General trend towards direct distribution, bypassing fishmarket (1, 5)	- Retailers are adopting new purchasing strategies (2) - Increasing retail power (11)	Wanted strong ties to retailers (15)	
Supreme Seafood Norway (Exporter)			- Direct distribution-slowly emerging (36) - More direct contact with retailers (32) - More integrated network (31)			- Traditional market limits operations, ineffective (85) - Japanese importers are too expensive (29a) - Some middlemen are too small (40)
Bluewater (Importer)	Needs to be clear and concise in his marketing activities (28)	<i>Actor bonds:</i> - Closer rels. to retailers and processors (7,8) - Strengthened ties to Norway Salmon (23,24) - More commitment (meetings, discuss, cooperation) (39) - Friendlier atmosphere (12,41) <i>Resource ties:</i> - Better access to information (37) Fresher salmon, Increased volumes (11) <i>Activity links:</i> - Promotion, campaigns	- Increasing direct distribution. - 50/50 now but slowly changing (4) - Bluewater, Norway Salmon and retailers more integrated (38, 40) - Ties to Norway Salmon strengthened, ties to other suppliers weakened (10, 15) - NSEC introduced (25)	- Norway Salmon wanted to find a partners in Japan (13) - New person in charge at Norway Salmon (23a) - Bluewater was willing to take risks (10)	- Relationship with Shoitachi helped accessing retailers (35)	Other importers are doing the same (trend in Japan) (5) - Bluewaters previous supplier bought by Norway Salmon (19) - Norway Salmons customer in Japan withdrew, Bluewater took its place (14)

		(18) - Pricing policies (15) - Chartered flights (9)				
Supreme Seafood Japan (Importer)		Importers are more powerful now than in the FM system (54)	Change towards direct distribution (1)	- Supreme Seafood gets higher prices selling directly to the supermarkets (21) - Move to DD because of higher profits (18) - Too many layers are costly. (2) - Actors wants to reduce costs		Global competition (3)
Tokyo Fisheries (Importer)	Tokyo Fisheries used to be a middle wholesaler at Tsukiji, but increasingly started to import directly (30)		- Change towards direct distribution in Japan. (45) - 50/50 today (9) - 70/30 years ago (10) - Also sells directly to retailers (6) - Direct distribution is growing (14)	- Defends direct distribution because he needs to survive (33) - Hired a new manager at the Tokyo Office (31) - Seems logical (36) - Direct distribution seems like a sensible thing (32)		- Direct distribution removes the need for a wholesaler (20) - Direct distribution resembles Western distribution practices (35)
Karatsu (Primary wholesaler at fishmarket)	More difficult for Karatsu to compete (7)		- Large retailers are increasingly buying directly (5) - Less volumes sold through FM (6) - Increasing direct distribution (3a)	- Japanese retailers not concerned about brand, only price and costs (44) - Retailers needs to save costs (8a)	- Restaurants and retailers may buy directly from Karatsu, because this is cheaper (2)	- Japanese economy in decline (43) - Japanese market demands cheaper products (8)
Secondary wholesaler at fishmarket	- Difficult for secondary wholesalers to get profit - Difficult for sec. wholesalers to survive		- Increasing direct distribution - Sees less advantage for the fish market - Increasing direct distribution			
Marukawa (Primary wholesaler at fishmarket)			Biggest single customer is buying directly (1)		Supermarkets don't like that wholesalers doesn't sell directly (15)	Only large retail chains can buy directly, because they are financially strong to take risks (12)
Tsukiji Wholesale Market Adimistration (Government)			- Increasing direct distribution, less fish traded through Tsukiji			- Uses the FM to get variety of goods, uses DD when it comes to

			(2) - The FM has actually expanded (1)			large orders (9)
Shoitachi (Processor)		- Closer relationship and strengthened ties to the importer (5, 9) - Increased volumes (13) - Better stability of supply (17)	- From 5 to 1 suppliers (8)	- Shoitachi has need for stability, less prone to risks (18)		
Maruaki (Retailer)			- 50/50 direct distribution (8) - Used to buy all his fish at the FM. Increasing direct distribution (12) - FM less powerful (24) - FM is mainly used for live fish. Farmed fish is distributed outside the market (10)		- Buys Atlantic salmon directly because he needs good quality and stability (11) - DD ensures traceability (16)	- European and American trend coming to Japan (25) - FM incurs costs. DD is cheaper (14) - Need to reduce the no. of layers (15) - Japanese customers are concerned with traceability (17) - Japanese recession, less buying power (21)
Asahi Retail (Retailer)	- Improved sales and product strategy (7) - Needs to improve his strategy (10) Saves costs buying directly (34)	- Better access to information (2) - Closer ties, better communication openness, less conflicts (4, 16) - More commitment, closer ties to the supplier (12)	More direct distribution (1) Move from several suppliers to only one (14)	- Traceability is important (3, 6) - Needs stable supplies and superior quality (1) Increased satisfaction with other suppliers (30)	- Closer ties to supplier and access to information (makes planning easier) (8) - Closer commitment and communication (enables sales planning) (11)	- Integration and cooperation of all four actors is very positive (18) - Alternative snapper and yellowtail network works well (8)