# Resource availability and network interaction

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*Abstract*: *This paper looks at how resource availability affects network interaction. We assume that if there are restrictions in establishing connected relationships for an important resource, this will have effects in connected relationships. In situations where the resource availability is restricted, it will be difficult to develop connected relationships, whereas in situations where resource availability is higher this will have a positive effect on connected relationships. To address this issue we compare two cases from the seafood industry where the availability of resources varies significantly. In the pelagic industry, the main resource (mackerel) is caught at sea by Norwegian fishing vessels where the fishing is heavily regulated by government quotas and natural variations in stock. Additionally, the trading of the fish is organized as an auction system which prevents close relationships between buyers and sellers. Conversely, in the salmon industry the main recourse (farmed salmon) is an industrial product, produced at fish farms along the Norwegian coast, owned by large multinational and vertically integrated seafood companies. Results indicate that in the mackerel case, interaction in the network is supplier-directed in an attempt to reduce the uncertainty created by unstable and restricted resources availability, whereas in the salmon case the interaction is customer-directed because resources availability is stable.*

Keywords: Resources, interaction, relationship development, mackerel, salmon, Norway, Japan

## INTRODUCTION

In a business network, interaction in a business relationship is characterised by the degree to which actors develop shared resources, perform joint activities and build mutual actor bonds. (Håkansson et al. 2009; Håkansson and Snehota 1995). An important feature of relationships is that they are mutually connected. Consequently, resource ties between two companies extend into resource constellations across the network, activity links are extended to activity patterns, and actor bonds are connected into a web of actors. The economic logic behind interaction is that actors may mutually benefit by sharing and combining resources and activities across firm boundaries, instead of regarding them as internal matters (Dubois 1998; Håkansson and Waluszewski 2002). Resources become more valuable when combined with resources of other actors, and activities are performed more efficiently when adapted to the activities of others (Jahre et al. 2006). For this to take place there has to be strong actor bonds such as trust, mutual understanding, learning and a cooperative atmosphere present. This further requires some degree of stability and predictability in the relationships connected, because mutual investments in resources and activities needs protection and the benefits from increased interaction is also a question of time and long-term commitment and adaptations (Brennan et al. 2003). Additionally, for interaction to develop there must be some degree of shared understanding between the actors about how resources should be utilised and how activities should be performed (Abrahamsen et al. 2011). With limited interaction, the actors have to take it upon themselves to coordinate activities and develop resources, whereas with increased interaction there is a coordination of resource development and activity performance at the network level.

The interplay between actor bonds, activity links and resource ties also mean that these three facets of a relationship mutually affect each other. According to Håkansson and Snehota (1995), there is a dynamic effect on one content dimension in connecting the other two other dimensions: Actors bonds will affected by how resource ties and activity links are connected, and so on. This further implies that a change in one of these dimensions, such as the ability to develop resource ties, will affect the other two dimensions. For instance, "*The availability of resources limits what activities can be carried out and what cannot*", Håkansson and Snehota (1995, p. 276) argue. Similarly, "*By controlling the critical resources an actor can gain advantages over other actors. Striving for control of resources is a clear tendency in business networks. The actor bonds—resource ties dimension is principally a matter of resource control or availability*" (p. 280).

The interplay between these three dimensions and the related interactive effects are the purpose of this paper. We are particularly interested in examining *how resource availability affects network interaction*. We assume that if there are restrictions in establishing connected relationships for an important resource, this will have effects in connected relationships. In situations where the resource availability is restricted, it will be difficult to develop connected relationships, whereas in situations where resource availability is higher this will have a positive effect on connected relationships.

To address the research question we compare two cases from the seafood industry. Here the availability of resources varies significantly. In the pelagic industry, the main resource (mackerel in our case) is caught at sea by Norwegian fishing vessels where the fishing is heavily regulated by government quotas and natural variations in stock. Additionally, the trading of the fish is organized as an auction system, which prevents close relationships between buyers and sellers. Here Norwegian legislation prevents vertical integration between the catch-side and the buying side. This system bears features resembling both the traditional "free market" in neo-classical terms and a rigged or "domesticated market" (cf. Arndt 1979). Conversely, in the salmon industry the main recourse (farmed salmon) is an industrial product, produced at fish farms along the Norwegian coast, owned by large multinational and vertically integrated seafood companies. The industry is organized as industrial production cycles where the actors have much closer business relationships.

In order to compare these two cases, we introduce a common denominator: Japan as an export market for Norwegian seafood. Seafood has long been an important part of the Japanese food culture. The Japanese consumers prefer a varied range of courses and dishes at home, at the office lunch or at the sushi restaurant. Some of these meals will probably contain salmon or mackerel from Norway. Salmon is used mainly for sushi or sashimi, whereas mackerel is used for sushi but may also be fried or grilled. Japan has a domestic catch of mackerel, but Norwegian mackerel is reckoned to be of a higher quality because of its high fat content. Likewise, Japan imports smaller volumes of fresh salmon from New Zealand, Scotland and Canada, but Norwegian salmon still has the largest market share. Chilean frozen salmon has found its way to the Japanese market, but Norwegian fresh salmon is still considered best suited for sushi.

The interesting feature of this case is that although these two fish species appear side by side at the sushi plate, they have taken two completely different routes to market, and the network behind is organized differently.

We will study this aspect in depth. In our paper, we use the availability of two types of resources, mackerel and salmon, to analyse the effects on network interaction. One study follows the mackerel from Norway to Japan and describes its network and the actors connected. The other case study follows the salmon in the same way. We then compare and contrast the two different networks using the ARA-model (Håkansson and Snehota 1995) before we discuss the interaction patterns evident.

## METHODOLOGY AND RESEARCH DESIGN

To analyse the way the salmon and mackerel networks are organised, we present a case study based on two cases. These cases are compiled for two different research purposes: The mackerel case is compiled as part of a study undertaken in 2011, funded by the Norwegian Seafood Research council (Abrahamsen and Håkansson 2014). This study looked at the interaction between Norwegian pelagic exporters and their industrial customers in Norway's main pelagic export markets: Germany, Poland and Russia (herring) and Japan (mackerel). The salmon case is based on interviews undertaken in 2007 as part of a major Norwegian seafood research project (Olsen 2012) funded by the Norwegian Research Foundation, where one part of the study looked at the ties between Norwegian salmon exporters and their Japanese customers. Some of the interviews in the salmon case have been used as part of an earlier publication by the authors (Abrahamsen and Håkansson 2011). This raises two methodological challenges. One concerns comparing data collected at different points in time, the other concerns comparing data gathered for different research purposes. Regarding the first challenge, our impression is that the main characteristics of the industry and customer relationships as described in 2007 is still valid. In 2013, two of the respondents in the salmon case was revisited for a different research purpose, and they confirmed several of the key characteristics of this industry. Regarding the second challenge, both studies have used the same theoretical framework for analysing how customer-supplier relationships are connected in business networks, and the majority of questions in the interview guide are similar. This implies that the cases are comparable for the purpose of this paper.

In both cases we used in-depth personal interview as primary data collection method. We also used some additional secondary data. The companies were identified by discussions with key people in the seafood industry. Respondents were key people at managerial level with good knowledge of their company's operations and relationship to Japanese customers and Norwegian suppliers. Interviews with the Norwegian sample was conducted in Norwegian, and interviews in Japan was mainly conducted in English. At two occasions (Shoitachi and Asai Retail) an interpreter was used. All interviews were taped and later transcribed. The interviews in Norwegian were translated for subsequent content analysis. We interviewed one representative for each company, except for (*) where we conducted group interviews. This were instances where a number of people were responsible for the Norwegian/Japanese business operations. The actors in the mackerel sample are presented with their original company names, but in the case text the respondents are referred to only by function ("a Japanese importer", "a Norwegian exporter", etc.) due to confidentiality reasons. In the salmon case, the company names have been altered due to the same reasons.

## Research sample

Japan is interesting to investigate in terms of its historical importance as a market for Norwegian seafood. Japan has traditionally been a stronghold for Norwegian salmon, and recent years have seen a growing demand for Norwegian mackerel. Norwegian export relationships go a long way back, and some Norwegian seafood companies have been present in Japan for over 40 years. Today, Japan is Norway's second largest seafood market in Asia (after China) according to Statistics Norway (2012). China is also a large market for mackerel, but most of this mackerel is processed in China and re-imported to Japan. There are currently 41 Norwegian seafood producers listed as exporters to Japan by the Norwegian Seafood Export Council. Seafood exports to Japan fell rapidly from 250.000 tons in 2002 to less than 100.000 tons in 2006. Since then exports increased slowly to around 150.000 tons in 2011. The increase in exports is mainly due to increased volumes of mackerel, whereas salmon volumes have decreased.

### *Mackerel sample*

The pelagic industry in Norway is typically characterised by a few dominant actors. We have interviewed four of the largest mackerel exporters. Japan is the main export market for Norwegian mackerel. China is also a large market for mackerel, but most of this mackerel is processed in China and re-imported to Japan. Norwegian mackerel exports to Japan in 2011 was a total of 97.000 tons, of which 55.000 tons were frozen whole mackerel and 42.000 tons were fillets (Norwegian Seafood Export Council 2013). In Japan, the industry is also characterised by a few large actors, but more actors are present compared to the supply side in Norway. Our Japanese sample represents approximately 71.000 tons, around 70 % of mackerel imports from Norway. We have interviewed six importers and processors of mackerel in Japan (see table 1):

Table 1: Mackerel research sample

| Company | Description |
|---|---|
| **Pelagia/ Norway Pelagic** | • Norway Pelagic is the largest actor in Norway, with a turnover of NOK 3.6 billion in 2011. The company, itself a result of several previous mergers in the industry, merged with Egersund Seafood in 2012 to form Pelagia. Main exports are herring and mackerel.<br>• No export numbers given, but bought 430.000 tonnes of raw material in 2013. |

| | |
|---|---|
| **Nergård** | • Nergård is the second largest actor in Norway. Owns three modern herring factories in Norway. The company supplies herring and mackerel as well as different types of white fish.<br><br>• Has a 20 % market share, corresponding to 110- 115.000 tons of production, or NOK 1.8-1.9 billion in revenue. |
| **Brødrene Sperre** | • The company has over 60 years of experience in the pelagic industry. Major exporter of herring and salmon, but also bacalao and white fish.<br><br>• Annual mackerel exports: 26.000 tons of mackerel |
| **Nils Sperre A/S** | • The company was founded in 1923. Produces herring, mackerel, bacalao and white fish<br><br>• Annual exports: 22.000 tons of mackerel |
| **Kokusai Shoji** | • First and foremost a trader with few employees (five)<br>Buys most of their mackerel in Norway, but also buys some from the Netherlands<br><br>• Annual mackerel imports: 25.000 tons |
| **Thyms Co. Ltd (*)** | • Japanese importer of sardines, horse mackerel and herring in addition to mackerel.<br>Mackerel is responsible for most of the turnover. Part of the mackerel is sold for processing in Japan, and part goes to processing in China, Taiwan, Korea and Thailand.<br>Mackerel sold in Japan or re-imported from abroad goes to wholesalers (wholesalers on the traditional fish markets and other intermediaries) and is then sold to retailers and restaurant chains in Japan.<br><br>• Annual mackerel imports:13.000 tons |
| **Kyokuyo** | • Primarily an importer, has bought Norwegian mackerel since 2006<br>Buys 65 % of the mackerel from a Norwegian supplier, and the remaining volume is divided between four other Norwegian exporters.<br>Mackerel is processed primarily in China and to some extent in Thailand, and is re-imported to Japan.<br>Large customers are Japanese retail and sushi chains.<br><br>• Annual mackerel imports: 11,000 tons (2011) |
| **Marubeni** | • Large *keiretsu* with traditions dating back to 1858.<br>Primarily a trading company in food, energy, paper and wood products, chemicals, minerals and oil.<br>One subsidiary specialises in seafood<br>Gets 80 % of the mackerel from a Norwegian supplier, and 20 % divided between two others<br><br>• Annual mackerel imports:10.000 tons |
| **Maruha Nichiro** | • A major Japanese trading house, vertically integrated<br>Owns the largest wholesaler in Tsukiji fish market<br>60 % of the mackerel goes for further processing in China, while 40 % goes to Japanese processors.<br><br>• Annual mackerel imports: 9.000 tons |
| **Kakoren Foods Corp.** | • Importer, buys mainly from two suppliers.<br>Most of the mackerel is delivered to a reprocessor in Japan that also specialises in mackerel.<br>Delivers to four wholesalers in Japan, including wholesalers at Tsukiji fish market |

| | |
|---|---|
| | • Annual mackerel imports:2,000 tons |
| **Tsukiji Uoichiba ( also called «Toichi»)** | • One of the seven wholesalers at Tsukiji fish market in Tokyo. Toichi does not import directly from Norway but from importers like Kakoren Foods<br>• Annual mackerel imports: 800 tons |

*Salmon sample*

In contrast to the mackerel industry, where there are multiple buyers and sellers involved in the purchasing and distribution of the fish, the salmon industry is characterised by fewer actors with closer ties and a higher level of cooperation. The majority of salmon exports is fresh salmon. Norwegian salmon farmers also produce a small volume of trout and a small volume of frozen salmon. In 2013, the three largest Norwegian exporters produced 524.000 tons of salmon and trout (Norsk Fiskerinæring 2013) out of 960.000 tons of salmon and 56.000 trout exported in total this year (Norwegian Export Statistics, 2014). Regarding the Japanese market, Norwegian salmon export volumes fell from 70.000 tons in 2002 to 30.000 tons in 2008, and have remained at this level since then. Nevertheless, the sales value has increased significantly because of higher salmon prices, and Japan is still considered an important market for Norwegian salmon. As an example, we have chosen to look at the ties between four large actors: Global Salmon, Bluewater Trading, Shoitachi and Asahi Retail. Table 2 presents the sample in more detail. Global Salmon is one of the three exporters mentioned above. In this case, the names of the companies are anonymized due to confidentiality reasons.

Table 2: Salmon sample

| Company | Description |
|---|---|
| **Global Salmon (*)** | • Norway's 2$^{nd}$ largest salmon exporter to Japan<br>• Global Salmon sees Bluewater Trading as one of two strategic partners in Japan |
| **Bluewater Trading** | • One of Japans largest seafood importers.<br>• Global Salmon's customer since 1994.<br>• Purchased 3000 tons of Atlantic salmon in 2007, all from Global Salmon.<br>• Turnover of 100 million USD (2007) |
| **Shoitachi** | • Well-established processing company in Osaka. It also owns a small restaurant chain.<br>• Recently built a new plant with modern production equipment<br>• Have made considerable adaptations to meet the changing needs of the supermarkets. |
| **Asahi Retail** | • Asahi Retail is a large supermarket chain with 135 outlets mainly in the Kyoto/Osaka area. |

CASE STUDY: THE MACKEREL CASE

Because the data presented in this study are gathered for different research purposes, we have decided to present our two cases around some common elements: First, we look at the how the raw material is made available in the network. Then, we go to the other end and look at how the material is used by Japanese consumers. We thereafter look at how the relationships in within these two boundaries are organised, using the ARA framework to describe key characteristics of the interaction. Towards the end of this section, we make a cross-case comparison of the main interaction characteristics.

## Availability of raw material

What we commonly refer to as "mackerel" in this case is actually called "The North East Atlantic mackerel", spawning in the central North Sea and Skagerrak oceans in May and June. The catch takes place in the autumn in the northern part of the North Sea, and this is high season for mackerel exports. Japanese buyers are often present in Norway during the catch season. In 2011, the catch of Norwegian mackerel was 207.950 tons (Institute of Marine Research 2012). The catch for 2012 was slightly reduced to 207.950 tons but there are still limitations on quotas to ensure a sustainable population.

In Norway, all pelagic fish must be traded through the Norwegian Fishermen's Sales organisation for pelagic fish (NSS). This sales organisation has been given certain rights and obligations by the authorities. A key characteristic of this system is that the sales are managed through a closed auction system, and the buyers are not allowed to buy their fish directly from the fishing vessels. Norwegian law also prevents vertical integration, and no buyer is allowed a larger share of 49% ownership in any fishing vessel. Some mackerel buyers have ownership in fishing vessels, but they still need to get their volumes through the auction. Buyers in this case are large seafood exporters with processing facilities at different locations along the Norwegian coast. Processing mainly involves sorting, gutting and freezing the mackerel in 20 kg. cardboard containers, later to be stored and shipped to Japan by boat.

Five auctions are conducted daily. The auctions take place by fishing boats reporting their catches to the auction, and buyers then place their bids on these catches. The auction is a so-called "closed auction system". This means that the bidders are only allowed one bid on each catch, and the bids from competing buyers are only made available after the auction is ended. There is therefore a tendency to "…*add a little extra*" in the words of one exporter, to secure volume. This system is seen as costly and rigid, but is originally designed to protect the interests of the fishermen.  After the auction is over, the prices are made public. The actors spend a lot of time studying and interpreting prices to gain insights in how the prices are determined, and finding an optimal level for the next bid. The auction price is also available to export customers, meaning that these customers always have information about what the exporters have paid for the fish. '

## How mackerel is used in Japan

Mackerel (*saba* in Japanese) has many uses - 20 % of the mackerel is used fresh (mainly sushi) and 80 % is processed (i.e. salt, vinegar or oils are added). Norwegian mackerel has the largest share (80 %) of the market for salted mackerel, the remaining 20 % is domestic catch. Mackerel is sold as whole fish or fillets, and is fried or grilled at home or prepared at restaurants. Norwegian mackerel is popular because it has a richer taste compared to Japanese mackerel. This is because it is fatter than the Japanese mackerel, and the taste is located in the fat tissues.

Norwegian mackerel is considered better for frying and grilling. Japanese mackerel on the other hand is thinner and better suited for sushi and sashimi. However, high prices and low Norwegian quotas means that some of the Japanese demand for mackerel has shifted to domestic mackerel.

Japanese consumers are very quality conscious and seafood has played a vital role in Japanese food culture for centuries. In addition to product quality, consumers are concerned with traceability and information about country of origin. Japanese restaurants and retailers have high quality standards for their suppliers, which means that Japanese importers send their own quality controllers to Norway throughout the mackerel season. This is unique for the Japanese market.

Another feature of the Japanese market is that mackerel is increasingly being processed in countries like China, Thailand and Indonesia and then re-imported to Japan. Processing also take place at facilities in Japan. Processing in China and other countries is manual, while processing in Japan is done both manually and by machines. The widespread perception is that fish processed in Japan has a higher quality. Cost, however, is driving this business overseas. There is also a trend in Japan towards larger processing units. A restructuring of this part of the industry is therefore expected.

## The mackerel route to market

After the mackerel is bought in Norway, it mainly takes two routes to get the Japanese market: one way is via processing in China, the other via processing in Japan. According to our respondents this ratio is 60 % in China and 40 % in Japan. Smaller volumes are additionally processed in Thailand, Vietnam, Taiwan and Korea. The proportion of mackerel processed in China is expected to increase in the future. Processing means that the mackerel is thawed and filleted (in the case of frozen mackerel coming from Norway). The bones are then removed and the fish is salted, spiced or oils and vinegar is added depending on further usage.

After processing, the mackerel is sold to three groups of actors: wholesalers, retailers and producers of lunchboxes. Some mackerel is also sold to other importers who have contracted larger volumes to their customers than their suppliers in Norway are able to fulfil. Finally, some mackerel is sold directly to wholesalers, retailers and producers without reprocessing.

There is little or no contact between the Norwegian suppliers and actors further on in the distribution network. In some cases, the Japanese importers take customers to Norway, but this is rare. When asked why Japanese food processors, wholesalers and retailers have no direct contact with Norwegian suppliers of mackerel, one Japanese importer says that: "*They have no knowledge about Norway. They have no knowledge about quality, but we are an expert in that area. It's much easier and cheaper for them to ask us to buy in Norway, instead of them sending their own people to Norway and establish a relationship and all of its history. It's much easier to ask us.*" This is a good example of how the Japanese importers explains and justifies their importer function.

Having looked at the way the distribution is organised, we will now look at how the actors interact.

## Characteristics of the interaction: Activities and resources

### *Quality control and sorting*

What is special about the way these relationships are organised is the large amount of customer-driven activities concerned with sorting and quality control. Unlike other pelagic markets, such as Germany, Poland and Russia where importers get pictures of random samples and visit the Norwegian facilities maybe once a year, the Japanese importers have their own inspectors present at the processing facilities throughout the entire season. Their task is to sit ringside when the fishing boats unload mackerel and ensure that the Japanese buyers get the right quality. This is an established practice; One of the inspectors we interviewed has been coming to Ålesund for 24 years.

Each Japanese importer send its own inspectors. They rarely cooperate with other importers (although informal conversations happen). When asked why importers do not cooperate to a greater extent, one importer said: "*This has to do with competition between the Japanese importers and between the Norwegian exporters. We are all competing with each other*." It is also important for the inspectors to have knowledge about the various fishing boats because the equipment on board determines the quality. In addition, the inspectors need to know about sizing and grading equipment used at the processing facility.

### *Information and traceability*

Japanese restaurants and retail chains are very concerned with traceability and information about product origin. Subsequently, Japanese importers need to be able to document this in negotiations with domestic processors, distributors and retail chains. An importer says that: "*The quality of mackerel is very good in Norway. We should not really need to dispatch a person there. But to be sure of the quality and also to be comfortable to sell to our customers in Japan, we need to have somebody there to make inspections and to report back to us*." Despite the fact that the Japanese importers have a well-established relationship with their Norwegian suppliers, this is obviously not enough to reassure their customers: "*Even if we have a long relationship with our supplier, which has been built over many years, our customers cannot rely on our trust in our supplier only. This is difficult to explain to our customer. We cannot say 'We know them, so don't you worry! That is not possible*."

### *Organisation of purchases*

The purchases in Norway are characterised by spot-based contracts. In some cases, the Norwegian suppliers and their Japanese customers make long-term contracts based on volume, but rarely on price. This practice dates far back: "*Sometimes we have an agreement that we buy from a given plant at market price. But what is the market price? The market price for them is one level, but the market price for us is a different level. We want to buy as cheap as possible. So we negotiate - sometimes tough negotiations. We have to find a compromise in the middle. We normally know what stock they have. We also follow the auction system. So we can guess their bidding and price structure*", says one importer.

In most cases, buyers have orders/customers for their purchases. One importer said that he has as much as 70-75 % "back to back", but in many cases they buy based on speculation. Mackerel may be stored for up to a year without deterioration, so speculation based contracts are one way to secure future deliveries. In some cases, importers speak directly with restaurant chains and retail chains about the quality they want. Based on knowledge of the industry and historical data, they have a good picture of what the future demand will be. In recent years, the price of Norwegian mackerel has increased. This means that the Japanese customers take higher risks when buying on speculation.

## Characteristics of the interaction: Actor bonds

### *Number of suppliers*

Several of the importers in our sample buy most of the mackerel from one or a few Norwegian suppliers. There are several reasons for this. Firstly, there are historical reasons - customer relationships go far back in time. Some customer relationships are over 20 years old. Another reason is that there have been several mergers in Norway. This means that customers who dealt with several suppliers now have one main supplier: "*Historically, we did business with several Norwegian suppliers. But they merged and got bigger. Now we buy mainly from one. But we still buy from the same processing plant*. "

Another important reason is that the customers want to get access to the entire production on a dedicated facility during the fishing season to ensure predictability and volumes: "*They give us one processing plant throughout the season. We can buy from one plant until the end. This is just for us, not for the other importers from Japan. But they sell to other countries like Russia*." Repeated purchases from the same facilities mean that customers have gained a good understanding of the Norwegian production and are well positioned to select. A Japanese importer says that: "*…The fish is well-graded and the quality is very good. The management of the company is very good and we know them well. The plant has a good reputation in Japan. So we will keep buying from them*." Given that not all facilities offer this, the Japanese customers must compete for raw materials: "*We are actually competing to get allocations from Norwegian suppliers. There is a competition between us. We would like to have one processing plant through the season along with the other importers. It's quite difficult. When a Japanese importer wants to have access to the production, all of the importers want to have at the same time. So the Norwegian supplier must make decisions about how to allocate his plant between several customers on a day-by-day basis. We don't compete so much for price, as for allocation of resources. We have to secure volume*."

At the same time, the Japanese buy more fish than a single facility can deliver, and are thereby dependent on several mackerel suppliers. In addition, they are hard bargainers and can easily shift supplier if they don't agree on price and terms. Having several suppliers provides a good starting point for price negotiations: "*It's risky for us and the other Japanese importers to rely only on one supplier. That's why we want to divide our purchases between several suppliers. We have a main supplier, and if they can give us what we want we will buy from them. But we also buy on spot basis when fish becomes available*".

### *Trust*

The respondents say that they have a high degree of trust in their Norwegian suppliers. Yet, they prefer to monitor the sorting and quality control of the fish using their own inspectors. Some respondents clearly wants to avoid opportunism as they argue that the sellers are motivated to include fish of lesser quality in the deliveries if they are not kept under surveillance. As such, there is still a certain suspicion in customer relationships although the Japanese respondents say they have confidence in their suppliers. As one importer explains:

“*Sometimes the seller does not wish to tell us how bad this fish really is. We need to check for ourselves*." Another adds that: "…*In general we trust our supplier. But sometimes the factory tries to change fish. This is very bad. To avoid this we need to send an inspector. If we buy for instance sizes between 400 and 600 grams, they will try two put in fish from 300 to 350 grams. They try to cheat us. Our inspector can then ask the producer to change the lot. The Japanese are very concerned with quality.*"

Having looked at how the distribution is organised in the mackerel case, we now turn to the salmon case.

## CASE STUDY: THE SALMON CASE

### Resource availability for salmon

Norwegian salmon is produced at fish farms along the Norwegian coast. From a modest start in the 1970s, fish farming is now a major industry. This means that farmed salmon is an industrial product, it can be planned and monitored from small fish (“smolt") to mature fish ready for market. The industry is vertically integrated and a small number of large companies control the market. These actors own fish farms, processing facilities, marketing and sales offices in the main salmon export markets. In addition, one actor has its own fish feed factory.

### How salmon is used in Japan

Today, fresh salmon is used mainly for *sushi* or *sashimi* in Japan, but was not regarded as suitable for sushi at first. Until the beginning of the 1980s, salmon was associated with domestic Japanese salmon caught in the wild containing parasites, needing cooking or frying to be edible. When farmed salmon from Norway was introduced in Japan, it became increasingly popular. Fish farming production methods meant that the quality of salmon could be monitored and controlled using medication in the fish feed. The number of parasites was considerably reduced, making salmon suitable to be eaten raw. In many ways, Norwegian salmon started the salmon sushi trend. Another factor contributing to this development was the *sushi-kaiten* restaurants. The kaiten is a kind of conveyor belt that transports the sushi around the bar in the restaurant. This innovation made sushi affordable for a larger public and brought sushi closer to the customer. A third contributing factor was that salmon prices fell due to economies of scale in Norwegian production volumes, and more Japanese restaurants put it on the menu. This positive development was aided a favourable Yen/NOK exchange ratio and prices fell even more, representing a further increase in export volumes.

### The salmon route to market

The salmon is first caught at the fish farm. It is then gutted (sometimes also filleted) and put on ice in Styrofoam containers. Fresh salmon is sent to Japan by air on a weekly basis, frozen salmon is shipped by sea in containers. The main salmon exports to Japan is nevertheless fresh salmon. Global Salmon was actually the first Norwegian exporter to introduce weekly-chartered flights to Tokyo. Today they send off two shipments per week, mainly their own products. Free space is sometimes sold via an agent in Oslo. Airfreights have become popular because of the demand for fresher salmon in Japan, but it has taken time and effort to establish this practice. Nevertheless, the efficient operations means that a salmon caught in the Norwegian fjord on a Thursday can be served at a Tokyo restaurant table on a Sunday.

In Japan, the fish takes two routes to market: one is the traditional seafood markets such as the *Tsukiji* fish market in Tokyo, traditionally by sea but increasingly by transport from the airport. Here the fish sold to primary and secondary (intermediate) wholesalers, processors, fish dealers and retailers. There are about 3800 intermediate wholesalers in Japan, and roughly 900 of these are present at Tsukiji. These intermediate wholesalers are often small, family run companies. Here, the fish is transported to the various destinations by small trucks, lorries and even mopeds. This ensures that the fish is available at the counter or at the restaurant table later in the morning or in the afternoon. The second route to market is direct distribution where large importers trade directly with foreign exporters and have close relationships with processors and retailers. This type of direct distribution is rapidly increasing at the expense of traditional fish market distribution (Abrahamsen and Håkansson 2011), and this distribution pattern is the basis of the current case.

Here, the salmon arrives at the airports in Kyoto or Tokyo. On board the airplane, the fish is held at a temperature of +5 degrees. It is loaded onto trucks and driven to a distribution center, which also acts as a warehouse and re-icing facility. The salmon is then loaded into vans to be transported to fish markets such as Tsukiji, or in our case a processor, Shoitachi. The distribution center is also used as a warehouse. Salmon which is not immediately sold (i.e. it has been preordered) is stored at the airport for a maximum of 10 days. The respondent at Bluewater Trading says that fish arriving at the Wednesday consignment is usually sold by the following weekend. If the salmon is not sold after some time, the fish market may be an option the get rid of the remaining fish. At the processor, the fish is filleted using a machine. Here the head and the bones are removed and the fillets are ready to be processed into smaller portions depending on the customer's requirements. Most supermarkets like to cut the portions into readymade consumption packages themselves, but at busy times the processors does this operation.

The fillets are next distributed to the supermarkets. At the supermarket, the fish is cut into portions, normally around 200 – 300 kg. The supermarket also makes lunchboxes which is a plate consisting of various fishes, vegetables, spices and sauces. These are increasingly popular among the customers.

## Characteristics of the interaction: Activities and resources

In terms of activity links, the actors have cooperate on a number of issues, for instance retail promotion campaigns. According to Bluewater; "*…Global Salmon supports us in many ways. We have promotion activities together. Global Salmon and The Norwegian Seafood Export Council (NSEC) provide some of the funds for these activities and we share the costs.*" A Further example of activity links is how the relationship between Bluewater Trading and Shoitachi has enabled tailored processing adapted to the needs of the retailers: "*I think in case of Shoitachi we are really working close. We sell to the supermarkets, but every supermarket needs some processing. They cannot buy salmon by the box. They may process some salmon by themselves, but at busy times such as sales campaign, they use Shoitachi.*"

Another example of changes in activity links is the introduction of chartered flights and its positive effect on sales volumes. This means fresher salmon to the market: "*At the same time the charter operations were increasing steadily and we had the second largest consignment on the plane. The largest share was held by another customer. They got into financial difficulties and Global Salmon offered us to take their place. We realised that our sales volumes were big enough to sustain these increased shipments, so I said "well, let's go, we can do it". So we had the largest consignment on the plane. As our sales increased Global Salmon needed bigger* *planes in order to increase the total consignment from 32 metric tons to 40 metric tons which is the maximum.*"

Turning to resource ties, salmon volumes have increased, according to the Bluewater respondent: "5 *years ago our import volumes were not so big, and the Japanese salmon market was also very small. I think maybe at that time 5,000 metric tons per year of fresh salmon. But Global Salmon wanted to increase the number of customers and their market share in Japan. We had a very positive feeling about their people. They were nice and positive and the service was good. So we started to have regular business*". New pricing policies have also been introduced: "*Together with Shoitachi we established a more stable price structure towards the retailers. Previously, price was decided once a week. But we proposed a monthly price or three-month price or even a yearly contract price. At that time salmon prices was so fluctuating, sometimes price came right up to 16 NOK per kilo, and a lot of retailers were unhappy about this. They wanted to have stable prices. Our offer was very good for the retailers, and increased our volumes to the retailers*." Retailers now have better access to information: "*Access to information has become a great asset, it is very important. They want to be included into the decision-making process. They also have a confidence that we are selling fish which is chosen by them*", says the Bluewater respondent.

The retailer's demand for traceability is another important reason for the increased cooperation, according to Bluewater. "*We want to develop close relationship to the exporter and to the retailers because we what to increase the traceability of the fish that we sell. The retailers are very concerned about this. The price difference between buying from the fish market and buying from us is not that big. We may actually be higher. But the supermarkets demand traceability, safety and trust. So we have to make an effort, assure them that we are doing the right thing.*"

**Characteristics of the interaction: Actor bonds**

The actors are strongly committed to the network. Asahi Retail has recently bought its salmon through the fish market, but decided to turn to Bluewater Trading because they are concerned with quality issues which the fish market cannot provide. Bluewater in turn has also developed closer relationships and strengthened ties to their business partners. There is more commitment in the relationships, meetings are regular and discussions are open and friendly. "*We have more direct access to the retailers now and we often meet them. They want to talk to us and we want to talk to them. We know what they want, and they also get benefit of quick reply from the Norwegian suppliers. Previously, we didn't know anything about the end user. The fish market and all its layers prevented access to this kind of information*", according to Bluewater.

Shoitachi explain that five years ago they started handling Norwegian salmon, and bought from several suppliers. Price was the main issue. Then Shoitachi was introduced to Bluewater Trading and Global Salmon, and saw that there was a great difference between how these two worked compared to others. Gradually volume increased and other customers followed.

Strong ties have developed between Global Salmon, Bluewater Trading and Asahi Retail. Shoitachi, the processor, has also been involved in this process and to an extent the Norwegian Seafood Export Council. The NSEC has helped arranging sales campaigns and promotion activities. These campaigns serve as good illustrations of how activities, resources and actors interplay in this network. Shoitachi has made major adaptations in its production facilities to cater for the increase in their business with Bluewater, Norwegian Salmon and retailers such as Asahi Retail. They have recently built a completely new plant which enables easier adaptation to the requirements of the supermarkets. They have also invested in mobile monitoring technology which enables visitors to see the production process without having to be there physically It is also important to importers and producers to be able to track what is happening to their fish.

Table 3 presents a summary of the interaction characteristics in these two cases:

Table 3: Cross-case coparison of Interaction characteristics

| | Mackerel network | Salmon network |
|---|---|---|
| **Activity links** | • Sorting, filleting and storage main activities<br>• Quality control undertaken by Japanese customer at Norwegian facilities<br>• Conflicts about location of activities | • Retail promotion, process re-allocation main activities<br>• Quality control undertaken in Japan<br>• Mutual agreement about location of activities |
| **Resource ties** | • Information exchange<br>• Spot/speculation-based, formal contracts | • Information exchange, product development<br>• Long-term, informal contracts |
| **Actor bonds** | • Exchange based transactions<br>• Some trust<br>• Customers prefer to use several suppliers to avoid dependency<br>• Little cooperation across connected relationships | • Relational interdependence<br>• High level of trust and interdependence<br>• Few actors with close cooperation and commitment across network |

## DISCUSSION

If we look at table 3 summing up the interaction characteristics in these two cases, there are some clear differences. It appears that interaction in the salmon case is much more developed and that the suppliers in Norway have a closer and broader interaction with the customers in Japan. The interaction in the mackerel case is more restricted and more directed toward safeguarding and control. One main difference relates to the way fish is sorted and selected. In the mackerel case, the Japanese customers do not trust the Norwegian suppliers to do this. Instead they place own inspectors on the suppliers' plants. In the salmon case, these activities are performed in Norway by the Norwegian suppliers. In the mackerel case, the Japanese customers do not trust the Norwegians to deliver fish of high quality and need to have their own inspectors and quality controllers present at the Norwegian facilities. In the salmon case, Norwegian suppliers perform quality control at their home location. The Japanese customers are obviously happy with this practice.

There also seem to be different perceptions about the location of activities. In the mackerel case, the Norwegian suppliers and the Japanese customers have conflicting views about the need for Japanese quality controllers to be present in Norway. In the salmon case the actors seem to agree about where the salmon is best processed and filleted; at the fish farm in Norway, at the processor in Japan or at the retailer, depending on the demand. The Norwegian salmon exporters further seem to be well connected with actors in the Japanese seafood distribution network, and have regular meetings with importers, processors and retailers. This means that the Norwegian salmon exporters can create value together with their customers in other aspects of interaction, such as retail promotions, product development and campaigns. Concerning mackerel, the

Norwegian exporters have little contact with other actors in the network apart from their Japanese customers, and their contact is mainly transactional and exchange-based.

This is not merely a question of trust; our case suggests that the role of the relationships handling the raw material input may serve as an important explanation for the interaction characteristics. In the salmon case, the suppliers have better control of product quality, and the most important interface between the supplier and customer appears to be in Japan. Having control of the raw material, they can dedicate their efforts to maintain and develop interaction with Japanese customers and other connected actors. This interaction is mainly *customer-directed*. Fig. 1 is an attempt to illustrate this situation: Here we see that the Norwegian exporter, the Japanese exporter and the Japanese customers interact interdependently, and only the Norwegian exporter has access to the input of raw material:

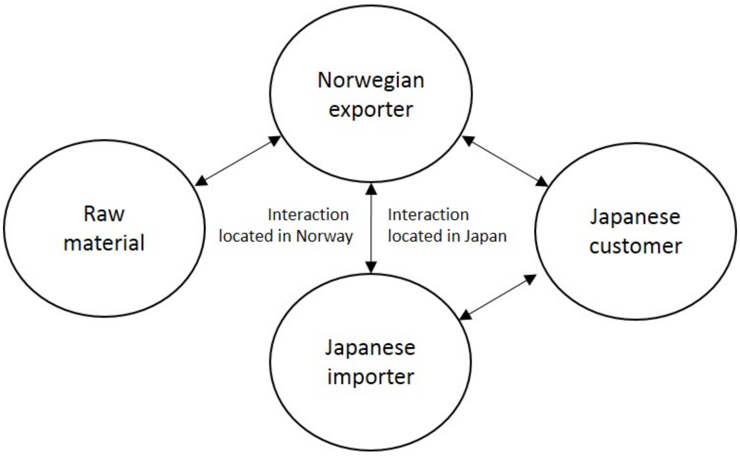


Fig.1: Customer-directed interaction in the salmon network

In the mackerel case however, the suppliers are not in control of the input resource to the same extent. The availability of mackerel fluctuates because of quotas and natural variations in stock, and the auction system means that it is difficult – even impossible - to ensure a stable supply of raw materials. The most important interface between suppliers and customers are therefore not in Japan but in Norway. The auction system means that the Japanese have to be present when the fish arrives at the quayside; they take over the role that the Norwegian exporters have in the salmon case. Both the Japanese customers and the Norwegian suppliers direct their main interaction to secure and handle the availability of raw material. Hence, they cannot develop interaction with other connected actors in Japan in the same way as the Norwegian exporters of salmon, and the interaction is mainly *supplier-directed*. Fig. 2 illustrates this situation, where the interaction takes place between the Norwegian exporter and the Japanese importer that are both mutually involved in the selection of raw material, and only the Japanese importers interact with their domestic customers:

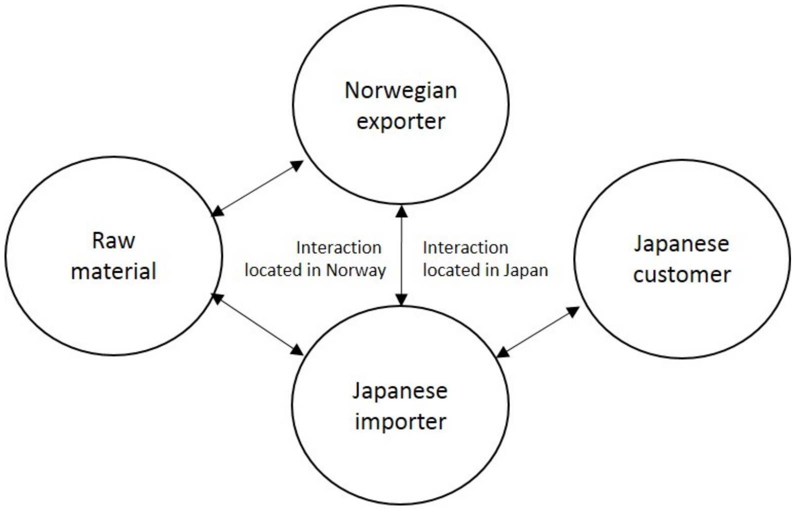


Fig.2: Supplier-directed interaction in the mackerel network

There also seems to be some kind of competition and fight over access to raw materials between the Japanese mackerel importers. These importers have contracts with domestic customers and need to be active in getting the best raw material available at any time. In terms of salmon importers, the supply of raw material is much more stable and this does not seem to be an issue of conflict. Rather, the Japanese importers trust their Norwegian suppliers to deliver the volumes they need.

## CONCLUSION

The two examples of Norwegian-Japanese fish networks give together an interesting suggestion: If a company has problems in developing business relationships in one important area – for instance regarding key inputs as in this case – this will easily spill over to connected business relationships such as relationships with customers. The auction system, representing a market-like interaction where the two sides catching and buying mackerel cannot interact in any substantial way, creates an uncertainty for the Norwegian processing companies which in turn affects the way the Japanese customers have to act. Most of the interaction between these two groups of actors will be directed toward this uncertainty (as illustrated in fig. 2) and the two sides will never get into a situation reflecting the relationships Norwegian salmon exporters have with their customers in Japan. As the Norwegian supply-side in the salmon case has well developed control over the input, they can act in a much more certain and stable way which makes it easy for the Japanese customers to direct their interest to the development of the commercial exchange in Japan. The Norwegian suppliers can subsequently be used in a positive way to find new solutions in the way salmon is sold in Japan (as illustrated in fig. 1). In the mackerel case, the Norwegian suppliers do not even know how what the market in Japan looks like. They have to direct their efforts in trying to solve the input side and make sufficient use of their own production facilities. Furthermore, there are small possibilities to control the variation in qualities or sizes of the fish they buy. The Norwegian companies cannot absorb this variation in inputs, and this situation in turn creates a problem for the Japanese customers which try to handle this as best they can.

If the above conclusion is valid, it gives an important indication regarding the possibility to develop a business relationship: Relationships are easier to develop in situations where other relationships already exist. As such, relationships seem to be generally dependent on the availability of relationships that they can be connected to, where the development of a relationship is dependent on the wider network structure. Our study suggests that the ability for a company to create close business relationships is higher when it can build on the existing ones. Relationships seem in this way to be more dependent on the existence of other relationships than on the ambitions of the involved parties.

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