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**KNOWLEDGE, INFORMAL RULES AND  
LOCALISED COMPETITIVENESS  
A STUDY OF A LOCAL MILIEU IN THE  
NORWEGIAN FISH PROCESSING INDUSTRY**

**by**

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**ABSTRACT**

The article analyses competitiveness in a local milieu in the Norwegian fish processing industry. It presents an contextual understanding of economic practice using an intensive research design when discussing localised factors that makes this milieu, consisting of small and medium sized firms, competitive in an international business. It emphasises assets related to untraded interdependencies between firms in this milieu, operationalised by the concept of knowledge systems and informal rules. Further, the article discusses how firms in this milieu are adapting to macro-level changes and concludes with a discussion of future challenges and limits for this local production system. The firms in this local milieu are competitive in the international business of fish trading, but constantly have to evolve in order to adapt.

**KEYWORDS**

local milieu, competitiveness, knowledge system, informal rules

## 1. Introduction

The Norwegian fish processing industry is strongly integrated in the international economic system. More than 95% of the production is exported. During the 1990s the Norwegian fish processing industry has been exposed for macro-level changes. First, there is a growing tendency towards globalisation of the market for processed fish products. Western capitalism is at present characterised by increased international trade and growth in the export and import rates (Lash and Urry 1994), resulting in increased international competition also in international trade of processed fish products (Arbo and Hersoug 1997). Second, there is a tendency towards globalisation of the market for raw fish. This gives the Norwegian fish processing industry increased opportunities for purchasing fish from foreign vessels, but also makes it easier for the Norwegian fishing fleet to sell its catches abroad. The driving forces behind the globalisation and increased competition are; technological innovation in fishing, processing and distribution, a general liberalisation of trade and movement of capital, and the rise of large multinational corporations (Amin and Thrift 1994).

The concept of local milieu has been developed to understand why this globalisation does not lead to '*...a general trend towards a standardisation of spaces or a situation in which regions are subjected to a strict spatial division of labour*' (Crevoisier and Maillat 1991:16). Different individuals and organizations in different places have accumulated different resources and are responding differently to these general processes of capitalism (Pred and Watts 1992). The history of capital accumulation has been synonymous with the constant emerge, construction and reconstruction of local milieus. The local milieu brings together in a coherent whole a production system, know how, business culture and political institutions (Crevoisier and Maillat 1991).

This article present the case of one localised milieu in the Norwegian fish processing industry. It focuses on two main issues.

- What makes this local milieu competitive?
- How do firms in this milieu adapt to new challenges?

After presenting the theoretical point of departure for this analysis (chapter 2), the article discusses localised factor that makes this milieu, consisting of small and medium sized firm, competitive in an international business (chapter 3). The focus will be on immaterial assets in this milieu. Further, the article discusses how these firms are adapting to macro-level changes mentioned above. The focus is on new internal modes of organization, related to production strategy, as well as on new external modes of organization, connected to the organization of input- and output-relations. This discussion of localised competitiveness and adaptation to macro-level changes is followed by a discussion of limits and future challenges for this local production system (chapter 4).

## **2. A theoretical point of departure**

The tendency towards increased internationalisation and globalisation of the western economy has opened for theoretically founded claims that economic practice is being disembedded from the local and regional context, which means the end of economies of proximity (Julius 1990, Ohmae 1990). Other perspectives emphasise how localised resources and externalities are forces of competitiveness in an accelerating and more disorganised capitalism (Harvey 1989, Lash and Urry 1994). New theoretical concepts like ‘industrial districts’ (Hirst and Zeitlin 1992), ‘new industrial spaces’ (Scott 1988), ‘localised industrial complexes’ (Amin and Thrift 1992), ‘local milieu’ (Crevoisier and Maillat 1991) and ‘learning economies’ (Lundvall and Johnson 1995) have been developed to give a better understanding of local and regional dynamics. It is this second line of thoughts I will follow in establishing a theoretical point of departure for my empirical analysis.

A more or less common theoretical basis for these new perspectives is evolutionary theory, pioneered by Nelson and Winter. They claimed that economies are developed along pathways or trajectories: ‘...*the condition of the industry in each time period bears the seeds of its condition in the following period*’ (Nelson and Winter 1982:19). Schumpeter (1954:12), the inspiration for these pioneers in evolutionary theory, said that: ‘*Nobody can hope to understand the economic phenomena of any, including the present, epoch who has not an adequate command of historical facts and an adequate amount of historical sense or what may be described as historical experience*’. There are interdependencies between firms and

their environment, and choices and strategies are influenced by these (Storper 1997). Firms do not operate in a vacuum with unlimited possibilities and choices.

In further developing this perspective, new insights from institutional theory (Powell and DiMaggio 1991) and economical sociology (Granovetter 1992, Holton 1992) have been introduced to get a grip on what can be called a contextual understanding of economic practice. Granovetter (1992:4) states that all economic activity is embedded in social, cultural and political systems and therefore 'socially situated'. This focus on embeddedness also implies that strategies and modes of organization of firms can be understood as a result of a constant interplay between the firm's own resources and conditions in their environment. The environment consists of resources, individuals and organizations on different levels which directly or indirectly are of importance for the activity of the firms, and it presents the firms both with constraints upon and opportunities for action (Kalberg 1994, Greve 1995, Jakobsen 1999). The emphasis on the firm / environment interplay also gives relevance to Max Weber's classical statement that economic action must be understood as a type of social action. Economic action '*...takes account of the behaviour of others...*' (Weber 1947:88) and is therefore social. It is both an 'economic' account, since economic action is affected by the existing supply and demand and by strategies of other actors, and a 'social' account since the action also is related to collective knowledge and informal rules. It is important to emphasise that this knowledge and these rules must be understood as socially constructed. Collective routines and sets of rules constitute institutions, and these institutions are constantly produced and reproduced through actions of economic actors at the same time as they form conditions for their action (Berger and Luckmann 1967).

A second line of argument is related to a closer understanding of the spatial dimension. Recent contributions in economic geography claim that proximity matters (Johnston 1991, Pred and Watts 1992, Massey 1994). This means that the local and regional context is important. This argument is twofold. Interactive collaboration will be less costly the shorter the physical distance between the participants, and it is easier to share and communicate knowledge when firms meet face to face (Malmberg and Maskell 1997).

The importance of this local context is documented in the following case study, which focuses on assets in local agglomerations of firms, affecting their strategies and competitiveness. We can differ between two types of assets, those related to traded interdependencies between

firms, and those related to untraded interdependencies (Scott 1995, Storper 1997). Traded interdependencies are about relationship between firms, which involve the buying, and selling of intermediate and final outputs. Assets related to these transactions in the value chain are emphasised in recent studies of agglomerations in economic theory (Krugman 1991). First, agglomerations of firms facilitate the development of specialised inputs and services. Second, they constitute a pool of workers with specialised skills. These positive externalities are generated by scale effect, which means lower factor price when demand increases (Krugman 1991, Venables 1996). Local linkages in agglomerations of firms can also reduce transaction costs, by lowering the cost of finding potential sellers or buyers, and it can stimulate horizontal co-operation between firms which in turn can generate external scale effects (Williamson 1985, Appold 1995).

Contributions based on evolutionary and institutional theory have also included untraded interdependencies when analysing agglomerations of firms (Brusco 1986, Camagni, 1991, Grabher 1993, Storper 1997). Relationships between firms can be untraded, this means that they do not involve the buying and selling of inputs or outputs. Still firms are related to each other, for instance by being part of the same local milieu or business network. Assets related to untraded interdependencies are technological spillovers, collective knowledge systems and institutionalised formal and informal rules. In many cases traded and untraded interdependencies overlap; a physical transaction between a buyer and a seller can also involve the sharing of knowledge of a product and collective learning processes (Håkanson and Snehota 1995, Storper 1997).

### **3. The case: Fish processing industry at Ellingsøy, Norway.**

#### **3.1. The local production system**

The island of Ellingsøy is located close to the city of Ålesund in Norway. About 1700 inhabitants live on the island. Within a distance of about 12 kilometres in the southern part of the island there are located twelve fish processing firms employing the equivalent of 300 man-years. Eight of the firms have below twenty man-years, while the rest have between twenty and seventy. The total turnover for these firms was approximately 160 million Euro in

1997. The firms are highly specialised. The main product of ten of the firms is dried salted fish ('bacalao'), while two firms are combining this production with processing of mackerel and herring. Dried salted fish is a niche product with a marked geographical concentration both on the production and consumption side. Norway sells about 90% of the international export of dried salted fish, while Brazil and Portugal is the main market with approximately 80% of the total consumption (Mangseth and Asche 1998). The firms of Ellingsøy have long historical traditions. All but one of the firms were established before 1970. Further, they are all locally owned family businesses. A given family controls the majority of the shares, and the members of this family have key positions in the firm (Neubauer and Lank 1998).

The firms are highly competitive in the international business of fish trading. During the 1990s, the production capacity of the Ellingsøy industry has tripled. High profit margins have made these investments possible. Traditionally, the competitiveness of a geographical agglomeration of firms has been explained by the existence of positive localised externalities, for instance specialised input and service, reduced transaction costs and a potential for external scale effects through horizontal co-operation (Scott 1988, Krugman 1991, Appold 1995). In my case, such externalities do not explain competitiveness, since there are lack of local interorganizational relations and co-operation between the firms. An alternative explanation may be linked to the existence of assets related to untraded interdependencies (Storper 1997). These assets can be operationalised by the concepts of *knowledge systems* and *informal rules*, institutionalised in geographical agglomeration of firms. In section 3.2, the development of local knowledge system is analysed, followed by a discussion of informal rules (section 3.3). In section 3.4, the adaptation of the system to new challenges is analysed. Data for the analysis was collected through an intensive case study during December 1997 and January 1998. Key informants in all the firms were interviewed. In addition, information about the production system was collected through other sources, mainly articles and historical documents about the firms and the local milieu.

### **3.2. Localised knowledge**

Firms are 'pool of resources' (Penrose 1959). We can distinguish between material resources, for instance capital and means of production, and immaterial resources, such as different kinds of knowledge and know-how. While it is relatively easy to transfer material resources

over distance and between actors, knowledge is situated in a socio-cultural setting and constructed through historical processes, and cannot be transferred in its original form, since the socio-cultural setting the firm is part of ‘colours’ the use and interpretation of this knowledge. To a greater extent than material resources, knowledge can be viewed as localised (Malmberg and Maskell 1997).

The most valuable part of the knowledge in a local production system is firms capabilities in the form of competence, skill and experience (Langlois and Robertson 1995). Itami (1987) used the concept ‘invisible assets’ on such resources. What are the capabilities localised in Ellingsøy? Through an historical process and a deepening specialisation the actors have developed comprehensive knowledge about the production of dried salted fish. This production process can be divided into three phases, salting, drying and classification. The first phase, the production of salted fish, is conventional with standardised technologies and practices. The drying is more complicated and therefore based on specific capabilities in the milieu. One of the informant expresses his view:

*‘It is nearly an “art” to get the perfect result when you are drying. It is hard to know precisely how long you shall dry. It varies a lot with the shape and the weight of the fish. You almost have to “live with it” before you can say that you manage it’.*

The market value of the finished product falls if the fish is not sufficiently dried because the quality then will be poor. If the fish is dried too long, it loses too much weight, and the total volume and income will be reduced. There are instruments which can be used to measure the humidity of the fish, but all firms have chosen to control the process manually, literally by squeezing the fish. In this process the ‘inspectors’ are using their capabilities to decide when the fish is ‘perfect’. The role of inspector is taken by key members of the firms; such as the owner, the manager or the leader of the production.

In the third production phase, the classification, the fish is sorted by size, humidity and quality. This is also done manually and by members of the staff, with specific competence related to this operation. There is a formally set of rules that the producers have to follow. If the customers receive a product that do not respect these rules, they will complain. If repeated several times, the producer will lose trust and position in the market.



The firms in the milieu have also developed specific capabilities for 'operating' in a market, both when they are buying fresh fish (rawfish) for processing, and when they are selling processed products in international markets. The distribution of raw fish in Norway is controlled by the fishermen's sales organizations. The specific organization which sells fish in the region to which Ellingsøy belong is, as opposed to most other sales organizations in Norway, using auction as mode of organization. This means that the buyers of the fish have to develop strategies for operating in a competitive market.

The capabilities developed through these learning processes are being used by the Ellingsøy firms when they are operating at international markets for processed fish products. During the post-war period, most of the firms in Ellingsøy have got their own export licences. If not, they would have had to sell their product through specialised Norwegian exporters, which would mean less market contact and restricted learning processes. Brazil has been the most important market for dried salted fish from Norway. The export to Brazil is organised through middlemen or agents in the Brazilian market. These agents receive a provision of their sales, and are performing all the practical procedures related to the export. Most of these agents are either Brazilian or European emigrants to Brazil. Over time, the producers at Ellingsøy have established close relations with selected agents. One of the managers explains:

*'We started to use an Italian emigrant just after the Second World War. When he died a couple of years ago, his son, who is now our official agent, followed him. He has been involved in the firm "since the day he could walk" and knows all about fish trading. They are always keeping their words and we know we can trust them. Since we have worked with them for such a long time, we also think that we have helped them in developing their agency'.*

In most cases the agreement between the seller and the agent is informal and without any written contract. The agreement are solely based on trust. Through these close inter-organizational relations the producers in Ellingsøy get important information about the market. An interactive learning process, helps them to develop a product close to what the market demands. It should, however, not be forgotten that these close relationships also have their disadvantages. When a firm has established a close, trust based connection with an agent, it is difficult to end the relationship in situations where the business is declining, even if the agreement is informal. The producer can be trapped in a 'locked-in-situation' with network structures that weaken their market position (Grabher 1993).

Over time the milieu at Ellingsøy has accumulated knowledge and developed capabilities through different learning processes. Both ‘learning by doing’, where the firm’s internal resources are of greatest importance, and ‘learning by interacting’, where external impulses are central, has taken place (Mitchell and Larsen 1987, Håkanson and Snehota 1995). ‘Learning by interacting’ has been the most important learning process when the firms have developed capabilities to operate in a market, while the improvement of the production process and the product itself has been based both on ‘learning by doing’ and ‘learning by interacting’. External input in these processes has mainly come from actors in the market and from other local firms. Even if there is a lack of co-operation between local actors, there is an ongoing diffusion of knowledge within the local production system. This diffusion takes place through informal or social relations between key person in different firms, through communication between workers in different firms, through sellers of input factors who have several of the local producers as customers or when people employed in one firm move to another firm. Formal institutions of knowledge, for instance research or education institutions, have been of little or no importance in these learning processes.

### **3.3. Informal rules**

The second type of assets related to untraded interdependencies is informal rules or social values. Through historical processes knowledge can be institutionalized into informal rules, which become meta-preferences for economic practice (Berger and Luckman 1967, Hirschman 1982). These collective rules will be connected to the ‘arena’ or the ‘social field’ the actor is operating on (DiMaggio and Powell 1991). A social field can be defined as ‘...*a relatively bounded interconnected system stretched out in socio-space*’ (Grønhaug 1978:118). Each actor operates on different fields with different scales and rules, and the actor’s practice in one field will have consequences for other fields where the actor is involved. The main fields for the producers at Ellingsøy are ‘the local field’, which includes all the fish processing firms at Ellingsøy and other important local actors, and ‘the international business field’, which includes all the actors involved in the international trade of dried salted fish, for instance producers of inputs, fish processing firms, agents, importers, retail dealers and political authorities. This analyses of localised competitiveness focuses on the local field and the institutionalised informal rules of this arena.

The local field of Ellingsøy is characterised by strong competition between the producers of dried salted fish. But competitive rules have been institutionalised. It is important for a producer to collect information about other local firms to confirm, and if necessary, adopt his own methods and strategies. But the competitive rules do not permit the actors to collect this information through visits or other types of direct contact with other firms at the island. One of the local leaders says:

*'It is just not suitable for me to visit my neighbour and study what he is up to, how clever he is and what he is doing wrong in our opinion. Of course, if there was an invitation I would have paid him a visit, but not otherwise.'*

Instead the producers collect information through a form of 'monitoring':

*'There is a kind of "hidden monitoring" taking place. You talk to suppliers and other people in the area and you get a grip on what is going on. Everybody is doing this, so it's not hidden literally'.*

Further, the local rules do not accept that one firm actively recruits key persons from other firms at the island to strengthen its own competence base. Each firm tries to secure its capabilities and competence. But of course it does occur that people change workplace, but mainly for personal reasons.

If firms stick to these rules for 'fair' local competition, they will accumulate what Bourdieu (1977:41) defines as symbolic capital or '*...collectively recognised credit*'. This is credit or prestige in a wider sense. The accumulation of symbolic capital also depending on a firm's business success and its ability to demonstrate its skills when producing and selling dried salted fish. This symbolic capital can be converted and used in business practice. Firms with high local prestige will meet few problems in recruiting workers. Such firms will also achieve trust in the international market, since it is rumoured which firms that are operating in a "fair" way, and which firms that are not.

There are also institutionalised expectations to the role of business leaders at Ellingsøy. A strong commitment and a specific work ethic is expected. Most of the firms at Ellingsøy are

small or medium sized with a limited internal division of labour. The manager and/or owner often take part in the production process:

*'I spend an awful lot of time down at the factory. I almost never have time off. That is only when I get away from Ellingsøy. Otherwise, I have to be available at almost every hour. I have to check the drying process in the evening, and take care of boats bringing rawfish or picking up dried salted fish for export'.*

Stories told by the locals points to this commitment and to frugality as main explanations for the success of Ellingsøy in business.

Other rules in this local field are linked to the specific types of firms located at Ellingsøy. As already pointed out, all the Ellingsøy fish processing firms are family firms. Neubauer and Lank (1998:8) define a family firm as: *'...a proprietorship, partnership, corporation or any form of business association where the voting control is in the hands of a given family'*. Family members occupy most of the key positions in the family enterprises at Ellingsøy. All the managers are for instance members of the family in control. Further, with one exception, at least two generations of the family are involved in these firms. Thus, the milieu at Ellingsøy represents a strong form of 'family business'.

Traditionally the family institution has had an important role in socialising new members into the society. When a firm is a part of the families 'project', socialising will be related to acquirement of knowledge about the family firm. One of the leaders at Ellingsøy says:

*'I have been walking around at my father's and my uncles' factory since I was a little kid. When I grew up I spent all of my holidays on the factory helping out with different things and learning about the production. You can say that I always have "worked" down at the plant. When my father wanted to step down it was only natural that I succeeded him'.*

This kind of informal education, where history and tradition is communicated from one generation to another, gives the family firm competitive advantages, especially when the new leaders combine this informal education with formal education. It is always important to respond to external impulses, since the internal socialisation may include knowledge which is inadequate for solving existing problems in the industry.

In addition to the transmission of practical knowledge, the socialising process also gives the members of the new generation high self-confidence, which is important when you are in business. Marceau (1989:153) states the following about persons ‘born’ to be a business manager: *‘(This) period of their lives also allows them to develop a strong sense of their own worth and a considerable faith in their own abilities (...) They are constantly bathed in informal advice about the behaviours and reactions which are desirable in business’.*

Another institutionalised rule among family enterprises at Ellingsøy is that members of the family must be loyal to the family and the firm. It is for instance expected that the next generation is willing to take over as leaders and make the necessary sacrifices. A local manager says:

*‘I went to the capital to study law. It was important for me to get an education. But I could not fulfil my ambition, because my father died. I had to go home to my family and sort things out. I was the one who had to succeed my father as manager. I wanted to practice as a lawyer but it did not turn out that way’.*

However, there have also been a few cases where the next generation does not want to carry on the business. In the mid 1990s for instance, one firm at Ellingsøy closed down because the descendants did not want to take over. But in this case, also economic consideration influenced the decision. The firm had to invest heavily in new technology to be competitive.

Loyalty in the family can also be used to establish efficient network towards important actors in the environment. One person from Ellingsøy says:

*‘My eldest son has a leading position in a bank. He helps us with the accounts and other financial things. If it is something special I talk to him. If we need capital we don’t have to line up in a cue. Things are always working out fine when I contact my son’.*

Traditionally it has also been expected that family members, not only sons and daughter, but also relatives such as cousins and nephews, are willing to put in long hours of work in the high season for low wages. This input has been crucial for the survival of many of the family firms, especially in their vulnerable youth (Piore and Sabel 1984). This loyalty also affects the owners expectations of profits on their investments: ‘The relatives involved feel obligated to

hold the company stock for more than purely financial reasons, especially when losses are involved' (Neubauer and Lank 1998:6). This attitude strengthens the family firms possibilities to survive in periods with low income.

In sum, this institutionalised rule of loyalty within the family gives the family firm what Bourdieu (1990:35) defines as social capital: *'...effective possession of a network of kinship (or other) relations capable of being mobilised or at least manifested'*. As shown above, social capital can be generated into competitive advantages when converted to economic practice.

The family institution also expects responsibility from the 'father' towards the rest of the family. This responsibility is part of what Habermas (1984) defines as communicative rationality of the so-called 'lifeworld', in opposition to the instrumental rationality of the 'system'. Traditionally this responsibility and caring has been important governance structures for social life, but in the case of family enterprises it is also important in economic practice. Prokesch (1991) claims that managers in family firm to a greater degree than managers in ordinary firms feel responsible towards their staff. Especially in small firms, the staff can be 'part of the family'. One of the managers at Ellingsøy says:

*'In our company we have a close connection to the staff. I work together with them when it's necessary. I think this is motivating them. They know that I am willing to participate and sweat with them. I also think this make them work more efficiently'*.

The manager in family firms is also expected to show responsibility towards other family members. This is illustrated during changes in the leadership. The managers of the family business have to 'take care of their children', by giving them the possibility to achieve business success (Neubauer and Lank 1998). Thus, it is common that members of the next generation gets key positions in the firm when the leader or the leader team want to step down. But in cases where the new manager doesn't have the right qualification, this family rule can weaken the firm's competitiveness.

### **3.4. New modes of organization**

During the 1990s, and especially after 1995, both the trade of rawfish and the trade of dried salted fish have been characterised by increased competition. The average price for dried salted fish when exported from Norway have for instance been reduced by 10 % (in current prices) from 1995 to 1997 (Jakobsen 1998). These changes give the firms at Ellingsøy incentives to strengthen their efficiency. The following section discusses new internal and external modes of organization in this local milieu. When they change their modes of organization, firms use their knowledge and capabilities. In addition, informal rules present them with meta-preferences when they are adapting to these new conditions.

Internal modes of organization deal with strategies and organizational issues related to the production. In the strategic management theory it is common to differ between specialisation and differentiation as different production strategies. Specialisation means to focus on one or a restricted numbers of products, while differentiation is related to strategies where the firm's activity is spread on different related or unrelated products (Porter 1985, Hill and Jones 1995).

The main response from the producers at Ellingsøy to external changes during the 1990s has been increased specialisation. Traditionally the fish processing industry on the island has combined the production of dried salted fish with the production and selling of salted fish, but in recent years, producers have chosen, more or less exclusively to concentrate on dried salted fish. They have invested heavily in new equipment in order to make the production process more efficient. The producers increase the production volume and introduce new technology to 'hang on' in an industry characterised by stronger competition.

Investment in technology, historically as well as recently, have, together with accumulation of 'deep' knowledge about the production of dried salted fish, created a 'path dependency' at Ellingsøy (Nelson and Winter 1982). It is difficult as well as expensive to diversify into other fish products in order to achieve flexibility and generate economies of scope (Hill and Jones 1995). A more realistic alternative for producers at Ellingsøy to reduce the vulnerability to market fluctuations as a result of strong specialisation, is to introduce what can be termed as related differentiation (Porter 1985). This is a differentiation where the new product is close to the firm's core activity; in this case bulk production of dried salted fish. In the second part of the 1990s two of the local producers have tried to penetrate the market for portion-packed

dried salted fish, as a supplement to bulk production. But it is expensive as well as risky to introduce a new product. New production processes and new distribution systems must be developed. In this case it is especially difficult since the Ellingsøy producers have not found well established and tested production processes for dried salted fish packed in vacuum packages, and have to adapt through a trial and error process. A representative for one of the firms tells:

*'We have to try things out to find the best solution. It is especially important to find the right temperature for the fish when we are processing it. It is also important to be very careful when we are vacuum packing the product. But we are learning all the time'.*

These producers must also set up a new distribution system. It is a common understanding in the industry that portion-packed products must be sold directly to the wholesaler or the supermarket and satisfy their specific demands to be successful (Friis 1993). This means that they have to build networks with new actors, and that they must use more resources in the marketing and the selling of the product than they traditionally have done.

Only a couple of the Ellingsøy firms have the ability and the resources to be innovators. But if they succeed, other firms will follow, since the adapters can avoid some of the initial costs, which the innovator has had to carry (Elam 1993). New knowledge about production processes, distribution and marketing will spread in the local production system. This is positive local externalities linked to individual firm's innovation projects (Grabher 1993). The market for dried salted fish is, however, still dominated by bulk products, and in the foreseeable future the export of portion-packed products can only be a supplement. This means that the main challenge for the producers at Ellingsøy is to be better where they already are good (Porter 1985).

External modes of organization are about how the firms organise their input and output relations (Williamson 1985). As mentioned earlier, there are tendencies towards globalisation of the market for rawfish and the firms at Ellingsøy have to introduce new strategies in order to secure this critical input-relation. Generally, globalisation and stronger competition means that price become more important as a governance structure in transactions (Williamson 1985). But besides prices, quality matter. Thus, the firms are willing to pay a higher price for



fish from vessels they trust will deliver good quality fish and fulfilling the specifications which are quoted. One of the managers at Ellingsøy says:

*'If we shall compete on international markets it is very import for us to get fish of good quality and of the right size. We know who the vessels are that can supply us with this, and we have to establish closer connection with these vessels'.*

Fish processing firms at Ellingsøy have also tried to get access to new markets for rawfish in order to secure this input-relation. Traditionally fish has been bought from Norwegian vessels fishing in Norwegian waters. During the 1990s, the Ellingsøy firms have also bought large amounts of fish from the United States, especially Alaska Pollock which is suitable for production of dried salted fish. Many of the ship owners in this fishery are emigrant Norwegians based in Seattle. This makes the dealing easier for the firms from Ellingsøy. But not all of these firms are operating as importers of rawfish, some are buying fish from other importers in Norway.

When it comes to organising the output-relations, three out of four producers at Ellingsøy are registered as exporters, the rest are selling their output to other Norwegian exporters. An important question to ask is which market strategies the exporters from Ellingsøy have introduced during the 1990s to secure their position in the market. Market strategies include three elements; product adaptation, distribution and market communication (Borch 1992).

Product adaptation is to satisfy the customer's specific demands. Such product adaptation is hard to make in the production of dried salted fish, since it is the size and the quality of the rawfish which determine the end product. As mentioned earlier, there is a large uncertainty related to the supply of rawfish. This means that it is to a certain degree the supply of rawfish that is determining what is produced and not the market demand. It goes without saying that the producers at Ellingsøy will always keep in mind what the market wants when they processing their fish.

The next element is distribution. As already mentioned, the export of dried salted fish has mainly been organised through a middleman or an agent in the market. A more efficient alternative would be to sell directly to the buyer. But the producers at Ellingsøy seem to be satisfied with the existing arrangement. They may, however, be forced to change it. In the

international markets for dried salted fish there are tendencies towards concentration on the buyer side. Some of the big buyers have signalled that they want to buy directly from the producers.

The third element related to market strategy is market communication. The firms at Ellingsøy communicate with the market mainly through their agents. All the agents have established a network of potential buyers. Once or twice a year the agents visit the producers at Ellingsøy and bring some of the most important buyers with them. But generally the firms at Ellingsøy have a passive attitude towards the buyers, reflected in restricted use of resources on marketing. This attitude has not change during the 1990s.

#### **4. Limits to localised competitiveness and future challenges**

The fish processing industry at Ellingsøy has responded to the new challenges of the 1990s by increased specialisation. The firms have stepped up the production of dried salted fish and made the production process more efficient through investments in new production technology. They have also tried to improve their input relations by establishing closer connections with selected producers of rawfish and by penetrating new markets for rawfish. There are however, few changes in their organization of output relations. In this adaptation process the firms have used their practical knowledge and capabilities.

The competitive advantages of the local milieu at Ellingsøy have traditionally been related to deep informal knowledge, a strong local rivalry between firms which has generated local dynamic processes, loyalty between individuals within in the firms, committed leaders with self-confidence and an efficient internal 'education' of new key members in the firms. This milieu is still highly competitive on the international market for dried salted fish, but there are certain weakness in this localised competitiveness. The milieu to a certain degree lacks formal knowledge about organising, management, production and marketing. In a modernised industry such knowledge will be increasingly important. Also, a milieu of small and medium sized firms may have problems in adapting to path-breaking shifts (Amin and Cohendet 1999), such as the introduction of new large-scale production technology in the processing. Although, milieu of small and medium sized firm are capable to introduce and to adapt to

incremental innovation in the production system, they find it tougher to handle comprehensive external changes and radical innovations (Asheim 1996).

But even without path-breaking shifts, current ongoing structural changes in the industry require efficient adaptations. All local production systems, no matter how successful they are, are social constructions which are constantly being constructed and reconstructed, resulting in processes of growth or decline, stability or transformation (Bianchi 1998). In addition to the adaptation mentioned above, the firms at Ellingsøy have also partly changed their organizational structure. The family firms at Ellingsøy have up till now been characterised by a loose division of labour, a small managerial hierarchy, and little formalised co-ordination between its members and units. This is what Mintzberg (1979) called 'simple structure'. To operate efficiently under new circumstances the firms must introduce more formalised co-ordination principles and a more distinct division of labour (Hatch 1997). This means developing a more professional organization, which to a greater degree is based on formal knowledge. The process has started, but a more comprehensive modernisation of the organization is necessary to ensure future success. The firms also have to develop successful strategies for changes in the leadership structure. The introduction of a new generation in the leadership is a critical phase for a family enterprises (Neubauer and Lank 1998). The new leadership must be competent in its field and supply the firm with formal knowledge. In addition, it must be accepted by all members of the family. This means that both kinship and competence must be criteria when choosing a new leader. One of the managers at Ellingsøy says:

*'We have to pay more attention towards competence. A family member must not be asked to take a position he is not qualified for. That can damage both the firm and the family member'.*

Ideally the new leaders must be family members with relevant formal education, and some of the new leaders at Ellingsøy have this kind of background. But many of the firms might also profit from introducing people outside the family to some of the key positions. This may strengthen the firm's external networks and introduce new perspectives and skills in the firm.

Another future challenge for the milieu at Ellingsøy is to respond to the trend of concentration among the buyers in the market for dried salted fish. To comply with new demands in the market, for instance when it comes to continuity and volume in the supply, further investment

can be necessary. Their financial basis to handle this situation may be strengthened by the introduction of external shareholders. One alternative to external capital is strategic alliances or mergers between local firms, but such strategies seems less plausible, since there is no cooperative culture in the local milieu. Local takeovers are more likely.

To conclude, in the future the firm at Ellingsøy have to focus more strongly on efficient solutions. They must constantly '*evolve in order to adapt*' (Amin and Cohendet 1999:92), but without losing their traditional competitive advantages (deep informal knowledge, loyalty and commitment in the organization etc.). If they are unsuccessful, the result can be external takeovers, decline and disintegration of the local milieu (Staber 1997). The critical factor for successful adaptation is knowledge. So far the most important sources for new knowledge have been relations to sellers of input and buyers of output. These linkages must be developed even further to strengthen the flow of knowledge and the ongoing learning processes. The firms must also strengthen their level of formal knowledge, if necessary by admitting qualified staff from outside the family. Political authorities should also play a more proactive role in supplying the firms with new knowledge, for instance by stimulating contacts with research and education institutions, and by generally supporting innovation activity among the firms.

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