

Milieux and innovation in the northern periphery

A Norwegian/northern European benchmarking

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Nordregio 2001

Nordregio Working Paper 2001:5
ISSN 1403-2511

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Stockholm, Sweden
2001

Preface

This report was compiled as a part of the Milieux project, financed by the Northern Periphery Programme, Project Number 3107982/15. This programme was coordinated by Andrew K Copus¹. Other partners were Petri Kahila², and Bruno Jansson³ (See Copus, Kahila, Jansson and Mariussen: The Role of Regional Milieux in Rural Economic Development).

This project report is the Norwegian case study, financed by the Executive Committee for Northern Norway. The Norwegian case study interviews were carried out by Harriet Willassen, Poseidon Consulting AS, Leknes, and the report is made by Åge Mariussen, Nordregio.

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Summary, conclusions and policy implications

In the new, learning economy, economic development is innovation driven. Innovations are the outcome of localised, interactive learning. But this creates the “paradox of innovation in the periphery”: firms in the periphery are located outside the hot spots of innovation, which mostly are found in central city areas. What, then, is the significance of milieux for economic development and innovation in peripheral regions in the north of Europe? In particular, how are milieux conditions for firms in Norway – as compared to firms in other parts of the Northern periphery?

Data and method

The Norwegian part of this study was based on a sample of 36 firms in Lofoten and Vesteraalen. The sample captures important local industries, tourism, traditional fishing and micro-entrepreneurs excluded. This Norwegian sample is compared to 118 firms, collected from 6 peripheral regions in Sweden, Finland and Scotland, through the project. This results in a total sample of 154 firms, from four countries and eight regions in the Northern periphery of Europe.

The sample is *stratified*, focussing on the core industrial sectors of the regions, and *non – random*. Whereas the analysis of the *total* sample gives a fairly good picture of some of the general milieux conditions of innovation in the Northern periphery of Europe, the method of non – random sampling limits the possibilities for quantitative comparison *between regions*, because we cannot test hypothesis on differences. In this report, the comparison of the two Norwegian regions to the other six is partly based on central tendency measures, partly on relating the findings from the statistical analysis to other sources of information on the regions. The outcomes of this comparison should be regarded as illustrations of differences between examples of Norwegian periphery regions – compared to examples of the periphery in other Northern European countries. These examples give clues to hypothesis on differences between regions in the Northern periphery.

Taking these reservations into consideration, the major findings are:

Major findings

1. ***The periphery lock-in: Identifying an intermediate position in the learning economy.*** Firms in the Northern periphery of Europe are innovative. However, localised, interactive learning and innovation in the periphery should be seen within the context of networks dominated by standardised market relations and linear learning. This context *locks in* the innovation potential of peripheral firms into an *intermediate* learning position, which restricts their possibilities. Except for labour markets and relations to customers, *interactive relations* are not important to business achievement. Interactive networks to research centres, consultancies, and suppliers of technology are all considered of minor importance. Despite these limitations, firms in the periphery *are* able to exploit local and regional *agglomeration externalities*, providing labour market skills, access to local business services, and opportunities to learn from customers and other firms. Given these less – developed networks of learning, *most* firms *are* also able to innovate through widening their range of production, mostly with *existing* products or processes, through expansion of the market, and copying what others are already doing. Some firms are also able to innovate at a higher level.

2. ***Norwegian periphery firms in the sample are innovative at a higher level.*** The firms we interviewed in the two coastal Norwegian regions have a slightly higher score as far as the more challenging task of developing *products new to the market* is concerned. They do that by learning from more distant and larger customers – and by relating to a larger extent to national and global trends. This must be seen in the context of the dynamism characterising the *national* innovation system of the Norwegian marine industries, which vitalise and enhance the local and regional development potential of Norwegian coastal regions. There is an interesting *difference* between the two Norwegian regions, though. Independent firms with capacity for localised learning are mostly found in Lofoten, where radical product innovations, as well as R&D relations, are of some importance, as are local milieu benefits created by agglomeration externalities. In Vesteraalen, where branch plants are somewhat more dominating, local milieu clearly is *less* important. These firms are, however, introducing new products through the channels of learning created by their *corporations*, through which they may also access university level resources. These achievements are made, despite two obvious obstacles for Norwegian firms.
3. ***Norwegian development agencies are not particularly outstanding in supporting innovation.*** The general assessment of the role of development agencies in Norway, compared to the other countries in the project, was not very different. However, it seems that Norwegian development agencies often fail in providing guidance and sometimes also financial support to innovation. An obvious explanation to this is the institutional paradigm of these agencies, in particular SND, which is locked into the theory of investment driven growth, focussing on subsidising investments, instead of enhancing learning.
4. ***Norwegian firms are more critical to local culture than firms in all the other countries.*** In the assessments made by Norwegian firms on “community spirit” and normative relations to entrepreneurship in local communities, Norwegian respondents clearly stand out as more critical to local culture than others. The dynamic transition and modernisation of the Norwegian coastal regions, and the integration of local firms in national networks, is dis-embedding the advanced sectors of the Norwegian coastal economy from local coastal traditions.
5. ***The game of community classification.*** The study illustrates that there is no simple relation between *lay statements* on community milieu and actual capacity for innovation. Norwegian firms stand out, as compared to firms from other countries, both with more higher – level innovations, supported by the national and global scope of their networks of learning, and the clearly *lowest* score on “community spirit”. What is more, the Norwegian region we a priori assumed would have a more “dynamic” milieu, Vesteraalen, is characterised by branch plants – for which regional milieu is of minor importance, as compared to the assumed “lagging” Lofoten, which has a milieu created by agglomeration economics clearly important to innovation. These paradoxes illustrates that statements characterising regions, in terms of “community spirit”, “advanced” or “lagging”, should be seen as manifestations of cultural phenomena which may sometimes be interlinked to innovation, but often in quite complex manners. These connections can only be identified by looking at the

way actors construct and reconstruct the meaning of place, in a cultural landscape constantly transformed by the dynamics of economy.

Policy implications

Given the intermediate lock-in position identified in the study, two options to enhance milieu factors promoting innovation stand out:

1. ***Improving intermediate local learning in the periphery.*** In the intermediate position of the firms in the periphery, local training possibilities, skills in the local labour market, local and regional business service development, and local and regional opportunities to learn from customers clearly are important in many regions. In policy terms, the challenge is to enhance and cultivate these agglomeration externalities, taking into due consideration the highly legitimate objections of firms in peripheral areas against increasing their cost of transactions.
2. ***Linking intermediate and core levels of the learning economy.*** Linking peripheral firms closer to the vibrant cores of national and global innovation systems may take place through *ownership*, where new products and technologies are diffused through the corporation. At the same time, turning local firms into branch plants fragments and drains networks of intermediate local learning. Another alternative is development of higher – level interaction capacity in the periphery, based on more advanced regional actors as nodes between local learning and national and global cluster cores. In this context, improved access to *linear* learning through *formalised education networks* may well in many regions be seen as a necessary first step towards increasingly *interactive* networks.

Suggested further studies

We need studies enhancing our understanding of how the *intermediate levels* of learning in the periphery and the dynamic cores of national and global innovation systems may be better interlinked, thus integrating the periphery closer into the growth dynamics of the globalising learning economy.

1. Introduction

The significance of *local and regional milieux* for *innovation* has been subject to a broad and sustained research during almost two decades, originating with the publication of “The Second Industrial Divide” in 1984, the subsequent debate on the theories of flexible specialisation put forward in that book, as well as the later interest in regional innovation systems, rural innovation and theories of the learning economy. Today, policy efforts to promote development based on theories assuming some form of *correlation* between *local milieux* and *economic innovativeness* is going on within the structural fund policies, in the objective programmes, as well as through initiatives such as RITTS and, in rural areas, LEADER.

In Norway, there is an interest for such issues in various regional development programmes (RUP), promoted by the regional institution with responsibility for regional development and planning, the “fylke”, among inter-municipal co-operative institutions at lower levels, who are working with regional development issues, municipalities, who sometimes are also active in promoting industrial development at the local level, as well as various state level institutions promoting industrial development and innovation, such as SND (with so called “pilot” projects) and the Norwegian Research Council (who are implementing “RITTS-type” of programmes, such as REGIN, also in peripheral areas).

The case regions selected for this study, Lofoten and Vesteraalen, has relatively well-developed regional municipal councils, based on inter-municipal co-operation. The regions are groups of islands. Each region is tied together by a system of roads, tunnels, and bridges. They are connected to each other – and the main – land road transportation system through ferries. The islands have a well-developed air transportation system, with several air-fields and frequent daily routes connecting into the national air transportation system, mainly through Bodø. The spatial structure consists of a network of small towns, villages, and on some islands also rural areas with the typical, North-Nordic scattered population pattern, based on small-scale agriculture. The islands have a well-developed, modern public sector, organised through a system of small, local municipalities, councils of inter-municipal co-operation and through the “fylke” level.

Major industries are the interrelated marine activities fishing, aqua-culture (salmon farming) and food industry, as well as tourism. These industries generate seasonal employment, tourism during summer, whereas the major fishing season is during the winter. Seasonal employment is a part of the traditional way of life on the islands, generating traditional and new patterns of pluractivity.

In this report, the significance of *local milieux* for innovation in selected firms is considered. The basis is a series of interviews carried out in the project “Regional Milieux”, with local small business managers, as well as administrators and other informants. These interviews are *stratified and non-random*. As the basis of this report, a total of 10 interviews were made among institutions supporting business development, 36 among businesses. The business interviews are also, on some parameters, compared to the total sample in the project, of 156 firms in four regions.

2. Milieux, culture and innovation driven growth

2.1 Growth is innovation driven

Economic development depends on the utilisation of *factors of production*. In several peripheral areas, the most important factor generating economic development is *humans* living in the area. Other factors may also be of importance, such as *natural resources*, forest, land available for farming, a nature attractive to tourists, and, in the Norwegian case, marine resources. However, as most factors of production tend to be accessible anywhere, another perspective on growth have evolved. Growth may be seen as *investment driven*, created by investors who are taking cost differences between localities into consideration. Wherever things may be produced more cheaply, investors tend to go with their capital, to ripe cost benefits. In a world with increasing mobility of capital, relative cost differences may explain investment booms that generate growth. This has, however, proved to be a marginal factor in the Northern periphery of Europe, as peripheral locations are generally unable to compete on costs. A third perspective on growth is the claim made in the theories of the new, learning economy, that growth is *innovation driven*, and that innovation is the outcome of *localised interactive learning*. To put it short: *learning is the most important process, and knowledge is the most important resource* in the new, learning economy. In trying to understand the dynamics of *innovation driven growth*, we have to look closer at milieu factors mediating learning.

This opens two boxes: culture and networks.

2.2 Milieux understood as culture

The idea that *place* is the basis of *society* was invented by Aristoteles, who made the distinction between *household*, oikos, and *city*, polis. Oikos, the household, was tied to matters relating to family, like food, women, children, life and death. The women and children of oikos were *localised in space, in a particular place*. Polis, the city, on the other hand, was a sphere of life where free men could exchange thoughts, *beyond space*¹. Oikos established a perception of society as *generated in and tied to space*, and the corresponding distinction between society and non – local factors, such as politics. The idea proved extremely useful in the national European projects, where they resurfaced through religious and political myths, emphasizing the mythical unity of oikos ingredients, like blood and earth (Blut und Boden)². The basic assumption underlying oikos is the *assumed* causal relation between properties of aggregate spaces, regions, and properties of *societies, firms and humans observed within* these aggregates. Nations and regions may be characterised and classified by these properties. Once these classifications are made and diffused, they become the lenses through which a number of contrasts between regions and countries may be subsumed. This may evolve into a mechanism that make people apply sets of allegedly correlated properties to anyone happening to stay in a particular locality. If you live in a certain area, you are expected to be either lazy – or a clever and industrious entrepreneur. When confronted with these labelling activities from “outsiders”, the “locals” may try

¹ Most visitors to Athens will have seen the actual square of Polis. It does have a physical existence and location, as does the political – administrative machinery, institutions and scope of the modern states. Aristoteles argument was the idea that *politics* is a separate sphere, distinct from *society*. For a critical discussion, see Niklas Luhman, 2000: Die Politik der Gesellschaft, Suhrkamp Verlag.

² Thus laying the foundation of several strange ideas in European history, like the unity of ethnicity and space, and the even stranger thought that a piece of land is worth dying for.

to “find out who they are”. They start constructing regional or local “identity”, through inventing distinctions to “the others”. “We” do things “this way” – “the others” do something completely different. These local or regional identities evolve through *contrast* to the neighbouring region or locality, and through the power of free associations, adding new contrasts into the equation. “We” are “dynamic”, because “they” are back-word looking, “we” are good Christians, “they” are immoral, “we” save our money and invest them in productive business, “they” consume and enjoy life - and so on. Once this cultural dynamics of *constructing identities through contrasts* is initiated, innovative actors may add an infinite number of new contrasts at will. Thus, regional identities may be supported by long stories of “how people in this region really are” – as opposed to “the others”. Once invented, these stories are often widely diffused, and backed up with powerful symbols of “the local”, often linked to the traditional ways of life. Thus, regions or localities may be loaded with “symbolic capital”, *meaning* which may be *used to promote* economic activity “I do this for us in the region – support my project” – or negatively, to *sanction* entrepreneurs and innovators “This is immoral, we do not do those kinds of things here!”

As things change, old concepts, tied to the traditional way of life, may be objected by new actors. In the project, we relate to these *cultural transformations* through questions opening for *actor perceptions of how local milieux affect innovation and entrepreneurship*. Our informants were confronted with *statements* referring to a set of general characteristics of milieux and its significance for their economic activity (see appendix 2, questions 41, 42 and 43).

This approach makes it possible to analyse how actors *relates to* the symbolic capital of the region they are located in.

2.3 Milieux understood as interactive networks

The methodological question, then, becomes how to make a distinction between these *cultural constructions* of regional milieux on one hand, and a *scientifically based* approach to the study of *actual* relations between local milieux and economic development on the other hand. The core methodological question here is to go beyond the logic of producing and reproducing symbols at the level of the region, to study *practical activities*³. Practice may be identified empirically through the analysis of *chains of practical events, processes*, and their spatial characteristics. A process, as opposed to a random or chaotic series of events, has continuity through time because of the continued persistence of a certain set of factors and relations constituting it. By mapping the networks of actors contributing to processes of innovation, it is possible to identify the significance of regional milieux, as opposed to non – regional factors.

The focal empirical point, accordingly, is *processes resulting in innovation*.

In sociology and cultural geography, the tradition of locality studies is arguing for the significance of *highly integrated, interactive local networks* in explaining local economic adaptations and innovativeness. These studies made by social anthropologists and sociologists in city areas in USA in the 1930s, were carried into peripheral areas by the ground – breaking study of Barnes in the early 1950s. Barnes coined the concept “network”, after a study made in a Norwegian coastal society. By looking at a

³ Methodologically, we are avoiding the ecological fallacy, which consists in assuming that a property of an aggregate unit of analysis, a region, may also apply to a sub-unit, like a firm in the region.

fishing-net, hanging on a wall, Barnes saw the complex patterns of *interactive relations*, tying together the work and life of all the inhabitants in the small, closely integrated fishing community.

2.4 Limits to interactivity

Barnes fishing net was, for all practical purposes, a *spatially located society*, integrated through *dense interactions*, oikos. Today, however, the perception of peripheral societies as *closely integrated networks of high-level interaction* is no longer accepted among main-stream cultural geographers and social anthropologists. Whereas oikos was an integrated whole, local and regional societies may be *disintegrated* through *differentiation*. A basic form of differentiation is of course provided by the market. As pointed out by transaction cost theory, efficient market relations should not be *interactive*, because interaction is another word for transaction costs. Interactivity may be removed from the relation by *standardising* goods and services. When most of us are shopping, we are not concerned with our *relation* to the person in the shop, or the choice of the shop, because what is provided has a standard price and quality, guaranteed by a brand or some quality control system. It is only when price and quality are unclear, when you are buying a used car (or, in these days, a beef), some form of *interactive network relation* may slip into the equation⁴.

However, in localities where several firms in the same industry form *agglomerations*, the local markets created by the agglomeration may even though create a peculiar form of highly specialised milieu, the so-called *agglomeration externalities* (see question 23 in appendix 2). Externalities may develop through local, specialised markets, which may support the development of unique business services and a local labour market providing specialised knowledge that is crucial to the industry of the agglomeration. Externalities may also be channels of information and learning, based on the learning you can obtain by watching what your neighbour across the street is doing. These interactive local networks created by agglomeration externalities are easily accessible, providing learning, local support to your business and other goodies at fairly low costs of transaction, because they are local, and already well adapted to unique and specific local demands.

Another way of cutting costs of transaction is to rely on linear learning. Linear learning may enhance the capacity to engage in *standardised non-interactive* transactions, often across huge distances. It may provide the firm with *non-interactive* modes of access to national or global expert systems and markets, providing information, technology and other resources, mediated through relations where *interactivity* is *not* important. If you want a new machine from a foreign supplier, a qualified engineer in your staff can specify your requirements, order the machine, and buy it. If you want new information on the development of your domestic market, an economist can access an appropriate internet site, and get the information she needs. As long as it is a *standard* piece of equipment or service, and you have the proper formalised knowledge that makes it possible to specify what you want in terms of market standards, you do not need any kind of *interactive relation* to the supplier. By combining linear learning and standardised market transactions, firms in the periphery can cut costs by handling quite complex distant relations in a *non-interactive* manner. Where linear learning and standard market transactions saves transaction costs, interactive learning takes time

⁴ Another achievement of the market, which may prevent networks, is competition, you do not want to be too close to your competitor, because you may then reveal your secrets to him.

and money spent on travelling and meetings, which may better be allocated for other purposes.

In the vibrant cores of the innovation systems of the new economy, it is the other way around. A considerable part of the literature on localised interactive learning relates to success stories of national clusters of innovation – and successful innovation systems. In this literature, we get descriptions and analysis of dynamic industrial agglomerations, enjoying support industries, demanding customers, institutions, like Universities and research institutes, providing research facilities and skilled people, as well as well developed sets of interactive relations, embedded in spatial proximity, social capital and supporting institutions of co-ordination and co-operation. The outcome of these factors is interactive relations between different forms of knowledge, generating innovations that are competitive on global markets. In these *hot spots of innovation*, where new core technologies and products are generated for the global market, Grabher points out that people who innovate are *accepting extremely high costs of transaction*, by spending considerable amounts of time diving into rich information flows, most of which they will never use for economic purposes, and engaging in several relations which never become profitable – because that is necessary to identify the next set of ideas, relations and projects which will be their new innovation. The challenge in increasing innovativeness, then, is to maximise transaction costs, through maximising flows of information, ideas and networks. It goes without saying that this has to take place in localities with agglomerations of co-present actors.

When firms in the periphery are cutting transaction costs, they are depriving themselves from potentially interactive networks that may have enhanced their capacity to innovate. At the same time, they have to, to be able to cope with the costs of remoteness and distance. This gives a perspective on a community located in the periphery that is diametrically opposite to Barnes fishing net. The community in the periphery is not a densely integrated web of interactivity, it is a fragmented agglomeration of highly skilled specialists, engaged in cutting costs of transactions in handling remote relations. In reality, of course, we must look somewhere in-between. How do the peripheral firms solve this dilemma – and what are the implications in their communities? In looking for the characteristics of innovation in the periphery, it is vital to identify *the scope of interactivity* within the *context* of liner learning, formalisation and standardisation of relations that surrounds these firms. The scope of interactive networks in the periphery is investigated in this project, through a set of questions identifying *interactivity*, *non-interactivity* and *agglomeration externalities* (Appendix 2, part 2).

2.5 Method

The total Norwegian sample consist of 36 firms, 18 in each region. Only 3 firms were established before 1980, 13 during the 1980s, 20 after 1990. The firms in Vesteraalen have an average size of 35 full time employed, as opposed to 15 in Lofoten (the number of part – time and seasonally employed was small). The comparative material is 118 firms, located in comparable regions in Finland, Sweden and Scotland. The selection of the sample is *stratified* (targeting major industries), but at the same time not random. This means that the statistics presented should only be seen as *examples*, and any discussion of differences based on comparison of numbers should be made with utmost caution, using other, supporting empirical references before and conclusions are drawn. Taking these reservations into consideration, the material supports analysis

based on *descriptive* statistics, like *frequencies* and *central tendencies* (modes and medians). Measures of central tendencies are useful as examples of *typical firms within the strata* we chose to focus in the study. Because the sample is *non-random* and only targets certain strata of all the firms in the regions, this method does not allow for any further kind of quantitative, statistical testing of hypothesis relating to comparison between the regions selected. The method applied is therefore a discussion, based on a comparison of measures of central tendency. On this basis, comparison is made between *typical properties* of firms in the two Norwegian regions, as well as the Norwegian firms against the firms from the three other countries are discussed.

3. The Norwegian cases

Although Barnes carried out his field - work further south on the Norwegian coastline, the regions of Lofoten and Vesteraalen display several similar properties. They appear as distinct, specialised and, seen from the perspective of an outside visitor, relatively homogenous, with agglomerations of firms with a *marine* orientation. The basic traditional industry of both these regions is fishing. They are neighbouring regions, with only a narrow strait separating them. They are therefore sometimes referred to as one single region, called LO-VE.

3.1 The regions

The coastal economy based on cod and herring was not only the backbone of the economy of Norway, the low barriers to entering this economy also generated an unparalleled population growth, as coastal Norway was an alternative to emigration to America, thus absorbing a major segment of the rapidly growing national population in the latter part of the 19th Century, and well into the latter part of the 20th Century. The guild – based organisation of the traditional industry was modernised in the 1930s, into a state level cartel regulation which efficiently monopolised the control of fishing along the coast of Northern Norway into the hands of a few, traditionally oriented families, the exporters of dried and salted cod. This monopoly, which was abolished in the late 1980s, was an efficient basis of sustained control of the traditional drying industry over fishing and fishing harbours. However, this spell was broken in Vesteraalen, where another, industrially oriented path was entered. Thus, in the wave of rapid modernisation of the post WWII years, the differences between the two regions deepened.

The two regions in LO-VE are both capitalising on a specific fish stock, the Norwegian arctic cod. They must reach out for it in different ways, however. The cod spend the summer in the rich waters of the melting Polar ice edge in the Barents Sea, and every winter go to Lofoten to spawn. On their way to Lofoten, and back to the Ice Edge, they pass Vesteraalen. Thus, Lofoten has enjoyed a gift of God: a large number of cod at close distance to the shores every winter. This has been the basis of a traditional, small-scale seasonal fishing, which has been the source of raw materials for a traditional fishing industry, mainly producing dried cod. In Vesteraalen, on the other hand, fishermen had to go further out at sea. This was the basis of a modernised, deep-sea fishing fleet, and a modern fishing industry. In Vesteraalen, this also led to a full scale industrialisation in the 1920s, through an early development of several consumer industries. These differences were partly reinforced and strengthened in the post WWII years, as fishing, fishing industry and the way industry was organised clearly developed in different directions: Lofoten remained traditional. In many villages, the traditional technology still dominates, and tensions between traditional and modern

have been abundant, particularly because it has been relating to regulation of fishing – and the question of who get access to the valuable fish resources. Vesteraalen was on the other hand, rapidly modernising. Here, tensions between modern and traditional never surfaced, because households, fishermen and producers often were crossing the line, working in different ways. Modernisation and industrialisation in Vesteraalen took place under a social democratic paradigm of industrialisation, which, during the 1980 and 1990s met deep problems. The alternative strategy was a deep restructuring during the 1990, which resulted in a fairly large share of firms organised as branch plants in larger corporations. The advance of “private capital” was perceived as a break from the “fordist” version of social democratic industrial policy of the 1950s and 1960s, which defined the concept of industrial modernisation characteristic of the region.

Seen from the perspective of the 1950s and 1960s, these regions seemed to be two closely – knit networks, specialised in the same industry, but in completely different directions. This historical background is often referred to, when Lofoten sometimes is labelled “traditional”, and Vesteraalen “modern”. These *popular conceptualisations* of local and regional milieux are based on a long history, and they are also deeply embedded in the local was of conceiving “community spirit”. In Lofoten, “community spirit” is the traditional way of life, in Vesteraalen, it is modernisation and industrialisation.

However, the last three decades of the 20th century lead in the direction of differentiation. The municipal sector expanded, providing public services with a national standard, the school system evolved, and with it new developments and trends in the labour market. In the private sector, traditional fishing industry was reduced in size, but it sustained, and still is important. Fish stocks were fluctuating, however, and with them, the size and vitality of the fishing industry, which was reduced in importance in both regions, a factor that tended to increase differentiation. New patterns of pluractivity evolved, mixing the old and the new. In Lofoten, traditional fishing proved to be mixing well with the rapidly growing mass tourism, which evolved into the major industry in several traditional fishing villages. In Vesteraalen, the process of modernisation of the fishing industry has been speeded up. The industry that had been invented in the 1970s and was slowly established in the early 1980s, salmon breeding, expanded rapidly into a modern, highly dynamic industry in the 1990s. The growth of salmon breeding was, of course, dependent upon a successful “mix” with other local industries, skills and local ways of life. Once the step from hunting (fishing) to cattle farming (salmon breeding) was made, the fish was still a fish.

Today, hopes for future prosperity of the two regions are related to prospects of developing these marine food industries further, by diversifying into new domesticated marine products, thus diversifying the salmon success. Recently, this strategy has created aspirations, for several reasons. As salmon has shown, domestication may lead to highly competitive prices, out - competing alternative products, like poultry. Secondly, these new marine products, like salmon, oysters etc slip easily into the “slim and healthy” niches of the new food market – where they tend to out- compete on-shore products, like pigs, cattle meat and poultry. Thirdly, in a European food market where food safety is the new gospel, in the shadow, as it were, of various diseases jumping from animals to humans, the prospects for marine products seems bright, providing alternative diets to high risk meat dishes. Needless to say, in this “new food

economy”, any sustainable development draws heavily on highly advanced innovation systems, with a strong emphasis on research, quality and innovation, combining several sciences and technologies. These innovation systems, in the case of Norway, are predominantly national, making Norway a leading country on a global scale, promoting the domestication of a broad number of marine species. However, when it comes to down stream food processing, innovation systems and technology is – broadly speaking – European. Thus, what we find in the two coastal regions under study, is a highly diversified mixture of the new and dynamic marine food economy of the 21st Century, modern food processing surviving the 20th Century, as well as a vital pre-modern, craft based food production.

This is creating a diverse range of partly related, partly unrelated, industries. At the top of this, the regional economies tend to evolve through other sources of diversification as well, as new industries, like tourism, various forms of services etc. evolve and diffuse.

3.2 The sample

The firms were selected in the following branches in the two regions:

Table 1. Firms in the Norwegian sample, by industry and region

Industry	Lofoten	Vesteraalen	Total
Computer/ IT	4	8	12
Food Industry	5	2	7
Fishing	4	4	8
Aqua – culture	5	4	9
Total	18	18	36

In comparing this sample with the other firms interviewed in the project, certain characteristic differences between the Norwegian firms from these regions and the Finnish, Scottish and Swedish firms emerge.

- **External ownership.** Compared to the other peripheral regions in the study, the share of *ownership outside the region* is relatively high in the Norwegian regions, with only *23 out of 36* firms locally owned, as opposed to *97 out of 118* in the other regions. All the same, they are all *managed* locally, whether from the owner or from a local manager.
- **Local resources.** This is again closely related to another significant difference, among the Norwegian firms, *local resources* was an important reason for *choosing the location* among *23 of the 36* firms, as opposed to *5 out of 118* in the other regions.
- **Higher turnover and fewer employees.** *26 of 36* of the Norwegian firms had a total turnover of more than 1.5 mill Euro, as opposed to *15 of 118* in the three other countries. At the same time, the average number of employees was considerably smaller in the Norwegian firms. One explanation to this is the generally higher level of Norwegian wages and other costs, another explanation is the significance of local marine resources as input in several of the Norwegian firms, generating a turnover where labour is a minor factor.

These findings corresponds fairly well with what should be expected, given the structural characteristics of the Norwegian regions, as compared to the other regions in-

cluded in the project. What should be noted is that we are excluding tourism, the old, traditional family firms as well as the “micro entrepreneurs”. These exclusions, importantly, means that we are disregarding the sectors of the economy that may be assumed to be most “deeply embedded” in local societies. The sample is catching 36 firms which “fairly well” reflects the “state of the art” in terms of modern, relatively new and relatively innovative industries, in the differentiated economy of the islands.

4. The intermediate innovation system position of the northern periphery

4.1 Interactive links

In part 1, question 21 (see appendix 2), informants were asked to consider

“On a scale of 1 to 5, can you please state whether the following aspects of the local environment are important to the success and continued development of your business. (1=Very important, 5= not important).”

The factors were defined in a way, which focussed on *links*, i.a. *interactive* relations. Assuming that the most important relations have an average score of 1-1.5, and that relations of some importance should go below 2.5, the list of *relations* is

Table 2. Aspects of the environment relevant to success and development of the business, by importance and region (++ most important, + of some importance, 0 neither, - not important, -- clearly irrelevant)

Aspect \ Region	Lofoten	Vesteraalen	Others
Links with the parent company	++	++	++
Availability of labour skills and knowledge	++	++	+
Links with suppliers	+	+	0
Links with customers	+	0	+
Links to Universities and Research centres	++	-	0
Links with Consultants	+	-	0
Access to technical information	-	-	0
Access to market information	0	--	-
Links with firms in the same industry	0		-
Links with development agencies	0	-	0
Links with other government agencies	0	-	0

The table illustrates the predominantly *non-interactive* character of several relations, or “links”: Links to suppliers, Universities, consultants, sources of technical information, sources of market information, firms in the same industry, development agencies and government agencies are all generally considered either irrelevant – or of less importance in most regions!

What is beyond doubt in all regions, is the significance of availability of *labour*, as well as relations to the *mother company*. Links with *suppliers* is also of some concern in the Norwegian regions, unlike to other countries. At this point, however, the interest in the environment stops for the firms in Vesteraalen. This reflects the predominant branch plant structure of this sample. Local branch plant leaders are operators in larger organisations where the mother company take care of several external relations. This is not the case in Lofoten, where firm managers to a somewhat larger degree are concerned with external links to research centres, customers, and consultants. Customers is also of some concern in the other countries, but here, as is the case for Vesteraalen, external sources of knowledge, like research institutes and consultants, are not considered important to the development of the business.

Looking at the *geographic accessibility* of these external relations (part 1, Question 22), the following picture emerge:

Table 3. Spatial accessibility of external resources (Local, regional, national, international)

Resource \ Region	Lofoten	Vesteraalen	Others
Labour	Local	Local	Local
Development agencies	National	National	Regional
Universities and Research centres	National	National	Regional
Consultants	National	National	Regional
Technology	International	International	Regional
Market information	National	National	National
Firms in the same industry	National	National, Regional	National

A striking finding is that the *only* truly *local resource* recognized in all regions, is *labour*. Access to labour with appropriate skills and knowledge was also regarded as an *important* external relation in Norwegian regions, unlike other cases, where availability of labour to a larger degree was taken for granted.

A difference between the Norwegian cases and the cases from the other countries is the predominance of *national and global* relations in Norway, are the more developed *regional* networks in the other countries. This goes for a broad range of resources, such as development agencies, research centres, consultants, and technology. Again, this is not surprising, given the type of technologies we are discussing, the integration of the Norwegian industry in the European food market, as well as what has already been said about the Norwegian national innovation systems.

In considering these two questions together, what is striking is the lack of *interactive* relations, which are considered important to the business. Most relations are non-interactive. But what about externalities?

4.2 Externalities

Externalities are created where we find agglomerations of firms in the same industry, creating common resources of various kinds, which may be enjoyed by all. This is investigated in part 1, question 23:

“In your experience is it beneficial to have other local businesses working in the same type of business in terms of...(a list of factors)”

If we consider the cases where *more than 50%* of the firms regards this as “beneficial”, the result is striking:

Table 4. Presence of other businesses in the same industry regarded beneficial by most informants (+)

Benefit\Region	Lofoten	Vesteraalen	Other
Local business services	+	+	+
Local training	+	0	+
Cooperative marketing	+	+	+
Examples of success	+	0	+
Learning from each other/ copying	+	0	+
Technical information	+	0	+

Again, this list illustrates the difference between the two Norwegian regions, in terms of the predominant patters of branch plants in Vesteraalen, and the more locally controlled firms in Lofoten. In general, branch plants are unable to learn from other firms in the same industry, and uninterested in technical information, because these functions are taken care of at another location in the firm. In the more independent and small scale cases of Lofoten, on the other hand, local learning capacity is present, and strategic learning through “*examples of success*”, as well as learning, in terms of copying good ideas and information sharing, clearly are important.

This finding indicates that milieux clearly is important in terms of *externalities* creating opportunities of *local training*, *information sharing*, *learning from each other* and *to a certain extent also development of suppliers*, (with some exceptions). This finding illustrates that most firms in peripheral areas are unable to participate in higher level learning, going on in the core industries near the hot spots of innovation. We might expect that these networks may support learning at what may be called an *intermediate level*. Is this hypothesis confirmed by looking at the innovations?

5. Innovation in the northern periphery

5.1 Level of innovations

In looking at the innovative activity of the firms, it is usual to make a distinction between

- Product innovations, which are creation of new products to the market.
- Start producing a product, which is new to the firm (but not the market).
- Process innovations, means to change or modify the production process and the way the firm is organised.
- Market innovations means to create, develop or expand into new markets.

These different types of innovation were mapped in a set of questions. (See appendix 2, Part 2, question 1, 2, 11 and 16). Looking at the entire sample, it is striking that *most* firms have been innovative, in several ways the last three years.

Table 5. Has the firm introduced products new to the firm, products new to the market, developed new markets or applied new processes during the last three years?

Innovation\ region	Lofoten (N=18)	Vesteraalen (N=18)	Other (N=118)
Product, new to firm	12	15	111
Product, new to market	10	12	53
Process	10	15	80
New Markets	16	6	92

Again, this result is not at all discouraging, as a large number of firms in all regions do innovate, despite their obvious disadvantages, in terms of networks. The more challenging, higher - level form of innovation is of course to be able to introduce *products that are new to the market*. Given what we have said before, on the *level* of the innovation system these firms are located in, we might expect that *most* innovations would be to start production of products that are new to the firm, but already exist in the market, to expand the market or to improve existing processes. These are the achievements to be expected by *copying* firms. Not surprisingly, these are also the *major* forms of innovation. Looking at the cases outside Norway, the introduction of products *new to the market* is an achievement that is only made in a *large minority* of the firms (53 of 118).

From what we have said about the innovative character of the Norwegian coastal industries, it is not surprising that both the Norwegian cases are exceptions to this, with 10 of 18 in Lofoten, and as much as 12 of 18 in Vesteraalen innovating products *new to the market*! Again, the high score reflects what we have said earlier on the somewhat more advanced level networks of this region.

5.2 The process of innovation

The following three tables illustrate sources of ideas to innovation, advice, and financial support. In terms of both *ideas* and *advice*, customers, not surprisingly, stand out as clearly most important. A striking finding is the absence of local and sub-regional ideas in the case of Vesteraalen. This corresponds to what has previously been said about the predominance of branch plants, and the focus on customers outside the region. Innovations are developed through the corporation, and local milieu is accordingly insignificant. The pattern in Lofoten is not significantly different from the other countries. Here, development agencies also in some cases gave creative ideas. In terms of external financial support (table 8), development agencies were present everywhere - outside Vesteraalen. Looking at advice in the *development* of the innovation, both development agencies and consultants were absent in the Norwegian cases (but present in some of the others). The Norwegian cases stand out with a fairly high score on advice from universities and research institutes, which must be seen in context with the results referred to in table 5, they have a higher level of products new to the market.

Table 6. Source of idea of most important innovation

Source of idea\ region	Lofoten (N=16)	Vesteraalen (N=18)	Others (N=89)
Business partner	0	0	18
Customers	6	12	45
Competitors	0	0	10
University/college/research institute	0	0	5
Consultants	1	0	8
Development agency	5	0	10
Locally	6	0	44
Sub region	6	0	11
Larger region	5	9	14
Nationally	4	3	7
Globally	1	0	9

Table 7. When you were developing the innovation did you get advices from any of the following sources?

Source of advice\ region	Lofoten (N=16)	Vesteraalen (N=18)	Others (N=89)
Another firm	2	6	22
Customers	6	6	23
Competitors	0	0	3
University/college/research institute	2	6	8
Consultants	0	0	18
Development agency	0	0	20

Table 8. When you were developing the innovation did you get financial support from any of the following sources?

Financial support\ region	Lofoten (N=16)	Vesteraalen (N=18)	Others (N=89)
Another firm	2	0	3
Customers	0	3	0
Customers	0	0	0
University/college/research institute	0	0	0
Consultants	0	0	0
Development agency	5	0	45

6. The cultural capital of the Northern periphery

In relating to *opinions* on local milieux, we may draw upon several sources. In part 1, questions 37, 41, 42 and 43 (see appendix 2) , informants were asked to consider statements relating to different aspects of regional milieux.

6.1 The local education system is an asset to Norwegian entrepreneurs

The statement was

“The local education system is an asset to the entrepreneurs, since it produces young people with appropriate skills and attitudes, as well as all round educational attainment”.

Table 9. “The local education system is an asset to entrepreneurs – since it produces young people with appropriate skills and attitudes, as well as all round educational attainment”.

	Lofoten	Vesteraalen	Others
Strongly agree	4	0	13
Agree	8	9	41
Neither	4	6	27
Disagree	2	3	34
Strongly disagree	0	0	3
Total	N=18	N=18	N=118

A majority of the informants in both Norwegian regions *agreed*. This is not surprising, given the significance of the skills of the labour market, emphasized by these informants. Perhaps somewhat more surprising is the scepticism to local education in some of the other cases, partly reflecting the lack of emphasis on local labour market skills, partly cultures of tacit knowledge, confronting formalised education.

6.2 Community spirit does not encourage entrepreneurship in Norwegian regions

The statement was

“The strength of the community spirit in the area is an encouragement and gives confidence to potential entrepreneurs”.

Table 10. “The strength of community spirit in the area is an encouragement and gives confidence to potential entrepreneurs”.

	Lofoten	Vesteraalen	Others
Strongly agree	0	0	30
Agree	2	0	57
Neither	2	6	17
Disagree	14	12	13
Strongly disagree	0	0	3
Total	N=18	N=18	N=118

As expected, *no* Norwegian informants agreed “*strongly*”, and only 2 of 36 “agreed”, whereas 26 of the 36 informants in the two Norwegian regions *disagreed*. This must be seen in contrast to the response from the other countries, where a very clear major-

ity, 87 of 118 *agreed* or *strongly agreed*. This clear result indicates the contested nature of “community spirit” in both regions, putting both Norwegian regions at the bottom end of the comparative list.

In Lofoten, the concept of “community spirit” is synonymous with a type of traditionalism, which the firms in this sample are working hard to get rid of. In Vesteraalen, the deep restructuring of the industry has alienated local business leaders from the conventional conceptualisation of identity, embedded in the regions “fordist” industrial past.

6.3 Self-employment and entrepreneurship is not a norm in Norway

The statement was:

“Setting up a business is not a frightening or unusual thing for people to do because self-employment and entrepreneurship are very much the norm among the local population”.

Table 11. “Setting up a business is not a frightening or unusual thing for people to do because self-employment and entrepreneurship are very much the norm among the local population”.

	Lofoten	Vesteraalen	Others
Strongly agree	0	0	6
Agree	0	3	52
Neither	4	6	22
Disagree	6	6	33
Strongly disagree	2	3	14
Total	N=18	N=18	N=118

Not surprisingly, a small majority of Norwegian informants *disagreed*, again, in contrast to the other countries. Again, this finding further elaborate the outcome of the previous question.

6.4 Local entrepreneurial heroes are almost everywhere

Another question was focussing on local entrepreneurial heroism

Table 12. “The success of well known local entrepreneurs has encouraged others to set up a new business “

	Lofoten	Vesteraalen	Others
Strongly agree	0	0	20
Agree	10	3	61
Neither	8	9	19
Disagree	0	6	16
Strongly disagree	0	0	2
Total	N=18	N=18	N=118

It is noteworthy that Lofoten has a relatively high score on “agree”. Despite the lack of “community spirit”, there *are* entrepreneurial heroes, reflecting the contested and diverse character of the region.

7. Regional development institutions and innovation in the northern periphery

In the Norwegian political agenda, the policy objective to “preserve the population pattern” is central. This has resulted in a policy discourse where “concern for” peripheral areas are core notions. The answers to these concerns have been policies of redistribution. More specifically, business development efforts often are oriented towards *job creation in certain, politically determined areas*.

At the national level, a state owned board for industrial and peripheral development (SND) is a major instrument to promote industrial development outside the central Oslo region. The major mode of operation of SND is as a *state bank*, giving subsidised credit (loans) as well as grants to firms in politically defined regions. Firms have to apply for loans, and applications are considered, partly from the point of view of standard bank assessments of credibility and future profitability of the investment, partly based on a set of politically defined *indicators*. The idea is that SND should give loans with a higher level of risk to firms in peripheral areas which private banks avoids, because peripherality makes the value of fixed capital low, thus “correcting biases” in the private credit market. The division of labour between SND and private banking is, however, contested, as SND to a certain extent also may support more centrally located areas.

Recently, SND has also to a limited extent been active in developing innovation systems and regional development plans on a spatial basis. These efforts are, however, quite new and not developed in the regions under study. Thus, SND may be claimed to have an emphasis on “redistribution” and a focus on *single firms*, rather than “spatial development”. SND has regional offices at the “fylke” level, in this case in Bodø. SND co-operates with the “fylke” on implementation of regional development plans developed by a “fylke” partnership. The objective of this plan in Nordland fylke is the development of export related industries.

In both Lofoten and Vesteraalen, municipal councils are active in planning local and regional development and co-operation between municipalities. Municipal councils also have secretariats, with some money for development efforts, often of a co-operative character, for instance within tourism.

Municipalities have some funding for local development, often used to subsidise various job-generating efforts.

What should be emphasized is the bias of these institutions towards *geographical redistribution, job creation and promotion of entrepreneurship*. Put another way, their paradigm is locked in a 20th Century perspective, with no emphasis on the learning economy.

The role of development agencies must be seen in context to the division of labour between different administrative levels, with the state level focussing on larger projects, and regional and local levels on small - scale entrepreneurs. This study, importantly, excludes the micro entrepreneurs, single individuals trying to set of a small business with one or two employees. They would typically be the object of support from local development agencies and municipalities. Instead, the major focus from the

point of view of our 36 informants, is national level agencies, which mostly refers to a state institution, SND, providing high - risk, subsidised loans as well as direct subsidies. However, the *network relation* to these agencies does not hit the top of the list of *network relations* which are identified as important to business development identified in question 21. This would indicate that the services provided are regarded as “standardised”. Given the highly formalised and professional character of the SND procedures, with an emphasis on assessments of projects not different from private banking procedures, this is hardly surprising. What you get, is a standard assessment of your credibility, as the basis of your subsidy and loan.

When asked more specifically about the *importance* of financial support, a small majority of firms in Lofoten regard it as important, some informants were reporting that they have received guidance and advice, and a majority was slightly more on the positive side, in terms of assessing the role of these agencies. In Vesteraalen, opinions on development agencies were clearly more critical. Compared to the other three countries, no clear difference can be identified. The next question reveals the same pattern. These questions should be seen in context with the previous section on innovation, where development agencies in Norway were not particularly outstanding in giving support during the innovation process.

Table 13. How important has financial support via the development agencies been to the success of your business?

	Lofoten (N=18)	Vesteraalen (N=18)	Others (N=89)
Not at all important	4	9	34
Slightly important	2	0	15
Moderately important	2	3	18
Very important	8	3	31
Vital	2	3	16

Table 14. Overall, how would you describe the role of the development agencies in the growth of your business

	Lofoten (N=18)	Vesteraalen (N=18)	Others (N=89)
Very positive	8	6	24
Contributing to success	6	0	56
Hindering success	2	3	5
Irrelevant	4	9	30

8. Appendix 1: Selected tables

A complete overview of the data from the survey is given by Copus 2001.

Below, some tables with vital information on the sample not included in the previous sections above are presented. In the appendix, table numbers refers to questions (see Appendix 2).

Q4. Please describe the ownership of your business:

Lofoten	Vesteraalen	Other	
14	9	97	Locally owned
4	9	13	National Group
2	6	4	Multinational
0	0	5	Other
N=18	N=18	N=118	Total

Q 5. Is the daily management of the business undertaken by:

Lofoten	Vesteraalen	Other	
14	6	84	Owner
14	15	29	Local manager
0	0	1	Manager elsewhere
0	0	1	Other
N=18	N=18	N=118	Total

Q 6. Business premises

Lofoten	Vesteraalen	Other	
16	6	94	Local
0	9	17	Regional
2	6	8	National
4	6	2	Foreign
N=18	N=18	N=118	Total

Q 7. What year was the business established locally?

		Lofoten (N=18)	Vesteralen (N=18)	Other (N=118)
	Median range	1990-1994	1980-1989	1980-1994

Q 8. Who was responsible for establishing the business?

Lofoten	Vesteraalen	Other	
14	6	83	Owner
0	0	12	Parent company
2	15	23	Other
N=18	N=18	N=118	Total

Q 9. What was the main reason for choosing this particular location?

Lofoten	Vesteraalen	Other	
14	9	97	Owner lived here
4	9	13	Government support
2	6	4	Local demand for product
0	0	5	Local skills/ staff available
14	8	4	Local resources
0	0	30	Other
N=18	N=18	N=118	Total

Q 11. How many people did you employ in 1998?

	Lofoten (N=18)	Vesteraalen (N=18)	Other (N=118)
Full-time	288	636	2468
Part-time	12	12	126
Seasonal	38	54	123

9. Appendix 2: the interview guide

Part 1

Firm Profile

1. **Business name:** _____

2. **Address:**

3. **How would you describe the nature of your business (eg Jewellery manufacture, etc)**

4. **Please describe the ownership of your business:**

☐ Locally owned ☐ Multinational

☐ National Group ☐ Other

If other, please specify _____

5. **Is the daily management of the business undertaken by:**

☐ The owner

☐ A local manager

☐ A manager elsewhere

☐ Other

If other, please specify: _____

6. Does the business have premises:

☐ Only locally ☐ Elsewhere in Scotland ☐ Elsewhere in UK ☐ Overseas

7. What year was the business established locally?

8. Who was responsible for establishing the local business? (Tick only ONE)

☐ Present owner or family

☐ Parent company (expansion)

☐ Parent company (diversification)

☐ Other

If other, please specify _____

**9. What was the main reason for choosing this particular location for the business?
Tick ONE.**

☐ Owner lived here ☐ Local skills/staff availability

☐ Government grants/support ☐ Local resources/inputs

☐ Local demand for product ☐ Other

If other, please specify _____

10. Please describe any major changes in the business's ownership or activities since it was established.

11. How many people did you employ in 1998?

Full-time

Part-time

Seasonal

12. Is this employment more or less than the previous year?

☐ More

☐ Less

☐ Same

☐ Don't know

13. How many employees in each group have a further education qualification (degree, diploma etc) or formal vocational training?

	Higher Education	Vocational Qualification
No. of full-time employees		
No. of part-time employees		
No. of seasonal employees		

14. Please describe any staff training or education activities carried out by, or for, your company, including any on-the-job training, whether or not it leads to a formal qualification:

15. What are the main products and services offered by your business:

16. Which of the following markets do you sell your products in? (Tick all that apply).

☐ Local

☐ Scotland

☐ UK excluding Scotland

☐ EU excluding Scotland

☐ Other Overseas

17. What percentage of your sales goes to each of these markets?

Local %

Scotland %

UK %

EU %

Other Overseas %

18. If you supply markets in the EU or overseas, please specify your top 3 export markets, and the approximate percentage of your sales (by value) which goes to each of these countries.

Country 1		%
Country 2		%
Country 3		%

19. Please indicate the approximate turnover of your business in 1998 (ie local company only)

☐ Less than £9,500

☐ £9,501 - £65,000

☐ £65,001 - £150,000

☐ £150,001 - £320,000

☐ £320,001 - £1,000,000

☐ Greater than £1,000,000

20. Was this better or worse than the previous year?

☐ Much better

☐ Slightly better

☐ Much the same

☐ Slightly worse

☐ Much worse

The Business Environment

21. On a scale of 1 to 5, can you please state whether the following aspects of the local environment are important to the success and continued development of your business.

Where: 1 = very important 5 = Not important at all

	Very Important			Not important at all	
	1	2	3	4	5
Availability of labour skills and knowledge	☐	☐	☐	☐	☐
Access to market information	☐	☐	☐	☐	☐
Access to technical information	☐	☐	☐	☐	☐
Links with suppliers	☐	☐	☐	☐	☐
Links with customers	☐	☐	☐	☐	☐
Links with other firms in the industry	☐	☐	☐	☐	☐
Links with the parent company	☐	☐	☐	☐	☐
Links to universities and research centres	☐	☐	☐	☐	☐
Links with consultants	☐	☐	☐	☐	☐
Links with development agencies	☐	☐	☐	☐	☐
Links with other government agencies	☐	☐	☐	☐	☐
Please Specify					

22. Are your company's links with the following groups mainly local, regional, national or international

	Local	Regional	National	Internat.
Labour market links	☐	☐	☐	☐
Sources of market information	☐	☐	☐	☐
Sources of technical information	☐	☐	☐	☐
Links with suppliers	☐	☐	☐	☐
Links with customers	☐	☐	☐	☐
Links with other firms in the industry	☐	☐	☐	☐
Links with universities/research centres	☐	☐	☐	☐
Links with consultants	☐	☐	☐	☐
Links with development agencies	☐	☐	☐	☐

Business Clusters

23. In your experience is it beneficial to have other local businesses working in the same type of business in terms of:

- | | |
|---|--|
| ☐ Providing examples of success | ☐ Learning from each other/copying good ideas |
| ☐ To make appropriate business services viable locally | ☐ Sharing of technical information |
| ☐ Making appropriate training available Locally | ☐ Creating opportunities for co-operative marketing |
| ☐ Opportunities for co-operative purchases/supplies | ☐ Other reasons |

Specify other reasons _____

24. How important to the success of your own firm would you say that links with other local businesses in the same general sector are?

- ☐ 1. Not important
- ☐ 2. Slight importance
- ☐ 3. Moderately important
- ☐ 4. Highly important
- ☐ 5. Critical

25. What sort of links/contact do you have with other businesses (in the same general sector) in the local area?

- ☐ Sub-contracts
- ☐ Collaborative marketing
- ☐ Collaboration over R and D
- ☐ Other types of links

Please specify _____

Knowledge Base

26. Research and development which results in product changes is carried out mainly:

- ☐ "In-house" and locally
- ☐ At another branch of the company elsewhere
- ☐ In local research institutes/universities
- ☐ In research institutes/universities elsewhere

27. When reviewing the product range the company responds to:

- ☐ Local demand
- ☐ National/global trends
- ☐ Individual customer requests/suggestions
- ☐ Other

Please specify _____

28. How easy is it, from within your area, to get the technical and marketing information you need to continue to successfully develop your business?

- ☐ Very easy
- ☐ Fairly easy
- ☐ Neither easy nor difficult
- ☐ Fairly difficult
- ☐ Very difficult

29. Please discuss/give examples

Agencies

30. How many times have you had contact (of any sort) with local development agencies in the past?

- ☐ Never
- ☐ 1-5 times
- ☐ 6 to 10 times
- ☐ More than 10 times

31 State the rough percentage of the number of contacts which were:

- Mainly Administrative %
- Advisory %
- Informal/social %

32 Have you had contact with more than one agency

- ☐ Yes, more than one ☐ No, not working together

33 If more than one, please state number

34 If more than one, did you feel they were working together effectively to help you and your business?

- ☐ Yes, working together ☐ No, not working together

35 How important has financial support via the development agencies been to the success of your business?

- ☐ Not at all important
- ☐ Slightly important
- ☐ Moderately important
- ☐ Very important
- ☐ Vital

36 Overall, how would you describe the role of the development agencies in the growth of your business?

- ☐ Very positive
- ☐ Contributing to success
- ☐ Hindering success
- ☐ Irrelevant

Social Capacity

37. "The local education system is an asset to entrepreneurs – since it produces young people with appropriate skills and attitudes, as well as all round educational attainment". Do you agree or disagree?

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither
- ☐ Disagree
- ☐ Strongly disagree

38. Do you feel it is sometimes necessary to recruit key people from outside the region?

☐ Yes ☐ No

39. If yes, state why.

40. If yes, what is the job title/role of these people these people have within the company?

41. “The strength of community spirit in the area is an encouragement and gives confidence to potential entrepreneurs”. Do you agree or disagree?

☐ Strongly disagree

☐ Agree

☐ Neither

☐ Disagree

☐ Strongly disagree

42. “Setting up a business is not a frightening or unusual thing for people to do because self-employment and entrepreneurship are very much the norm among the local population”. Do you agree?

☐ Strongly agree

☐ Agree

☐ Neither

☐ Disagree

☐ Strongly disagree

43. “The success of well known local entrepreneurs has encouraged others to set up a new business “

☐ Strongly agree

☐ Agree

☐ Neither

☐ Disagree

☐ Strongly disagree

44. Which of the following do you feel is closest to your own beliefs:

☐ Government of EU assistance will always be required in areas like this to compensate for the disadvantages we face relative to more accessible and prosperous areas.

☐ Government or EU assistance is sometimes helpful as a pump-primer, but it is important in the long term to find ways to succeed without it.

Part 2

Product Innovations

1 Has your firm introduced new or significantly changed products or services onto the market during the last three years? YES ☐ NO ☐

2. Were these new to market, or new to firm only? F ☐ M ☐

3 How was this new product different to previous ones?

- | | |
|--------------------------------------|--------------------------|
| (a) - replace existing products? | ☐ |
| (b) - improve product quality? | ☐ |
| (c) - extend the product range? | ☐ |
| (d) - address new markets? | ☐ |
| (e) - improve customer service? | ☐ |
| (f) - meet new customer demands? | ☐ |
| (g) - adapt to new regulations? | ☐ |
| (h) - adapt to new market standards? | ☐ |
| (i) - other reasons | ☐ |

5 Approximately what proportion of last year's turnover was associated with this product?

6 Has this product innovation succeeded in meeting the objectives set for it?

YES ☐ NO ☐

Market Innovations

7 Has your firm developed new markets during the last three years?

YES

☐

NO

☐

8 Former type of market: (1 spot, 2 contract, 3 anbud, 4 informal, long term relations)

Spot

☐

Contract

☐

Anbud

☐

Informal

☐

9 New market (1 spot, 2 contract, 3 anbud, 4 informal, long term relations)

Spot

☐

Contract

☐

Anbud

☐

Informal

☐

10 Approximately what proportion of last year's turnover was associated with this market?

☐

Process Innovations

11 Has your firm introduced new production processes or production organisation during the past three years?

YES

☐

NO

☐

12 Describe the old process/organisation.

13 Why were the changes made:

(a) Cost reduction

☐

(b) Capacity increase

☐

(c) Quality improvement

☐

(d) Improvement of environment or working conditions

(e) Other (please specify)

☐

(f)

14 How were the production processes/organisation changed?

15 How have these changes affected:

(a) turnover?

(b) profits?

Current Innovation Projects

16 Is your firm currently in the process of introducing changes to products, markets, or production processes?

YES

NO

If yes please supply brief details

The Most Important Innovation

(Choose the innovation which you think matters most to the long term development and success of the firm)

17 Whose idea was it?

18 Where did they get the idea from?

(a) Another firms with which you were doing business

(b) Customers/markets

(c) Competitors

(d) University/college/research institute

(e) Consultants

(f) Development agency

19 Was the source of the idea:

(a) Local

(b) Within the Highlands and Islands

(c) Elsewhere in Scotland

(d) Elsewhere in the UK

(e) Elsewhere in the world

20 Which of the following types of knowledge was most important in the innovation process:

- | | |
|-------------------------------|--------------------------|
| 1. formalised/codified, | ☐ |
| 2. practical experience/craft | ☐ |
| 3. tacit | ☐ |

21 When you were developing the innovation did you get help from any of the following sources?

Advice Financial Ass.

- | | | |
|--|--------------------------|--------------------------|
| (a) Another firms with which you were doing business | ☐ | ☐ |
| (b) Customers/markets | ☐ | ☐ |
| (c) Competitors | ☐ | ☐ |
| (d) University/college/research institute | ☐ | ☐ |
| (e) Consultants | ☐ | ☐ |
| (f) Development agency | ☐ | ☐ |

5 Did you have previous contact with the above, (1) or was this a new contact? (2)

a)	b)	c)	d)
☐	☐	☐	☐
☐	☐	☐	☐

Contacts with Customers

22 How are your products defined?

- | | |
|----------------------------------|--------------------------|
| (a) Established Market standards | ☐ |
| (b) Customer specifications | ☐ |
| (c) Dialogue with customer | ☐ |
| (d) Independent firm design | ☐ |

23 Are your customers concentrated in a particular sector (if so please specify)

24 Do you supply:

- | | |
|--|--------------------------|
| 1. many small customers/individuals or | ☐ |
| 2. a small number of large customers. | ☐ |

25 Are your customers:

1 "demanding"? or

2 "passive"?

26 What percentage of your customers are located:

(a) Locally

(b) Within the Highlands and Islands

(c) Elsewhere in Scotland

(d) Elsewhere in the UK

(e) Elsewhere in the world

27 Which of the following best describes your relationship with your customers:

(a) Market relations (anonymous/informal, long term relations/ formalised contracts, agreements)

(b) Informal co-operation on development (product development/ quality control/ logistics/ technology/ marketing)

(c) Formal co-operation on development (product development/ quality control/ logistics/ technology/ marketing)

(d) Contacts with demanding customers

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