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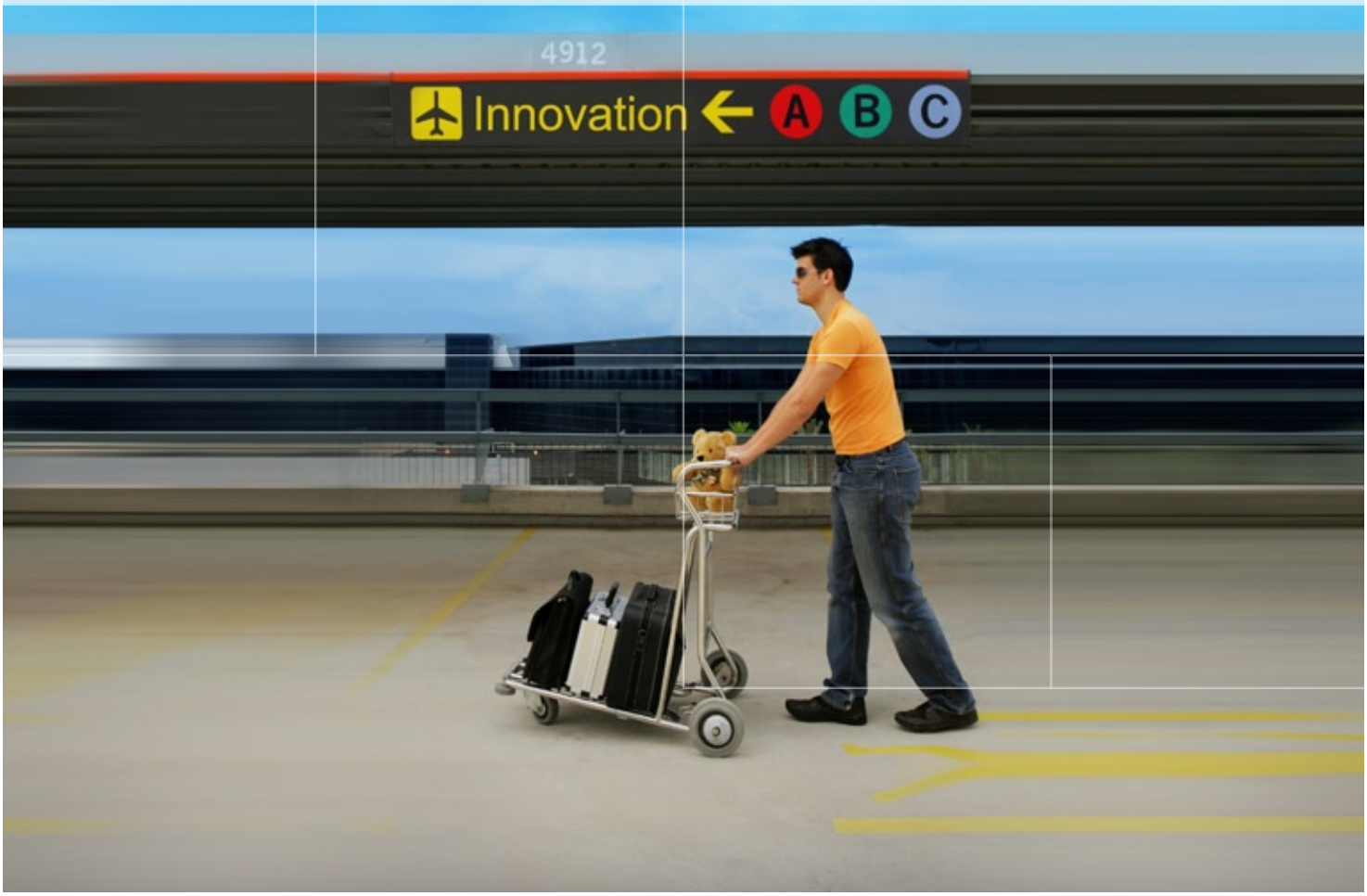
Innovation systems in Nordic tourism

- Lessons from ten successful Nordic destinations
- Policy recommendations



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Innovation Systems in Nordic Tourism

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Abstract:
This research is on tourism and innovation in the Nordic countries. The aim is to outline the constituents of success in the industry and what can be done to facilitate and maintain success through policy measures. The research draws on theories of innovation systems and review of innovation policy in the Nordic countries. This theoretical approach is combined with detailed case studies, two from each country, on a successful tourism venture or destination that has been in operation for a minimum of five years. Over 60 interviews were conducted and subsequently transcribed and analysed, whence emerged a picture of the innovation systems underpinning their success and material that could be used to substantiate a critique on current Nordic tourism policy measures.
The conclusion details seven general policy frameworks that need to be further developed and researched. These are of value to both public policy makers, private entrepreneurs and academics as they give an outline for policy making, ideas for corporate development and areas of future research interests for tourism studies in the Nordic context. In addition the research is important to Nordic innovation studies generally, as it places tourism systems as a relevant and worthwhile focus area.

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Executive Summary

This joint Nordic research project, with participants from all five Nordic countries, details 10 case studies of tourism enterprises, two in each country, in order to establish the driving forces of innovation in a growing service sector industry. The research describes important components of complex regional and entrepreneurial company environments, which through their dynamic relations maintain the potential for economic and corporate development. The research findings will provide the foundations for alternative public policy that will facilitate growth in tourism.

The purpose of this project is to:

- Understand the dynamics of innovation in tourism in terms of relations between actors.
- Understand driving forces and impediments for innovation in tourism.
- Document outcomes of innovative practices in tourism.
- Lay foundations for Nordic policy facilitating tourism development.
- Establish Nordic commonalities in terms of innovation systems in tourism.

Methods

The purposes of this study were achieved through case studies of 10 successful tourism ventures and destinations across the Nordic countries, two in each. A common framework was established for the interviews and they were conducted in a semi-structured fashion, ranging in time from 30 minutes up to two hours. In total around 60 interviews were conducted and these all subsequently transcribed and analysed.

The ventures and destinations identified and analysed were 10 specific Nordic tourism case studies.

- The Beitostølen ski resort, Norway
- The Opplev Oppdal Company, Norway
- The Icehotel corporation, Sweden
- The Mountain Destination of Åre, Sweden
- The Siida Nature Initiative, Finland
- Santa Claus Village, Finland
- The Roskilde Festival, Denmark
- The Sea Trout Funen, Denmark
- Whale Watching in NE Iceland
- White Water Rafting in NW Iceland

In addition a twofold literature review was undertaken. One review was done in order to gauge the present theories and the general understanding of the term ‘innovation system’ and how it has been adapted to tourism and the Nordic context. Another review, conducted simultaneously, was on Nordic policy measures both in terms of general innovation policy and in terms of specific policy initiatives in tourism.

Main Results

We argue that each of the cases studied can in effect and of itself function as an innovation system, mobilising the complex regional and entrepreneurial components explained in the interviews. A successful innovation system has the following characteristics:

- *A multitude of actors*. Many actors are involved in all of the cases. There are strong entrepreneurial forces in all of them, but the outcomes do not generally represent the sole achievement of one person. The numerous entrepreneurial actors are not only corporate representatives but also include key persons in voluntary organisations and public actors.
- *A diversity and density of relations.* The cases draw on a variety of personal backgrounds, knowledge and connections, and the actors efficiently bridge cultural, social and institutional gaps. The actors feel a belonging to the area, and often hold many social positions at once, thus increasing the density of long-term and trusted relations.
- *Mobilising role of key actors*. Emerging strongly is the key role played by visionary actors, who have been able to facilitate the growth and stabilisation of the cases as a comprehensive innovation system, drawing on a host of resources. These visionary actors on the other hand also emerge as the powerful focal points of the systems, which can be a weakness.
- *An open resource access. The* cases enjoy an open and inviting atmosphere, and a willingness to share the resources and knowledge. A tacit "linux" philosophy is embedded in many of the innovation systems, to borrow a term from computer sciences. In other words; new entrants are invited to fill holes in the value chain.
- *Second comers to innovation being promoted*. A common theme in the systems is that the companies central to it often reap the benefits of innovations tried and tested by pioneers who failed.
- *Keen competition.* There is competition for resources and customers. But at the same time the actors cooperate on v*arious issues without agony*, a type of co-opetition is implicit in the cases.
- *Public sector role*. In all cases the public sector has a decisive role facilitating innovative practices. In the same way formal tourism policy *i*s often conspicuous by its absence. Ties with the education sector, especially ties with Universities, which we could well envision as existing in terms of R&D for tourism, are less prevalent there than in other fields. The public sector may play a hampering role, although the most innovative systems show an ability to turn public regulation to business advantages.
- *Increasing global outreach*. The myriad of actors involved increasingly invite knowledge, as well as capital and ideas as the innovation systems mature, as well as linking up with larger communities for marketing, and resource purposes.
- *An increasing cross-sectoral outreach.* The spin-offs from the key components of the cases progressively affect other sectors such as science, business, education, leisure, charity, health, the environment, which in turn inspire actors in the systems.

Conclusions and Recommendations

We conclude by pointing to policy measures that can affect driving forces and amend incentives and disincentives. Policy in itself does not facilitate the growth of successful innovation systems, because too many other influential factors, often unique local phenomena play a role, e.g. natural, social, cultural and economic resources. But what policy can maintain the momentum of successful systems by bolstering innovative capacities conducive to an amiable regulatory environment, sensitive to the needs of tourism.

Generally speaking, tourism policies at regional, national and transnational levels do not particularly focus on innovation in the industry, if such an objective is present at all. Tourism and related enterprises have also limited access to general innovation resources and are scarcely heard in general policy making. Therefore we argue that tourism exists in a kind of policy vacuum regionally, nationally and cross nationally in the Nordic context. In conclusion we supply potential policy areas for Nordic tourism to be further developed and researched.

- Developing new knowledge inputs and knowledge acquisition methods for innovation – emphasis on customer-driven innovation across the Nordic countries.

- Developing innovation awareness and innovation competences particularly for SMEs, voluntary organisations and governmental bodies active in or on the fringes of tourism innovation systems.

- Moving beyond tradition – tackling seasonality, enhancing value and reconceptualising the Nordic natural and cultural conditions.

- Moving advanced scientific and technical knowledge into tourism through new linkages and technology booster mechanisms.

- Exchanging ideas and knowledge – promoting export of concepts, franchises, events, merchandising, etc.

- Facilitating and exploiting spill-over from the public sector and institutions – cross Nordic focus where the best of the welfare policies are recycled in a tourism context.

- Making funds and financing available for tourism, including EU-funds, R&D support, SME-seed money, venture capital etc.

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Introduction

Nordic Tourism on the Move

Across the globe, there are great hopes for tourism. Peripheral regions, especially, see tourism as fuelling economic growth, increasing employment and enhancing quality of life, often after having undergone national economic restructuring. These regions are hoping for a growing number of tourists longing for perceived authentic or untouched environments and/or experiences, but many regions have difficulty attracting visitors.

The Nordic tourist industry has a long history. However, the numbers of visiting tourists have been modest compared to many other European countries, although relative growth has in some cases been quite spectacular, e.g. in Iceland. Climatic disadvantages have often been mentioned as important obstacles. Also the cost of necessities and amenities is regarded as hampering tourism. But the urge for new experiences, combined with greater accessibility in terms of cheaper air transport and improved infrastructures is opening up the Nordic market (Hall and Page 2006).

There are many opportunities, some still unexploited, in the Nordic countries and the authorities along with the tourist industry need to focus their efforts in a concerted manner to promote the Nordic tourism product. Success hardly depends only on retaining existing customers and building awareness amongst future customers (Wahab and Cooper 2001). A major challenge is to renew and develop the Nordic tourism product, so that it in scope, scale, quality and innovativeness surpasses what is found elsewhere. Natural and cultural resources are plentiful and they are also often available free of charge or at low cost. However, this is not enough. Efficient interpretation and commodification are indispensable parts of contemporary tourism (Stamboulis and Skayannis 2003). Without them the full benefits for the tourist and the destination are not likely to be gained.

Towards Innovation Policies in Tourism

Innovation in tourism takes place continuously. New services and products emerge, and there is substantial creativity in the private sector as well as in public segments of the industry. However, innovation can hardly be seen as the targeted action of an individual economic entity or organisation; such a limited view does not provide a full and precise picture of innovative activity in the tourism industry, or any other industry for that matter. In many senses innovation in tourism, as elsewhere, is collaborative action, where suppliers, employees, consumers and various less formal players take part.

This research project builds on the notion of "innovation systems" which underpins the concept of collaborative and interactive processes. In order to enhance the competitive advantage and in order to create economic success and employment opportunities, the tourist industry is committed to continuous innovation. In contemporary industries, innovation takes place in social, cultural, economic, institutional and regulatory environments – so-called innovation systems. The process of harvesting ideas and transforming them into commercial successes and sustainable businesses relies on the existence of transcending organisational, cultural and social structures. Edquist (2001: 14) defines an innovation system as:

> all important economic, social, political, organizational, and other factors that influence the development, diffusion, and use of innovation.

This broad definition highlights that innovation is not only about development, but also diffusion and use; i.e. what determines innovative activity. Innovation is thus a knowledge transfer process and as such further emphasised by Lundvall (2005: 13):

> Firms, knowledge institutions and people do seldom innovate alone and innovation emanates from cumulative processes of interactive learning and searching. This implies that the system needs to be characterized *simultaneously* with reference to its elements and to the relationships between those elements. The relationships may be seen as carriers of knowledge and the interaction as processes where new knowledge is produced and diffused.

The focus of this study is on the driving forces of knowledge transfer and the functionality of the system as here defined and potential impediments in the process. Enhancing the understanding of tourism innovation systems and the implied knowledge transfer processes is important in order to comprehend change and development in the industry. But the exercise is not purely an academic one, but also crucial for policy makers. Policies are about affecting driving forces and amending incentives and disincentives. A concise understanding of tourism innovation systems will therefore be a prerequisite for regional, national and cross national policy bodies in facilitating tourism development.

In the Nordic countries all functions of society are embedded in the Nordic (welfare) economy and the geographic environment of the North. Nordic tourism is faced with a special set of challenges, e.g. peripheral locations in harsh climates. The assumption behind the joint research project is that Nordic types of innovation systems provide particular opportunities for the tourism sector, but at the same time put up barriers for development of the sector. For the policy process, it is of major importance to understand the driving forces that govern innovation processes. In terms of the tourism industry there is an element of an "innovation policy vacuum" that this project aims at filling.

Methodology

Introduction

This cross-Nordic collaborative study has actively employed three different methodological approaches:

1. *Case studies* of selected geographical and sectorally well-defined places in the Nordic countries.

2. *Analyses of the innovation policies* in the Nordic Countries and the place of tourism in the official innovation systems.

3. *Review of the literature* and theories of innovation systems, driving forces, impediments and policy implications.

The main source of information and key to the analysis are the case studies. All case studies are available from each of the authors on request. In the following the methodology will be explained in greater detail.

The Case Studies

The study identified and analysed 10 specific Nordic tourism cases:

- The Beitostølen ski resort, Norway
- The Opplev Oppdal Company, Norway
- The Icehotel corporation, Sweden
- The Mountain Destination of Åre, Sweden
- The Siida Nature Initiative, Finland
- Santa Claus Village, Finland
- The Roskilde Festival, Denmark
- The Seatrout Funen, Denmark
- Whale Watching in NE Iceland
- White Water Rafting in NW Iceland

In the selection process, it was essential that the cases, as far as possible, exhibited surface similarities, which we will subsequently frame in terms of literature on innovation systems. They were initially chosen in congruence with the theories and procedures suggested by Lundvall (2007) and thus screened with emphasis on meeting the following criteria:

- Complex institutional and organisational set-ups and collaboration in the development process that go beyond the single tourism enterprise, and integrate e.g. suppliers, consumer organisations and voluntary bodies.

- Links that are distinguishable and traceable to specific national/regional policies, not necessarily tourism related policies but it could be e.g. environmental policies, cultural policies and labour market policies.

- Growth and expansion, thus indicating dynamic development potential, where new collaborative modes are introduced at a regular base.

- Innovative products or services – something, new, challenging, useful and scope-widening seen from the point of view of the customers.

- Permanence, the case studied and main actors have been in operation for a considerable length of time. A long history indicates the emergence of institutional and organisational competitiveness, regarded as important for continued innovative activity.

As the main purpose of the case studies was to investigate the structures, processes and outcomes of innovation systems, the thematic focus was regarded as being of minor importance. Accordingly, the cases analysed emanate from various sectors of the industry.

The case studies involved a combination of desk research and interviews. A joint interview guide was elaborated for the project in order to include identical topics and a similar sequence of questions to key informants. The research aimed at obtaining richness of detail and a deep interpretation of the causal relations in terms of innovation systems' successes and impediments. The tourism sector has not previously been included in comprehensive studies within the framework of innovation systems, although the term occasionally occurs in the literature (see e.g. Mattson *et al*. 2005; Sundbo *et al*. 2007). An analysis of parts of the vast innovation systems literature was necessary to extract the concepts most appropriate for the study and to discuss the applicability for the sector. Various academic sources have been studied, but with a particular focus on Nordic innovation research.

The theoretical concepts and categories derived from the literature study directly affected the construction of the interview guides, and influenced the structure of the report and the analysis in the individual cases to some extent.

Policy Studies

To further contextualise the cases researched we asked how the tourism sector and tourism innovation fit into national innovation policies. The comparative policy studies in each of the Nordic countries included reviews of governmental documents and programmes. In addition, interviews were undertaken to gain further detail of the composition of the policies, the target groups and evidence of take-up and effects.

As tourism is not often a sector for targeted innovation programmes, the innovation policy studies involved a broader scope and a closer scrutiny of where and how the tourist actors could utilise policy measures not put together specifically for the tourism industry.

The project was embedded into a Nordic framework and financed by the Nordic Innovation Centre. For this reason, there has been a focus on innovation policies to be applied in a cross-national framework, implying also new cross-national collaborative frameworks. The study proposes a range of policy areas, which can be found in the last section of this report. A number of actors in Nordic tourism – with organizations, policy makers and academia – have been asked to comment on an early version of the policy section, and suggestions have been included in this final version.

Innovation Systems - Learning from Theory

Some fundamental definitions

The theoretical genealogy of innovation systems can be traced to Joseph Schumpeter (1934) who in his book *Theory of Economic Development*, describes how innovation must be seen as a process of development. His understanding was that the driving force of the economy was the continual rearrangement of its constituent parts for more profit. Later Schumpeter (1942: 83) goes further and explains that obsolescence and innovation are *the main* driving forces of the economy, but at the same time he reduces his emphasis on individual actors, but places more on the understanding of innovation as part of development and therefore not always something radical or unforeseeable. He explains this with reference to his observation that imitators are more likely to succeed than those leading change. Those that follow are namely able to polish and fine-tune the innovation and are thus better equipped to introduce it to the market. Fagerberg (2005: 13) builds on this understanding and says:

> Imitators are much more likely to succeed in their aims if they improve on the original innovation i.e. become innovators themselves. This is more natural, because one (important) innovation tends to facilitate (induce) other innovation in the same or related fields. In this way innovation – diffusion becomes a creative process in which one important innovation sets the stage for a whole series of subsequent innovation.

Innovation is thus in nature a development process, activating a number of processes and individuals through a kind of chain reaction. It is disseminated amongst individuals who take up new practices or adjust them to innovation being presented. In other words; innovation is social, described by Trott (1998: 11) as:

> Not a single action but a total process of interrelated sub processes. It is not just the conception of a new idea, nor the invention of a new device, nor the development of a new market. The process is all these things acting in an integrated fashion.

The notion of *innovation systems* was introduced by Nelson (1993), and it has been refined and developed in various academic and political contexts over the years, by e.g. national authorities and international actors such as the EU and OECD (Moulaert and Sekia 2003). The project has selected some key theoretical sources and only to a limited extent scrutinized the vast literature on innovation systems. As stated in the introduction Edquist (2001) defines an innovation system as "all important economic, social, political, organizational, and other factors that influence the development, diffusion, and use of innovation." (p. 14). Accordingly, Edquist's broad definition focuses on the determinants of innovation, and not on the specific outcomes in terms of e.g. new products. His focus is upon the specifications of different functions within a system's framework. Later Edquist (2005) identifies ten of these determinants:

- Research and Development.
- Competence Building.
- Formation of New Product Markets.
- Articulation of User Needs.
- Creation and Change of Organisations.
- Networking around Knowledge.
- Creating and Changing Institutions.
- Incubating Activities.

- Financial Resources.
- Consultancy Services.

A list like this can never be complete and already authors have pointed out glaring omissions from Edquist's original (see e.g. Nooteboom 2000). Nonetheless this approach is of particular value in policy related studies, as researchers will have to address these determinants and make sense of what they are and how they function. In terms of the research presented here, research and development plays a major role in tourism, in the same way as in numerous other service industries (Malerba 2004).

The function of the above outlined determinants forms the basis of Lundvall's (2005) critique on Edquist. Lundvall argues for the value of case specificity and empirical data and explains his approach and thus what underpins the functions of each determinant in his opinion:

> I would see learning through research and learning through human and organisational interaction as the central activities at the core of the innovation system. *Important for how these activities take place and with what outcomes* are organisational forms, institutional framework and the production structure. *The processes and the organisational form* will reflect the wider setting in terms of the national welfare regime and the markets for labour and finance. *Outcomes of the system* may be innovation and competence building and in the last instance economic growth and development (p. 40, authors' emphasis).

While Edquist focuses on determinants, Lundvall complementarily points out the importance of the embeddedness and the 'structuration' of innovative practices. Drawing on Freeman (1987, 1995) and Lundvall (1992, 2005), Flagestad *et al*. (2005: 24) define the basic innovation system which takes into account both:

> An innovation system consists of actors and relations between those actors which through collective processes create the innovation performance within the system. Innovations normally emerge through incremental and cumulative processes but may appear as radical and unexpected events.

This quotation serves as our preliminary understanding of an innovation system, drawing on Lundvall's practice based and grounded theory approach, but with an eye on the determinants as set forth by Edquist, to lay out a 'system' that nonetheless is amorphous and hard to explain in a systematic fashion.

National, Regional, Sectoral and Technological Innovation Systems

In order to apply the notion of innovation system to the tourism cases studied, some practical guidelines need to be drawn. Any system must have some kinds of outer boundaries - otherwise it is hardly a system (Henten *et al*. 2006). On the most general level four categories of boundaries have been outlined and may guide any empirical inquiry. The four are national, regional, sectoral, and technological settings, all of which have their specific conceptual backgrounds that will be addressed in the following.

The first seminal writings about innovation systems revolved around *national* innovation systems (Lundvall 1992; Nelson 1993). "A national innovation system can be perceived as a historically grown subsystem of the national economy..." (Balzat and Hanusch 2004: 197). According to the literature, the nation state – with its numerous institutional set-ups, complexity of traditions and tacit cultural arrangements – is influencing the innovation patterns substantially for better or worse. For example the banking systems, patent laws,

labour market regulations, and educational resources are normally national in their nature. This intriguing complexity of institutional arrangements at the national level is of great importance to commercial innovation activity. None of the tourism innovation systems identified in this study are national in this sense, and none of the five Nordic countries possesses an overarching national innovation system that embraces the tourism sector in a distinctive way.

The investigation of national innovation systems has, in the literature, led to closer inquiries into the occurrence and nature of *regional* innovation systems (Cooke *et al*. 1997). The questions are similar, but with a smaller geography in mind. References are often made to early studies of "industrial districts" and "industrial clusters" (Camagni and Capello 1999; Feldman and Florida 1994; Porter 1990) all characterised by dynamic economic development, sometimes in contrast to national trends. The notion is that a rapid reorientation and response to external changes could hardly take place with such efficiency without the spatial proximity of many actors and institutions at the regional level (Braczyk *et al*.1998). The milieus with many loosely coupled links and alliances were found to be particularly appropriate to promote innovative activity. Recently, an attempt has been made to deal with tourism destinations as regional innovation systems, noting several reservations though (Flagestad *et al*. 2005; Nordin 2003; Sundbo and Gallouj 2000). For example ownership structures in tourism destinations are often dispersed, leading to a lack of regional connectivity and commitment from the actors (Hjalager 2000).

Innovation system studies have generally struggled with the fact that geographical boundaries are highly permeable for economic activity. Dynamic national or regional environments are not cut off from the forces of globalisation. Johnson and Lundvall (2005) argue that sustainable national and regional innovation systems are those able to enhance institutional learning and building social capital on a continual base in spite of – or even as a positive consequence of – global orientations. Being able to integrate global knowledge and networks into local innovative processes is of crucial importance, and the existence of an absorptive capacity and learning atmosphere is therefore needed in a contemporary innovation system (Asheim and Isaksen 2002). The globalisation of the economy is a continual challenge for the concept of the spatially oriented regional innovation systems.

Drawing on Amin's (2002) spatial ontology for a globalised world, it is emphasised that the nation, and region for that matter, are constituted through a topology of overlapping near and far connections and relations that are "produced through practises and relations of different spatial stretch and duration" (p. 389). Thus a nation and region together constitute a form of "place making, through the myriad network practices and memoralisations that mark the sites we choose to call places" (Amin 2002: 392 see also Amin 2004: 40). The geographical units we make in our minds are "places [that] are also the moments through which the global is constituted, invented, coordinated, produced" (Massey 2004: 11).

Because any geographical demarcation is so highly malleable and uncertain, the scope of research has recently been broadened to investigations of *sectoral* innovation systems (Malerba 2004). Sectoral innovation systems are based on the idea that different industries and sectors operate under different knowledge, regulatory and technology regimes, and that they are characterised by particular *combinations of opportunity*, through mobilising their specific constellation of regimes. The driving forces may be highly integrated into national or even regional dynamics but may also transcend spatial boundaries. Geels (2004) emphasises the institutionalisation as a determining factor particularly in sectoral innovation systems, and

the linkages with users and regulators are considered crucial for dynamics and continuity, particularly if technologies are crucial ingredients. The conceptualisations of sectoral innovation systems may seem to be more relevant for tourism and research may well be drawn and widened from this perspective.

When looking at the *technological* innovation systems, the definition focuses on (a group of) generic technologies with general application to many industries. Carlsson *et al*. (2002) mention that a technological innovation system leads to the creation of other types of collaborative communities and stronger buyer-seller relations, and they mention micro-wave technology as a good example of a rapidly developing technological system that has affected many industrial sectors. When studying technological innovation systems there is a focus on the building of absorptive capacity and capacity to apply technologies in creative ways, rather than on the development of the basic technologies. In tourism technological innovation is an emerging field, notably in terms of infrastructural developments and IT.

All four categories of innovation systems represent valuable contributions to the understanding the facilitators of innovation. They are not mutually exclusive (Oinas and Malecki 2002), although the delineation of the systems varies, how these apply to tourism is to be demonstrated later on in this paper.

Components in Innovation Systems

Above the concern was with what an innovation system is, and the problems of delimiting the systems *vis-à-vis* its environment or wider setting. It is, however, also vital to settle on some definitions on what constitutes the innovation system and its actors. Generally, the whole notion of innovation systems is based on the statement that single actors seldom innovate in isolation; they are all part of networks as stated above. Whilst innovation signals discontinuity and a break from what is established, a system represents a stable structure, something fixed (Lundvall 2005). Innovation systems usually have an evolutionary history, where future development depends on historical trajectories, as innovation is normally a cumulative and path-dependent process (Morgan 2004). The implication is that it is difficult, if not impossible, to create an innovation system by means of political will and intention. Innovation systems emerge as a function of innovative practices, the notion of system is thus heuristic and offers "a broad and flexible framework for organizing and interpreting case studies and comparative analysis" (Lundvall 2005: 20). When analysing innovation systems, the task is to figure out which components are present and mobilised in, this case a specific sectoral setting, and thus track the route actors navigate whilst innovating.

It is generally recognised that innovation systems, no matter whether they are national, regional, sectoral or technological, are *heterogeneous*, and that the variation of actors in itself is one of the driving forces. Edquist (2001: 5) distinguishes between *organisational* and *institutional* components:

> *Organisations* are formal structures with a purpose. They are players or actors. Some important organisations in innovation systems are the business companies, universities, venture capital organisations, public innovation policy agencies, NGO's, and many others.
>
> *Institutions* are sets of common habits, routines, established practices, rules, or laws that regulate the relations and interactions between individuals, groups and organisation. They are the rules of the game. Examples are patent laws and norms influencing the relations between universities and firms.

Often in the literature, networks between actors are suggested as main components of innovation systems. Edquist's approach includes networks in his theory, through different notions of collaboration. *Organisations* include explicit collaborations. In tourism this may be single enterprises in the sector, e.g. accommodation, catering or attractions. But these without doubt need to establish collaborative linkages with e.g. retailing, the public sector, construction and educational sector. *Institutions* contain networks that are more like "citizenships" of a community. In tourism important issues such as established norms for the use of natural resources, mechanisms of resource exchange with the voluntary sector, could be mentioned here and will be revisited in the case study analysis.

Usually, the private sector of business enterprises is regarded as having a major importance in the performance of innovation, while the other organisational actors to a greater extent are considered facilitators. However, as mentioned by Johnson and Lundvall (2005), *commoditisation* of previously tacit knowledge e.g. originating in the public sector, is gradually taking place and gaining importance. The roles of many organisations are blurring and changing, and it is not so clear who are innovators and who are facilitators. This commoditisation process might be beneficial to the systems in the first place. Potentially, though, it might eventually undermine the cohesion of the system, but it is surely one component.

Relations in Innovation Systems

The components are important units of analyses and so are the relations between the components. Relations in an innovation system may be of a *market* or a *non-market* kind.

Market relations can be manifold. The literature on business networks mentions e.g. sales and purchases of components and services, investments, franchising and licensing agreements and joint ventures (Håkansson 1986). There are, of course, differences in the duration and commitment of the relations. The innovation system literature often emphasises that market relations are of a particular, permanent nature in the successful innovation systems, and especially well-grown and trust based supplier-customer relations can be springboards for innovation. Accordingly, involved and reflective customers, who are also close in terms of space or culture, may facilitate innovation processes. In addition, it is often emphasised in research on innovation systems that informal relations are particularly dense and frequent in those systems that function well (Schienstock and Hämäläinen 2001). These interactions, through formal market and trade relations, and the social capital that they represent, serve as important channels for knowledge diffusion.

These market relations are typically relations between individual organisations. However, we also need to take into consideration the surrounding institutions – the cultural glue (Markusen 1999). Edquist (2001: 6) describes the relations between organisation and institutions in this way:

> Organisations are strongly influenced and shaped by institutions; organisations can be said to be 'embedded' in an institutional environment or set of rules, which include the legal system, norms, standards, etc. But institutions are also embedded in organisations. Examples are firm-specific practices with regard to bookkeeping or concerning the relations between managers and employees; a lot of institutions develop inside firms. Hence, there is a complicated two-way relationship of mutual embeddedness between institutions and organisations, and this

relationship influences innovation processes and thereby also both the performance and change of systems of innovation.

Not only is there a complex two way relationship between institutions and organisations through embeddedness, but there also exist mutually supporting relations between different institutions, e.g. labour regulations and educational policies. Alternatively, 'rules of the game' could be contradictive, conflicting and counterproductive, supposedly compromising the innovation system's efficiency.

The way in which organisations and institutions are mutually embedded does indeed function to qualify the extent and nature of innovative practices. That leads to speculations about the *function* of relations, beyond the above mentioned distinction between market and non-market relations. In a conceptual way, the fundamental functions of creating and maintaining relations between components in an innovation system could be as follows, drawing on Edquist (2001):

- To create new knowledge or new ideas.
- To enhance the search and diffusion of knowledge and ideas.
- To create human capital.
- To supply resources, such as capital, competencies, raw materials etc.
- To test and implement new products or services.
- To ensure synergy with other economic activities.
- To control competition.
- To facilitate the formation of markets.
- To create new organisations.
- To create and legitimise new institutions.
- To legitimise and promote the system vis-à-vis the environment.
- To wipe out obsolete organisations and institutions.

Johnson (2001) supplies the following functions:

- To stimulate/create markets.
- To reduce social uncertainty.
- To counteract resistance to change.
- To guide the direction of search for markets, resources, information etc.

The relative importance of these functions is not easy to determine, and they are of course not uniform across innovation systems. However, in tourism it is fair to point out that high volatility may jeopardize the maintenance of relations and level down positive impacts. The innovation systems are, though, structures that to some extend compensate for many closures/start ups in the tourism sector.

The Dynamics of Innovation Systems

Many analyses stress the complexity of innovation systems and their dynamic nature (Archibugi *et al*. 1999; Edquist *et al*. 2001; Fisher and Frölich 2001). It is not simple to provide a concise picture of the evolution of an innovation system and many factors impact it requiring the system to have certain abilities as listed below:

- The ability of the innovation system to adjust continually and to grasp the opportunities that present themselves from the environment.

- The ability to ensure cross fertilisation and enhance the speed of innovation processes within the system.
- The ability to transform in qualitative ways, modernising and increasing the sophistication of the relations and the outcomes such as products and knowledge systems.
- The ability of the innovation system to transform itself radically in response to major external challenges, e.g. new technologies or nature catastrophes.
- The ability of the innovation system to add on and enlarge itself into the surrounding environment and to increase its capabilities, complexities and importance.

It is not unlikely that dynamic innovation systems will, over time, merge with or get absorbed by other innovation systems. For example, some sectoral systems of innovation seem to become more and more globalised as a result of the activities of multinational corporations. Regional innovation systems may be affected by the redefinition of local areas into cross-border functional regions. According to Archibugi *et al*. (1999) this redefinition does not necessarily make national, regional or sectoral systems redundant, but renders them even more important through their policy making as administrative units. This policy component deserves further attention.

Innovation Policies

The argument presented in this study is that researching innovation systems is important in terms of providing guidance to policy and that policy can facilitate the success of an innovation system. Policies are put into operation in order to affect the facilitating factors of innovation (Edquist *et al*. 2001). The intention is to enhance the outcome of innovation processes, usually from an economic growth or employment perspective. It is also legitimate for policy makers to strive for higher product or service quality or to be concerned with derived environmental or other problems. Hence, any policy must have a purpose and general public interest that it promotes. Contrarily, it also implies that if the innovation system is assessed to be operating satisfactorily, there is no need for interventions.

Any policy intervention should obviously be able to affect or solve problems identified. In terms of innovation, the policy will only be relevant if it can move the determinants of innovation to a significant extent. Innovation policies and strategies may fail for the following reasons:

- As innovation is most often multi-causal, there is a general lack of good evidence of the effect of innovation policies. It is not easy to target policies.
- In addition, some policies are put in operation more for symbolic purposes than for the solution of problems.
- Eventually, appropriate policy measures might be established, but a lack of reception capacity in the innovation system will then impede their full effect.

Edquist (2001) mentions that policy formulation is often unclear in terms of what exactly to influence. His point is that the analytical categories referred to above (components, relations, boundaries) should be taken more clearly into account. Accordingly, the policies may be targeted towards the following modes of influence:

- The individual components (actors and organisations, or selected segments hereof) in order to promote their ability or inclination to innovate. It also includes the planting of new organisations with specific tasks to compensate for deficits.

- The institutions (the 'rules of the game') in order to remove difficulties for innovation processes.
- The relations between the organisations and through this effort knitting the innovation system tighter and facilitating the flow of information and knowledge.
- The relations between different institutional frameworks: clearing up conflicting rules of the game, creating new institutions and seeding trust.
- Affecting the boundaries of the innovation system or linkages with other innovation systems.

There is a vast literature on more specific innovation policies, although most of it emphasises financial support to R&D and patent systems (OECD 1999, 2005). To match the idea of innovation systems, however, policies require broader definitions (Oughton *et al*. 2002) and also need to include:

- Providing financial support to perceived risky or potentially prospective innovative activities.
- Developing centres of excellence: advanced innovation advisory services for the industry and laboratory functions.
- Promoting collaboration and networking among firms and business forums around innovation issues.
- Promoting entrepreneurial skills and fostering new businesses, including spin-offs from universities and public institutions.
- Ensuring a venture capital system with focus on innovation and establishing brokerage services between firms and banks.
- Technology and concept scouting and systematic diffusion of information and knowledge. Establishment of market intelligence systems.
- Enhancing the linkages between industry and universities in order to facilitate knowledge transfer.
- Building human capital and skills on all levels and connecting with appropriate labour regulations.
- Using infrastructure investments as a stepping stone for innovation in the private sector.
- Reducing administrative burdens and bureaucracy for innovative enterprises.
- Promoting an "intelligent" demand for services and products, for example through targeted public procurement.

This list is a very traditional one, and it can be observed that there is a focus on the supply side channelling public resources into the industry hoping for a result. On the other hand, there is not so much emphasis on the activation of the market forces or the "market drivers". OECD (1999) mentions the limits of direct intervention and suggests more indirect inducement in order to boost successful industry clusters and innovation within them.

Policy makers have IT, biotech and other high tech industries in mind rather than tourism, when launching innovation policies. The traditional marketing and branding dominated tourism policies have not much to offer in terms of innovation in the tourism sector. The case studies do, however, demonstrate that for example, linkages between the tourism industry and the educational sector can promote tourism as well as the operational links with local administration.

Oughton *et al*. (2002) warn policy makers that they should ensure a receptive capacity among the policy's target organisations. Much too often – particularly in lagging regions – capacities in terms of systems and resources are not sufficient. They argue that integrating policies of innovation into other mainstream policy may be a way to bypass these capacity deficiencies.

Innovation Systems in Tourism

Basically, tourism is a specific, and to some extent a well-defined, economic sector and, accordingly, it would be logical to explain "sectoral innovation systems" specific to tourism, without downplaying the relevance of national or regional innovation systems. In his outline of sectoral systems of innovation Malerba (2004) observes that private business enterprises in a related product group are the main drivers of the innovation processes. The continual tendency to renew products and services and to create market positions leads to interactions in the sectoral system, which is dominated by commercial players. Uniform economic mechanisms promote an entrepreneurial spirit in institutions and organisations in the vicinity (functionally or geographically), according to Malerba. The innovation literature is not explicit on the topic of local innovation systems and certainly non-existent in the context of a place or tourist destination. (Flagestad 2005). However, Flagestad (2005) suggests "that a tourist destination with its boundaries of place should qualify as a category of local innovation system" (p. 256).

Tourism innovation systems can be found in a Nordic context (Sundbo and Gallouj 2000; Hjalager, 2006), and it is possible to witness dense relationships that are platforms for radical new products and services in the sector, as will be shown in greater detail in the following section of this report and in the individual case studies. However, we assume that the commercial segments of the tourism system play a somewhat less pronounced role than in other innovation systems. In tourism a variety of voluntary and public organisations are catalysts for development as tourism activity is usually embedded in wide ranging societal institutions. Under these circumstances private tourism enterprises may primarily play a role in the follow–up phase, when first concepts are established and launched, and when a demand starts to manifest itself.

An analysis of all cases through focusing on topics outlined in table 1 below was done in order to relate tourism more effectively as a sectoral innovation system to the literature presented above. The table is largely inspired by Edquist's (2001) outline of fundamental functions creating and maintaining relations in innovation systems, detailed above, and the dynamics impacting innovation systems outlined above.

Table 1: The general framework for analysis of the cases

Structures, actors and relations		**Driving forces for innovation**		**The outcomes**
Nature of relations - strong, weak, formal or informal		External pressures for changes in the innovation system		Products and services for the tourists
Mobilising role of actors – how are new relations created		Second comers, entrepreneurial opportunities		Educational spin-offs
Diversity of relations		Profit motives		New managerial methods and competencies
Power of relations		Altruistic-ego		Networks with actors, new ways of mobilising
History of relations		Public sector role		Reversed innovation – innovation in the hinterland – beneficial for the population
		Professional/scientific development that go hand in hand with the innovation system		Reversed business spin-offs
		Family ties		Tourism secondary innovation
		Trust		
		Tourism policies		
		Policies in other fields		
		Role of customer		
		Societal ethos and altruism		
		Synergetic driving forces		
		Balance in the institutions; volatility and stability		

In the table above structures in terms of organisations and institutions, actors and relations underpin driving forces of innovation, resulting in various outcomes as documented by the case studies detailed below.

Ten Nordic Tourism Innovation Systems – Main Characteristics

Presentation of the Innovation Systems

The study identified and analysed 10 specific tourism cases in the Nordic countries. These cases all share common characteristics which we will subsequently frame in terms of the literature on innovation systems presented above, arguing that each of the cases listed below can in effect function as a system in itself. A detailed analysis of each of these cases is available from the respective national author.

- The Beitostølen ski resort, Norway is among the five largest mountain tourism destinations in Norway. Beitostølen has over the last 10 to 15 years showed an impressive performance and development. The destination is conceptualised within relatively clear geographical borders although being part of a larger municipality. The Beitostølen case is exploring an innovation system concerned with innovation in a visionary perspective for fighting seasonality and achieving year round operation in a mountain tourism destination. Over the years the organisational and ownership structure at Beitostølen has grown from a system of fragmented ownership to one with a major owner of commercial operations and one major real estate developer. The development at Beitostølen within the context of organisation structure and ownership is a movement from (a fragmented) "community model" of a destination to almost a (consolidated ownership) "corporate model" (documented in Flagestad, 2001).

- The Opplev Oppdal Company, Norway is a local company offering a wide range of year round activities to visitors and guests at Oppdal. The company has developed over a period of 15 years. Today 'Opplev Oppdal' is considered a highly successful operation. Oppdal which is mainly known as a winter sport destination produces more guest nights in the non-winter season than in winter. Innovation in this case is typically customer driven and the customer's role in the innovation system is emphasised. The case is built around an entrepreneur with a strong vision, innovative ideas and determination. An entrepreneur acknowledging that start-up and development of a sustainable operation takes time, financial strength and huge work efforts. The entrepreneur's attitude towards building and acquiring new and relevant knowledge is evident in this case. Broad knowledge in the physical, cultural and organisational aspects of activities combined with creativity is a basic resource in this innovation system.

- The Icehotel Corporation, Sweden, started in a more traditional way with mainly summer tourism in the 1970s. However, in the late 1980s and early 1990s the idea of turning the long, dark and cold winters into an attraction was developed. It started with igloos and art built out of snow and ice, but the business has expanded to include currently also a hotel, a church and ice bars. A vast network of actors is engaged in the activities and Icehotel has developed from a mainly local attraction into a constantly developing global business.

- The Mountain Destination of Åre, Sweden, has a long history of tourism with visitors travelling to the destination as early as the 19th Century. Over time, Åre has however developed from being one of many mountain destinations into Scandinavia's leading Alpine ski resort hosting several world ski championships and other international ski competitions. Today the focus is on also on turning the destination into an all year

round resort which requires a lot of innovative thinking and acting in combination with new strategies and organisational forms.

- The Siida Nature Initiative, Finland. Siida, situated in Inari in northern Finland is an arena for tourists who are interested in experiencing the nature of Northern Lapland and the Lappish culture. Siida is a joint effort by the Sámi Museum and the Northern Lapland Nature Centre, which means that resources and driving forces of the two interlinked networks are drawn together. The synergy effects are important and the open attitude among the stakeholders involved is a salient feature in this case.

- The Santa Claus Village, Finland. Santa Claus, who lived in the mountains of Lapland at Ear Fell, moved (or was moved) to a place close to the Arctic Circle in Rovaniemi in the early 1980s, heavily sponsored by local authorities, entrepreneurs and the Finnish Tourist Board. This was the start of a destination that ever since has managed to evolve on a continuous basis without losing its focus. Santa Claus, the ambassador of Lapland, and his village, representing the commercial Christmas team, is today a true global attraction.

- The Roskilde Festival, Denmark. Since 1971, the Roskilde Festival has developed to become the largest, annually recurring rock music event in Northern Europe. Attracting an audience of 100.000, the festival is of crucial importance for tourism in the area. The case study analyses the role of the festival as a central and determining element in an emerging tourism innovation system in the Roskilde region. Festival organisers maintain very long-term, dense and multi-faceted relations to the voluntary sector in the area, and generally, the relationships are mutually beneficial. Funds from the (non-profit) festival are efficiently channelled into cultural and sports facilities that further enhance the attractiveness of the region for tourists as well as for local inhabitants.

- The Seatrout Funen, Denmark. The Seatrout Funen initiative started back in 1989 as collaboration between the county council, the Anglers Association, actors in the tourism business, and (later) aquaculture. The innovation system has developed steadily within a largely unchanged conceptual framework since 1990. It relies on a consistent set of driving forces. However in 2007, a governmental structural reform will force Seatrout Funen into a new and more diverse management structure.

- Icelandic Whale Watching, Húsavík, NE Iceland. The company analysed has been very successful in marketing whale watching trips in the bay of Skjálfandi. The success has been rapid placing Húsavík on the map as 'Europe's Whale Watching Capital' and creating secondary businesses such as the Húsavík Whaling Museum and restaurants catering to the increased number of tourists in town. The pioneers operate a family business that began with one small revamped oak boat, and they now they have a fleet of five.

- White Water Rafting in Iceland. In Skagafjörður region in NW Iceland, a successful company in white water rafting has been recently built up on the foundation of other trial operations. In 1988 the owners started offering board and lodging subsequently by adding a few rooms a year to the establishment and recently building two cottages detached from the main building for larger groups. Alongside their board and lodging services they have tried to develop complementary services, mainly some activities for

their customers. Initially they complemented their services with ATV rentals, then salmon fishing and finally white water rafting in 1993, which proved successful.

Some Basic Common Features

All the tourism projects here above have been in operation for a considerable length of time, which was one of the criteria for them to be selected for this study. All share the trait that they have been able to ensure a continuous launching of new products and services and a variety of spin-offs.

Additionally they share the following common characteristics:

- *A multitude of actors*. Many actors are involved in all of the cases. There are strong entrepreneurial forces in all, but the outcomes are generally not the sole achievements of persons operating on their own.
- *A diversity and density of relations.* The projects draw on many types of personal backgrounds, knowledge and connections, and the actors efficiently bridge cultural, social and institutional gaps. The actors feel a belonging to the area, and this increases the density of long-term and trusted relations.
- *Mobilising role of key actors*. Emerging strongly is the key role played by visionary entrepreneurs who have been able to facilitate the growth and stabilisation of the projects as parts of an innovation system, drawing on a host of resources. These visionary actors on the other hand also emerge as the powerful focal points of the systems, which can be a weakness.
- *Open resource access.* The enterprises above enjoy an open and inviting atmosphere, and a willingness to share resources and knowledge. A tacit "linux" philosophy is embedded in many of the innovation systems.
- *Second comers to innovation being promoted*. A common theme in the systems is that the companies involved often reap the benefit from innovation tried and tested by a pioneer who failed.
- *Keen competition.* There is competition for resources and customers. But at the same time the actors cooperate on various issues without agony, a type of co-opetition (Nalebuff and Brandenburger 1997) is implicit in them.
- *Public sector role*. In all cases the public sector has a decisive role, be it in a hampering or facilitating manner. In the same way all specific tourism policy is conspicuous by its absence, whereas policies in other fields come to the fore in the tourist enterprises.
- *An increasing global outreach*. The numerous actors involved increasingly invite knowledge, capital and ideas into the system as well as linking up to larger communities for marketing, and resource purposes.
- *An increasing cross-sectoral outreach.* The spin-offs from the innovative activities of actors involved increasingly affect other sectors, e.g. science, business, education, leisure, charity, health and environmental policy and these affect it in turn.

Under the surface of these commonalities there are different emphases. Generally, in order to remain successful the enterprises studied have had to be faithful to their origins, but open to acceptance of corrective and supplementary driving forces from other fields. In the following a closer analysis with further examples will illustrate the structures, driving forces, impediments and outcomes of the selected tourism innovation systems in the Nordic countries on a comparative basis.

Actors and Relations in Tourism Innovation Systems

Introduction

Innovation systems in tourism are composed of organisations, institutions and individuals in interactions with each other. The literature on innovation systems implicitly emphasises the importance of enterprises as primary actors (Cooke 1997; OECD 1999). The triple helix segments of the theory (Etzkowitz and Leydesdorff 2000) suggest that key roles may, however, belong to a range of public institutions and universities contributing to the creation, maintenance and development of an innovation system.

In this chapter the experience gained from the case studies will be outlined in terms of the diversity and nature of the relations, the mobilising of new actors and the process of relation building, along with explaining relations as an exercise of power and influence.

Nature of the Relations

The ten case studies demonstrate a variety of relations.

Family Ties and Clan Structures. The Icelandic cases serve as examples of two very closely knitted extended family networks. The rafting business builds on the diversification of farming in the wake of agricultural restructuring in Iceland, where traditions for closely knit family ties prevail. The whale watching business in the same sense builds on family ties, but has an extrovertly open network. The nature of these ties influences the operational mode of the innovation system developing around these companies. Everybody seems to be involved in nearly all work tasks, and there is high transparency in almost all operations amongst members of the clan. Strictly speaking there is a kind of oligopoly, where flow of information from each of the two family based companies is somewhat restricted, while internal flows are allowed at a higher pace. Similar smooth information flow and knowledge dissemination can be distinguished within the Sami community in the Siida Nature Initiative.

Corporate Ties. Over the years – with an emphasis on the last ten years – the organisational and ownership structure at Beitostølen ski resort has grown from fragmented ownership to a more consolidated one consisting of one major owner of commercial operations and one other major real estate developer. An almost similar centralisation has taken place in Åre. This transition can be described as emergence from (a fragmented) "community model" of a tourism destination to an almost consolidated ownership "corporate model". The links between actors in the area have been strengthened through financial involvement. Åre, is however, also an example of a public-private network, strongly driven by private actors but with strong support from the public sector. Also the Icehotel is mainly a corporate model where the intense innovativeness and the implementation of new ideas heavily depend on the fruitful cooperation in contractor-subcontractor relationships.

Publicly Dominated Cooperative Networks. In the Seatrout Funen, the Siida and the Santa Claus cases, public actors had and still have a very dominant initiating and coordinating role. They took the initiative to get involved, and they invited others. The Santa Claus village was distinctly and decisively institutionalised by public actors. The environmental ingredient in the Seatrout Funen case depends on a strong public involvement, and a continuous mediating of resources and access to the national resources. In these cases private initiatives are enthusiastically welcomed, but the public sector actors serve as "gatekeepers".

Leisure and Voluntary Organisational Ties. The Roskilde Festival is deeply embedded in the local area's sports, cultural and other voluntary organisations and associations. Members of these groups contribute ideas and practical work, and, indirectly, they enjoy the fruits of the surplus from the festival. The network is dense, but fluctuates around a stable core of charismatic leaders. Also in the Siida case, there is a strong involvement of associations, particularly those with a Sami background. Here the innovation systems efficiently link the public and the voluntary sectors together.

To conclude from the ten cases it can be observed that successful tourism innovation systems have relational driving forces from networks of quite different composition. Common for the relationships is, however, that they are built up and maintained over a longer period of time.

We also observe that both formal and informal relationships are found in all the cases without exception, and that these types of relationships complement each other. Business relationships are usually formalised to a higher extent than relationships where public actors or voluntary organisations operate. Trust and personal ties lessen the need for costly contracts and legal arrangement (Boschma 2005). In this respect tourism innovation systems have features that are identical to many other industrial cluster and innovation systems.

Mobilising New Relations and Resources

Over time, the innovation systems in this study have developed and grown in size and complexity. New resources have been utilised, and new relations have been forged. There are several ways to mobilise resources, but mainly it will follow from the nature of existing relations and structures. In some situations, local relations have to be supplemented with relations from outside to provoke and ensure dynamism. These shifts in scale and scope are of particular interest for the understanding of innovation systems.

Flexible Opportunity Creators: The Roskilde Festival and the Santa Claus Village occupy a particularly open and inviting attitude towards new resources. Every year, for example, the festival makes space and creates opportunities for cultural entrepreneurs and others who want to test business and cultural concepts at the festival. There is a fruitful dialogue which is usually helpful for the festival as well as the entrepreneurs. Some of the new elements turn out to be successful, others not. Likewise, the Santa Claus Village invites entrepreneurs in, but not on such an experimental basis as the Roskilde Festival. New resources at the Santa Claus Village contribute to the diversification of the place and are consistent with the line of operation and the image. In this respect the visitors to Santa Claus Village are possibly more conservative in their expectations than the audience of the Roskilde Festival.

Symbiotic Resource Mobilisation: The Icelandic whale watching operation, the Seatrout Funen and the Siida are all innovation systems that not only enhance the tourism product, but become involved in symbioses with surrounding society. In the Seatrout Funen case resource constellation includes a range of environmental organisations. In many respects the environmental resource systems are more resource affluent than the tourism system, and their proximity indirectly helps the tourism system. In the Siida case the Finnish forestry authorities represent a similar power of resources, and the symbiosis is fruitful for the modest tourism activities. In the case of whale watching, whaling is a permanent issue, recently with a higher political and media profile. The tourism actors can, by capitalising on this feature, access resources not otherwise available to such small operators.

Strategic Business Expansion. In the Icehotel, Beitostølen and Opplev Oppdal, where the corporate element is significant, the resource acquisition takes place on a larger financial and labour market. Yet the Icehotel has been able to sustain its smallness in some respect, having kept some of the advantages of a small firm where more or less everyone is involved and knows one another. The Åre ski destination is presently in a development phase where private and public resources are being consolidated within a Vision 2011 strategy for the future, now replaced by a new vision for 2020. Thus, the area is attempting to utilise its existing resources more economically and sustainably, and in the process gaining access to more economic resources and a better symbiosis of private and public powers. The same could be said albeit on a smaller scale about the Icelandic rafting destination. It is quite local in its resource acquisition in order to keep full local control, but nonetheless always active in expanding it business portfolio. Consolidation has not occurred in any tourism enterprises in Iceland, apart from the airlines, and that limits their resource acquisition, hampers growth and renewal and creates a lock-in situation (Boschma 2005). But on the other hand, the other innovation system actors are, by application of more inviting attitudes, risk loss of local hegemony. It is a fine balancing act, but the cases studied also show excellent examples of the ability of the local actors to integrate resources in the innovation systems without loss of identity.

External Resources Mobilisation. There are several examples that the innovation systems, at some stage in their development, need "new blood" (Hjalager, 2007). The whale watching destination got a new vision about the opportunities by inviting an international tour specialist. Likewise, the Roskilde Festival, in smooth operation in the 1990s, adopted the cluster concept introduced by the Ministry of Trade and Industry. Other innovation systems also had their "moments of truth", where lock-ins and tunnel vision features were challenged. The two Swedish cases – Åre and Icehotel have also benefited from new external resources, in terms of capital, but also new knowledge and ideas. In the case of Icehotel a new professional board, with a number of external actors, not always inked to tourism, has contributed greatly to its development. In the case of Åre new strong external actors are main drivers of current development.

From this analysis it becomes clear that mobilising strategies differ in the innovation systems. The "playful" innovation systems with an extensive degree of voluntary work and effort allow very experimental procedures, as new innovation systems also do. The more "oligopolic" and more commercial innovation systems draw to a greater extent on the standard resource acquisition methods.

Diversity of Relations and Structures

A diversity of relations was a criterion for the selection of the cases in this study. However, a closer analysis demonstrates that the management of this diversity is not uniform.

Formalisation. Some of the innovation systems analysed have found it necessary to formalise groups and committees that overarch and are in a position to handle great diversity efficiently. The Santa Claus Village joint committee has quite firm control over the main relations, particularly between the regulating authorities and other external factors on the one hand and local actors on the other.

Informal, Charismatic Leadership. The rafting and the whale watching enterprises suggest that in small innovation systems, the existence of a charismatic leader is crucial for building bridges across various borders and to undertake coordination. The personality of the informal

leader is crucial. It is necessary for him/her to be inclusive and open-minded towards different cultures, such as those seen in Siida, where the Sami visions of cultural heritage have to coexist with elements of preservation and an environmental agenda. In Beitostølen a visionary and highly-esteemed entrepreneur has for several decades been able to make the best of diverse relations. A major expression of success in this respect is the fact that he has been able to build bridges between the health care sector and tourism. In Åre personal ties and relationships along with trust play a significant role in the destination strategy group. The organisational form is entirely informal and lacking an official mandate as well as public records. Yet this is where a lot of decisions are informally made and where a lot of the power is concentrated. Charismatic leadership has, moreover, played a central role at Icehotel, where the managing director is credited greatly for its success and development as is the case of whale watching in Iceland.

Overlapping Membership. The Roskilde case is an example of a fluid organisation and the management of diversity. There are many organisations, committees and boards in the town, that manage tourism activities, the festival business, and numerous voluntary organisations. It is a dominant characteristic that many local actors are active in several boards and groups across the private, public and semi-public sphere. The diversity is, in other words, integrated in a complex and dynamic organisational picture. The Roskilde case is also characterised by continual reorganisation. If a committee or a board has done its work, or if it has become obsolete, it is dissolved without pity. Thus the diversity is allowed to flourish in continuously new forums supplied with fresh energy and knowledge.

The three examples, mentioned above, are not mutually exclusive, so whilst overlapping memberships might be a characteristic of one innovation system, this feature could be explained by the presence of informal charismatic leaders.

Power Structures in the Relations

In the tourism innovation systems, we expected to find low power distances and ease of communication across all thinkable boundaries. However, there are nevertheless power displays taking place in the innovation systems. Power cannot be ignored as a part of a successful development process, as it guides and controls relations (Fuchs and Shapiro 2005).

Power of Persistence. The entrepreneurs and initiating actors in the innovation systems tend to possess considerable first mover advantage. For example the whale watching operation is still the key provider, and newcomers have difficulties in keeping up and gaining the same external and internal reputation. In the Seatrout Funen case, the county council is a principal participant, investing its capacities in waterway resources and funds for restoration, without which the innovation system could hardly persist. The county council exercised its muscle in order to overcome conflicts involving various categories of anglers and between tourism operators and local landowners. The Sami community in the Siida case possesses a special power through "being there first" and legitimise a plea to be recognised within the framework of indigenous people. The Sami community utilises its ambiguous position in society mainly to maintain their own position in the innovation system. The Icehotel will always have the advantage of being the 'original one' and 'the real thing', despite competition from similar new concepts.

Power of Knowledge. Knowledge is a legitimate base for influencing relations in an innovation system. In all the tourism innovation systems the official knowledge actors, the

universities, are latecomers as actors in forging relations. In Roskilde, for example, the educational sector is moving in slowly, but only after more than 20 years. In Beitostølen, however, medical knowledge became at an early stage a factor for the development of the place, but only because the medical experts have skiing as a main leisure activity, Thus, Beitostølen represents a very prominent example of knowledge transfer across scientific borders, but the linkages were, as a start, somewhat coincidental.

The environmentally based tourism innovation systems depend on a correct interpretation and management of this vulnerable resource. The whale watching example scientifically confirmed and supported the fact that knowledge is essential for the trustworthiness *vis-à-vis* the tourists as well as other actors locally and nationally.

In some case studies we identify examples of knowledge conflicts. Much knowledge is embedded in legal procedures and public planning. The Icehotel and the whale watching operations have had their controversies. They found the knowledge possessed and empowered by the authorities to be outdated and obsolete.

Power of Values. The Roskilde festival evolved out of a hippie culture and leftist, even anarchistic, 1970s movements, where any aggressive power was not accepted. Basically, the egalitarian norms adopted in the festival organisation and beyond it are much in debt to the original ideas. There is an open distribution of information, and a very inviting style of management. A consensus-seeking attitude is dominant, and there is a (sometimes tacit) reference to the general values in the area. Values can also act as a compass for the development of the innovation systems. The values of the Sami culture in the Siida case are also an example.

The Power of Capital. The innovation systems have clear economic objectives, and in all of them any altruism and mutual responsibility are paired with the need and will to create a financial success for the benefits of the owners and/or the local population. In the skiing destinations and Santa Claus Village, commercial objectives are most prevalent, and the investor power dominates in the development of relations. Skistar, a major international ski resort operator, is deeply involved in Åre for example, and the public authorities sometimes find it easier to establish relations with this dominant player rather than smaller actors in the place. The Icehotel building alliances with the Swedish Absolut Vodka is another example of a strategic alliance that is rather the result of the earning potential and marketing benefits than the need to create local or regional partnerships.

In Roskilde, the surplus of the festival is reallocated to the Roskilde Foundation. This affluent source is of major importance for any new activity in the extended cultural life of Roskilde. The foundation is, however, not a traditional commercial factor of any importance.

Innovation in Services and Innovative Spin-offs

What Are Tourism Innovations?

In this section we focus on new tourism products and services that have come out of the innovation systems identified.

The first question to be raised is how to define innovation. On a very general level, referring to the classic Schumpeterian approach, innovations are "new combinations". According to Schumpeter, innovation materialises in new products, new services, new processes, new raw materials, new organisational forms and new markets. It is obvious that these forms are not necessarily mutually exclusive. In particular, in the framework of innovation systems, we expect to uncover numerous incidences of simultaneous occurrence of several categories of innovation (Gallouj and Weinstein 1997; Lundvall 2007). Building on Schumpeter Abernathy and Clark (1985), under the title "creative destruction", we can outline four categories of innovation. The reach of innovative creativity depends on whether linkages with customers/suppliers are either disrupted and new ones established, or conserved/entrenched. Or, whether the competences of the actors remain the same or will be contested or even dismissed as obsolete. The assumption is that innovation *systems*, due to the existence of many and dense linkages and a variety of competences, can foster better and more wide-ranging innovation. To answer the first question: innovation is about new combinations, best fostered by dense networks of a variety of linkages.

The second question to address is: How different should an innovation be in order to deserve the notion innovation? The innovation literature is not precise in this respect. The classic idea is that innovation needs to be radical, groundbreaking and different in order to earn the title innovation. The examples here are the steam-engine, the light bulb and others that have brought about massive reorientations in whole technology systems (see e.g. Hughes 1983), or others that have had massive repercussions near and far. Another way to look at innovation and more in line with the discussion here is to view it as incremental (Metcalfe 1998), i.e. always happening through learning from R&D, from using, through work or through the users. To answer the second question: Innovation can be a step-by-step process of continual addition.

We have established a categorisation of innovation that reflects both the Schumpeterian conceptual heritage and the distinctiveness of tourism and the tourism community environments (Hjalager 1997). These are:

- New products and services for tourists.
- New managerial methods and resource mobilization.
- Educational spin-offs and innovation in the educational sector.
- Reverse community innovation – innovation aiming at the benefits of the residents.
- Reverse business innovation – innovation furthering other business branches.

New Products and Services for Tourists

Any operator of a tourist attraction is aware of the fact that, with reasonable intervals, the tourists should be met with new products and/or new services. The competitiveness of destinations, as well as that of the single enterprise depends on the ability to stimulate tourists' experience and consumption with something new.

Enhancement of the Core Products. The enhancement of the very core products is seen in a number of ways in the case studies. Siida actors have put considerable effort into developing nature trails and interpretations adapted to the experiences in the Finnish woodlands. The experiences have to be advanced enough to create interest, but yet not disturbing the representation of place as e.g. remote, peasant, lonely, authentic. The combined efforts of key institutions have been crucial for obtaining this balance.

The core attraction in the Icelandic whale watching is, naturally, the sightseeing tours and a spectacular whale in the tourist's binoculars. However, whales cannot be guaranteed. Therefore it has been of great importance to compose strategic "augmentations" of the whale product. This has been done by a general emphasis on the wildlife, especially birds, and also by offering museum experiences and sites connected to the whaling economy and local ecology.

Music and bands are at the core of the Roskilde Festival product, and new bands and new playing styles are recognised as the most important ingredient of the festival experience. Without the innovation of these features, the festival would cease to be attractive and trustworthy. But the music is increasingly being supplemented with other modes of entertainment. Some of them are related to music, for example electronic games with music and performance elements, and they are naturally integrated to the festival place.

The Opplev Oppdal case offers experiences for well-paying and demanding tourists but also experiences for school classes. The place developed a "high quality gastronomy" suitable for open air preparation and consumption.

Santa Claus Village is predominantly commercial, and the products are expanding in scope. Merchandise includes all aspects of Christmas, but also outdoor experiences in the snow for example with reindeer. While the merchandise can be purchased all over the world, it is only possible to visit and shake hands with Santa in Rovaniemi. Also the issuing of a "Crossing the Arctic Circle Certificate" demands a presence. Accordingly, in spite of the concept spreading, some elements are withheld, and the place is still "sticky" (Markusen 1999) in terms of containing the dominant motor of innovation.

The innovativeness in the Icehotel is very closely associated with snow and ice. There has been a constant development of new products. Thus, for example, the building of an ice church has attracted a whole new customer category for baptisms and weddings; the Icetheatre has drawn the cultural elite. The Icehotel is involved in everything from small interior details such as building ice crystal lamps and ice glasses in the bars, to larger projects involving exporting bars and exhibitions globally.

In Åre the destination has worked hard to broaden the product portfolio. The aim is to lose the image of being a ski destination primarily suited for the trendy rich and young, and to attract a much broader customer group including families. Along with that, the destination is also working to extend their peak season with new innovative products and services. The aim is to tackle the dilemma of many a winter sports destination and turning it into an all year round resort.

Already from 1970, the Beitostølen Ski sport resort was into ski activities for the disabled. Over the years, this portfolio has helped to develop the health tourism image of Beitostølen.

Increasing Comfort. Much of the creativity in the Nordic context is connected to increasing comfort and thereby adapting Nordic tourist products considered "inaccessible" or "unpleasant" to contemporary users. For example, the Beitostølen ski resort has over time developed a very sophisticated medical health sports unit for the purpose of attracting, amongst others, visually impaired skiers. Simultaneously, the owners of ski facilities have adapted the ski slopes and equipment to accommodate groups of customers without physical impairments.

Roskilde Festival has continuously improved the accommodation, hygiene, and catering services. Lately, a B&B tent has been added for those, who are not keen on primitive camping, for example those rock veterans who feel they got too old for the open air life.

In the Icelandic rafting case the constant addition of facilities, beds, rooms, stoves, drying cabinets, whirlpool hot-tubs and decent dining options are all part of making the rafting experience a more accessible and enjoyable event for all.

New Needs and Modes of Diversification. A main concern for many tourist destinations is to convince the visitors to stay for longer periods and to keep them busy while they are there. Peripheral regions in particular realise the importance of a diversified portfolio of attractions.

For example Santa Village is moving into winter sports of a traditional kind. The Icehotel has built a normal – warm – hotel next door, as it is not likely that tourists will stay for more than one night in the cold environment.

The annual Roskilde Festival lasts only for one week. But the spirit of music is withheld, soon with a Rock Museum, enhancing a permanent rock scene in town and with master classes and competition programmes before the main event starts. Some actors in angling tourism are moving into the business tourism market, offering team building facilities, where angling is part of the offer. The advantage is that the business market transcends all seasons and that catch itself might be of minor importance compared to other learning elements.

An IT-Ingredient is added to many tourist services identified in this study. The angling innovation system has come up with weather and water forecast services obtainable on a mobile telephone. The Roskilde festival product is supplied with social-networking and information systems adapted specifically to a large and chaotic event.

Many of the cases demonstrate an adaptive capacity to IT innovations and developments, adopting the latest technology and implementing these in the proper setting without difficulty.

Mythical Reinventions. The Santa Claus Village represents a mythical reinvention. Santa Claus used to live high up on the Ear fell, but as an imaginary gestalt or figure that was not an optimal solution for commerce. A much better idea is to move him down from the mountain top so people of all ages, from around the world, can meet him, shake hands, and sit on his knee. In the process "move" the whole village, i.e. construct the Santa Claus Village.

In this category we could also mention spiritual experiences which many cases demonstrate, for example the Golden Hour in the Chapel of Beitostølen, or baptisms and wedding ceremonies at the church of the Icehotel.

Feel Good Products. The case studies demonstrate a clear movement into *feel good* products, and the actors have evidently demonstrated an innovativeness that builds on and boosts the value of the original products. In the whale watching case, some tourists are offered the opportunity to be "scientists for a day" – assisting in the counting of whales during the trips. Such learning experiences and "do-good and feel good environmentalist" tourism is potentially adding on and enhancing the experience, and helps to create a wider understanding, if the whales for some reason do not manifest themselves (Ellis 2003). In the Icehotel case, closeness to elements of nature such as water, cold, darkness and ice are emphasised and many visitors experience something spiritual from the visit.

Similarly and already back in the 1980s, the Roskilde Festival invited humanitarian organisations and NGOs into the festival with booths for recruiting and merchandise. The festival also selects one or more organisations every year for financial support under a general humanitarian theme.

New Managerial Methods and Resource Mobilisation

Managerial Innovation. Numerous managerial innovations are constrained to a single organisational unit. Thus, pressures from the outside and incidences internally have led to some comprehensive managerial innovation on the Roskilde Festival. Crowds and safety have moved into focus, and subsequently, the festival plays an important role in the international festival organisation as a first mover on safety issues.

After the introduction of a new professional actor – Skistar – at the destination of Åre, greater emphasis has been placed on managerial innovation with the aim of increasing customer satisfaction, professionalism, efficiency and productivity. Particularly professional human resource management became more prevalent, and the company is today highly regarded as an attractive employer on a local and wider labour market. Skistar regularly conducts customer surveys asking for areas of improvement, which means that the customers are regarded as an important source of innovation. The employees also work with something called 'Måltavlan', which means that they can on a weekly basis find out how the customers have experienced their services and what possibly needs to be improved. This also increases the long-term customer satisfaction and professionalism and again gives the customers a role in the development and innovation process.

These documented managerial innovations all aim at increasing productivity and service efficiency along with profitability.

Networking Innovation. Previously in this report we demonstrated that the innovation systems in the case studies embrace many actors, who have a share in the product and its development, and that managerial proficiency is also about mobilising resources across units. Accordingly, many innovations are distinctly connected to the management of networks and interrelated products and services.

Volunteers play a pivotal role in some of the cases. The Santa Claus village employs volunteers for the Post Office functions, and the Roskilde Festival relies largely on 20,000 volunteers for its operations. The Icelandic whale watching case boosts its professionalism through recruiting volunteer students for marine research and having them on board their sight-seeing trips. Managing volunteers demands particular skills and competences, as the

incentives to do a good job are often more complex. The Roskilde Festival benefits from a close cooperation with local sports clubs and leisure associations. The creation of a cash flow from the festival activities into the leisure associations is a crucial incentive, and a topic of keen managerial monitoring and development. Contrary to what is found in normal working life, the least pleasurable jobs (cleaning of toilet facilities etc.) are the best paid.

Siida, being a very small place, needs to pay special attention to Sami values, and it is fair to say that heed has been paid to these and culturally based management practices have evolved. However, the principles are not very explicit beyond the key actors in Siida.

The Åre ski resort launched a collaborative strategy entitled "Vision 2011", as described above. This was an attempt not only to ensure a joint strategy, but also to bring in the smaller stake-holders and resources represented foremost by the local business association and the local government to meet with the large dominating corporations Skistar and Holiday Club. Strategy processes are not *per se* anything new, but here the idea is to maintain the cohesion of the development and ensure that everyone is more or less heading towards the same goal. It is particularly unique how the public and the private actors informally have organised themselves in this joint constellation.

These documented networking innovations are focused on bringing about co-operation and facilitating communication in order to garner support and secure foundations for the innovation system.

Educational Spin-Offs and Innovation in the Educational Sector

In the sections above, we have mostly documented innovations that tourists will, directly or indirectly, experience in the form of new products/services, as higher quality or as services delivered in a smoother and more satisfactory way. In this section we shall describe how the activities in the innovation systems have generated spin-offs in the educational sector. This is seen as examples of building and enhancing the "backstage" knowledge base so to speak.

Utilising the Local Knowledge Base. Siida is very distinctly embedded in the culture of the local area. The innovation system depends on the trust and knowledge of the local inhabitants, and the commitment to their own cultural heritage. Therefore courses are offered to the locals, e.g. how to deliver interpretations of the products being sold, bringing on board the competences and capacities of the indigenous study research group of Oulu University. Húsavík, which is the place of the Icelandic whale watching operation, is approximately as small as Siida, and similarly, it has been necessary to "educate" or "re-educate" people to contribute to a consistent and authentic local atmosphere, and to recycle knowledge about fishing and ship building and maintenance. The Icehotel is now taking advantage of the local knowledge of space travel based at Esrange as they will be developing space tourism in the coming years.

Building New Educational Resources. In a wider sense, the Roskilde case has led to the creation of new training facilities in the fields of music. A "band academy" helps to nourish upcoming talents for the rock scene. It is of importance that the academy can rely on musicians connected to the festival as coaches for the younger. The vocational training centres in town have used the festival as a stepping stone to launch training in event management and in sound and light technology. Recently, Roskilde University offered an MA degree in Performance Design. For all these educational spin-offs there are continual

interactions and the festival is distinctly used as training grounds for students. There is no coincidence that the ski resort of Åre is close to a major ski gymnasium and the destination is also working closely with Mid-Sweden University to develop educational programmes and courses of relevance for the resort's development.

Learning and Scientific Research. The natural environment of the whale watching and sea trout experiences are indispensable as scenes for academic research projects. Increasingly there is a plea for the destinations to let tourists enter into learning experiences together with researchers. Tourists are asked contribute to the work by helping to localise and count the whales while on sightseeing tours. Learning opportunities at the Seatrout Funen destination are co-localised with the educational facilities at the aquaculture operation, which can be used for joint groups of tourists and students. It is clearly an enhancement of the angling experience as well as the training of environmental operators and specialists.

In Beitostølen, medical students are invited to come and assist in connection with competitions and other sports activities for the disabled. The Sports Health Centre has gained an international reputation for its research and development, and has become an attraction for medical professionals and semi-professionals in the medical field. The Opplev Oppdal case has applied psychological research in its product development.

Reverse Community Innovation

Reverse community innovation are developments and innovations that are channelled backwards to the benefit of residents.

Local Economic and Employment Impacts. Some of the locations of the case studies are small and located in peripheral areas. The launching of tourist facilities is clearly recognised as being of major importance for the creation of jobs and incomes for the population. This development will often follow radical industry restructuring, e.g. in fishing, forestry and farming, creating a need for new jobs. Entrepreneurship is a key factor but also mainly local in scope and scale, as we see e.g. in the Icelandic cases. However, Åre ski destination still depends on the import of seasonal labour, while Beitostølen has succeeded, with a targeted effort, in creating a full year product with a more stable employment pattern. It is also worth noting that Åre benefits from a population growth over time despite the fact that the destination is situated in a region with a population decline. There is no doubt that the tourism sector is the explanation, but also other complementarily sectors such as design, outdoor equipment and fashion. These make the local economy less vulnerable, since it does not merely depend on one sector to promote local economic growth and job opportunities. And yet there is a close bond between tourism and these other sectors, making Åre a more attractive place to live and work in.

It is also of importance, that the inflow of the tourists helps maintain a turnover in those retail shops that are vital to the local population. In Åre the number of shops has increased tremendously in the last years and there is no doubt that this development would not have taken place without an increasing number of tourists. There are for example several stores specialising in ski clothes and equipment, but also in mountain biking for the snow free season. Åre also has a famous chocolate factory – Åre chokladfabrik and a bakery – Åre bageri. And a number of strong brands are based in the destination such as Klättermusen, Hoop and Zytt. Year round tourism demand at Beitostølen has created a local service level for the benefit of the residents unknown in the average mountain community. An example of

these specific innovations is in the Icelandic whale watching case, where the offering of a cup of cocoa and a baked doughnut, made the local bakery into a viable business, having to double their staff over the summer season (strangely though the bakery went bankrupt recently, but surely not for reasons that can be traced to the booming whale watching industry in town). The year round tourism demand at Oppdal has for example developed an industry of service and handicraft entrepreneurs outside the primary tourism industry counting some 40 businesses (black smiths, wood carving, interior carpenters, art shops for glasswork and painting, and certainly a number of plumbers, electricians and similar technically oriented businesses).

Quality of Life Impacts. The cases also demonstrate other crucial impacts on the quality of life for the local population. Roskilde is an example. The profit from the festival is channelled into local cultural and leisure projects, among others a large open-air theatre, sports facilities in a nature district, a culture house and much more. The standards and innovativeness of the leisure facilities are considerably higher than what can be found in other towns in Denmark, thanks to the wealth of the source, but also thanks to the experience among the actors connected to the festival. The experience centre Siida is there for the locals too. It enhances their self-esteem and is an arena that brings pride to the population. In a similar way the town of Húsavík, with its growing whale watching industry has made the local population aware of their town and the fact that up to 40.000 people will come and visit it every summer. Houses are better kept and gardens trimmed, people want their town to look nice for the guests.

Åre is a very popular destination, and it is increasingly also becoming a place for permanent settlement. Segments of the population that have the means and opportunity to enjoy a "leisure life style" are attracted to Åre. Beitostølen and Opplev Oppland demonstrate how this increase in quality of life has brought an expansion of "urban culture" to these mountain resorts, with its upside and downside. Mutual benefits between the population and tourism may be accelerated in the future, where new demands from new permanent – and critical – inhabitants can influence the development of facilities for themselves and the tourists.

Heritage and environmental resources are fundamental to several of the places studied. Without keen management, there would be no sea trout to catch, and the whales would be an even rarer species if not for a moratorium and quota today. On the flip side, without a collaborative, creative effort, and without the vision of a local entrepreneur, the heritage of fishing would not have been preserved by remobilising the boats used for it and using them to day for whale watching. Similarly, the relicts of the Sami culture in the Siida may have been lost without a sentimental, but well remembered, history of war bombings.

Reverse Business Innovation – Innovation Furthering other Business Branches

We have been particularly interested in tourism innovation affecting the variety and quality of the Nordic tourism product. However, tourism developments may also affect the innovativeness beyond the sector itself. The cases deliver some prominent examples of this. Tourism can deliver advantageous spin-offs for other industries. While tourism is often seasonal and depends on skills in the lower range, other industries often employ better educated personnel on more stable or career favourable conditions.

Beitostølen encompasses a sports medical centre with a very high reputation and profile, and with a distinguished research contribution. The medical centre has been imperative for the

development of the ski-resort profile, but also *vice-versa*. The medical centre started out with a focus on skiing for the visually impaired and was manned with medical experts with great interest in skiing and mountain activities. The Beitostølen brand, with its strong elements of sports and outdoor life, has over the years returned values to the medical centre in terms of awareness, the Beitostølen leisure image and the spectacular surrounding nature is being communicated to the outer world.

In Denmark, the acoustics industry (for example in terms of hearing aids and noise measurement instruments) is a very successful high tech sector. The industry has been invited to join into the Roskilde Festival innovation system. Outcomes of collaborative projects have been launched in the form of new equipment for the festival business. This equipment has a much larger market potential than the local area itself.

Likewise the Icehotel's collaboration and co-branding with Absolut Vodka has been a stepping stone for introducing themed "ice bars" in several large cities in Europe and around the world. The Santa Claus business model includes the spread of the business idea to other places through franchising arrangements, licences and other collaborative measures.

Popular destinations with good media coverage serve as places for production introductions or product testing for various other firms. In Åre, outdoor equipment firms are using the constellation of resources to obtain a better foundation for their own designs, but at the same time lending the destination a fringe of their good reputation. The brand of Åre is also described to add value to the company image.

Analysis of Innovation in Services and Innovative Spin-Offs

Across the types of innovation the following patterns can be observed:

- It is possible to identify a number of innovations, both those with wide-ranging implications for actors involved, and others more incremental with stepwise improvement and development. We also state that the successes of the innovation systems analysed rest with the networks of actors in the innovation systems and the way these networks are maintained as analysed above.

- The oldest or the most mature innovation systems, for example Beitostølen, the Roskilde Festival, the Seatrout Funen and Åre Ski Resort seem to foster a more consistently broad scope of innovations, more so than younger systems. They include both innovations in the tourism product and innovations that go beyond and benefit and engage the local area and a wider business community. It is likely that the consolidation witnessed in these more mature systems is significant for both the scale and the scope of innovation. This conclusion discloses that "instant" innovation cannot be expected from networks or initiatives in their infancy.

- Those innovation systems that most distinctly overarch several sectors and industries tend to deliver more wide-ranging innovations than innovation systems with a narrower base. Non-profit core organisations and networks of smaller (family) enterprises seem to have a particular role as anchors for overarching innovation, but only if there is deep trust and a long history of relationship.

- The smallest innovation systems – for example the Icelandic rafting case, whale watching, the Siida and Opplev Oppdal, seem to have more difficult times keeping momentum in the innovation processes. The resource base is low, both in economic and knowledge terms. These places and their actors struggle more with the implementation of viable systems, possibly because the alliances are relatively tenuous.

- Åre, Beitostølen, the Icehotel and Santa Claus Village represent innovation systems with a pronounced commercial ingredient. These innovation systems are, more than others, concerned with managerial innovation, diversifications of the product and they are launching growth strategies that go beyond the local area.

Driving Forces and Impediments to Innovation

Introduction

A very important research topic in this project is the investigation of the driving forces and impediments behind innovative practices. As argued in the literature review, the driving forces are in many ways the element that maintains the momentum of relations constituting the innovation system. The emphasis is on the creation, expansion, maintenance and – in some cases – rejuvenation of the innovation systems. In this section, a cross analysis of the ten case studies will be delivered for this purpose.

At the end of this chapter we will also address the way in which impediments, hindrances and hurdles affect the innovation process, not only in a detrimental sense.

Entrepreneurial Spirit

As often pointed out in the cluster and innovation system literature, a basic entrepreneurial spirit is a major driving force (Maskell and Malmberg 1999). For entrepreneurs it is of importance to see things grow and develop, and they are keen to launch new projects and activities when old ones are put out of operation. In spite of this common intention, the entrepreneurial spirit does not uniformly apply to all the cases.

Single Entrepreneurship. The Icehotel, Opplev Oppdal, Beitostølen, Whale watching and white water rafting are all stories about a *single entrepreneur* with impressive energy and clear vision. Characteristic of these entrepreneurs is their ability to tap alternative sources to develop their resource base and turn the disadvantages of a remote area into an attraction. Through a societal vision and general altruism, these entrepreneurs are drawing others – employees, family, locals and business partners – into the system gradually resulting in expansions in scale and scope. They are not lone riders, but inspirational and first movers in teams of actors.

Social Entrepreneurship. Other cases suggest a wider model for entrepreneurship, a more *collective and cooperative entrepreneurial* spirit. It is interesting to see that the descendants of the hippie culture in connection with the Roskilde Festival are also able to foster a genuine project drive fully comparable to the more commercially based entities. The Roskilde projects often have a wider objective and are more inclusive in their organisational forms than in the cases where single entrepreneurs are the main driving forces.

Public Entrepreneurship. The *public sector* is usually not considered an entrepreneurial force. However, this assumption cannot be confirmed by the case studies. The Seatrout Funen innovation system is a creation of the minds of very entrepreneurial civil servants, and the Siida project had hardly been such an innovative concept without the continual project development of the heritage custodians. Also, in the case of Santa Claus, the public authorities were first movers, driven by a need for regional development in the area.

Corporate Entrepreneurship. The *corporations* operating as key components in some of the cases analysed have traditional development departments and innovation service centres central to their operations. These use classic business methods of innovating such as corporate sponsored study tours, customer feedback analysis teams, think tanks and other systematic creative processes.

Second Comers

Innovation systems are dynamic. Initial entrepreneurs may lose energy and direction, and others then have to take over ideas and resources or come in and gear up the process. There are several examples of changes of momentum in the ten case studies.

Filling Gaps in the Value Chain. A tourism product is composed of a number of elements, not necessarily delivered by one enterprise alone. In the Nordic peripheries gaps in the product value chain are most often in terms of accessibility. Transportation to the Santa Village and the development of the transportation system in and around Rovaniemi and Kittilä are good examples of this. Santa Claus as a global phenomenon attracts people from all over the world. Rovaniemi airport has been rebuilt to match the heavy traffic during November, December and January. Finnair has for years increased their number of flights during this peak season. In the Seatrout Funen case, boat renting has increased and linked up to the marketing of the angling experience. In terms of the Icehotel, Kiruna airport is of key importance in bringing in customers. Making a destination available and attractive is thus often matter of simple infrastructural amendments. Going to extremes the tourist industry in Iceland has until 2008, been a small office under the Ministry of Transport, but will, as of 2008, be part of the Ministry of Industry.

Shifting the Commercial Momentum. The Åre Ski resort is the main example of a shift of momentum by Skistar, a major actor in the ski resort business. In Åre with the introduction of this large player the focus and driving forces of relations were shifted into higher gear in terms of professionalism and commercialisation.

The Santa Claus enterprise experienced an early commercial momentum shift. Also here, actors from outside helped to bring such a shift along. The history of the Santa Village could have been different, if British Airways had not brought in the first charter tourists in 1984 using the supersonic Concorde. Concorde is not flying anymore, but the importance of international tourism actors for the development of the Santa Village is noteworthy.

Shifting the Scope. Until 2001 the Roskilde Festival was repeated annually almost in the same format although it grew massively in scale and reputation. Creation of the state supported growth environment "Musicon Valley" in 2001 led to denser and wider ranging organisational structures with the aim of nurturing business spin-offs more consistently. The educational and research sectors became more closely engaged and initiatives were launched for a series of training opportunities that address the needs of the experience economy. New forces surprisingly brought in ideas to the original actors, and they chose to accept these and launched into novel and very fruitful collaborations. The scope developed from festival to community development.

A shift in scope took place more gradually in Beitostølen. The medical centre was there nearly from the beginning, but it gained in importance to become a more integrated element in the whole concept. Slowly it became a "four season" resort. Taking into account the recent prospects for global warming with less snow fall this shift is important. Along with this shift, newcomers are, to some extent, invited, e.g. providers of sophisticated health tourism products, theme park elements and experience producers of various kinds (like in the case of Opplev Oppdal).

The Icehotel is, as already mentioned, planning to move into "Space tourism" as a new, but not unjustified development. Their location near the Esrange, the launching site of the Swedish Space Corporation, and the involvement of local as well as global players in the aviation business is of key importance for such a step. Saab is also a new collaborative partner where some drivers of Saab cars are invited to the Icehotel to test the cars on ice. This is, however, part of a greater experience at Icehotel.

Opening the Media Umbrella. Some of the innovation systems have invited new actors of particular relevance for the tourism sector – the media. The Siida example shows how small scale tourism, small ethnic groups and the media can work in symbiosis. The peak season at the Santa Village is about six weeks in November, December and January. 180.000 visitors representing 185 nationalities is a result of a well planned media strategy. The story about Santa Claus must be protected and kept alive. Integrated marketing communication is practised and the web site of Santa Village does today include online video and streamed materials produced by Santatelevision.com. Also the web site of Siida is a knowledge centre, where you can find links to the Nordic Sami radio, Sami television news, educational materials, information about nature and more.

Roskilde Festival always receives considerable media attention, and the festival attempts to make the best of it. The festival and the area are moving into a new era of media collaboration, relying on more direct communication with visitors on-line. The opening of communications attracts upcoming experimental IT and media enterprises. The media has also been of extreme importance for the Icehotel's skilful marketing, but there has been no inclusion of the media in the core concept as has been the case in the Siida and partly the Santa Claus cases. Media has clearly been part of Icehotel's marketing strategy and they have worked consciously to get the attention they have received.

In another vein the media can also be seen as a resource when it comes to marketing through their coverage of related matters. Beitostølen has been competing fiercely to attract the organisers of the World Cup in disciplines like cross-country skiing and the biathlon. More than 20 TV channels in Europe are represented at Beitostølen during these events. In addition the media give a broad cover of training camps for elite sports organised at Beitostølen. Thus sports related events have become the most important promotional channel for Beitostølen. All professional media production related to these events has created an important source for innovative ideas for the Beitostølen owners and management on the positioning of the destination in the market place.

Furthermore, the two Icelandic examples serve well, as in both cases media coverage of projected hydro-power development of the rivers for rafting and coverage of the lifting of the whaling moratorium, both helped bring attention to other potential business opportunities already in operation, i.e. tourism.

Profit Motives

Profit is a factor in all tourist innovation systems – there are people who need and want an income. However, the profit motives and the profit as a driving force come in different forms, often coexisting side by side in the same innovation system.

Classical Profit Motives. In the Icehotel, the search for a profit was, at first, a matter of mere survival for the project and the idea. Later, profit became essential for the expansion of the

place, and most recently, an international expansion is taking place. The business is expected to continue to grow in the future with some more Ice bars planned in international cities and the further development of the Icehotel in Jukkasjärvi itself, not least in terms of its new space tourism focus. This is likely to expand the business even further in the coming years.

The destination of Åre is also driven to quite some extent by classical profit motives, especially after Skistar and other major actors such as Holiday Club moved in. Skistar is after all listed on the stock-market and needs to look after its share holders. The skills brought in were partly based on what worked profitably in other destinations run by Skistar.

The Opplev Oppdal case originated from the need of the entrepreneur for additional earnings to his income from traditional farming although the profits for a long time had to be seen as a trade-off to values contained in a meaningful life style.

At Beitostølen the profit motives are keys to survival. All innovative action and products have s to be evaluated in the light of independent profitability or complement existing products and thus increase the overall profitability. Profit motivated innovation may also be identified to include internalising or out-sourcing of activities at the destination.

Altruistic Reinvestment. Preservation of old fishing boats is a main motive in the whale watching case, bringing about the first impetus of the business concept and innovation system. Funds created from the tourism activities are – after deducting living costs – rechannelled into the project in the local area. This also accounts for the Roskilde festival, but in another way. The surplus from the festival goes into the Roskilde Foundation. Every year the surplus is distributed to projects in the leisure, culture and humanitarian fields, and no further accumulation is undertaken. This profit distribution is very fast, and it is an incentive for rapid new investments of importance to the Festival.

Civil Society and Voluntary Action as Driving Forces

A very important driving force for several of the case areas is the commitment and the practical work delivered by the local population. Roskilde Festival serves as a prime example. Originally the festival was built upon an extended network of voluntary (sports, cultural, leisure and humanitarian) organisations. Both financial resources and knowledge flow were in these "civilian" channels. There is reciprocity of the services: the volunteers deliver work without direct pay, but are allowed to enjoy the event through participation. Their associations receive the salary to be used for building up their voluntary organisation.

Likewise, but on a more limited scale, Beitostølen mobilises up to one third of the population in the municipality as volunteers in some of the big events (World Cup Cross Country and more), which is imperative for the success of Beitostølen. The involvement is organised by local sports clubs. During the construction and formalisation phase, the experience centre Siida was heavily dependent on voluntary measures. The latent interest to preserve the Sami culture and the unique natural resources found in the region was transformed into a palpable common social commitment.

Under the rubrics of voluntary action, we may also include the closely knit family ties in the two Icelandic enterprises. A pool of resources and competencies is found in the extended family networks. Through the commercial success of the enterprises the family links are

solidified into formal relations with wider societal implications, such as strengthening a local altruistic ethos and facilitating wider community involvement.

The Public Sector as a Driving Force

Regulation: The Seatrout Funen innovation system was initiated in the county council environmental policies, and the tourism element was later linked up to the policy measures. Without a strong involvement and public resources, the Seatrout Funen project would hardly have been possible. The challenge for regulation is to link up the voluntary actors – the anglers – and their associations to other organisations, in order to ensure a sustainable continuation within the ongoing regulatory framework.

Although some regulations serve as an impetus for new developments, others may be controversial in relation to tourism needs, as can be seen in the Opplev Oppdal Company, Whale watching and white water rafting. In the Icehotel, licensing procedures, that follow normal building standards, have been found to hamper the development of the concept. Closed archive policy delayed the establishment of Siida and the readymade national strategies and plans for nature reserves did not automatically fit the cooperation system of Siida.

For the whitewater rafting and for the Roskilde Festival, safety is a main issue. The existence of severe public regulations might in the first place be considered a disadvantage. However, as these two places have recognised, the regulations can, when accepted and integrated properly, be turned to a competitive advantage.

Infrastructure Building: In most of the cases, the local authorities have been active in the provision of relevant infrastructures for the development of tourism. In some instances, the infrastructure policies have contributed more consistently to the continual innovativeness, and in that sense, the infrastructure is not only "paving the way" for the tourist industry. For example Roskilde municipality is active in the development of a derelict industrial area, and with great foresight in adapting building regulations to make room for the inclusion of a Musical Folk High School, a Rock Museum and the Heartbreak Hotel in this place. Likewise, in the Beitostølen case, the Health Sports Centre could be considered a key infrastructure as well as the upgrading of the public road through Beitostølen to the level of a National Tourist Road.

Management Involvement. In the mountain destination of Åre we can see how close public/private cooperation has proven to be very fruitful. The joint efforts are characterised by the willingness of public actors to transfer the responsibility of certain decisions concerning the industry to the local business association so that the decisions can be made closer to those affected by them. The decision to take this step is due to an early acknowledgment of tourism as the most important industry in the region and the division of labour to those best suited to handle it. Two strong interests are mixed in Siida, culture (the Sami Museum) and nature (the Northern Lapland Nature Centre) gather in this multidimensional co-operation endeavour. The team of joint management is a source for creative thinking and making new service ideas operational.

Investments: In the Nordic countries direct ownership of public authorities in tourism facilities can be seen as a hindrance. But in the case studies, there are many examples of

blurred investment principles, where inhabitants as well as tourists co-utilise facilities, which have been provided with substantial public investment. The Siida facilities were a part of a heritage and conservation agenda, thus legitimised as public spending. Seatrout Funen was promoted as an environmental initiative with wider implications. Thus, public spending and investments may – legally and openly - be redirected to tourism under the headline of something else.

Customer Driven Innovation

The role of the customer is not often discussed in the innovation systems literature, except in the cases where customers are sub-suppliers closely linked to the network (von Hippel 2005). Tourists are usually casual consumers who are not investing much dedication in the destination. Tourist enterprises tap their knowledge only at irregular intervals and in an inconsistent manner. There are some interesting exceptions in the cases studied.

Satisfying the Experience-Hungry: Opplev Oppdal offers many types of attractions that are special and sometimes tailor-made: Mountain safaris, a ski-academy, wilderness camping and more. The proprietors of the Opplev Oppdal get in very close and personal contact with the users, and they are able to interview them directly about their particular needs and wishes. It has resulted in a number of new features. The teambuilding segment is particularly interesting, as there is a close contact with the organisers in firms, including also highly qualified specialists. This is a way of feeding new knowledge into the innovation system in Oppdal.

Acknowledging the importance of customer driven innovation, Beitostølen has introduced scientifically based experiments involving customers in the creation and testing of new experience products with the aim of supporting a year round operation at the destination.

In the first place, the Ice hotel idea was created as a result of a feedback from guests, who more or less by coincidence spent a night in an igloo. Their experience turned the chilly image from a disadvantage to an advantage in the minds of creative local entrepreneurs.

Feedback from Voluntary "Prosumers". Involving the voluntary staff in the development processes is of major importance as a driving force in several cases. In Roskilde, the volunteer music enthusiasts bring back information about new bands and new styles from their festival experiences worldwide. This is of major importance for a continual renewal of the festival programme.

Customer Evaluations. The professional companies in operation in case of the Icehotel and the Åre ski resort are systematically undertaking consumer analysis and customer surveys to improve the destinations in accordance with customer needs and wants. Also in the case of the Icelandic whale watching, customer surveys are undertaken. These classical measures have value, but there is more to be gained.

Scientific Driving Forces

The links to the scientific community, e.g. to the further education and high level advisory institutions, are very rarely found in tourism innovation systems. In this respect, tourism differs from other innovation systems, e.g. manufacturing, biotech, aviation and other high tech industries, where scientific progress is more directly a driving force for the economic

development and network creation in industrial clusters (Fischer and Frölich 2001). However, there are smaller incidences which deserve attention, and which suggest that science links may move closer into the tourism business and that the innovation systems have a decisive role as mediators for this.

Emerging IT. Technology is already a part of the activities and developments at the Icehotel. However, this can be further developed and a future challenge for the Icehotel is to move IT equipment into the cold and tough environment. Also the Seatrout Funen destination has encouraged a branch of university IT-research and further spin-offs are seen at later stages. The innovation systems prove to be a favourable test bench for new IT-ideas. Roskilde Festival is directly inviting innovators, and the management takes a keen interest in assessing the results with the innovators afterwards.

Environmental Science. The Sea trout aquaculture operation has a gene pool, and there are some facilities to undertake various research projects in collaboration with other experts and research institutions. Until now, the cross-benefits with tourism have been limited, but could be expanded. In terms of whale watching, the marketing of the company's contribution to understanding whales and their behaviour is vital to underpin notions of professionalism and also to involve environmentally conscious customers. In order for this to work properly, ties have been established with scientific bodies at the University of Akureyri, WWF and the Whale and Dolphin Conservation Society. The business feeds information to researchers there.

Arts and Humanistic Science. The main benefits from linking up to the arts and humanistic sciences seem to be in terms of adding new experiences and surprises to the product, and to enhance the quality and the authenticity of the products. The Icehotel's involvement with the music and design communities has been very beneficial in this sense, and there are clear inter-relations with completely new specialties in the field of architecture.

An exemplary innovation took place at Beitostølen when the owner employed a priest as staff member (probably the only priest employed by the industry). The priest has successfully developed the product "The Golden Hour" staged in a purpose-built chapel.

Impediments

The innovation systems in this study have been selected among mainly successful ones, and they have developed over many years, even decades. However, in the cases analysed not all is rosy and bright. Challenges and threats are present and there may be doubts whether the innovation system continues to resist.

Mono- or Oligopoly Forces. Loosening local multi-facet links may be a risk for innovation systems where strong and very commercial and international actors are taking over. This is due to the risk of unbalancing power relations where the local actors may lose influence over development and power is transferred to external operators outside the destination. However, at the same time external strong actors may bring in a lot of innovations and resources, both in terms of financial means but also new knowledge and new thinking.

Lack of Investments and Risk Aversion. Any tourist destination and tourist product must develop continuously, and this requires investments. Some of the cases studied are small, and there is a need for proprietors to combine their activities with other jobs and trades to make a

living. Combating the impacts of seasonality and the backlashes of small scale operation is a major challenge, particularly in remote areas, for example in the Icelandic white water rafting case.

The Icehotel and the Opplev Oppdal report periods in their history, where investors did not believe in the project and where accessibility to funds was extremely hampered. Very radical and different concepts often have to prove their value before investments are supplied from the outside.

In the case of the Icelandic whale watching operation funding was not forthcoming from any of the traditional public innovation funds and public authorities only supported by giving advice. All investment was initially made through bank loans, but even the bank withdrew when the company in their opinion developed too rapidly.

The "leisure life style" documented above, in the cases of the ski resorts functions as a driving force attracting people. But the leisure lifestyle can also be an impediment as those operating small scale businesses and have moved to the resorts to live that lifestyle do not want to expand and risk eroding the perceived quality of life.

Underutilising the Commercial Spin-Offs. The voluntary and public sector dominating Roskilde Festival operates very smoothly, but the potential, in terms of business spin-offs, is not utilised fully. The composition of competences is not favouring the commercial ingredients, and links with enterprises develop fairly slowly.

Rapid Change in External Conditions. The climate challenge in ski sport areas has given impetus to consideration about the future of winter tourism in mountainous terrain. Nordic mountains will be challenged in climatic respect but the immediate threats are probably less than with competitors in Alpine Europe and USA. In the context of innovation climatic change should be considered a powerful driver of innovative activity. The image of a white Christmas may also have to be redrawn in the future due to the climate change. These external conditions can also impact whale watching as whales might migrate to more favourable waters, leaving whale watching operations whale-less.

Competition in Use of Resources. Tourism is not the only industry in some areas, and sometimes land use and resource interests clash. The White water rafting is up against forces that want to develop the hydro power potential of the rivers in which they raft. It is very hard, if not impossible to envisage joint projects or synergies between those categories of usage. The Seatrout Funen angling is up against powerful agricultural landowners, who have a long tradition for governance over the waterway embankments. Only very slowly, the possibilities for co-existence are being explored and expanded. In the case of whale watching, as mentioned earlier, with the lifting of the moratorium on whaling, many of the more environmentally conscious consumers cancelled trips.

Cultural Clashes. Most of the innovation systems allow a great deal of latitude to their actors in a cultural and humanistic sense. There is room for people with crazy ideas, and divergent attitudes. However, in some cases the collaboration between business people and local authorities is described as difficult. The culture of public administration is by business people regarded as inflexible and rigid. However, other cases, for example the Seatrout Funen project demonstrates that flexibility is on the side of the public sector, while the small tourism proprietors tend to lack a sense of purpose.

Innovation Policy Structures in the Nordic Countries and the Interrelationship with the Innovation Systems

Introduction

In this chapter we will analyse the case studies in a policy context. The aim is, first, to create an understanding of what policy categories are particularly important for the emerging tourism innovation systems. Secondly, the aim is to contextualise the cases in the general innovation policies and the national tourism policies and try to establish to what extent tourism draws on them.

The assumption is that Nordic national innovation systems in many ways cross and underpin tourism sectoral innovation systems. The two systems are linked and interact in a myriad of ways and therefore it is of value to understand the general themes of the structural frame of Nordic innovation policy and actions. A detailed outline of Nordic innovation systems, in general, can be found in Gergils (2005).

Policies of Importance for the Tourism Innovation Systems

The analysis demonstrates that the innovation systems depend – for better or worse – on a variety of public policies and their successes and achievements are intrinsically related to them. Most of the policies that are important for tourism innovations systems are not normally defined as "innovation policies", or "tourism policies".

Environmental Policies. Whaling and angling are most directly connected to the availability of professional and visionary environmental policies. It is likely that, without policies for the protection and enhancement of species and their living conditions, there would be no tourism opportunities at all. The Seatrout Funen concept is directly connected to the regional waterway policies, but without a tourism ingredient, incomes and local commitment would not be achieved and *vice-versa*, tourism would not be accepted without boosting the fish supply. In both cases, the tourism providers integrate the environmental element directly into the product portfolio, and appeals are made to tourism to contribute by a sustainable behaviour or by delivering voluntary support, for example helping to count whales.

The environmental ingredient is less distinctly connected to the progressive product development in other cases, but there are examples. In the early 1990s, after the Brundtland report, the Roskilde Festival decided to address the environment and set out to become the most environmentally well-managed festival. A number of initiatives were launched to handle waste and waste water to ensure more recycling. Over the years, the measures have become mainstream operational affairs.

There are controversies in terms of environmental policies and difficulties in creating synergies. For example in white water rafting, access to rivers can be restricted by hydropower plants. In this case, it is difficult, if not impossible to find common grounds between sustainable energy provision and sustainable tourism and a controversy ensues, e.g. of environmental concerns that in many respects is a matter of scale as those promoting hydropower claim to be saving the world, but those apposed claim to protect the local environment. The whale watching case can be cast in this light as well. Those arguing for the unilateral lifting of the whaling moratorium were doing so for sustainable management of fisheries. They claimed the whales were eating all the fish in the sea. Whilst those opposed to

the lifting of the moratorium claimed to protect the whales. Icehotel is another example of an innovation that has received a lot of attention both in the media and also in various national and regional institutions as they use a sustainable resource for building, the snow and ice.

Cultural Policies. Attractive destinations often provide links to a valuable heritage, which is keenly supervised, maintained and developed as part of national and regional cultural policies. The Siida case demonstrates that a well-founded development of nostalgia tourism depends on access to historical archives, especially when ethnic minority matters are also part of the innovativeness. The balance between conservation and development has to be honoured, and the national cultural policies in tandem with environmental policies have a direct bearing on the local tourism development. The impact of the Finnish national strategy for sustainable development adopted in June 2006 by the Finnish National Commission on Sustainable development on Finnish tourism strategies can be identified. The "Finnish model" depicts a multi-ministry approach in combination with high-level political leadership.

The musical environment, the relationships with the Danish national and local cultural policies are crucial for the Roskilde Festival and, in particular, its spin-offs of more permanent cultural manifestations. Most recently, the Rock Museum has applied for recognition and support under the general museum legislation.

The recognition of the value of old fishing vessels is becoming ever more prominent in Iceland, especially through the efforts of those behind the whale watching operation in Húsavík. Old fishing boats were being destroyed in an effort to modernise the fishing fleet. Slowly the tide is turning and these boats are gaining protected status and thus policies that functioned as impediments to innovation are becoming supportive to innovation.

Leisure Policies. In Denmark, leisure policies provide very important institutional frameworks for a myriad of initiatives at the local level. Sports and other associations can apply for economic support. In addition, and of major importance for the Roskilde Festival, they can acquire tax free incomes for their activities and facilities. The substantial voluntary ingredient in the Festival would hardly have been possible without a cash flow within the systems that benefited the festival as well as a variety of related associations. Feeding festival money into the voluntary association's speeds up the development of spin-off innovations, which were not likely, if members had to pay them out of their own pockets.

Outdoor recreation in Finland is supported by the Ministry of Environment and the state enterprise Metsähallitus that administers almost one third of Finland's area, including natural resources. These actors plan and manage national parks, protected areas, wilderness areas, and visitor centres in a way that benefits Finnish society to the greatest extent possible. Services that are free of charge (include access to hiking trails, wilderness huts, campfire sites and the services offered at the Nature Centres) are of utmost importance for the development of nature-based tourism in Finland. Fishing, hiking and hunting are examples of outdoor activities which the leisure policies of Metsähallitus embrace. The synergy effects of the policies of Metsähallitus and the National Board of Antiquities are also of importance for the development of the Sami culture. In the destination of Åre national leisure policies played a significant role during the early 1970s when a lot of national support in the form of major investments were given to the destination to ensure that 'ordinary' people could afford to go on holiday, preferably in their own country.

Health Policies. Beitostølen has gained a reputation as the place in Northern Europe for the visually impaired to go skiing and others with physical handicaps who nevertheless want to enjoy the pleasures and health-building capacity of winter sport and mountains in all seasons. The availability and the quality of an advanced medical centre locally is crucial, the innovation in this field is closely interrelated with a national good will to support the entrepreneur behind the Centre and the vision of the project.

Agricultural and Forestry Policies. Agriculture and forestry are main land managers and accordingly, these holdings are responsible for the development of the landscapes that tourists experience. Generally the innovative cross-sector coordination tends to be weak throughout the Nordic countries. The protection and conservation ambitions of the policies of the Ministry of Environment and the Ministry of Agriculture and Forestry are in direct support of the development of the exhibition centre Siida.

In Seatrout Funen the agricultural policies represent potential innovation and development. EU provides various measures for farmers' diversification into other activities, e.g. into supplying facilities to accommodate angling. It has been exploited to a limited extent.

In the Icelandic white water rafting case, the association of farmers backed by the government and public policy is actively encouraging diversification and financial support and loans are easy to obtain. In addition with agricultural restructuring and introduction of production quotas, many farmers have been able to sell their stock at a premium and build tourism facilities with ease, but this is a delicate matter and most will not admit to this being the case.

In the Opplev Oppdal case the target of entrepreneur was to change the economic drivers of his business from a farmers market to a visitors market through major innovations. In this transformation process the alleged government support was not in all aspects clearly supportive.

Transportation Policies. Usually transportation policy is mainly regarded as a question of providing standard road infrastructure, airports, harbours etc. of importance for the access of tourists. The facilitating role of infrastructure amendments is evident in the case of the Santa Claus Village, the Siida, and the Icehotel studies.

The analysis above shows that:

- The tourism innovation systems draw on a variety of policies to inspire, support and enhance the products and services. Often the policies are not regarded as close to tourism in any sense, and yet, they can be vitally important.

- The cases show relations with environmental, cultural, leisure, health, agricultural/forestry, and transportation policies. Other cases, not included in this study, may demonstrate interrelations with other policies such as for example food, IT and telecommunication, employment, energy, social affairs, education, or even policies related to religion, immigration, defence and foreign policy. Such instances still remain to be investigated.

- Policy interrelationships are not necessarily straightforward, and there are examples of severe negations of rights and policy. However, even in successful tourism innovation

systems the potential of policy coordination along these lines seems far from fully exploited.

Specific Innovation Policies for Tourism

In this section a brief overview of official tourism policies in the Nordic countries will be provided. The aim is firstly to identify the key policy organisations for tourism development, and to describe their main roles and present policies. Secondly the aim is to discuss and contrast the traditional tourism policies with the broader policy perspective which was introduced in the previous section.

Finland. The Finnish NIS has since its institutionalisation in the 1980s been technology and industry oriented. Nevertheless, the service component has from the mid 1990s gradually entered into the Finnish NIS through different programmes. The establishment of the nationally networked Centre of Expertise for Tourism (CET) in 2003 is a landmark in this development. The Finnish Science Park Association TEKEL (the implementation body for Centre of Expertise Programmes), has now a programme with four areas of expertise: Wellbeing Tourism, Meetings Industry, Cultural Tourism, and Leisure Tourism and Flexible lifestyle. Responsible for the coordination of the networked CET is the Savonlinna Innovation Centre Ltd. The aim of CET is to help companies to organise services into customer-oriented service concepts to provide the kind of added value customers are expecting.

The Finnish University Network for Tourism Studies (FUNTS) is an organisation that can be highlighted as a major player in the Finnish NIS for the tourism sector, alongside all single and separate research projects carried out by university researchers. FUNTS, which was initiated in 1995, is a cooperation network consisting of 17 Finnish universities. Tourism relating to education and teaching is not a separate discipline in most Finnish universities but presented rather as a subordinate subject to more established academic studies. The strength of FUNTS is therefore to absorb tourism related knowledge produced in Finland (and internationally) and disseminate it to Finnish society.

The Finnish tourism strategy document presented by the Ministry of Trade and Industry in 2006 (from January 1st 2008, Ministry of Employment and Economy) includes five goals. The importance of national innovation policies for the tourism industry is recognized and the innovative dimension is placed on the same level as branding, sustainable development, security, customer satisfaction, and identity as an important dimension for the competitiveness of the Finnish tourism industry.

Sweden. From a tourism industry perspective, the Swedish national innovation system seems to pose some disadvantages. First of all, both SMEs (which most tourism businesses belong to) and the service sector have traditionally been neglected in comparison to larger manufacturing corporations and industry sectors. Secondly, the tourism industry is often described as having a low level of qualified human resources. Finally, the fact that traditionally there have been very slight incentives for research institutions to study industry-driven topics is yet another problem. It is not likely to increase the number of tourism enterprises that consider research-based knowledge as important for their innovative capacities. All these factors could benefit from supportive structures or incentives created by the public.

National authorities also indicate that the tourism industry is too fragmented and needs unification in order to influence national policy to a larger extent. Today there are numerous interest and umbrella organisations but a clear coordination pattern for them seems to be lacking.

However, the tourism industry and in particular the experience economy as a whole, have received greater attention in recent years. VINNOVA, (Swedish Governmental Agency for Innovation Systems), which is a state authority that aims to promote growth and prosperity throughout Sweden with particular responsibility for innovations linked to research and development, has also in recent years acknowledged tourism as a part of the experience based sectors.

Tourism based regions have been among the winners in VINNOVA's program Vinnväxt - Regional Growth through Dynamic Innovation Systems. It is a programme that takes the form of a competition for regions promoting sustainable growth by developing internationally competitive research and innovation environments in specific growth areas. The winning regions receive funding of up to SEK 10 million per year for a period of 10 years. The objective is to enable the winners to become internationally competitive in their respective fields within this period. Active participation by players from the private, public and research sectors as well as from the political sphere is required (based on the triple helix idea).

The Swedish Tourism Authority (which today no longer exists) also launched a specific program to promote innovations in tourism in 2002, covering a three-years-period. It was called the Innovation Program, designed to create and promote growth in the Swedish tourism and travel industry. The state contributed SEK 40.5 million to increase innovations in the tourism industry and to increase tourism-based research.

Today, Nutek - the Swedish Agency for Economic and Regional Growth, has taken over the responsibilities of the Swedish Tourism Authority.

Norway. The focus on innovation has grown over the last few years in Norway. The Norwegian Research Council, Innovasjon Norge, together with industry organisations like NHO Reiseliv, the Trade Unions (LO) and others have put pressure on various government ministries related to tourism to launch financing and innovation projects. For example Innovasjon Norge and SIVA together with The Norwegian Research Council started the ARENA programme, which had a successful project entitled "Innovative Mountain Tourism", designed to develop and create awareness of innovative activities to strengthen off-season profitability. This programme is well received within businesses and local governments. However, it is too early to measure outcomes e.g. in terms of increased profitability in businesses.

In the new government strategy for tourism development (published 18th December 2007) the government emphasises that innovation projects should preferably be network based. Emphasis should be placed on industrial clusters with internationally oriented enterprises. The government wants to develop a certain number of regionally located Norwegian Centres of Expertise within tourism. Innovation is at top of the government tourism policy agenda.

Denmark. Tourism (similar to many service industries is dominated by small enterprises) has a limited voice in the traditional innovation policies, for example R&D support and patenting (Dansk Center for Forskningsanalyse, 2005). Denmark has an official tourism policy, whose

last version was launched early in 2006. One of three main objectives is to enhance innovation in the sector through strategic development projects. Particularly, a need is identified to boost tourism in coastal areas after a period of decline.

The national support for tourism is mainly channelled through Visit Denmark, which is in charge of the marketing and development of tourism products. In 2006, supplementary funds were provided for innovative activities in tourism. The related strategy mentions a number of initiatives which could be supported, for example in the field of wellness, active tourism, MICE tourism, attraction of sports and cultural events and the production of a digital film about Denmark (Økonomi- og Erhvervsministeriet, 2006). Thus, branding is a main purpose.

In 2006 the government also launched a research programme to address new issues in the fields of cultural economy, experiences and creativity. Research teams were expected to accept professionals from businesses, the public sector or other organisations in order to ensure practical implementation. The projects that were rewarded with funds include e.g. activities in electronic games and the organisation of creative industries.

The experience sector is a thematic priority in a new "user driven innovation" programme, and increased activity is expected in the years to come, to be promoted by the programme. In 2008 the Ministry of Economics and Business will further support development in the experience business, more specifically by the establishment of four "experience zones" consisting of enterprises, institutions etc. In addition, a centre for cultural and experience economy will be created whose task will be to ensure knowledge transfer in the sector. Accordingly, there are small signs of movement towards a new type of innovation policies for tourism, but mainly implemented on the margin of the sector.

Iceland. In Iceland a general tourism policy document was first published in 2005 with a revised edition pending. In it the public sector states that it will be actively involved in innovation and product development in the field of tourism. The emphasis is on tackling issues of seasonality, assessing innovation value in terms of growth in the sector and on developing standards and quality assurance in the industry. The focus areas are defined as being: marketing and promotion, cultural tourism, diversifying activities and boosting innovative practices.

Within the policy framework, 12 tasks were defined in the first phase of operations, starting 2006. One of these tasks was to implement the policy on innovation in tourism with respect to researching the impact of innovation on industrial growth. Hitherto nothing has been done apart from research undertaken by the Icelandic Tourism Research Centre, comprising the two cases Iceland contributed to this very research project.

The government channels funds into a foundation for innovation and development in tourism. This fund is rather small but is meant partly to fund research in tourism, but tourism research in Iceland is a rather recent phenomenon.

In terms of research and higher education The Icelandic Tourism Research Centre is a joint initiative by the three Universities in Iceland teaching tourism studies, in many ways not unlike the Finnish FUNTS mentioned above. The ITRC on the other hand has also clear links to the industry and thus has a much easier task of disseminating research findings to it.

Within the framework of regional growth agreements, tourism is defined as a focus area. There the attempt is to build regional platforms for co-operation in tourism, focusing on involving local education institutions, the public authorities and private entrepreneurs. In this context, the role of the Trade Council of Iceland is significant because it has offered courses for tourism entrepreneurs around the country with emphasis on co-operation and joint ventures.

The analysis of the five national tourism policies makes it clear that:

- Tourism innovation policies are, if not entirely absent, very weakly formulated. Tourism policies are mainly concerned with the marketing and branding tasks, less with development.

- Progress towards more focus on innovation seems to come not via traditional tourism policies and tourism development programmes. There is in all Nordic countries considerable inertia and tourism organisations stick mostly to traditional portfolio building tasks in terms of branding, marketing and promotion.

- Transformation and policy renewal in terms of supporting measures for tourism innovation systems, are provided from the sidelines, for example via programmes with rhetorically well orchestrated visions for the "experience economy" and "creative industries".

- Well developed higher education networks do not seem to penetrate the industry in order to play a promotional role in its development as could very well be the case with a concerted policy effort.

Revisiting Policy Measures

Public Policies and Successful Tourism Innovation Systems?

Traditional tourism policies (such as marketing and branding of tourism highlights through regional or national marketing organisations) have in most cases been insignificant or very peripheral for the development of the destinations studied. However, there are other public policies that have been and will be crucial for successes of these tourism innovation systems, without being specifically directed at tourism. The successful tourism destinations studied, which have developed into innovation systems, as detailed above, have (incidentally or with purpose) exploited some of these policies:

Boosting the Knowledge Base. The destinations have invited educational institutions and worked with them to adapt and develop training opportunities and competences that match the requirements and needs in the sector. University research sometimes also turns out to go hand in hand with the needs of the innovation systems. The innovation systems serve as users of an expanded knowledge base, but also as sounding boards for ideas and first locations for people who might later start enterprises or embark on ambitious careers. Breaking barriers and creating personal linkages is an essential prerequisite for boosting the knowledge base, but institutional frameworks can also be of importance. The case studies demonstrate that as second comers, the destination enterprises often have boosted an existing knowledge base and furthered it even to the extent that they get the attention of knowledge institutions who then seek co-operation. The boost can thus work both ways.

Shifting Momentum from Delivery to Development. Cluster policies, venture capital funds and other growth policies have been beneficial for some tourism innovation systems in the sense that they have become a source of business spin-offs and new products. Beitostølen led to a distinct development in the fields of health, with impacts both on the attractiveness of the destination and also generally on public health. Likewise, technical developments supported by a technical cluster initiative and public R&D in developing lights and acoustics, have secured Roskilde Festival's role as developer of new techniques to enhance the joy of the festival visitors as well as for the IT industry.

Transforming Environmental, Social and other Concerns into Tourism Products. Many examples demonstrate that the destinations would not have been as advanced as they are today, if it were not for the stern requirements imposed by the public authorities. Law on the environment and safety can be a platform for quality improvements in general competitiveness, e.g. in the Siida, Roskilde and whale watching as well as rafting operations. Inclusion of social, environmental and educational obligations may be costly, but it also renders the tourist industry attractive for a wider range of customers and maintains a higher degree of customer loyalty. Not all public regulations are equally welcome, but some of the tourism innovation systems have voluntarily sought to open up a dialogue to tap knowledge as e.g. in the case of white water rafting.

Institutionalising Incentives for "Prosumers". The roles of producers and consumers are blurring in the innovation systems and consumers are co-constitutive of the tourism product as "prosumers". For example the work of volunteers consumes and inspires, but their involvement depends on the (legal) institutionalisation of leisure interests in clubs and associations. Taking part in scientific work through tourism is also an example of unification of objectives, and it requires not only dialogue, but also agreements with the authorities and scientific bodies. The Santa Claus Village and Roskilde work with humanitarian organisations

and the whale watching operation works with educational institutions and involves customers in the research and monitoring of whales. Tax regulations concerning donations are parts of key public policy and regulation.

Promoting Innovative Infrastructures. There is always a quest for infrastructures that make destinations accessible: roads, airports, harbours, etc. However, the successful tourism innovation system tends to go beyond the traditional key infrastructures and involve public actors in the effort to provide wider creative planning of whole resorts and areas. The Åre resort took the initiative with public involvement in ski lifts. International direct flights to Rovaniemi have proved to be a success feature for the Santa Claus Village. The Roskilde Municipality is transforming a relict industrial area in the neighbourhood of the festival to a "Musicon Valley" and takes a leading role in advanced urban design. In the case of whale watching in Iceland the whole quay side of the operation is being developed as a dynamic historical exhibition couched in notions of coastal culture, drawing the local community on board. The Health Sports Centre at Beitostølen, although more a specific purpose infrastructure than an infrastructure in the traditional public sense, certainly gave strong impetus to the general development, the events and the "health brand" of Beitostølen.

Creating a Forum for Co-operation. In the successful cases documented the good will of local authorities is often the key factor. This goodwill is manifest in their promotion of a specific forum for the exchange of ideas and co-operation between entrepreneurs and local authorities. In the cases of both Beitostølen and Åre, a mutually beneficial platform has developed to facilitate dialogue between the public and the private.

Elements of a Policy Agenda

The following section identifies themes and anchors for a joint Nordic initiative to promote innovation in tourism across the Nordic countries.

The overarching guidelines for any Nordic policy anchors are:

- To enhance and deepen a pan-Nordic vision of innovation in tourism.
- To assist the re-conceptualising of the knowledge base and the institutional frameworks for strategic development of tourism in the Nordic countries.
- To investigate and smoothen conditions to create comprehensive experience products and sustainable concepts attuned to Nordic heritage and resources.
- To link tourism more efficiently with other sectors of the economy to obtain innovation cross fertilisation and creating overlapping knowledge bases.
- Create self-help stepping-stones and incentives for innovative entrepreneurs that comply with other economic development policies in the Nordic countries.

Bearing in mind these general visionary guidelines and the characteristics of the tourism sector, some potential elements for a policy agenda for supporting innovation in tourism in the Nordic countries will be outlined below. The aim is to help in tackling seasonality by promoting innovation in scale and scope, boosting professionalism and exploiting linkages with other economic sectors.

It is envisaged that NICe has a facilitating, knowledge creating and disseminating role, as there are no funds available for direct investments in the sector and for marketing/branding

purposes. Accordingly, NICe will be contributing to the innovation systems by creating links and new knowledge and institutions where such resources are not available yet. NICe has the capacity to bring resources together and for the creation and dissemination of knowledge. It implies that the target groups of the call for proposals are not limited to the core tourism industry and its organisations, but might also be of interest to other private or public organisations that are or may in the future be linked with tourism. Examples of research and policy proposals are given below.

1st Policy Anchor: Developing New Knowledge Inputs for Innovation – User-Driven Innovation across the Nordic Countries

Background: It is a widespread idea that branding and marketing exercises can catch the attention of visitors and enhance economic activities. However, branding and marketing are often not closely related to the product, or the actors in the field. More importantly, traditional marketing and branding contributes only little to innovative processes, and there is often significant distance between the images promoted through marketing/branding and a far more complex tourism reality. For these reasons there is an urgent need to "reinvent" both market research and forms of communication between customers and the individual providers of services.

Tourism is a field, where "user-driven innovation" makes very good sense (as demonstrated clearly in the case of Opplev Oppdal Company). Besides, tourists often find it interesting and meaningful to be "prosumers" – consumers and producer at once. But still, this potential is only marginally exploited. It is possible in a Nordic context to get ahead of other destinations, which are still stuck in old traditions due to rigid institutional methods in marketing and market research. Particularly, potential in "user-driven" sources of knowledge needs to be investigated, and this applies also to practical dissemination and knowledge sharing. The following avenues of research may be chosen:

- To commit tourists far more intensively as knowledge providers, involving the customers and learning from them through mutually beneficial action.
- To focus on the development of www.2.0. In the coming web-generation customers and companies interact through MUDs, weblogging, chat rooms and e-bulletin boards, all of which are now expanding dramatically.
- To bear in mind ever-changing notions of authenticity, where increasingly, the customer may contribute to reinvent authenticity, if given appropriate voice.

Objectives: The objective is to help destinations and other actors across the Nordic countries to safely abandon the "old" paradigms of market research, marketing and branding and to launch into new paradigms that create market as well as innovation advantages at all levels and to ensure that the methodologies are embedded in the environment where they can be beneficial for a multitude of tourism industry users.

Potential Interventions and Projects:

- Developing experimental customer research methodologies with use from the net and webloggings and disseminating methodologies as well as findings to the Nordic tourism audience. Test areas should relate to specific and original Nordic tourism resources.

- Development of knowledge sharing techniques across the Nordic countries for knowledge about customers and markets. Developing an open source data bank integrated with Nordic tourism enthusiasts.
- Exploring the use of Second Life and other virtual worlds as drivers for tourism ideas and concepts, and as testing grounds. Creating a Nordic House and other attractions in Second Life, attracting players to invade, use and develop.
- Developing systematic methods and strategies for the harvesting and recycling of web-log contents at the enterprise level.
- Setting up new types of weblogs in special interest and authenticity-driven tourism fields.

Target Groups: Cross Nordic market research organisations and market research experts from universities. Established cross Nordic tourism destination networks, for example collaborating ski resorts, collaborating Viking attractions etc. IT/Web specialists. Voluntary organisations.

2nd Policy Anchor: Developing Innovation Awareness and Innovation Competences

Background: The tourism sector often has to face structural impediments, as enterprises are on average small and as there is considerable turnover of staff and proprietors. However examples are emerging that demonstrate how to move beyond the traditional limits connected to seasonality and competence gaps. Participation of tourism enterprises in local and regional "cluster" collaborations of various kinds and conceptual and practical management of innovation systems may be the way out of such isolation that hampers growth and development.

The development of innovation systems is usually not the result of the activities of a single enterprise, but rather a coinciding existence of a number of resources and institutions with different, though complementary approaches. Development takes place over a long period of time, and success depends on resources that can be consolidated in order to construct new and enhanced tourism concepts and opportunities. Here, building a forum of co-operation between public and private partners is as important as the way in which it can be achieved.
Objective: The objective is to increase the cluster/innovation system building capacities and innovation awareness in local areas that are particularly hampered by e.g. seasonal and economic problems. The aim is concomitantly to find feasible ways to seek cross-Nordic inspirations for innovation processes.

Potential Interventions and Projects:

- Planning and performance of innovation camps bringing together innovative capacities together with SME's as well as larger corporations. Working with practical innovation projects and methodologies.
- Supporting feasibility studies, e.g. for new types of sport and event tourism concepts. The potentials for Nordic networking should be a standard ingredient in all feasibility studies.
- Setting up Nordic networks of small scale innovation systems. Bringing project managers and key persons together to exchange experience and to develop joint projects.

Target Groups: Private and public innovation advisory services. Cross Nordic or networked trade associations. Cross Nordic groups of tourist enterprises. Public authorities, University researchers, Voluntary organisations, e.g. sports organisations which are interlinked in Nordic networks.

3rd Policy Anchor: Moving beyond Tradition – Tackling Seasonality

Background: Often, in a Nordic context, there is a single policy focus on holiday tourism, while business tourism or (sports) events are less taken into account. The latter categories of tourism often require a new constellation of resources. There is a need to investigate and develop economically feasible business opportunities that go far beyond the traditional holiday tourism beaches, particularly in remote areas in the Nordic countries, and particularly in order to combat seasonality. The public authorities may have a key role in the construction and coordination of new concepts. The area of health tourism offers great scope for "new tourism" based on public-private partnerships rooted in national health policies. Organisational and institutional pluralism on a regional level allows for long-term persistence of initiatives.

In a local and regional context, voluntary work and the involvement of family or next of kin may be of immense importance for tourism. Non- or semi-economic incentives are not well recognised as drivers in the innovation processes of tourism related experiences and businesses. For example in terms of reproducing cultural heritage, the act of making various sites of history and culture 'visitable' contributes to historical consciousness. Alternatively, in the case of involving family and volunteers, notions such as 'feelings of belonging' or 'feeling enlightened', 'in touch with the past' are not tangible, but yet important dimensions of tourism products.

Objective: The objective is to attract non-economic driving forces for these development processes and to disseminate the experience across the Nordic countries.

Potential Interventions and Projects:

- Developing and launching methods to tackle seasonality and to bring in non-leisure concepts. Inviting experts from outside the Nordic countries to reflect on the Nordic tourist product with actors in the industry.
- Developing methods of constructing local service ethos, preferably a special Nordic ethos. Taking in e.g. anthropologists, philosophers, HR specialists and historians. Doing research with cameras and videos to document and to drive development forward.
- Advising on how to tackle decreasing dynamics in organisational environments which tend to close down, by tightening bond between actors.

Target Groups: Private and public innovation advisory services. Cross Nordic or networked trade associations. Cross Nordic groups of tourist enterprises. Public authorities, University researchers, Voluntary organisations, e.g. sports organisations which are interlinked Nordic networks.

4th Policy Anchor: Moving Scientific and Technical Knowledge into Tourism

Background: The tourist sector only indirectly exploits scientific findings and results. In fields of technology scientific results are moving into the sector embodied in machinery and semi-manufactured goods and products. Tourism is a user of advanced technology, e.g. snow canons and skiing gear in the ski resorts, sophisticated energy control equipment in hotels, smart payment and stock management systems in restaurants and gift shops, etc. Social and other scientific knowledge also affect tourism, e.g. behavioural sciences which influence customer services, managerial practice and marketing strategies. However, this knowledge is usually disseminated through management services, through courses and education. Occasionally, hardware, software and orgware come in packages.

Some experience based attractions do link more closely to science in core tourism services. For example whale-watching and angling tourism have to rely on the existence and sustainability of the natural resource. Increasingly, the links to science become a part of the selling and storytelling argument *vis-à-vis* some segment of tourists, who like to feel that they can contribute to scientific progress.

Most often, however, there is a large gap between what goes on in the advanced scientific fields and tourism. Yet, the Nordic scientific communities might have something to offer tourism. For example science connected to vehicle production, food related sciences, nano-tech in relation to various types of building and equipment and life science in health.

Objectives: The objective is to bring science and tourism closer together, and to utilise the capacities of the Nordic scientific community better for the benefit of the tourism sector. The objective is also to move science into tourism as part of the experience, and thus increase the competitiveness of Nordic tourism.

Potential Interventions and Projects:

- Developing ideas and concepts of tourism and professional events that are based on strong Nordic scientific fields.
- Screening technical advances for potentials in terms of tourism, for example robotics, nanotechnology, biotech, materials, etc. and dissemination of ideas and concepts through innovation camps or other events where the tourism industry and scientist are brought together.
- Developing high-tech tourism gear for example for extreme tourism in the Nordic peripheries.
- Scouting outside the Nordic countries for applicable tourism concepts, e.g. at trade fairs. Organisation of group tours to selected events.
- Investigating the "scientific" tourism market in greater detail, connecting to scientific specialities in the Nordic countries, e.g. maritime environmental protection.
- Collecting and disseminating innovation and best practices in innovation processes that connect scientists with tourism operators. Workshops and training sessions for tourism SME's.

Target Groups: Enterprises and research institutes in scientific and technological fields, tourism enterprises, tourism trade associations, university researchers, public advisory organisations. Voluntary organisations and NGO's with scientific relations.

5th Policy Anchor: Trading Ideas and Trading Knowledge

Background: Normally, when raising the issue of tourism policies, there is focus on the impacts in terms of creating incomes and employment in core tourism services. The labour market issue is, however, a contested one. Many jobs in tourism are low-skilled, low-paid and manual. These are not the type of jobs most needed in a Nordic context, where the majority of the population is well-educated. There is a risk, that an intensified development of tourism just raises the needs for imported seasonal labour, instead of consolidating local full-time labour markets.

Accordingly, tourism needs to be lifted from maintaining basic service delivery jobs to producing added value through higher knowledge content. To make such processes successful, it is necessary to enhance the spin-offs from the tourism sector. Rather than selling tourism services at destinations, Nordic tourism might benefit from moving into trading ideas and concepts on a larger – global - market. An example are the "Ice Bars", which are spin-offs from the Icehotel concept; the franchised bar concept can be found in major cities in Europe and the US.

There are also parallels to the previous work done by NICe on the "creative industries", where the potentials in filmmaking, design and IT-content constitute new industrial sectors of considerable importance for the economy as well as for the attractiveness and image of the Nordic countries.

Objectives: The objective is to examine the potential of Nordic tourism in terms of exchanging ideas, concepts, franchising opportunities and merchandise, to name but few, and to raise the awareness of such a potential in the industry and among other tourism actors. The objective is also to investigate the receptiveness of the tourism industry for more knowledge-based categories of business, and the adaptability of various auxiliary industries (consultants, research centres etc.) for this purpose.

Potential Interventions and Projects:

- Investigating labour markets for knowledge workers in tourism – creating a supply-led/competence-led development. This can take off from university students/PhD schools and summer schools, where innovativeness and tourism are subjects. Also Nordic entrepreneurship centres might be facilitating events, courses and experiments in this field.
- Interacting with the industry to develop ideas for expansive merchandising on a cross-Nordic base. For example there are unexploited opportunities in connection with the Vikings, the film industry, the environment and the marine setting.
- Investigating in what way successful multi-site investors, service providers and management units operate for tourism. Researching how value chains are split up and re-composed. Disseminating good practice in these fields. These are combined research and dissemination projects.
- Addressing the Nordic tourism for "born-global" concepts, and investigating the feasibility of such concepts. E.g. looking at the setting-up of whale watching facilities in other parts of the world, or building environmentally friendly camp grounds in China.
- Investigating the guidebook and media markets as a product in itself, and as a commercially based promoter of Nordic tourism.

- Addressing the issues of intellectual property in tourism, and the potentials for patenting. Disseminating knowledge to the industry about these issues.

Target Groups: Enterprises and research institutes in scientific and technological fields, tourism enterprises, tourism trade associations, university researchers, public advisory organisations. Voluntary organisations and NGOs with scientific relations.

6th Policy Anchor: Facilitating and Exploiting Spill-Over from the Public Sector and Institution – cross Nordic focus

Background: The Nordic welfare economies are characterised by a strong and very well-developed public sector, which is in charge of a range of important services and infrastructures for citizens and enterprises. Segments of the tourism sector regard the public sector as an impediment. In reality, many of the most successful innovations in Nordic tourism rely on and benefit from the presence and activities in the public sector, be it directly or indirectly. Public-private partnerships in tourism are of significant importance for the comprehensive development of tourism in the Nordic countries.

Tourism space (townscapes, landscapes, environments) and cultural facilities are under strict public dominance and ownership, a fact that is often not taken into full consideration in potential tourism development.

Public regulation is often also seen as a nuisance, a cost and a trouble. However, in many cases regulation contains an incentive to innovate. By overcoming difficulties of complying with regulation, the private sector may create economic opportunities and new competitive advantages. Examples are increased safety standards in sports, festival and transportation, which is of importance for travellers. The Ski resort Beitostølen would not have developed so successfully without close links to the sports health environment. In contrast the public health sector has also benefited from Beitostølen as a test bench for concepts and treatments.

In many respects, the potentials in the public sector (services and regulations) remain unutilised in terms of tourism development. In particular, commercial spin-offs of knowledge and ideas that are presently encapsulated in the public sector are of interest for Nordic tourism. New experiences and services may flow from public interventions and facilities, yet to be conceptualised. Conversely, spin-offs to the tourism sector may deliver feed-back of importance for the further development of the public sector.

Objectives: The objective is to address all sides of the public sector services and regulations in order to outline potential in terms of innovation in tourism. Harvesting potential should not only be speculative, but also deal with the mechanisms that can activate resources of the public sector. New integrative concepts that do not compromise the main objectives of the Nordic public welfare policy paradigm may be developed.

Potential Interventions and Projects:

- Reviewing health issues, institutions and policies for their potential for tourism. Pilot projects which connect actors in tourism and the public sector can be envisaged, e.g. in medical fields beyond the traditional health and spa portfolio.

- Environmental policies – addressing climate problems, relations to agricultural policies, fisheries policies and others. Developing creative concepts which benefit tourism and the public.
- Construction of "arenas" for gazing and events: developing methods to elaborate public infrastructure, facilities for events in e.g. town and city environments.
- Public transport and new mobilities. Developing concepts for traffic control, new vehicles and soft transport.
- Construction, architecture and design regulations serving the needs of tourism. Arranging Nordic competitions and building exhibitions.
- Nordic shared cultural heritage in museums, making it 'visitable' by networking, storytelling and education. Sharing facilities, exchanging exhibitions and staff and generally facilitating closer networking across the Nordic countries between cultural attractions in similar fields.
- The educational system as an export commodity – raising global awareness of e.g. summer schools and educational events. Developing new types of educational events, creating standards and recognised certifications and diplomas. Involving voluntary organisation in the fields of educational tourism.
- Rules and regulations – reinventing to advance towards tourism along with public benefit, e.g. tax systems and standards in the catering industry. Clarifying and multiplying regulations as catalysts for innovation on selected issues, identified as crucial for tourism inflow, is a key feature here.

Target Groups: Public authorities and public organisations. Research institutes, enterprises and organisations in the health, transportation, construction, heritage and environment sectors. Tourism enterprises, tourism trade associations, other professional organisations, university researchers, public advisory organisations. Voluntary organisations and NGOs .

7th Policy Anchor: Making Funds and Financing Available for Tourism

Background: Many small and medium sized tourism enterprises face difficulties in terms of financing. Banks regard tourism investments as risky, even though they show promise. Venture capital is typically only available for larger scale projects couched in more classic notions of *product* development. Public support also depends on a number of criteria and difficult procedures and once attained it is often barely worth the hassle. Often tourism has to rely on money from family and relatives, with potential "cronyism" side-effects.

It is not likely that "pitying" tourism will lead to better funding opportunities. Subsidies that just prolong the life of non-feasible tourism enterprises have limited value in terms of innovation and progressive tourism development. Rather, more competent enterprises and larger and more ambitious projects will do the job of attracting funds. Accordingly, appealing to "difficult" sources of funding can be regarded as an integrated part of a comprehensive innovation process.

Objectives: The objective is to investigate the modes and principles of funding for tourism and to increase the awareness of funding from sources not usually taken into consideration in the tourism business. There is a need to create better feedback to tourism operations about the potential and conditions of "modern" business financing in collaborative and multi-ownership

structures, which requires raising awareness on behalf of the business community at large, investors and public funding bodies.

Potential Interventions and Projects:

- Experimental linking between funding locomotives and SMEs. Supporting groups of SMEs and new enterprises in contacting larger capital providers on the Nordic scene. "Speed dating" arrangements and finance seminars.
- Funding of visions/ideas at first stages, preparation of business plans for high level funding.
- Arranging cross-Nordic conferences and meetings with national and regional authorities in charge of EU-funds for the purpose of enhancing knowledge about the nature and profitability of support to tourism activities.
- Promoting awareness amongst public actors about the value of tourism and the nature of tourism enterprises. Making the public sector sensitive to tourism needs.
- Supporting visionary environments and investment groups arrangements and bringing in alternative funding, e.g. business angels and local seed money.
- Investigating funding mechanisms through pension foundations and other funds that combine customers' money with the provision of leisure services e.g. golf resorts, where pension fund members acquire priority throughout their years of contribution and also after retirement. Research in opportunities to expand the investment activities of pension funds on a cross-Nordic base.
- Developing "born global" concepts and franchising in the tourism sector, which means creating "instant economies of scale" through financed expansion.

Target Groups: The financial sector, including venture capitalists, business angels, pension funds etc. Public and semi-public business advisory services, tourism enterprises, tourism trade associations, other professional organisations and university researchers.

Publications from the Project

Björk, P. 2007: Innovation Systems in the Tourism Industry. Paper presented at the TRC meeting 2007 in Bolzano, March 29th - April 1st.

Björk, P. 2007: Innovation in Tourism - Wolf Cave and the Learning Area Concept. In Gössling, S. (Ed.) 16th Nordic Symposium on Tourism and Hospitality Research – Conference Proceedings. Helsingborg: Lund University, CD-ROM.

Björk, P. 2008: The Finnish Tourism Innovation System. Paper at the TRC Meeting 2008 in Kiel, April 17th - 20th (forthcoming).

Flagestad, A. 2007: The Tourist Destination; a Local Innovation System? The Case of Beitostølen
In Gössling, S. (Ed.) 16th Nordic Symposium on Tourism and Hospitality Research – Conference Proceedings. Helsingborg: Lund University, CD-ROM.

Hjalager, A-M. under review: Angling Tourism as an Innovation System. In *Journal of Sustainable Tourism*.

Hjalager, A-M., 2008, Turismeinnovation med store perspektiver i de nordiske lande. www.videnomturisme.dk

Hjalager, A-M. 2007: The Roskilde Festival as an Innovation System. In Gössling, S. (Ed.) 16th Nordic Symposium on Tourism and Hospitality Research – Conference Proceedings. Helsingborg: Lund University, CD-ROM. Also under review in *Scandinavian Journal of Hospitality and Tourism*.

Huijbens, E., Hjalager, A-M., Flagestad, A., Björk, P., Nordin, S. Under review: Nordic Tourism Innovation Systems – the Road to Successful Industry Transitions? In *Annals of Tourism Research*.

Huijbens, E. and Helgason, J.G. 2007: Mobilising Innovative Practices – the Case of Innovation in the Icelandic Tourism Industry. In Gössling, S. (Ed.) 16th Nordic Symposium on Tourism and Hospitality Research – Conference Proceedings. Helsingborg: Lund University, CD-ROM

Huijbens, E. and Knútsson, Ö. 2007: Nýsköpun í íslenskri ferðaþjónustu – hlutverk einstaklinga og hið opinbera. In Hannibalsson, I. (Ed.) *Rannsóknir í Félagsvísindum VIII*. Reykjavík: Félagsvísindadeild Háskóla Íslands, p. 99-111.

References

Abernathy, W.J. and Clark, K.B. (1985) 'Innovation: Mapping the Winds of Creative Destruction', *Research Policy 14*, 3–22.

Amin, A. (2002) 'Spatialities of Globalisation', *Environment and Planning A. 34*, 385-399.

Amin A. (2004) 'Regions Unbound: Towards a New Politics of Place', *Geografiska Annaler B. 86*, 33-44.

Archibugi, D.; Howells, J. and Michie, J. (1999) 'Innovation Systems in a Global Economy', *Technology Analysis and Strategic Management 11*, 527-539.

Asheim, B.T. and Isaksen, A. (2002) 'Regional Innovation Systems: The Integration of Local 'sticky' and Global 'ubiquitous' Knowledge', *The Journal of Technology Transfer 27*, 77-86.

Balzat, M. and Hanush, H. (2004) 'Recent Trends in the Research on National Innovation Systems', *Journal of Evolutionary Economics 14*, 197-210.

Boschma, R. (2005) 'Proximity and Innovation. A Critical Assessment', *Regional Studies 39*(1), 61-74.

Braczyk, H.-J.; Cooke, P. and Heidenrich, M. (1998) *Regional Innovation Systems*. London: UCL Press.

Camagni, R. and Capello, R. (1999) 'Innovation and Performance of SMEs in Italy: the Relevance of Spatial Aspects', In M. M. Fisher, L. Suarez-Villa and M. Steiner (Eds.) *Innovation, Networks and Localities*. Berlin: Springer, pp. 181-214.

Carlsson, B.; Jacobsson, S.; Holmén, M. and Rickne, A. (2002) 'Innovation Systems: Analytical and Methodological Issues', *Research Policy 31*, 233-245.

Cooke, P.; Gomez O. M. and Etxebarria, G. (1997) 'Regional Innovation Systems: Institutional and Organizational Dimensions', *Research Policy 26*, 475-491.

Dansk Center for Forskningsanalyse (2005) *Erhvervslivets forsknings- og udviklingsarbejde*, Århus: Århus Universitet

Edquist, C. (2001) The System of Innovation Approach and Innovation Policy: An Account of the State of the Art, DRUID paper, www.druid.dk.

Edquist, C. (2005) 'Systems of Innovation: Perspectives and Challenges', In J. Fagerberg, D. Mowery and R.R. Nelson (Eds.) *The Oxford Handbook of Innovation,* Norfolk: Oxford University Press, pp. 181-208.

Edquist, C.; Hommen, L. and McKelvey, M. (2001) I*nnovation and Employment. Process versus Product Innovation*. Cheltenham: Edward Elgar.

Ellis, C. (2003) 'Participatory Research in Tourism - Global View', *Tourism Recreation Research 28*(3), 45-55.

Etzkowitz, H. and Leydesdorff, L. (2000) 'The Dynamics of Innovation: from National Systems and "Mode2" to Triple Helix of University-Industry-Government Relations', *Research Policy 29*(2), 109-123.

Feldman, M. P. and Florida, R. (1994) 'The Geographic Sources of Innovation: Technological Infrastructure and Product Innovation in the United States', *Annals of the Association of American Geographers 84*, 210-229.

Fisher, M.M. and Frölich, J. (Eds.) (2001) *Knowledge, Complexity and Innovation Systems*, Berlin: Springer.

Flagestad, A. (2001) *Strategic Success and Organisational Structure in Winter Sports Destinations*. Dissertation at University of Bradford School of Management

Flagestad, A.; Hope, C.A.; Svensson, B. and Nordin, S. (2005) 'The Tourist Destination; a Local Innovation System? The Creation of a Model', In P. Keller and T. Bieger (Eds.) *Innovation in Tourism – Creating Customer Value*, Brainerd: AIEST, pp. ----

Freeman, C. (1987) *Technology Policy and Economic Performance*. London: Pinter.

Freeman, C. (1995) 'The National Innovation Systems in Historical Perspective', *Cambridge Journal of Economics 19*, 5-24.

Fuchs, G. and Shapiro, P. (2005) *Rethinking Regional Innovation and Change*, Berlin: Springer.

Gallouj, F. and Weinstein, O. (1997) 'Innovation in Services', *Research Policy 26*(4-5), 537-556.

Geels, F.W. (2004) 'From Sectoral Systems of Innovation to Social-Technical Systems', *Regional Policy 33*(6-7), 897-920.

Gergils, H. (2005). *Dynamic Innovation Systems in the Nordic Countries*, Stockholm: SNS Förlag.

Hall, C.M. and Page, S. (2006) *The Geography of Tourism and Recreation: Environment, Place and Space*. London: Routledge.

Henten, A.; Falch, M. and Jensen, S. (2006) *Multi-National Innovation Systems, Paper*, Lyngby: DTU.

von Hippel, E. (2005) *Democratizing Innovation,* Cambridge Mass: MIT Press.

Hjalager, A.-M. (2007) Four Stages in Tourism Globalisation, *Annals of Tourism Research 34*(2), 437-457.

Hjalager, A.-M. (2006) The Marriage between Welfare Services and Tourism – a Driving Force for Innovation, *Journal of Quality Assurance in Hospitality and Tourism 6*(3-4), 7-30.

Hjalager, A.-M. (2000) 'Tourism Destinations and the Concept of Industrial Districts', *Tourism & Hospitality Research 2*(3), 199-213.

Hjalager, A.-M. (1997) 'Innovation Patterns in Sustainable Tourism: An Analytical Typology', *Tourism Management 18*(1), 35-41.

Håkansson, H. (Ed.) (1986) *Industrial Technological Development: a Network Approach*. London: Croom Helm.

Hughes, T.P. (1983) *Networks of Power: Electrification in Western Society 1880-1930*. Baltimore: John Hopkins University Press.

Johnson, A. (2001) *Functions in Innovation Systems Approaches*, DRUID paper.

Johnson, B. and Lundvall, B-Å. (2000) *Promoting Innovation System as a Response to the Globalising Learning Economy*. Draft paper, Aalborg University.

Lundvall, B-Å. (Ed.) (1992) *National Systems of Innovation*, London: Pinter.

Lundvall, B-Å (2005) National Innovation Systems – Analytical Concept and Development Tool. Paper Presented at the DRUID Conference in Copenhagen.

Lundvall, B-Å (2005) *Innovation System Research and Policy. Where It Came from and where It Should Go*. Paper, Aalborg University.

Lundvall, B-Å (2007) 'National Innovation Systems – Analytical Concept and Development Tool', *Industry and Innovation 14*(1), 95-119.

Lundvall, B-Å (2007) 'Innovation Systems: Theory and Policy', In H. Hanusch, (Ed.), *Companion to Neo-Schumpeterian Economics*, London: Elgar.

Malerba, F. (2004) 'Sectoral Systems of Innovation: Basic Concepts', In F. Malerba (Ed.) *Sectoral Systems of Innovation. Concepts, Issues and Analyses of Six Major Sectors in Europe*, Cambridge: Cambridge University Press, pp. 9-41.

Markusen, A. (1999) 'Sticky Places in Slippery Space', In T.J. Barnes and M.S. Gertler (Eds.) *The New Industrial Geography*, London: Routledge, pp. 98-147.

Maskell, P. and Malmberg, A. (1999) 'Localised Learning and Industrial Competitiveness', *Cambridge Journal of Economics,* 23, 167-185.

Massey, D. (2004) 'Geographies of Responsibility', *Geografiska Annaler B. 86*, 5-18.

Mattsson, J., Sundbo J. and Fussing-Jensen, C. (2005) 'Innovation Systems in Tourism: The Roles of Attractors and Scene-Takers', *Industry and Innovation 12*(3), 357-381.

Metcalfe, S.J. (1998) *Evolutionary Economics and the Creative Destruction*, London: Routledge

Morgan, K. (2004) 'The Exaggerated Death of Geography: Learning, Proximity and Territorial Innovation Systems', *Journal of Economic Geography 4*(1), 3-21.

Moulaert, F. and Sekia F. (2003) 'Territorial Innovation Models: a Critical Survey', *Regional Studies 37*(3), 289-302.

Nalebuff, B.J. and Brandenburger, A.M. (1997) *Co-opetition*, London: Harper Collins Business.

Nelson, R. (1993) *National Systems of Innovation. A Comparative Study*, Oxford: Oxford University Press.

Nooteboom, B. (2000) *Learning and Innovation in Organizations and Economies*, Oxford: Oxford University Press.

Nordin, S. (2003) *Tourism Clustering and Innovation—Paths to Economic Growth and Development*, Oestersund: European Tourism Research Institute.

OECD (1999) *Boosting Innovation. The Cluster Approach*, Paris: OECD.

OECD (2005) *Innovation Policy and Performance. A Cross-Country Comparison*, Paris: OECD.

OECD (2007) *Reviews of Regional Innovation. Competitive Regional Cluster. National Policy Approaches*, Paris: OECD.

Oinas, P. and Malecki, E.J. (2002) 'The Evolution of Technologies in Time and Space: From National and Regional to Spatial Innovation Systems', *International Regional Science Review 25*, 102-131.

Oughton, C.; Landabaso, M. and Morgan, K. (2002) 'The Regional Innovation Paradox: Innovation Policy and Industrial Policy', *Journal of Technology Transfer 27*, 97-110.

Porter, M. (1990) *The Competitive Advantage of Nations.* London: Macmillan.

Schienstock, G. and Hämäläinen, T. (2001) *Transformation of the Finnish Innovation System: A Network Approach*, Helsinki: SITRA

Stamboulis, Y. and Skayannis, P. (2003) 'Innovation Strategies and Technology for Experience-Based Tourism', *Tourism Management 24*(1), 35-43.

Sundbo, J. and Gallouj, F. (2000) 'Innovation as a Loosely Coupled System in Services, International', *Journal of Service Technology and Management 1*(1), 15-36.

Sundbo, J.; Orfila-Sintes, F. and Sørensen, F. (2007) 'The Innovative Behaviour of Tourism Firms', *Research Policy 36*(1), 88-106.

Wahab, S. and Cooper, C. (2003) *Tourism in the Age of Globalization*, London: Routledge.

Økonomi- og Erhvervsministeriet (2006): *Redegørelse om dansk turisme*, København: Økonomi- og Erhvervsministeriet.

Økonomi- og Erhvervsministeriet (2007): *Redegørelse om erhvervsstøtte 2007*, København: Økonomi- og Erhvervsministeriet.

Nordic Innovation Centre

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The Nordic Innovation Centre initiates and finances activities that enhance innovation collaboration and develop and maintain a smoothly functioning market in the Nordic region.

The Centre works primarily with small and medium-sized companies (SMEs) in the Nordic countries. Other important partners are those most closely involved with innovation and market surveillance, such as industrial organisations and interest groups, research institutions and public authorities.

The Nordic Innovation Centre is an institution under the Nordic Council of Ministers. Its secretariat is in Oslo.

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