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Users' role in innovation processes in the sports equipment industry – experiences and lessons

- Categorisation of different users and types of innovations in the sports equipment industry
- Presentation of different firms' experience with user involvement in innovation practice
- Examples of user involvement in innovation processes in the sports equipment and outdoor industries



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Abstract: The main objective of this project is to contribute to our knowledge about user-driven innovation and to suggest how knowledge on user-driven innovation may be included in innovation efforts and systems both for the sports equipment industry and for other industries. The study is primarily based on case studies of how firms within the Nordic sports equipment and outdoor industry involve users in their innovation efforts. Our studies concentrate on firms producing equipment for winter sport and outdoor recreation. The study builds upon a large number of interviews with firms and key persons as well as extensive analysis of available written material and research literature. The results focus on the identification of certain key user groups in the sports equipment innovation cycle: user innovators, professional and sponsored users, enthusiastic amateurs, passionate insiders and chains and retailers. We consider the extent to which these users influence or take part in innovation processes within technical design, visual design, branding and the development of product systems. The report concludes with policy recommendations for how firms may take advantage of each user group. In this respect we present some key points and examples on firms' interaction with users in innovation processes. Other recommendations consider public policy and suggest that public policy ought to encourage firms to take advantage of knowledge held by those groups. In society a large number of user groups exist and public policy ought to stimulate use of their knowledge for a broader purpose, including societal development. Merging user groups in order to stimulate cross sector development, in addition to organising meeting places may be a theme for public policy at the regional level.		
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Executive summary

The main objective of the project is:

- To enhance our knowledge on user-driven innovation and to suggest how knowledge of user-driven innovation may be included in innovation efforts and systems both for the sports equipment industry and for other industries. This main objective is met.

The study has achieved this aim by:

- Presenting a categorisation of different users and types of innovations in the sports equipment industry
- Presenting what we have learnt about firms' experience with user involvement in innovation practice
- Presenting examples of user involvement in innovations processes in the sports equipment and outdoor industries

Method

The study is primarily based on case studies of how firms within the Nordic sports equipment and outdoor industry engage in innovation, especially if and how they approach users as a source of innovation. A large number of firms in Finland, Norway, Sweden and Canada were contacted and key persons were interviewed. In addition to interviews, written material, brochures, the internet, reports, journals, newspaper articles were a valuable source of information. Our studies concentrated on firms producing equipment for winter sports and outdoor recreation: skis, snowboards, poles, clothing etc.

The project findings are presented in a series of chapters that each deal with different groups of users. The sports- and outdoor equipment industry is very dynamic and constantly changing, so the cases we present should be seen as illustrative examples rather than a final and definitive answer to how firms can or should interact with users. Five main categories of users emerged from our research as central to user-driven innovation in sports equipment.

Main results

We found the following categories of users to be particularly important to innovation in the Nordic sports equipment industry:

- User innovators
- Professionals and sponsored users
- Enthusiastic amateurs
- Passionate insiders
- Chains and retailers

The extent to which these users influence or take part in innovation within technical design, visual design, branding and product systems varies.

Chapters 1 and 2 outline the research around user-driven innovation and what can be learnt from other studies. Chapters 3-7 are each dedicated to one specific type of user and innovator.

User-innovators

These are users who change existing equipment or develop new equipment. We found that: these can be important players and what they do with their equipment ought to be observed and mapped. It is also important to follow user communities and subcultures and to look for emerging sports equipment in different sectors and equipment that originates in other kinds of sport.

Professionals

This category includes athletes, adventures and explorers. A key lesson for firms is that they should try to select a few athletes who can give cutting-edge feedback. These users are good testers but this type of testing has to be complemented with testing on how and when ordinary users really use the products. Professionals are especially important to firms' brand building and marketing innovation.

Enthusiastic amateurs

Complaints and comments from enthusiastic amateurs are valuable. Firms ought to follow open online forums or develop their own forum. Surveys, interviews, focus groups and observations also give valuable information. Enthusiastic amateurs are important for communicating brand values.

Passionate insiders

Firms ought to take advantage of and involve their employees in innovation as much as possible. Firms can encourage insiders to take part in sports and support (and learn from) their hobbies and passions. It is vital to hire the right passionate insiders and acknowledge them as valuable. They ought to be considered as integral partners in company development rather than simply employees.

Chains and retailers

In-store buyers and users as distributors and retailers can play an important role in innovation. Stores are frontlines for interaction with customers and shop floor workers have valuable direct experience of consumers' needs and preferences. They also have a central role in shaping consumer preferences and defining the leading edge products. Involving retailers and distributors at an early stage can give equipment producers an important head start.

User involvement: Recommendations for innovation policy and societal benefit:

- Users have to be lifted into innovation policy in a systematic way and innovation policy ought to emphasize that different groups of users exist; and that each group of users may play different roles in solving different types of problems. Innovation policy has to focus on how users can be involved in different kinds of innovation. A necessary part of this, however, is that intellectual property rights cannot be ignored.
- Policy at a regional level ought to be developed in a manner that makes it immediately useful for firms and civil society actors. Policy oriented towards user-driven innovation backup can tap into existing systems of business advisors and regional business education programs. The highly developed programs of short courses and ad hoc support such organizations offer are an ideal place for the inclusion of information on user-driven innovation and training/information on user interaction techniques and methodologies.
- Users, as citizens, are already invited into regional policy: e.g. in the planning of regional economic development frameworks and in areas such as planning and building legislation. In this context strengthening an awareness of user perspectives and forums for innovation can help regional authorities plan for the inclusion of users in future regional innovation initiatives as well as in the development of public services that have a bearing on the sporting infrastructure.
- Regional authorities can greatly help firms reach those professional, amateur and passionate visitors that, even temporarily, enrich the spectrum of local users and enthusiasts.
- Regional policy might also consider how it can encourage users from different sectors to meet and cooperate in order to develop new kinds of businesses or improve existing ones. Meeting places and networking events relevant to regional industries are important, and could be expanded to include users and other stakeholders.
- Public support for innovation activity ought to include user communities fostered by supporting regional forums and systems for organizing contact between users, firms and civil society organizations.

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Preface

This report focuses on how firms take advantage of users in innovation processes. We hope that it will inspire firms and public actors to systematically involve different kinds of users in their innovation processes.

We would like to thank Nordic Innovation Centre for assigning us this project and the overall process that involved valuable contact with other projects dealing with users as an issue in innovations processes.

In this project, although only a limited number are directly referred to in the report, a large number of firms were contacted and kindly agreed to be interviewed. This contact has been very valuable for the project and we would like to thank them all for their goodwill and frankness about innovation strategies and efforts.

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1. Introduction

1.1. Innovation - user-driven innovation and the sports equipment industry

Innovation – user-driven innovation

Commentators and governments around the world have long placed a premium on the supply of new research and technology as key drivers of innovation. This understanding of the importance of innovative technologies and methods to the economy has meant that a valuable set of investments in all sorts of research and development initiatives – from laboratories to skills training – have been made. However, much of this work has focused on the supply side – on the firms and experts behind innovation – and has often neglected the role of other types of innovators.

It is against this background that users have begun to receive considerable attention in the science and technology studies. Of these academic approaches it was acknowledged that the social contexts of actors greatly influence technology and vice versa. Added to this, lead user analysis directed attention to specific users which could be considered forerunners in the use and development of technology. More recently, the role of active users - who have been labeled ‘co-producers’ (Wikström 1996), ‘professional amateurs’ (Leadbeater & Miller 2004) – have been shown to be especially important innovators. In short, academic studies and increasingly policymakers have begun to understand what many successful businesses have long known: that users, customers and amateurs can be an incredibly valuable source of invention and innovation.

For Nordic companies excellence in innovation is perhaps especially important. With increased global competition and cheaper sources of labor and high-quality technological solutions, companies located in the Nordic region can no longer guarantee their ability to have price or quality advantages over their competitors. Companies must strive to seek alternative sources of competitive advantage, and are therefore undertaking major transformations in their innovation processes and business models in order to deliver more valuable products and services to the market. These new innovation strategies often involve increasingly open business models, a greater focus on understanding latent consumer needs, and more direct involvement of users in various stages of the innovation process (Wise & Høgenhaven 2008).

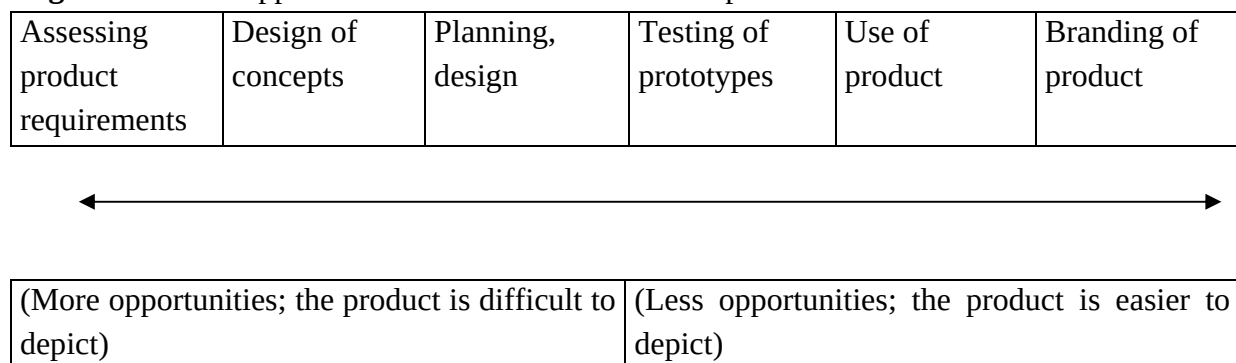
Research has shown that some of the most important and novel products and processes have been developed by users, both commercial users and individual users. Groundbreaking in this field is von Hippel’s research on open source computer programs and lead users’ role in developing these. However, we have seen this phenomenon in other sectors as well. It is for example reported that nearly all the most important innovations in oil refining were developed

by user firms (oil refineries) and that the most widely licensed chemical production processes were developed by user rather than supplier firms. Research shows that users were the developers of about 80 % of the most important scientific instrument innovations, and also the developers of most of the major innovations in semiconductor processing. Many inventions by British firms were for in-house use. Shah (2000) found that the most commercially important equipment innovations in four sporting fields tended to be developed by individual users. It has also been found that commercially attractive products tend to be developed by “lead users”, users that are at the leading edge of important marketplace trends and personally gained significant benefits from innovating (Baldwin et.al 2006).

User driven innovation is often a subset of open innovation (Chesbrough 2003), which means making use of resources outside the firm. Users may bring new variety and contexts to the firm’s innovation process.

There are a number of opportunities for users to participate in product development. Typically, there are more opportunities in early stages of product development, but it might then be difficult for users to participate because the product being developed is difficult to depict. The case is the opposite at latter stages of product development.

Figure 1. User’s opportunities to affect the innovation process



The sports equipment industry – an example of involvement of users

The conditions for user innovations in sports are favorable. Sports have typically been created by users and the experiences relating to participatory sports are usually produced by users. Firms provide users with facilities, services, equipment etc. but equally they rely heavily much on users’ acceptance of firm innovations: at the end of the day it is the users that will be risking themselves skating, skiing or sliding around on ‘innovative’ products and are therefore very motivated to make sure their equipment is something they can understand and trust. A number of studies of user innovators in the sports equipment industry exist (see for example von Hippel 2005, Luthje 2004, Luthje et al. 2005, Shah 2000). These studies point in the same direction: users are important for innovation.

The sports equipment sector proves an interesting sector to study user-driven innovation. First, the industry is forced to focus on user-driven innovation since it supplies highly demanding and competent customers. In spite of a plethora of products available, close to 10% of consumers of outdoor equipment, and 37.8 % of 'extreme', modify their products (Von Hippel 2005). It is not surprising then that firms actively seek out athletes, lead users, and innovative customers to inform and shape the technical development.

In the course of two studies of extreme sports communities Schreier et al. (2007) argue that lead user construct might be highly valuable to business to consumer (B2C) companies beyond the fuzzy front end of new product development. They found that consumers' leading-edge status is significantly related to domain-specific innovativeness, suggesting that lead users in a given field tend to be early and heavy adopters of new products. They found that lead users tend to perceive new products as "less complex" than more ordinary users, thus shedding some initial light on the question of why lead users might be better *prepared* to adopt new products. The higher a consumer's leading edge status, (a) the higher his/her opinion leadership and (b) the lower his/her opinion seeking will be.

Second, the industry has a long history of manufacturing and selling on the basis of intangibles such as style, fashion, trends and symbolic values. This is not to say that consumers do not highly value functional, safe and well-made products, or that traditional product innovation is not fundamental. Rather than in a marketplace where safe high-tech (and adjustable) performance equipment is now almost standard, intangibles help firms differentiate themselves and create loyal customers. Even here lead users are used to improve products or firms brand and/or symbolic value through sponsoring, so called signature models, as spokespersons etc.

A third reason for looking at this industry is that it is very globalized, but in all the Nordic countries small clusters of highly competitive firms exist. Our earlier studies of the industry show that even small firms can act on a global scale and are often forced (by insufficient local demand) to be born-global exporters. Despite the fact that manufacturing is increasingly outsourced to low-cost countries, firms find that innovation, development and branding through local access to users are key factors in keeping them Nordic.

The fourth reason is that internationally a number of good examples on how users influence the sport, or is used by the sports equipment industry, exist. Some examples will be presented in the following chapters.

1.2. The aim of this project, focus and methods

Main objective

The main objective of the project is to enhance our knowledge about user-driven innovation and to suggest how knowledge on user-driven innovation may be included in innovation efforts and support systems both for the sports equipment industry and for other industries.

Focus and methods

The literature on user driven innovation focuses on how individuals influence innovation. When it comes to sport activities it is not unusual that practitioners start their own businesses based on what they have learned as practitioners or athletes. We have included such aspects, but emphasize how user-driven innovation is considered or not considered from the view of the firms. We find it very important to analyse how the business world and innovation are considered from the firm's point of view, because firms are the ones that commercially implement innovation, distribute them and make money out of it. Although sport equipment industry is innovative, the industry will probably benefit from inspiration from other sources. Hopefully this report will help their efforts in applying user driven innovation to a larger extent and with a broader toolkit.

This project is primarily based on case studies of how firms within the Nordic sports equipment industry engage in innovation, especially if and how they apply, users as a source for innovation. A large number of firms have been contacted and key persons interviewed. These cases illustrate examples of how users have been incorporated in firms' innovation processes. Of course, they do not represent the only used methods for user incorporation. In practice, firms use a number of different methods and mix them. We have highlighted specific features in the cases and organized them under appropriate typologies in order to better communicate them. However, in the real world the different categories, both of users, and types of innovation, merge into each other.

The case descriptions are especially based on theme interviews, but written material is another important source, i.e. how firms present themselves in brochures, report etc, and on the internet. Reports, journals, newspaper articles etc. were another valuable source of information. Our involvement with the sports equipment industry, and related fields such as tourism or cultural industries, has given good opportunities to collect other kinds of material valuable to this project. Our studies are concentrated on firms producing equipment for winter sport and outdoor recreation. This includes skis, poles, helmets etc. and clothing and accessories, but we have also studied firms producing other kinds of gear. Still, in order to highlight interesting aspects not found in the case studies of firms we also present some cases described in the literature, namely the case of Rodeo kayaks, the development of skating on ski and some aspects of Nike's involvement with users.

2. Who are the users and how do they influence innovation?

The lead user concept has been employed by both marketing and innovation literature. The basic idea behind both these theoretical slants is that there are key individuals that play a key role in both technical innovation and in the process of spreading these new products to a wider market. This means that innovation processes blend inputs from customers both in terms of technical knowledge rooted in the contexts of use and shared meanings and identities, exploited in firms' brand strategies. Von Hippel's definition of lead user is two-sided: First they have requirements for new products or have needs that motivate them to make alterations to existing ones. Secondly lead users are positioned to benefit significantly by obtaining a solution to those needs.

History has shown that sports, and sports equipment, have long been subject to innovation by users. Still, users are a mixed group and they tend to be involved in different ways. In this chapter we will outline some different categories of user as well as the different types of kinds of innovation they can be involved in.

2.1. Different kinds of users

We have taken our point of departure in four main categorisations of the types of individuals involved in user driven innovation:

- User innovators
- Professionals and sponsored users
- Enthusiastic amateurs
- Passionate insiders.

User innovators

User innovators seek to develop and design equipment for their own personal use. They often come up with attractive innovations in order to meet their own leading-edge requirements which cannot be satisfied by commercially available products (Baldwin et.al. 2006). Whilst they primarily work to solve their own problems and challenges, solutions they develop might be of future commercial value to broader parts of the market. This means that the user innovators not only come up with innovative solutions themselves, but may also benefit when these solutions are picked up by producers.

The user innovators adopt new products quicker and with more ease than ordinary users. They are also leading in the diffusion of new products, as they have a tendency to pick up on the

latest first. In that sense they serve as opinion leaders. They are often ahead of important market trends.

Professionals and sponsored users

In this report professional users are those who have the sport or outdoor life as their main activity, most often their “job”. They are professional athletes, explorers, mountain guides, ski instructors etc. and because of their status in their sports they are often sponsored by different kinds of firms.

Not all sponsored users are high profile athletes or explorers, they are also users sponsored by firms because they are well known to other users, prominent members of the community or are widely accepted as good practitioners. Trainers or other leaders of sports clubs belong to this mixed group, which usually are sponsored by being offered equipment for testing. They are not paid users, as the professionals to a larger extent are.

Enthusiastic amateurs

Enthusiastic amateurs are frequent and passionate users of sports equipment. Those belonging to this category are enthusiastic about their activity, and their enthusiasm is used in the development of new products and techniques. When it comes to sports or outdoor activity such amateurs may comment on the equipment, clothing or other gear. Enthusiastic amateurs are to be found in organisations such as local clubs but also as isolated individuals interacting with each other in web forums and fanzines. They are a source of suggestions for new products and feedback on how to improve the quality or function of existing products. They are also a vital source of critical input and are frequently the first and most vocal source of reviews and complaints.

Passionate insiders

Passionate insiders are those who work in a firm and at the same time are “passionate” about an activity beneficial for the firm, often the products offered by the firm. These sort of users are very often “hobbyists” in the sense that the products they work on at ‘work’ also play an important part of their hobby and leisure time. Hobbyism is a long-term relation to the intended contexts of use of the product and is an advantage because the employee by engaging in activities, e.g. in clubs or communities, acquires knowledge valuable for the development process of products and their marketing. They are familiar with users’ needs, including technical requirements, cultural values of products and practices of the communities. Passionate insiders are very important because they know what goes on in the firm and what the firm emphasizes but they also know the cultures where the firm might want to sell their products, read relevant magazines, and know who ought to be sponsored and enthusiastic amateurs (Kotro 2007). They brand the firm and they test the equipment. Passionate insiders are important for building the culture of the firm and the internal spirit.

Of course, the four main categories of individuals involved in user driven innovation listed above are far from an exhaustive list. We also found that the following three observations are important for understanding the types of individuals found in sports equipment user driven innovation:

(i) In-store buyers and users are vital gatekeepers and demanding consumers

In many countries large retail chains are the largest suppliers of sports equipment. Chains, such as Stadium in Sweden or Sport-1 in Norway, are important and demanding customers in their own right and vital mediators between developers and users. Retail chains, due to their market share and power, may influence the equipment produced by not only choosing but requesting particular products and product offerings. They may also develop their own equipment, brands and develop product systems: such as the successful Frost series found in the Norwegian chain G-sport. Crucially their stores and personnel are the frontline interface between industry and consumer: it is in the stores that users ultimately meet and choose their equipment. The retailers and chains give firms feedback from the customers, amongst others complains and comments from users. We will go into greater detail into this issue in Chapter 7.

(ii) When the person that buys the product is not the same as the user

In many cases the buyer is not the user: a lot of users receive gifts of equipment from others. Children and teenagers sporting equipment is one especially good example of this. For example, it is often parents that buy safety equipment for their children and it therefore not just the users' interests and concerns that suppliers must address. For example, POC is a Swedish company that sells children's ski helmets made in a very visible colour, with reflectors and a blinking light in the back to improve children's visibility: studies have shown that when children get injured it is mainly because they get hit by other skiers. These types of product innovation are likely to be most appealing to the parents even though it is a product made very much with the user in mind.

(iii) Users have split personalities and multiple identities

For analytical purposes the user concept is "unpacked" into different categories and kinds of innovation. Nonetheless, the categories are not mutually exclusive, and as shown in the Klättermusen example we meet later, the owners and employees are categorised in different groups as the firm develops. If we go to firms as they exist today, we find that they take advantage of users within several categories and for different purposes or kinds of innovation. An individual may be an enthusiastic amateur in one sport whilst a sponsored professional and lead user in another. Equally an individual may be a passionate insider in one company, whilst contributing indirectly to other firms through her actions as an enthusiastic amateur or as a frequent purchaser of safety equipment for her parents.

2.2. Different kinds of innovations

Innovation is a word that covers many different outputs and results and has been a term subject to much debate. Cooke et al. (1998) suggest that innovation should be seen in the Schumpeterian sense as any change (however big, small or incremental) to products, processes or organizational forms, and is to be understood in terms of systems. Thus, innovation is enacted through webs of social relations, rather than isolated events associated with heroic scientists or entrepreneurs. In this section we outline four innovation areas in the sports equipment industry where users were especially active.

(i) Technical innovation

Sports equipment is generally defined by its functionality, utility and performance so it is no surprise that one of the principal focuses of innovation in this area is the technical side. Technical innovation can range from radical new innovations that led to entire new activity areas (such as the development of mountain bikes or snowboards) through to major technical and design advances (for instance the introduction of new materials and components or new flexible production methods) all the way to minor adjustments to existing equipment (e.g. better waxes, quicker changing gears, small savings of time and money on the factory floor).

In our study we have observed few, if any, users involved in radical innovation processes but heavily involved in incremental innovations, testing and adjustment. This is not to say that users are not an important source of innovation. Twin tip skis were for example developed when users changed existing skis, and skating on ski was developed because some started to use existing skis in new ways. To some extent this is also the case for the new trend of classic skiing without grip wax. These are examples of the ways in which sub-cultures and groups of users adapt and innovate technical solutions according to their needs and desires. These examples indicate that for firms, taking part in sport and observing what practitioners do may be an important source for information and innovation. A firm may find use of the different user groups in technical innovation but this need to be done sensitively and systematically.

(ii) Visual design and styling

The visual designs of sports equipment and clothing are constantly changing and are more than ever integrated into wider cycles of fashion and style. Whilst for the most part the designs, forms, colours, etc. found in equipment and clothing are decided upon by the producers, designers and fashion bureaus there is little doubt that sports clothing and the visual styling of equipment are affected by users' desires, sub-cultures and by fashions 'from the street'. Users have had an enormous influence on the types of designs seen on equipment. This involves everything from direct personalisation of equipment to the use of styles and clothing from other sports and scenes. Even if not directly involved in the origination of the visual and stylistic design of the stuff they use, consumers ultimately decide through their choices what appears or not on the slopes. In common with other consumer goods and fashion

oriented firms, sports equipment and clothing firms are quick to adjust to signals from consumers and fashion trends. However, few of the firms we met involved users directly in the design and styling of individual items.

(iii) Innovations in branding and experience when using products

Innovation is not only felt in the technical or visual elements of equipment. It is extremely important for users of sports equipment – especially in potentially dangerous sports – that they can trust the equipment they are using. Brand names are an essential part of how consumers assess quality and learn to understand and trust their equipment. Thus innovation in how firms brand and position their goods is vital for remaining competitive.

Analysis of 20 companies with an especially positive development in share prices indicated that they spent less energy on minor improvements to products and more on other kinds of innovation (Erik Kiær, Doblin, referred by Norsk Designråd 2009). Doblin (2009) recommends that companies interested in long term competitiveness emphasize on how to increase the feeling customers get when they use products, the business model or the branding. Our material shows that an increasing number of firms involved in sport equipment use different kinds of users as integral part of their product branding. This is not new, already in the 1930's Norwegian producers of ski presented their sponsored users in newspaper announcements. What we see today is that the professionals, the sponsored and the enthusiastic amateurs, in addition to testing gear, are important elements in branding products and are important in convincing other users of the products' fashion value as well as the products' performance and reliability.

Innovation in branding is often in the realm of communication and media relations. A trend within this seems to be an increased direct involvement with the user by using new media to get more directly involved with users. Engaging users in the brand and brand building is not just about advertising; increasingly it is about interaction and participation through events, training, viral marketing, advice giving and advanced customer support, involvement in local sports competitions and communities whether they are on the web or in the region. Bergans was one of the Nordic companies we at an early stage of the project encountered was actively engaged with users through a broad suite of brand and consumer interfaces: such as through internet campaigns and sites and through sponsoring programmes on television presenting users on adventure trips. Later on other firms have also developed their interaction with the users, as Bjørn Dæhli and Kari Traa. Kari Traa recently (June 2009) got international acknowledgement for her web based design campaign. The aim of the campaign and competition was that users should inspire Traas Design Team with regard to future design collections (Sportsbransjen 2009).

(iv) Product systems

Product systems are a set of products and offerings that are integrated and fit together; and often not open to the integration of products from outside the system (e.g. no other company's boot fits your company's binding). Thus a product system is where you buy into not just one product but a collection of products and components that work together to get what you want done. Decisions about the development of such systems, as the New Nordic Norm (NNN) ski binding and the Frost series are decided at high levels within equipment producers and chains. The Frost series, developed by the G-sport chain is a new type of product system, because products from different producers are marketed as one brand. In this case, the retail chain, acts bundles different products from different firms under one brand and controls the development of equipment, visual design and visual brand. The development of product systems can therefore exclude certain types of inputs but it also allows firms to benefit from economies of scale and scope as well as wider brand recognition than they might achieve by themselves.

An interesting question when it comes to product systems is the linkage between the products and other spheres as culture, the experience industry and other parts of tourism. Is development of a system, which aim is to give the user a good experience – and sell the products, that integrate these elements an interesting look into the future? Bergans concept store at the Hunderfossen amusement park is a development in that direction. Another, and successful one is the linkage between large “mass” sports events, which involve many users, as the Birkebeiner arrangements and the Wasaloppet arrangements. Now they link skiing, biking, running and different groups of users with regard to sex and age. These arrangements have become very popular, for several reasons, but they emphasize the opinions of the users, and possible critics from them. The methods are survey of each arrangement every year and meetings with members of influential organisations. This has influenced the development of the arrangements and made them even more popular.

What is interesting from the perspective of user driven innovation is that product systems are far from always controlled by sports equipment. Users and user organisations have had an important impact in setting standards by which products must conform and an important role in choosing which products can take part in product system ecologies.

Figure 2. Different kinds of users and different themes influenced by users

Types of users	What do they influence concerning innovations?	Technical design	Visual design	Branding	Product system
	User innovators				
	Professionals and sponsored				
	Enthusiastic amateurs				
	Passionate insiders				
	Chains & retailers: In-store buyers and users				

The following chapters are based around the five main types of users identified in Figure 2. In each chapter we examine where and how these users have been involved in innovation processes and present some lessons that can be learnt. Following these five chapters there is a concluding chapter that deals with the policy implications of what we have presented.

3. User innovators – users who change existing equipment or develop new equipment

Lessons/Key points

- Observe and map what user innovators do with their equipment
- Follow user communities and sub cultures
- Look for merging of sports equipment from different sectors and equipment that originate in other kinds of sport

3.1. User innovators are important pioneers for development

Shah (2000) shows in her study of snowboarding, skateboarding and windsurfing that innovation in these activities has most often happened outside the big firms. The most important innovations have been developed by a few and early adopters. This is because the information is sticky – it is problematic to transfer from the user to the manufacturer. The bigger firms can also have problems with realising both the functional and the commercial potential of the product. Many user innovators become user-manufacturers in small lifestyle firms which mean that they start to make copies of their new design and sell the new products to other amateurs. This group may overlap with the one termed passionate insiders, because their firm and innovative activity is based on a passion for outdoor activities. In some cases the effort of the user innovator turns into larger and successful firms. Examples are Gary Fischer (mountain bikes US), Fjällräven (outerwear -Sweden), Klättermusen (outerwear - Sweden) and Sweet Protection (helmets – Norway).

The Swedish firm Extrem, that produce snowboards and alpine skis, and now bought by the Norwegian firm Skigutane, is a typical example. They started as users and then advanced to producing their own skis in their parents' garage in Östersund before they moved to Åre. Endre Hals is another example. He is a skier and designer and his commercial idea is to sell plastic skis adapted to the individual user: customers go the internet page and enter height, weight, preferred terrain, conditions etc. Based on these parameters Endre builds a tailored ski. The whole business idea requires sophisticated customers that know what they want, and how they actually ride their skis.

<http://www.customprog.no/sider/untitled2.html>

Luthje (2004) and Shah (2000) have looked at recently developed sports (snowboard, skate boards) and the users were always the first developers of the first version of the products. 58% of the major improvement was done by lead users. Often they work for small 'life style' firms.

3.2. The development of the Rodeo kayak - how users started and influenced an industry

Rodeo kayaking began when, in the late 1960s an avid kayaker named Walt Blackader began to evolve methods of entering waves sideways or backways. Soon, other “extreme paddlers” joined him and formed a small community. User innovators in the community began to build their own specialized kayaks and related gear and safety equipment. They built their rodeo kayak prototypes from fibreglass using hand lay-up techniques – a method also used by the manufacturers of commercial alpine kayaks. The method was labour intensive but required very little capital. In the early 1970’s rodeo kayak manufacturing began when some user innovators began to respond to requests from potential purchasers who asked, “can you make me a kayak of the same design as the one you built for yourself?” These first “user manufactures” used the same low capital, high variable cost hand lay-up techniques to produce boats for sale that they used to build boats for their own use.

In the mid-1970s manufacturers established in the plastics forming business, identified plastic-hull rodeo kayaks as a profitable market opportunity. They introduced boats based on user design of that time, but made entirely of plastic. Plastic boats could be produced at low variable cost, but required higher capital investment than traditional production methods.

The introduction of plastic rodeo kayaks was associated with a great expansion of the market: plastic kayaks were less expensive and much more durable than fibreglass kayaks. Also, paddlers could run steeper and more dangerous rives than before. In the 1980s most rodeo kayakers used commercially-manufactured plastic boats. But plastic boats did not become a platform for user innovators, because their hulls could not be easily modified. User innovators, therefore, built their novel designs using traditional fibreglass lay-up techniques.

Indeed, a number of new manufacturers entered the industry in the late 1980s and in the 1990s in order to satisfy this demand. While large-scale manufactures had traditionally changed their designs only every four to five years, in the late 1990s, companies started to change designs on a one to one or two-year cycle. Around 2000 a fairly standard rodeo kayak design emerged, and the rate of both user innovation and new model introduction by manufactures decreased (Baldwin et.al 2006).

3.3 Kitewing – the product of merging surfer and hang-glider

Users may promote the birth and development of new sports. A prime case of this is a product called Kitewing studied for this project. Product development of Kitewing is strongly based on information from individual users and from user communities. Users have also played an important role in the marketing and spreading of the product.

Kitewing is a small Finnish enterprise that produces wing shaped kites. These kites are designed in Finland, produced in China and delivered across the world through international partners. Kitewings can be used with skis, snowboards, skates, mountain boards, and surf boards. The user holds the kite in his arms, functions himself as the mast, and can reach a speed of 100 km/h in favorable weather conditions.

Kitewing was innovated by two men; an active surfer and a passionate hang-glider. The idea was to find out something to do in the winter, when surfing is not possible. These two men complemented each other very well, because one knew surfing and the other gliding. The first generation of kites was made only for the developers themselves, but in a few years they decided to start a company to commercialize the product. Today, ten active users around the world test new prototypes and give feedback to the company. They are considered active partners and get gear for free. There are also many active user communities which give ideas and feedback. Individual users contact the company directly to give their views of the product. Usually users contact the company and not the other way around. Active kite users want to be a part of product development and they feel that it is itself rewarding.

Approximately one in ten user ideas can be transferred directly to the product. Some ideas are technically impossible to make or they suit only for very specific kinds of use which are considered to lack a market base. Ordinary and novice users are valued because they form an essential market base. Accordingly, Kitewings are not designed for only extreme enthusiasts although these provide much feedback.

Getting in to the market was not too easy for Kitewing. The product was a novelty and people did not know anything about it. Word of mouth, promotional campaigns and media attention were important for the marketing of Kitewing. Similarly, Kitewing had to reach international markets as the potential user base in Finland was considered too small. Users were essential in taking Kitewing to international markets and finding new uses for the product.

There are intensive user communities around the kites. Kitewing supports those communities and for instance links to community discussion fora on its website. Kitewing also communicates with the communities.

3.4. Klättermusen: What happens when a user innovator becomes a manufacturer?

Klättermusen is a Swedish firm located in Åre who have been awarded several international prizes for their products. The founder, Peter Askulv, is active in outdoor sports, amongst others climbing. He is a user innovator– he started to sew his own outdoor gear and backpack because he was not satisfied with existing products for winter use. Later he started to sew similar gear for friends and this turned into Klättermusen in 1984.

The user innovator turned into a “user-manufacturer” who is the director of a firm with 8 other employees. All prototypes are made in Åre, but the actual production is outsourced. In 2006 the German textile firm JCK bought 20 % of Klättermusen, because JCK wanted to take advantage of Klättermusen’s reputation for quality and knowledge. Klättermusen emphasize environmental issues and does not have for instance Goretex products in their portfolio. The ambition is continued growth, in particular from increased exports.

The firm moved from Umeå to Åre partly in order to be closer to the mountains. That proximity increases the option for outdoor recreation, which is important for the owner, and gives good options for developing and testing gear. Klättermusen has a priority on technical function: “Klättermusen’s innovation is always driven by function” Askulv said in an interview. When functional requirements are satisfied they start to work on the visual design. They do not use external designers and they do not follow the annual modes concerning colour. They select colours that are anticipated to last for several years. Klättermusen hopes that the popularity of colours lasts as long as the products, on average eight years. Few changes in the products are supposed to reduce the need for annual adaptations to fashion trends, which may be an advantage for the stores selling their gear. It is important for Klättermusen that the employees are active within sport and outdoor. Consumers and contacts are invited to Åre, and to take part in outdoor activities in the mountains.

Based on their own direct sporting experience they develop products they are sure will work and be demanded by consumers. The products have a number of details, which are tested thoroughly. The innovations are incremental; most of them are adjustments on already tested products. Most of the ideas for new products come from their own employees and their outdoor activity. Klättermusen has about 40 products in their portfolio. Crucially they actively involve users as well as employing their own experience of using such products. From the start they inform the customers what to expect from the product. The “naked truth” is supposed to reduce false expectations and consequently displeased customers. Still, consumer feedback is an important source of knowledge. The complaints department is regarded as a source for improving the products and not as a problem. Due to the time taken to gather their own experiences and feedback from users they do not usually expect a product to be fully developed in under three years.

4. Professionals: athletes, adventurers, and explorers

Lessons/key points

- Select a few athletes who give good feedback
- Professionals are good testers, but altogether testing has to include how and when ordinary users really use the products
- Professionals are important to brand value

4.1. How do professionals interact with firms?

Professional users are mainly top athletes or people making their living from being sponsored when they are on expeditions, climbing, sailing, etc. Sponsorship for top athletes may involve both free equipment and payment. The wages may be fixed or dependent on their success in sport. In some cases athletes consider it even more important to get the best equipment than the fixed wages because if they win a race or get another good result they may win quite a lot of money. In return some of them have to take part in development of the equipment, whereas others primarily are used for PR-relation in an interesting market. Some athletes give very good feedback on technical issues.

Although athletes can be important to developing equipment it is also important to see their limits. There are examples of products tested by professionals, probably under good conditions, and launched on the market. Still, when used by ordinary users problems have emerged because the product is used at more variable conditions, e.g. in places with excessive snow and on trails of varying quality. The lesson is that equipment has to be tested on different conditions and by ordinary users in order to capture the variety of conditions for use.

When selecting top athletes a firm often considers where they have an existing large market or where the market potential is large. Eastern European athletes, especially Russians, have recently been especially important to the last category. When firms select athletes to sponsor, they also consider to what extent their products are presented. If a sport is very popular, and each participant is much in focus, i.e. after the completion that is an interesting sport. Biathlon has had some of those characteristics, because in general the athletes are more exposed on television than for example participants in cross country skiing. In general completions in biathlon are also decided on longer in advance than comparable sports which make it easier to plan for the use of equipment and how to take advantage of the sponsorship.

Other professionals often develop a close relationship with firms for a long period of time and the firms use them for testing equipment as well as for branding. Professionals may also be people who as part of their job are in the field a lot and therefore intensively use equipment in a way that give valuable testing information. Professional hunters or people working in

forestry are examples of such people. Military users also fall into this category and several firms, such as Finnish Sasta and Norwegian Bergans and Alpha, are keen to emphasize that the military use their equipment. This is seen as important to branding their tough outdoor equipment but also to show that it is tested and trusted by people who depend upon very good equipment.

Other types of people that have been sponsored are those attempting unusual feats or adventures: such as going across North America on rollerblades. In such cases the firms may require data on certain kinds of use or good photos from interesting environments in return for their investment.

To sum up; in general professionals and other who are sponsored tend to play a reactive role: they test equipment developed by the firms but altogether testing has to reflect how and when ordinary users really use the products. Firms involvement in sponsorship is also related to marketing and branding. Though this actively involves the user in developing the brand the strategies is generally carefully managed and developed by the firm rather than the user.

4.2 Employing a (research) team - Karhu

When product development is systematic and products are developed on a continual basis, it can be useful to employ a user team. This is what Karhu Sporting Goods has done. It operates a ski team consisting of professional competitive skiers who all have an obligation in their sponsorship contract to take part in product development.

Karhu Sporting Goods is one of the oldest cross-country skiing manufacturers in the world. For decades, Karhu has invested much in product development. Long-term commitment to product development aims to produce innovations for both competition and other cross country skiing activities.

One notable feature of product development at Karhu has been its proximity to competitive skiers. Olympic medalist and world champion Harri Kirvesniemi serves as a telling example. He began contributing to Karhu product development early in his career as a member of the Karhu ski team. The ski team consisting of world class skiers is till today an integral part of product development at Karhu.

Ski team members are a typical part of a ski development process. They typically test skis after prototypes have first been made in-house and gone through initial tests. Testing skis typically means using them in various conditions. Ski team members are considered very analytical and good at giving feedback.

Ski testing requires continuous work. The renewal rate for competition skis is rapid and each model is usually sold for only two years. This means that incremental improvements are made continuously. Larger changes are made when new lines are launched.

Two categories of skis are special targets of product development: skis for competitive athletes and for active fitness skiers. The features of these skis are then trickled down to other categories as skis are typically sold to customers according to their skiing profile.

Differences between competition and other skis relate to ease of use as this is something that competitive skis need not adhere to. Nevertheless, competitive skis and regular skis have become much more alike. In the old days, one had to be a very skilled skier to make the most of competition skis. Nowadays fitness skiers may also use competition skis. The new OptiGrip ski line which does not require kick wax is an example of skis designed for non-competitors using knowledge from competitive skiers.

4.3. Interacting with champions: Madshus

Madshus, the world's second largest producer of XC-skis, sponsor a number of top athletes and is a good example of how top athletes are involved. When it comes to innovations in technical design many top athletes may have made valuable comments or suggestions, but the ones most frequently and systematically used by the firm are Ole Einar Bjørndalen (biathlon – skating) and Thomas Alsgaard (cross country). In 2004 Bjørndalen contacted Madshus because he was not satisfied with his current ski producer, Rossignol. Their skis did not give him an optimal use of his technique. Bjørndalen is famous for his systematic approach to all aspects of his sport; preparation, nutrition, training and testing of equipment. In the Spring 2004 Bjørndalen started a well planned testing of Madshus skis in Norway at conditions similar to the ones that often dominate the World Cup in Middle Europe. His efforts were video filmed, his blood was tested and pulse measured alongside other measures necessary in order to be able to measure the effect of Madshus skis versus Rossignol skis. How he felt when using the skis was important: finding the good feeling that all skiers go for, the float and the push forward that indicate a good pair of skis. Bjørndalen also measured the speed at defined distances and compared that to other skiers. The director of Madshus, Lars Hanstad, had never seen anybody so thoroughly testing skis (Gotaas 2007).

According to Bjørndalen, full speed for one round at Beitostølen helped him make his choice. For a distance of 3-4 km he went 18 seconds faster on Madshus skis than on Fischer skis and 12-13 seconds faster than on Rossignol. The Madshus skis gave Bjørndalen more stability, better balance and less use of energy. In addition it was a plus that the factory producing the skis was located in Norway (Gotaas 2007). When it comes to his relationship to Madshus

Bjørndalen said that in the seasons 2004-2005, after he changed to Madshus, he was convinced that:

“Although the Madshus skis are the best today, both we as active skiers and users of Madshus skis and the employees at the factory at Biri have to do all our best to further develop the skis in order to improve them even more. If those skis still are supposed to be the best in the world the improvement have to be continuous... One reason for changing to Madshus was that I wanted an optimal cooperation with the ski factory. That has become the case, the contact with the people at Biri has been the very best. I visit the factory as often as possible and after every competition I give the factory feedback on how the skis have functioned. The experts at the factory listen to me, and have done their very best and have given me the skis that I want to use in competitions... At every international competition Madshus is represented by their staff.... It is obvious that their presence and maximal service at the competitions makes me feel safe.” (Møller 2006:193, authors’ translation)

At Madshus Bjørndalen and Alsgaard take part in a group for development of racing skis. The group includes amongst others the Technical director and the International Race Manager. The top athletes have frequent contact with the firm but throughout the year they all also gather for several days in order to discuss the development of products: A number of people, having different functions within the firm, works together with the professionals. It is important for top athletes to see that the equipment is continuously developed and the athletes always get to use the latest skis. Although the top athletes have ideas, the new ideas are most often proposed by the development division, but refined by the athletes. Madshus cannot fail when they offer the top athletes products and tries to ensure this by providing service teams at all major competitions.

4.4 Skating on ski – a specialised branch of XC-skiing – developed by athletes

In innovation studies we often focus on what firms do and where they get their innovation impulses from. But equally it is interesting to sometimes ignore firms and concentrate on where specific activities come from and thereby where the equipment etc needed comes from. An interesting feature in the following innovations in XC-skiing is that innovation in skiing performance leads to innovation in equipment and the opening of markets for new kinds of skis, being commercially important for a number of firms producing skis, binding, boots, poles and gliders for the emerging sport of skating on ski.

Skating on skis has been along for a long time – may be since the beginning of skiing. The one frequently mentioned as the inventor of skating is Pauli Siltonen, a Finnish athlete. He

won Marcialonga in 1972 and Wasaloppet in 1973, and a number of other races, by the use of his skating technique. What happened was that when Siltonen, and often mentioned Bengt Harris, began to lose grip wax they started to stick out one ski to the side and push off. Other skiers at marathon races copied Siltonen's skiing technique. One of those developing the technique at an early stage was Bill Koch, but he was not the "inventor" of skating. Following a little turbulent period, skating was introduced as "freestyle" at Wold Cup races from 1985 (Field & Corradini, undated; Sasseville 2008). This technical invention by lead users has opened a large new room for innovation, being a very important part of the ski equipment industry, illustrating the tight connection between the importance of professionals and business.

4.5 Walking the plank: Helly Hansen and high-tech testing

The Volvo Ocean Race is one of the toughest boat races in the world. Helly Hansen supplies the Ericsson Racing Team 2008-2009, as they have done with ocean racing teams before. These are the most comprehensive projects sponsored by Helly Hansen and they offer the participants a complete wardrobe for a round the world sailing.

Such projects involve extensive resources on the part of Helly Hansen as the teams not only get equipment but access to support as much as possible. The projects are important for PR matters, but also because gear is tested thoroughly. Helly Hansen has meetings with the users before and after the equipment is used. The testing is part of an integrated process and the contact with development people in the firm is extensive. Helly Hansen has the advantage of user cloths being tested in different environments, and knowledge acquired in sea sport about such specific aspects as water proof pockets has proved useful when they want to design similar pockets in clothes for alpine skiing.

Other professionals are the Helly Hansen "snow team", consisting of 9 skiers and 7 snowboarders. They are important because they take part in the design and development as well as contribute to the framing story of the products. These professionals contribute at the "prototype level". Helly Hansen organise a number of meetings with these professionals where they can try different prototypes, or send clothes to them. In both cases they are supposed to give feedback by answering Helly Hansen's electronic questionnaires. These questionnaires are linked to basic data about each of them, e.g. details about their feet, height, weight, etc. The fully sponsored are photographed. One of their professionals is Stian Hagen and the interview with him on the homepage reflects much of this projects' hypothesis: <http://www.hellyhansen.com/team/view/7/Stian-Hagen>

Ski guides and other employees at ski resorts and ski schools wear uniforms made by Helly Hansen. Their experience provides Helly Hansen with a unique statistical database about the

clothes. In for example the Aspen resort in Colorado 5000 persons working in the ski resort wear uniforms made by Helly Hansen.

4.6 Giving back to the community

It is an essential issue to give something back to users when they are involved in product development. The Finnish sail maker WB-Sails gives back both to its customers and to professionals.

Helsinki-based WB-Sails was founded in 1979 to manufacture sails for Olympic class boats and small racing boats. There was a lot of effort put to aerodynamics studies and development through “trial and error”. Over time, WB-Sails has invested in R&D and succeeded in developing computer based modeling programs which accurately predict sail flow and strain under aerodynamic loading. The research and development “concept” projects are based on simulations and mathematical modeling of the conditions where the sails are used. This software is developed within the company. R&D cooperation with, for instance, the Helsinki University of Technology, has been useful.

Sails can, accordingly, be designed using a database of the performance of more than 7000 boats. All specification sheets are saved in the production database, where earlier designs can be browsed all the way back to 1988 when WB-Sails started developing this kind of database. In other words, what is learned from each customer is transferred to following customers.

The sailing community also gets back from keen interaction between WB-Sails and professionals e.g. Olympic athletes. Finnish top athletes in sailing are coached by the designer of the sails at WB. This allows the continuous learning of sailing practices to be mediated into the company’s product development and computer based modeling (“the theories of sailing”) can therefore be verified in practice.

Of course, the athletes directly benefit from their relationship with WB-Sails as they get access to accumulated sailing knowledge. Accordingly, WB-Sails has become a strong brand among sailing enthusiasts.

5. Enthusiastic amateurs

Lessons/key points

- Complaints and comments from amateurs are valuable
- Follow the discussions on open online forums or develop your own forum
- Surveys, interviews, focus groups and observations give valuable information
- Enthusiastic amateurs are important for communicating brand values

5.1. Who are the enthusiastic amateurs and how do firms interact with them?

Who are they?

Enthusiastic amateurs comprise many different kinds of users, but they are characterized by their passion for their hobby and by their willingness to give both solicited and unsolicited feedback/comments on products. Getting to these enthusiasts can be difficult but internet based channels as well as contact through staff at stores has been successfully used by the firms we talked to.

On-line forum and blogs

The internet hosts a vast number of forums on sport and outdoor pursuits. Most of these forums are centred around a particular activity (e.g. white water rafting), around a specific event or set of events (e.g. a race or sporting season), though some are hosted and based around the products of individual firms. General on-line forum are found at i.e. <http://www.nordicskiracer.com> and <http://www.skidsport.com> or directly linked to i.e. specific races. At these a number of issues are discussed, i.e. in late 2007 there was a discussion if Swix or Excel spikes were best for poling on roller ski. With regard to individual firms, a search we conducted early in the project period indicated that relatively few firms had their own forum though increasingly firms are beginning to build-in blog functionality to their websites or set up specific sites where people can express their opinions and share experiences. Several firms have “schools” on their internet pages (e.g. how to wax skis) but this is general information to consumers and does not constitute interactive contact with them.

It is well known that communities of consumption on the internet have been important for the development of technical aspects of equipment. Di Maria & Finotto (2008) describe how Alpinestar moved their R&D department to the “hotspot” to be at the core of the culture important for their gear and in order to observe users in practice and to have dialogue with them for developing improvements. Di Maria & Finotto (2008) suggest that such communities are growing in importance with regard to branding of products because the participants play an active role in interpreting and redefining the meanings associated with brands and

products. Vitrally consumers are responsible for the definition of intangible values of products and brands, especially when products have reached a technological plateau and where the difference, and hence sale, is more defined by the product's intangible elements.

Interviews with firm representatives show that they to some extent follow the forums, but mostly on a random basis. It usually is not planned for and depends on the interests of the employees and how actively they are involved in the sport. Firms in general do not take part in discussions or interfere/discuss with others in a forum, but in some cases they have commented when things had to be clarified.

Complaints and other kinds of contact

Enthusiastic amateurs are an essential early source of complaints and negative feedback that can be vital in evaluating what to do with existing products and what to do right in the future. It is thus important for firms to be able to gather complaints and for those who offer complaints to understand that they are being taken seriously.

Enthusiastic amateurs may also contact firms directly; all firms we encountered list or provide contact possibilities through their internet pages. Still, the questions, comments or proposals to the firm have to be judged by the employees. Sometimes they inspire the firm to develop an item, but often they are not considered until several comments on the same issue. This means that is important for firms to try and maximise the volume of contact they have with outsiders. Filtering the comments or proposals is important, and the actual follow up of a proposal/comment is related to how it fits in with the policy of the firm.

Some firms use the knowledge of these amateurs very thoroughly. The Canadian firm Sierra Design is an interesting example of this. They had an open call on their homepage to do tests of their products and received feedback from 150 people in the first months. People filled out forms on their page, and Sierra Design went through all of them. Everyone who responded had something interesting. Sierra found ten top people and used these for feedback on fit, function and fashion of products.

Thus contact with enthusiastic amateurs can happen through a variety of channels; with the internet an increasingly important channel since it opens up contact between the parties and allows for much more interactive forms of contact. What is clear though is that firms must be active in opening channels of communication, and active in following up on the feedback they receive: whether it is offered in the form of complaints or compliments.

5.2. Get involved with the enthusiasts and see what happens: Fjällräven

User involvement and feedback comes from different sources. Fjällräven (a part of the larger company Fenix) is an outdoor equipment producer. Their product line includes a wide variety of outdoor equipment such as backpack, tents, sleeping bags and clothing. The product that marked the start of Fjällräven was a backpack with a frame that would revolutionize the world of outdoor activities since a broader public was now able to carry heavier loads more comfortably when hiking, etc. Now they claim they: "are not a technical company, but we are an innovative company" (personal interview 2008). They focus more on being innovative when it comes to design and function than the material they use. The customers require high technical and functional material in their outdoor clothes and equipment. Many consumers take this for granted, and look for the products with the interesting design or the smart functions.

One innovative way they get in touch with enthusiastic amateurs is through organising Fjällräven Classic - a trekking event and a competition where the competitive elements are of minor importance. It is a team contest, and the track is 110 km in Kungsleden in Northern Sweden. The whole Fjällräven office and product development is attending this event. They talk to the participants, both formally and informally. The company considers such forums to be very good channels for getting in touch with the 'ordinary users', and for getting direct feedback from consumers. It is a good way to see the end users in their right environment. In addition, this creates good relations to the consumers - it helps build brand loyalty.

5.3. Bergans – enthusiastic amateurs communicate the brand

Bergans is a Norwegian firm founded in 1908 that is known principally for backpacks. In 2001 80 % of their income was from sale of backpacks but although sales of backpacks still increase by 2008 80 % of their income was from sale of clothing for outdoor activities. Their success is due to product development, technically advanced products and a successful adjustment to trends within clothing. Bergans' collections of outdoor clothing are based on a women's fit and a unisex fit and utilises very novel and international style and design registers.

Bergans invites enthusiastic amateurs to take part in competitions, festivals, voting and comments on pictures, and a blog. Bergans is the main sponsor to the TV series 71° North. Our 2007 survey of web pages of most Scandinavian outdoor firms indicated that the firms to a minor extent tried to acquire knowledge about the buyers and involve the users mainly through use of their web-pages. Similarly Bergans has used their webpage as a place for getting information from users. On their page they asked buyers for contact information, reasons for selecting a Bergans product, where it was supposed to be used, where they became

aware of the Bergans products and which magazines the buyer regularly read. Since that time they have increased their efforts to get involved with customers. We do not know the effect of these efforts but by increased efforts in activating the consumers it reason to believe that a positive effect is noticed. By involving the users/customers they also become a way of branding the firm. This involvement is not “user driven”, but users take part in Bergans innovative branding of the firm and the products.

71° North is a reality series based on competition in the wilderness between a number of persons, as they move northwards in Norway in order to reach 71° North (North Cape). The series began in 2002, and Bergans has been one of the main sponsors and suppliers of equipment. As part of the Bergans celebration of their 100 anniversary in 2008 they invite ordinary users to take part in 6 different trips in South and North Norway, planned by organisers of 71° North. Each trip is accompanied by text, maps, music and video presentation of what to experience. In a blog Bergans presented two of these trips especially designed for young people: the Winter Camp and the Jibbing Camp. The Blog was supposed to present updated pictures from the trips. In July 2008, it showed a number of pictures of the participants, dressed in Bergans equipment. A number of comments or experiences of the camps were presented. In April 2008 Geir wrote (translated): “We are very pleased that Bergans selected our children, they had an experience which they will remember for a long time and they acquired lots of fine clothing”. Another (anonymous) wrote: “A fantastic trip. I wish to thank Bergans and 71° North. I anticipated everything to be cold, because we were supposed to overnight in a tent in the snow in the mountains, but the good clothes and the other equipment kept me warm.” In such cases it is clear that user involvement is not in product development so much as it is in brand development and that their comments are co-opted into the firm’s marketing discourses.

Similarly another event they were involved with tried to broaden the effect and imprint of the event itself by using technology to broadcast the activities and participants’ views. Bergans was one of the two main sponsors for the Norwegian Mountain Festival in Mid-July 2008, which included voting of the most important Norwegian out-door book. Participants were invited to send MMS-picture from their outdoor activities.

It must be noted that such promotional activities and user-involvement need not be done by the company by itself. In September 2008 Bergans was “General Sponsor” for the Mountain Film Festival at Turtagrø – one of the most famous spots for Norwegian Outdoor Life and mountaineering. That festival was organised by “The Norwegian Mountain Touring Association” (DNT) – the most important organisation for outdoor activities in Norway and by the Outdoor magazine “Fri Flyt”. Bergans had for years cooperated with DNT, amongst others by preparing clothes for them and announcing in their magazine. In the announcement Bergans invited users to propose additional rules to the, for Norwegians, well known “Rules for safe behaviour in the mountains”. In addition they invited users to a scholarship for producing a film about outdoor activities and assuring them that the film would be shown at

the Mountain Film Festival. Using strategic partnerships is a crucial way of linking to users and linking to the resources and reputations of other actors that the users may also be familiar with.

5.4. Your Life as the new advertising outlet – the case of Nike

This case shows elements of how Nike involves users and enthusiasts in their branding. Nike's global sales have climbed in the last four years — to more than \$16 billion and executives say the new type of marketing is a part of that trend. On October 14th 2007 The New York Times had the title: The New Advertising Outlet: Your Life.

Nike has co-developed Nike+ with Apple/iPod. This is a small sensor that is worn on running shoes that tracks the progress of running. After each run the user can dock the iPod into his or hers computer and posts details of his run on the Nike+ Web site. This is an on-line community where runners around the world meet. They share running tips, experiences with different gear, and follow each others progress. A company representative points out that Nike+ is as much about marketing as it is about product. It is a way for NIKE to connect more directly with their consumers. People are visiting these web pages several times a week and the company are thus frequently in touch with them. In addition to the internet based interaction firms are now using funds to develop new, more direct interactions with consumers, for example through in-person events and the “Nike Running Club” in their New York store which is open for everybody. Nike maintains that this more in line with their original 1970s marketing strategy when much of their advertising had the form of word to mouth between dedicated runners, or as they call it themselves “word-of-foot marketing.”

The company plans to use the Nike+ idea in other sports categories. Nike has been seen as a forerunner in marketing strategies, and it is thus interesting when they claim that their future advertising policy will take the form of services for consumers, like workout advice, online communities and local sports competitions.

5.5 Beating mother-nature: Building your own ski-tunnel

Enthusiastic amateurs can be product developers in their own right. The Finnfoam Paippi skiing tunnel is an example of an endeavor which was set up by enthusiastic amateurs and is now operated by a company.

The skiing tunnel is located in southern Finland where snow conditions vary from winter to winter. The tunnel was built in 2006 and attracted 40,000 skiers during its first complete year

of operation. It provides a 700 meter long and 6 meter wide indoor track for cross-country skiing. The ski tunnel – or actually a tube which is built on land – provides skiers with standard weather conditions throughout the year. This makes cross-country skiing basically an all-year indoor sport; obviously it typically considered a winter only outdoors endurance sport. The low track profiles and track arrangements for different paces make skiing comfortable for skiers of various skill levels.

The tunnel has been designed to promote cross-country skiing culture rather than to support the careers of competitive skiers. Families with children are very welcomed as they introduce their youngsters to the sport. Similarly, pensioners are welcomed as they mediate skiing culture to younger generations. The age groups in between are also seen as a part of sports culture rather than as competitive skiers. Exercise and health are stressed rather competition.

This variety of customers is something that profit seeking sports facility providers often struggle with. Very often the most profitable customers are those who do not make much use of the facilities, yet can afford to invest in shares or pay monthly fees. The Paippi ski tunnel obviously has discounts for heavy users, but it has also kept its pay-as-you-ski prices affordable, i.e. 10 euros. These pricing strategies and tunnel's design choices reflect the initial reasons for setting up the tunnel. After the world's first skiing tunnel was built in Vuokatti in central Finland, the Finnish Ski Association decided to aim to set up five tunnels in Finland. It was initially made very clear that competitive skiers do not need skiing tunnels as they spend much time in skiing resorts and demand various types of skiing conditions.

Experienced skiers were up to the challenge. In addition to the ski tunnel in Vuokatti, they were inspired by indoor slalom facilities, hockey stadiums and swimming pools. Yet they had difficulties in explaining the need for an indoor ski tunnel to local authorities; a ski tunnel definitely represents a radical innovation. As experienced skiers they knew what kinds of conditions non-competitive skiers enjoy. In this respect, enthusiastic amateurs were heavily involved in the initial phase of the tunnel development. Now that the ski tunnel has attracted tens of thousands of customers, the need for it has been validated and product development is not as radical as before nor need it involve customers and amateur associations in particularly intensive ways.

6. Passionate insiders in sports equipment firms

Lessons/key points

- Encourage, support and learn from your employees' hobbies
- Hiring the right passionate users and insiders can be valuable
- They can become integral partners in company development rather than simply employees

6.1. Who are the passionate insiders and how do they influence innovation?

Passionate insiders in a sports equipment firm are those employees who are especially engaged or passionate about sports activities that are relevant for the products or good produced by the firm. Often they want to work in such firms because they are practitioners of a sport for which the firm produces equipment. There is a growing emphasis on the importance of passionate insiders and firms are increasingly prioritizing these types of employees. For example, the director of SWIX emphasize that he particularly want to engage people passionate about winter activities. Equally one of the reasons Klättermusen re-located to the winter sport destination Åre was access to personnel who choose to live in Åre because of the sports and outdoor opportunities there. The Director said: "If you are not active, interested in sports and outdoor, you will not get a job here". Or as a designer of "base layer" (underwear) said: "I am a lead user myself, I am wearing our products 200 days a year".

Tanja Kotro labels these people as hobbyists since their interest in the products and sports are based on their leisure time hobbies. Such people have a long-term interest in their hobbies and this means that they not only have passion for the activities and equipment but they also have a wealth of accumulated knowledge and experience the company can benefit from. Such employees may therefore need less training to adapt to their employment since they already know the products and the history of the firm. In several of the firms analysed in this report such passionate insiders, who know the history of the products and the firm, and participate in the use context of the products, were identified.

In a piece of earlier research Tanja Kotro (2007) addresses the question of whether hobbyists have any sort of knowledge that may escape designers or lead users. She refers to Brown and Duguid (2000) who note that joining a community of practice gives access to that community's identity and, through that, its collective knowledge. They also point out that learning does not just involve acquisition of facts about the world; it also involves acquiring the ability to act in the world in socially acceptable ways. From their perspective, knowing is always linked to practice. Their experience and in-depth understanding of the cultures around

different activities and the problems and passions of average users can be a very useful complement to the skills of design professionals. Passionate insiders can therefore be useful and reliable bridges between the product development/manufacture side of the business and the firm's customers and fans.

6.2. When your employees are also hobbyists – the case of Suunto.

Employees are particularly useful for product development when they know both what user communities wish for as well as what a firm can develop. Suunto employees are a good example of bringing together hobbyist experiences with the development of new products for sports markets.

Suunto is a Finnish manufacturer of sports instruments for diving and outdoor sports. Users have been involved in the product development processes since the beginning of the company: the founder of the company was an eager sportsman himself and it is said that the company started from his identification of the need for a liquid compass.

In recent years, the hobbyist approach was used by the firm when they developed wristop computers. First concepts of wristop computers were tested with a group of North American users but the moderately positive initial reception was not very encouraging to product developers. However, a second attempt with the concept changed this and the test group began to be enthusiastic about it. The renewed product concept stemmed from employees' intuitive and experience based knowledge. Choosing the new concept was a hard decision as it involved casting aside a lot of work that had been put into the earlier concepts. Nonetheless, the choice was the right one and brought together the explicit aims of the company with the tacit knowledge of sports communities. Product developers were involved in the communities and acted as mediators of user needs for the company. Combining hobbyist knowing with participatory design methods was the key to success.

Hobbyists are often good at networking and they have the access to communities of users being themselves part of these. They understand "the true nature" of the sport as they possess tacit knowledge existing in the community or sub-culture. The challenge for companies is to make the most of such knowledge. Design methods and user experience studies can be used to challenge and complement hobbyist knowing.

Today, this approach has been formalized in Suunto. Methods that have been developed include testing concepts with users and an ongoing survey to end-users who register themselves after buying a Suunto product. The survey to end-users constitutes a data base that helps interpreting how users are welcoming industry trends. There are also more product development focused activities. These activities embrace a range of methods including

interviews with professional users, who are sponsored extreme sports people, as well as interviews with other enthusiastic users who are registered in the Suunto database. The important thing here is that the employees themselves make the questionnaires together with the help of a market analysis consultant and report results to the team. This enhances the firm's team spirit but also speeds up the work of both the development and marketing functions. The results and interpretations are then discussed in the company and tested and verified with key colleagues in the retail sector.

6.3. Bringing passionate revolutionaries inside: New Telemark Norm (NTN) and Rottefella

Many sports and outdoor activities require quite technical equipment. Most of the times this equipment comes from different producers, and there is always a risk that things will not fit well together, if at all. If you, for example, like ice climbing you will need a backpack that can reliably and easily hold your ice axe and your crampons. Or if you ski with a helmet then you will want your goggles to fit perfectly and the hood on your jackets will need to be big enough to fit over the helmet.

The best example of system integration might be found in skiing, where the boots, bindings and skis need to fit each other and use the same standard. Alpine boots and bindings have had the same standard for a long time, so it does not matter what kind of boots you use, they fit all different bindings. In cross country skiing however there are two competing standards.

In Telemark, the little brother of alpine skis, we have seen radical changes in the last few years. The Norwegian company Rottefella's new telemark binding system – New Telemark Norm (NTN) - is a considerable innovation.

When Rottefella started the NTN project they wanted user involvement from day one. They hired an experienced Telemark skier and mountain guide as testing manager. A company spokesperson told us: "Without a doubt, this is a binding made by skiers for skiers". The bindings are born out of extensive testing – both internal in the firms and with experienced users. They used different riders to test the bindings in different conditions; big mountain/free riders, groomed conditions (carving), jibbers, etc. In addition, they sent out demonstration models to retailers/shops. The binding were tested in Norway, North America and the Alps. The distributors lent out skis and binding on different hills so every interested user was free to test out a pair. The designer behind the binding calls this 'terror test' – the same binding is exposed to numerous users, with different styles, techniques and skills. If the bindings can take this it is a sign that they are very durable: "We don't want to use the consumers as test personnel, the tests have to be finished by the time the product reaches the store." Even with

these extensive test procedures the bindings were not without flaws; during their second season on the commercial market they were some changes to the springs.

The hired test manager, and the developers, did an extensive testing of the skis and the new bindings by themselves during different phases of their development. This testing was very important because he immediately knew when the bindings were good enough, even which small adjustments that had to be done in order to make the bindings function perfectly. The testing included systematic testing on different kinds of skis. Rottefella considered such systematic testing with professionals, together with verifying the results in a wider group as a better way, than just giving bindings to ordinary users. In addition scientific testing in laboratories was conducted.

A binding is not much fun or useful without a boot that fits. This means the development of boots and bindings has to be parallel. The NTN binding share some of the same standards as alpine touring – the toe has the same shape and size. This is different from the old Telemark norm and was a strategic choice: Rottefella wanted to tap into the alpine touring market. Telemark bindings sell about 70 - 80 000 units per year; alpine touring (or randonee) bindings sell about 150-170 000; alpine bindings sell about 4,5 million. NTN have some technical solutions that make the bindings work in alpine touring; they are light, they have enough flexibility to work on steep uphill, and they have a 'walk' mode. This is an attempt to broaden the market for their new bindings but also to benefit from economies of scale.

In NTN the boot is fixed to the binding through a "second-heel"/hook-system. This is a Rottefella patent. The boot producers have to make boots that will fit the new system. Rottefella used team riders from the boot producers in the testing period. The development of bindings thus went hand in hand with the development of new boot models. The bindings were tested together with boots from the Italian producers Scarpa and Crispi. Garmont joined the system the second year. A number of factors influenced this successful joint development, amongst these that the development was based on rigorous and professional testing that included cooperation with test skiers and developers. The inclusion of three competing shoe producers was a challenge for the development of the product system, especially in the beginning, before thrust was established.

7. Chains and retailers; in-store buyers and users

Lessons/key points

- Never forget your distributors and retailers are important customers that can play an important role in innovation
- Stores are frontlines for interaction with customers and shop floor workers have valuable direct experience of consumers needs and desires
- Involving retailers and distributors from the start can give you an important head start

7.1. About the importance of in-store and in-house

Retailers have direct contact with the customers and users. This means that those working in retail stores have direct experience of what potential customers are excited about, looking for or what they are unhappy with. Equally retail staff are always present, and often give vital advice, when consumers make their choices between different equipment. Thus retail staff has both the power to give feedback as well as an important influence on whether your innovation will be picked up by consumers.

In one of our interviews the Canadian firm Sierra mentioned that there was a close personal bond between the producers and the retailers. The producers talk to their retailer so they are sure they sell the right products to the right stores. Canada is huge, so there is a lot of local knowledge involved in what sells and the good retailers are key knowledge sources. Sierra approach many types of professional in their development and marketing stages and are careful to take retail workers extremely seriously. “There is the retail alpha guy”... he is the one that everyone on the store looks up to, both his colleagues and the customers. He loves the industry and he loves being outdoors. He is the guy customers ask for when they want help with something ‘big’. Some companies thus try and reach out to these key individuals in their attempts not only to push existing products but in their generation of new ones.

Of course, it must be remembered that there are many types of retailers. In the Nordic countries there are two main kinds of sport retailers. The first type is essentially independent retailers, though they are often part of a larger buying cooperative or alliance. In Norway Stadion is an example: they consist of independent stores that cooperate to some extent, i.e. on joint storage and purchase, but are free to develop their own store with regard to design, marketing and selection of products. The second type is the retail chain multiple: e.g. Stadium, Intersport, Sport 1. These are vertically integrated companies with many outlets; these outlets are standardised with regard to the design, selection and marketing of products.

Retailers can be important innovation actors in several ways:

- They often commission own-brand collections and product systems; they are therefore major ‘producers’ of sports equipment in their own right.
- They organize joint campaigns which can be an important way of co-financing product pushes.
- They frequently propose special varieties of products and new types of products to the producers (either for inclusion under the retailers own brand or because they have identified a particular market niche/need).

7.2. Frost

Through its over 200 stores the Norwegian sports chain G-sport, owned by Gresvig, sells a line of products for children sold under the brand “Frost”. This range of products is divided in one line for boys and one for girls – rather stereotypically pink for girls and blue for boys. The same kinds of products are offered for both girls and boys and the range includes sledges, skates, clothing, alpine skis, and skis for Nordic skiing, boards, ski-helmets and poles.

The Norwegian customers are said to exhibit a high level of brand loyalty; they trust some brands and are loyal to these. So in certain areas it does not make sense for Gresvig to start in-house brands - for example skis – and it is better to work with the producers. However, as a firm they are in a powerful position to choose between the many producers and to influence their product offer.

The individual products are all made by independent producers: including Madshus, Rottefella, Hamax, Alpina, Swix, Head and Teckno. Though each product is produced by different firms all share a unique design and visual profile that links them to the other products within the Frost series. The products are produced in close cooperation with Gresvig who presents the design profile, and the producers explain how their products look like. Initially they can have discussions with several producers, but end up with one for each product category.

Gresvig employ designers to help them develop designs for new products. G-sport has focus groups of children that give them feedback on new products and prototypes.

They have power over their suppliers because of their size – they are an important customer. This is especially true for Nordic skiing where Norway is the second biggest market in the world after Russia. This makes producers go the extra mile to comply with Gresvigs wishes.

7.3. Stadium - developing in-house brands

Stadium is one of Sweden's largest sports- and outdoor retailers. It was started, and is still run by two brothers - Ulf and Bo Eklöf. From a small start with one shop in Norrköping, they now have stores in Denmark and Finland as well as in their home country. From the start they experimented with new and innovative retail techniques. For example, they took their experience from working in their parent's grocery shop and transferred this to sports retail by moving from counter service to floor displays so that customers could see and feel the products. This is how all sports stores are now organized but at the time it was an innovative way to set up the store.

Because they have big shops they need to reach a wide consumer group. They have a wide variety of products they need sell to customers with different needs. According to the company informant their core customers are families with children. The customers seek added value in the products they are pick out. Branding is main tool to give this to the customers. Branding is important and they are working more strategically on this than they used to. This is done through how the products are displayed in the shops, the graphic presentation (pictures etc) and the product design.

Stadium has a mix of international and own in-house brands. The representatives of the company we talked to admits that in the beginning they were "very inspired" by other firms' product. This has changed now and at the present they have 15 in-house designers. These designers are all active users themselves and are interested in sports and outdoor activities. They have five own-brands that they develop and brand themselves. Though all production is outsourced they work closely with the producers.

8. Issues for Policy

In this chapter we summarize some of the policy recommendations arising from this research project. These recommendations are directed towards two main groups: firms; public policy.

8.1. *Issues for firms*

A systematic approach to user-driven knowledge, and the inclusion of it into the firm, may give new opportunities not yet recognised by firms. However, it is useful for firms to distinguish between the short and long term benefits of user involvement in product development.

<u>Short term benefits for firms</u>	<u>Long term benefits for firms</u>
• Immediate contact with potential users • Energizing the product development process • Feedback on product concepts and prototypes • Development suggestions and ideas for new applications	• The accumulation of user knowledge in the firm and its anchoring in corporate culture. • Strategic knowledge of an innovation's potential, shortcomings and acceptability among users.

In both cases the value of user-participation to the firm can be expanded upon:

- If firms see that the short term benefits of user innovations also pave the way for strategic insights.
- If user knowledge is integrated in the core activities of the firm and a system for its collection and inclusion is built up.
- If users are rewarded for participation in innovation. Rewards take many forms – e.g. payments, provision of equipment, privileged access to information, commitment to improving products, feelings of community and partnership.

Getting to know user innovators

User innovators have in a number of cases invented totally new types of equipment, changed or modified gear or started to use the existing in new ways.

- Observing these users may be a good way of getting knowledge on upcoming innovations and trends or on how to modify existing equipment or gear.
- User innovators can be maverick individuals that are difficult to locate but they are most often found in established and new sporting sub-cultures. Getting in touch with them thus involves a sensitivity and awareness of these groups. Chances of getting this contact are increased by proximity to particular places – which is why so many firms locate their

R&D close to the users – and by regular and strategically planned surveillance of fanzines, magazines, what is published on the internet, etc.

Getting to know athletes, adventures and explorers

These are important for both branding and testing of equipment.

- It is important to make sure those individuals firms get involved with have the ability to work together with people from the firm and to understand their “world”.
- Too many testers may confuse results and led to problems with filtering the information.
- This group can also be an important branding tool for the firm but their involvement can be expensive so it is therefore a good idea back up the individual investment with a well worked out companywide branding, and marketing support, strategy.
- It is vital to find the users that communicate the same message as the product. This can only be done through in-depth knowledge of user communities and the latest development in the consumer market.

Getting to know enthusiastic amateurs

Enthusiastic amateurs may give valuable information and feedback, and are also an important source for branding.

- Enthusiastic amateurs may have highly specialised knowledge and experiences not found in the firm or in the usual sports equipment R&D communities. These are people who work hard to find solutions to their special needs, abilities and disabilities; and as such can be a vital source of specialist and experienced knowledge.
- There are many different techniques useful to getting to know enthusiasts. In our research the following were highlighted by firms as particularly useful: surveys, interviews, focus groups, observation at events.
- Enthusiastic amateurs often build their own communities on the internet and discussion forums. These are invaluable sources of information and ideas.
- Questions directed at these people should be both structured and open ended: these users are particularly positive to interactive forms of communication.
- Thought and planning on how you will use the information collected ought to be given in advance. It can be a good idea to share these plans with the users so that they trust your use of their data and feel a part of the process.
- Enthusiastic amateurs often occupy important leadership and community positions: e.g. as trainers of local teams or as well known local users. Turning these users into branding partners by linking your products to their “life” may be valuable strategy for marketing products.

Getting to know passionate insiders

This is a very useful group because they can form a bridge between your firm and your existing and potential customers. They know the internal life of the firm and its priorities and processes, but they also know how to perform an activity, they know the culture of the sport

and what is going on within the sport etc. Furthermore they bring a real passion for what they do to the workplace helping make your firm a more creativity and innovation friendly environment.

- In the hiring process firms might want to think about looking for people with personal experience as users, as well as the formal skills and competence needed for the job.
- Encourage the passions and hobbies of your employees. Allow them space to integrate the knowledge they have gained from their passion for their hobbies into their work.
- Listen to passionate insiders and take seriously their expertise and experience: Firms should seek to incorporate and make use of the internal knowledge found among their employees.

Getting to know retailers and chains

Retailers have direct contact to customer and users, which means that they can influence what they buy in the stores and they can guide the customer in how to use a product. They may also notice priorities and tendencies in what customers ask for and what they emphasize.

Complaints are often first presented to the retailers. Good contact with retailers may therefore be an important strategy in order to capture the customers and users and their knowledge.

- Firms have to listen to chains but must not lose their “soul” and get too locked in to chains’ short-term priorities. Developing your own innovation potential is the surest way to ensure existing and new custom in the future.
- Firms should actively try to upgrade retail sales personnel's knowledge, and make them aware of their product's strengths. It is in the stores the battles are fought, and the brand needs the store personnel to help them.

8.2. Issues for innovation policy

It is already accepted that users are an important source for innovation. Still this fact has to be pinpointed and lifted into innovation policy in a systematic way. Innovation policy ought to emphasize that different kinds of users exist, and that each group of users may be advantageous to involve for solving different kinds of problems. Helping firms realize the role of users and their connections to users is an important task that public policy can help with.

Innovation policy also has to focus on how users can be involved in different types of innovation, amongst others within technical design, visual design, development of products systems, and branding. An acceptance of the fact that innovation occurs, or ought to occur, in the interaction between firms and civil society is important for innovation policy. Use of multiple sources for innovations, including classic R&D, in combination with different kinds of interaction with users should stand at the centre of innovation policy.

Involving different kinds of users require new openness and experimentation from firms. Innovation policy should acknowledge this and support it where possible and necessary. Policy for user driven innovation is still in its development stages and new approaches such as living labs are still at an early stage of development.

Innovation policy embraces national, regional, and sector specific levels. At the national levels a number of with papers and recommendations exist, both in the Nordic countries and in other countries. In fact some of the Nordic countries are emphasized in international reports as good examples. In Norway the workshops such as “Design for all” (Design for alle), arranged in 2007 and 2009, are an example of the role public actors can play in helping form platforms for interaction between various types of participants in development processes. This theme has received increased attention from amongst others design firms, Design Councils, Innovation authorities and Ministries, and a number of efforts aimed at firms have been initiated: see <http://www.norskdsgn.no/design-for-alle/category501.html>

As noted in the UK report “The new Inventors: How users are changing the rules of innovation”, user innovators tend to be driven by their interests rather than intellectual property (IP) rights. Providing knowledge about IP, but also where to draw the line in the case of incremental adjustments, ought to be a focus in innovation policy support packages.

Policy at a regional level ought to be more operational, and developed with the aim of being of direct use for specific local firms and civil society actors. The challenge is to develop material and guidance that make more easily accessible insights into how different kinds of users may take part in solving problems and innovation. How to make use of both codified and tacit/personal knowledge in problem solving or development is at the core of this issue. Local cluster policy initiatives and organizations are an important arena in which local users can be identified and linked to firms’ innovation context.

Existing systems of business advisors and regional business education programs may be an effective gate to the firms and to existing policy, programs and funding. The highly developed programs of short courses and adhoc support such organizations offer are an ideal place for the inclusion of information on driven innovation and training/information on user interaction techniques and methodologies relevant for firms when they want to acquire new knowledge.

Users, as citizens, are already invited into regional policy i.e. in the planning of regional economic development frameworks and in areas such as planning and building legislation. In this context strengthening an awareness of user perspectives and forums for innovation can help regional authorities plan for the inclusion of users in future regional innovation systems and networks as well as in the development of public services that have a bearing on the sporting infrastructure. By democratizing design, increasing public participation in design of public places, countries like Denmark and the Netherlands are heading in that direction.

Another issue for regional policy is to focus on different kinds of users, i.e. local residents, tourists, professionals within different sectors, as a means for different kinds of innovation. This is relevant for development of both public services and commercial activity within different sectors, i.e. development of existing and new services related to tourism. Regional authorities can greatly help firms reach those professional, amateur and passionate visitors that, even temporarily, enrich the spectrum of local users and enthusiasts. Regional and tourism promotion activities, after interaction with local stakeholders, may provide support in attracting the 'right' type of users and visitors to the region.

Regional policy might also consider how it can encourage users from different sectors to meet and cooperate in order to develop new kinds of businesses or improve existing ones. Meeting places and networking events relevant to regional industries are important, and could be expanded to include users and other stakeholders.

Public support for innovation activity ought to include user communities fostered by supporting regional forums and systems for organizing contact between users, firms and civil society organizations. It must not be forgotten that a lively and diverse society is not only a public good but a potentially important source of new business innovation.

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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.

For more information: www.nordicinnovation.net