

PROSUMER CONCEPTS IN THE OUTDOOR FASHION INDUSTRY

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Abstract

Customer needs and requirements are getting increasingly diverse and consumers more and more want to express their individuality with the products they buy. Due to the emergence of the internet and possibilities given, customers no longer only play a passive role, but are actually enabled to determine what they are purchasing. Therefore customisation or personlisation approaches like the miadidas concept from adidas, providing customised performance shoes or sneakers are more popular than ever. The prosumer concept already plays an important role trying to satisfy the demands of customers in future. As apparel for outdoor activities represents the largest and most important part of the sports good market in Germany and is yet still expected to grow, the purpose of this study is, on the one hand to identify diverse prosumer concepts existing and on the other hand to examine to what extent companies of the outdoor industry already have implemented prosumer concepts. A content analysis of homepages and online shops of 30 different European and North American outdoor brands was conducted. Results show, that companies of the outdoor industry have already implemented several prosumer concepts, but most of them are mainly concentrating on one prosumer approach and the involvement of professional users of their products.

Keywords: Fashion Industry, Prosumer Concepts, Apparel, Outdoor

INTRODUCTION

In 2012 the outdoor market was market-leading in the sports good market in Germany. With a market share of twenty-two percent and an approximate turnover of 1.6 billion euro (Media Control, 2015). The outdoor industry was and still is today a major and very important part of the German sports good market. The biggest percentage of sales generated by the apparel sector, with a percentage rate of 53.4 percent in 2012 (Marktmedia24, 2015b). According to a survey conducted by Tomorrow Focus Media in 2012, 94.6 percent of 1,072 interviewed people like to do outdoor activities and 73 percent already undertook outdoor activities in 2012 (Forward Ad Group, 2012). All these numbers illustrate clearly that the outdoor industry, and especially the apparel sector, is of major importance and furthermore is still expected to grow. Until 2020 the turnover of the outdoor market is predicted to be approximately around 1.98 billion euro (Marktmedia24, 2015a). Given the potential of the outdoor market companies of the outdoor industry should strive heavily to satisfy the needs and demands of their customers. As the needs and demands of customers are growing increasingly diverse and consumers more and more want to express their individuality with the products they purchase (Gilmore & Pine, 1996) companies need to consider new possibilities to be able to satisfy the needs of their customer. Trying to involve the customers into internal processes after, but in addition also before the actual purchasing process, appears to be a potential approach in order to attain this goal. The prosumer idea, initiated and first mentioned by Toffler (1981), forms the basis of all ideas involving customers and their needs in a more intensive way.

Therefore the purpose of this study is firstly point out which concepts integrating the prosumer idea of Alvin Toffler are existing and secondly to figure out to which extent companies of the outdoor industry, especially producers of garments for outdoor activities, are already utilising these prosumer concepts to integrate their customers and their needs and demands in a more intensive way.

The research question is thus formulated as follows: Do companies of the outdoor industry pursue the prosumer idea and do they already implement prosumer concepts?

In this regard, a content analysis of the homepages and online shops of 30 different European and North American outdoor companies has been conducted.

LITERATURE REVIEW

Prosumer

The word 'prosumer' is a neologism composed of the words 'producer' and 'consumer', first mentioned by Toffler (1981) in his book "The third wave". Toffler describes the change of society and the altering part of consumers respectively producers in different periods of time. Therefore

he defines three different waves. Beginning with the first, the agricultural wave, where agriculture is the dominant institution. According to Toffler in this period most of the people are 'prosumers' because they produce (for example grow their own vegetables or sew their own clothing) for their own consumption. Thus in this period they are producer and consumer simultaneously. In the second wave, which arrived with the Industrial Revolution at the end of the 18th century, the factory became the dominant institution. As most of the people are now working in factories and spend most of their time working, there is not enough time left for self-supply. Therefore prosumption turns into consumption. The following post-industrial period, the third wave, as described by Toffler, is characterised by a shift back to prosumption. In contrast to the motives for prosumption in the first wave, the desire for individuality and the growing variety of customer demands, mark the prosumption idea in the third wave (Toffler, 1981). The idea of prosumption offers several approaches to satisfy the longing of today's society to express their individuality and to deal with the increasing diversity in customer needs and requirements (Gilmore & Pine, 1996). The consumer therefore takes a more active role and is empowered to become a knowledgeable partner (Gibbert, Leibold, & Probst, 2002). Today companies facing an active, well informed and connected customer (Prahalad & Ramaswamy, 2004). Customer ideas, suggestions and complaints are used as driving force for innovations (Mazur & Archakova, 2011). As there is no distinct definition of the prosumer concept to be found in literature, for this research, concepts which try to involve the consumer and his needs and requests, either before the actual purchasing process of a product or afterwards, are embraced by the term prosumer concept.

Different characteristics of prosumer concepts can be found in literature. Although they are not precisely labelled as prosumption, all are pursuing the goal to involve the consumer more intensely, give him a more active role and therefore transform a pure consumer into a prosumer. Below different opportunities to involve consumers are presented and classified from the weakest to the strongest form of prosumption. Beginning with the weakest form represented by customer complaints. Followed by customer surveys to gain more information and insights about consumer desires and incorporate their wishes and requests. Also opportunities to involve consumer needs and requirements offered by the technologies of Web 2.0 are described. Fourthly the lead user concept, which involves input and ideas of especially skilled and professional consumers is described. Followed by a description of the mass customisation approach and the possibilities for consumers to determine several aspects of products before purchasing the product. Concluding with the highest occurrence of prosumption in the concept of Do-it-yourself.

Prosumer Concepts

Customer Complaints

As Barlow & Møller (1996) explain, complaints offer a way to get direct feedback from customers. Additionally they also afford the opportunity to monitor if the products offered meet customers' needs and expectations or if some improvements or adjustments should be considered. John Davis IBM representative says when it comes to complaint management: "When you keep track of what customers want and what they don't want, what pleases and gripes them, you can adjust your sights accordingly and stay a step ahead of competitors" (Barlow & Møller, 1996). Therefore an efficient complaint management represents a first step towards the idea of prosumption.

Customer Survey

Not only complaints of customers furthermore customer surveys are part of a feedback mechanism (Görtler & Rosenkranz, 2006). Customer surveys provide an opportunity to be geared to customers' wishes and requests (Beck & Beck, 2011) and therefore be better able to satisfy and serve their needs. An increasing customer loyalty is another side effect of customer surveys because companies express that the opinions of their customers are of importance (Görtler & Rosenkranz, 2006).

Mass Customisation/ Co-Design

Mass customisation was first named by Davis (1989). He described mass customisation as the ability to produce high volume products which also satisfy the individual needs and requests of the customers. Piller defined the customer in a mass customisation system as a 'co-designer', because it enables the customer to take place in the configuration and therefore in the actual design process of a product. According to Piller companies will no longer sell finished products but capabilities. Customers will hand in orders which will then be fulfilled and produced by the companies (Tseng & Piller, 2003). In this case the consumer comes into action before the actual purchasing process. The mass customisation concepts allows consumers to define several aspects of a product themselves. Different forms of mass customisation are possible and already carried out. A highly successful example of mass customisation is the miadidas program for customised performance shoes. Already launched in 2000, nowadays this program is extended to four different divisions. miadidas, as already described above, miteam, the possibility to customize sportswear (shoes, apparel and accessories) for members of sports teams, mioriginals, the fashion approach where customers can choose between predefined

colour and material options for sneakers and micoach, which offers an individual training program for users (Piller, Lindgens, & Steiner, 2012).

Web 2.0

According to Tim O'Reilly the inventor of the term Web 2.0, in contrast to the early phases of the internet, Web 2.0 puts the user in charge of creating, editing and viewing information (O'Reilly, 2007). In this matter user generated content is an important term and describes content that is publicly accessible and generated by end-users and not companies or organisations. There are several options for users to generate and publish content. Online social networks provide a platform for group communication using a personal profile (Carrera et al., 2008) and transform consumers into contributors of content (Constantinides & Fountain, 2008). Social networks, like Facebook or MySpace, are a useful sources of user produced content and beneficial information about consumer needs and requirements. Members of online communities, like the online community "Live for the outdoors", where outdoor enthusiasts are communicating about new product innovations, reviews of different kind of gear, outdoor events, hiking routes, etc. ('Livefortheoutdoors.com', 2015), share enthusiasm for the same subject or activity and represent a large pool of product know-how generated by actual end-users of the products (Füller, Bartl, Ernst, & Mühlbacher, 2006). According to Carrera blogs are 'online journals' or 'personal websites' and can be seen as a kind of virtual community too (Blanchard, 2004) and are therefore another useful source of customer information and input. On pages like tripadvisor, Wikipedia or youtube user reviews and comments reflect their word of mouth opinions (Carrera et al., 2008). According to a survey conducted in 2007, 60 percent of Europeans are "[...] reading or writing blogs, listening to podcasts and setting up RSS feeds, reading and writing online consumer reviews, or taking part in social networking sites" (Forrester Research, 2007). This number shows how important the applications of Web 2.0 nowadays are and why customer information supplied by Web 2.0 is becoming more and more auspicious. Blogs and social networks can be seen as a new source for customer insights (Greenberg, 2010). There are tools to monitor those social media sides. These tools are especially valuable because they can gather information from millions of different sources, including traditional sources as well as information from forums or communities or social networks like Facebook (Greenberg, 2010).

Lead User Concept

The lead user concept was first mentioned by Von Hippel (1986). Two different characteristics of lead users were described by von Hippel. First lead user experience needs, which will

become general in a marketplace, months or years before 'normal' users recognize those needs. And secondly lead user also anticipate a significant benefit by fulfilling their needs (Von Hippel, 1986). Professional athletes or people who are doing outdoor sports occupationally can be seen as lead users. They are ahead of the usual needs of the market because they are using products more frequently and in a more extreme way than ordinary users. Therefore they are able to offer beneficial input for companies (Hienerth, 2006). Especially for functional clothing it is additionally of great importance to test the products in the actual circumstances of usage (Gupta, 2011a). As lead users are using the garments under real conditions in the field, they can provide first-hand information about the usage of the garments, which cannot be furnished by laboratory tests. It is very effective to involve those lead users into marketing research, because they can offer valuable information (Von Hippel, 1986). In this case professional consumers of products are turned into prosumers. Because of their special status, companies are eager to involve their wishes and demands.

Do-it-yourself

An extreme approach to the idea of prosumption is the concept of Do-it-yourself. First mentioned by Bateson in 1985 in an article investigating self-services. He identified a consumer segment which favours to "do it themselves" rather than being involved in a service encounter. Bateson named this special consumer group do-it-yourself consumers (Bateson, 1985). According to a survey carried out by Tomorrow Focus Media from January 2014, 30.2 percent of 735 respondents agreed totally and 49.0 percent agreed to the statement "I am a fan of do-it-yourself". The survey also points out several motives for participating in do-it-yourself actions (Tomorrow Focus Media, 2016). As already analysed by Bateson in 1985, also this survey demonstrates that saving money is not the key driver for do-it-yourself activities (Bateson, 1985). Whereas enjoying do-it-yourself activities and producing something individual are the top two reasons for undertaking do-it-yourself actions (Tomorrow Focus Media, 2016). This results shows that do-it-yourself is a considerable approach in the field of prosumer concepts. Wherefore it is crucial for producing companies to take the segment of do-it-yourself consumers into consideration and try to involve their demand to be an active part of the design or development process.

Communication Channel

There is a change in the way businesses and consumers communicate with each other. With the opportunities offered by the internet and Web 2.0, communication between businesses and their consumers is no longer a one-way street. The communication between companies and

their customers is becoming more and more interactive. Not only companies are supplying their customers with information but also the other way round. Thus B2C (business to consumer) communication is supplemented by other methods like C2B (consumer to business) concepts (Zentes, Swoboda, Morschett, & Schramm-Klein, 2012). Using C2B communication the customers are able to communicate directly with the companies and inform them about what they individually want (Law, Lau, & Wong, 2003). Regarding the prosumer idea the communication channel between consumers and the companies (C2B) obviously plays a very important role. The paradigm shift from customers who only receive information from companies (B2C communication) to customers transferring individual information to companies (C2B communication), facilitates and simplifies the implementation of the prosumer idea. For companies of the sports good industry there is an additional communication channel in the sector of C2B communication. Companies of the sports good industry are also communicating heavily with professional consumers. They sponsor professional users by providing sometimes both, free gear and regular payment. Whereat access to latest innovations and techniques is mainly mandatory and sometimes even favoured by the athletes (Pike, 2011). As it is common in the sports good industry to sponsor professional athletes, input from the professional users for the design and development process is easily accessible. Therefore for the outdoor industry there is an additional communication channel in the C2B communication – the communication between professional consumers and the company, which shall hereby defined as PC2B (professional consumers to business).

Logic of the Outdoor Industry

As painted on the homepage of Mountain Equipment, a British outdoor company, their customers are ambitious climbers, mountaineers, expeditionists etc., who are performing in extreme circumstances. Therefore they need gear they can completely trust and rely on ('Mountainequipment.com', 2015). Even though not every customer of the outdoor industry is a professional climber, alpinist or skier, climbing the eight-thousanders of the world or freeriding some backcountry in the Rocky Mountains, companies of the outdoor industry raise the claim to provide gear which resists in severest conditions, improves the performance and helps exceeding personal limits (Morrissey & Rossi, 2013). Garments of the outdoor industry can be counted among the class of functional clothing. Functional clothing is designed to especially meet performance demands of customers and to operate under extreme circumstances (Gupta, 2011b). In the following chapter three different aspects of clothing are analysed, including fit, function and design, to point out the special characteristics of the outdoor industry and the discrepancies in contrast to the fashion industry.

Fit

Fit means the conformity of a piece of clothing to the size and the shape of an individual wearer. A poor and inconsistent fit is an often mentioned reason for dissatisfaction with purchased clothes (Keiser & Garner, 2012). Therefore a lot of analysis and research has been addressed to the fit of clothes. Five elements of fit have been identified: grain, set, line, balance and ease (Erwin, Kinchen, & Peters, 1979). All of them are describing different aspects of fit. Grain describes the direction of the yarns processed in a fabric. The lengthwise yarn should parallel the height of a human body whereas the crosswise yarn should run perpendicular to the lengthwise yarn. The set implies a wrinkle-free garment. Wrinkles indicate that the garment is either too small or too large. Conformity of the lines of the garment and the lines of the body are described as line, for example centre front and centre back seams should be perpendicular to the floor. When the garment is symmetrical and the left and the right side are similar, balance is achieved. The fifth element of fit, ease, is the level of difference between the measurements of the garment and the corresponding measurements of the human body. There are two different types of ease, the design ease and the functional ease. Design ease reflects the amount of fabric required to express the design of the garment and to create the silhouette desired. To allow enough body movement, an amount of fabric is added to the measurements of the body, referred to as functional ease (Keiser & Garner, 2012). For fashion or street wear a good fitting is considered if the garment looks good and fits while standing still and upright or pursuing daily activities like driving a car or working in the office (Boorady, 2011). Of course the fit of a fashion garment is also important, but sometimes outstripped by the importance of the look of the garment itself. When working with functional clothing, including apparel for outdoor activities, the fit becomes one of the key elements. For functional clothing a good fit is an absolute must to enable the athlete to move and perform (Boorady, 2011). Functional clothing is exposed to more extreme conditions and movements than fashion clothing. Hence it is very important to take the possible conditions and movements in consideration when developing the fit of an outdoor garment. Lotens (1988) defined several postures (see Fig. 1), in which the range of motion is extreme.

For example climbers have a high range of motion with their arms and legs. Posture four, as well as five and seven could be specific postures while climbing. For climbing clothes it is therefore inevitable to have enough movement space so that the climber's range of motion is not limited due to the fit of the garment. Therefore most of the climbing pants have a gusseted crotch enabling climbers to perform the complete range of motion with their legs (Broudy, 2015).

Figure 1: Positions with extreme range of motion



Source: *Lotens* (1988)

It becomes clear that for outdoor clothing mainly the last named element of fit, ease, and especially functional ease is fundamental to guarantee that the athletes are able to do their best without worrying about restrictions or reduction of movement. Functional clothing needs to fit properly to assure that the whole functionality provided can be effectively used. To achieve a good fit for a huge variety of body types and sizes, functional clothing should in addition be adjustable to a certain extent, so that differences in length and width can be adjusted to the individual measurements of the wearer (Boorady, 2011). Adjustability can be achieved by using lacings, hook and loop tape, rubber band, etc. For example the Elastic Fit System of Ortovox, a German outdoor brand. For an optimal waistband fit of the skiing pants, they are using an expanded, elastic hook and loop system placed right above the hip bones ('Ortovox 3L (MI) Guardian Shell Pants', 2015).

Function

In literature there is a differentiation between three different functions of clothing: the protective, decorative and communicative function of clothing. The protective function is quite objective and addresses the utility of clothing. Clothing should protect the human body from multiple influences, like for example climatic influences or injuries. The second function of clothing is the decorative function, also labelled as aesthetic function. This function does not follow a utilitarian purpose as the already mentioned protective function, but is trying to satisfy the human demand for beauty and harmony. The decorative function promotes the creative ability of humans and supports the development of the personality. Subjective and mental aspects also come into play considering the decorative function of clothing. This becomes apparent for instance in changes of the posture, the language or the behaviour, when for example wearing elegant or festive

clothes. Last named the communicative function. Clothing is counted among the oldest instruments of nonverbal communication. Through our clothes we are sending signals to others. We are informing others about our self-image, our economic situation, our associated social group or a special life situation we are currently in (for example bereavement). Clothes can also be a way to achieve and stabilise authority, power and respect, as seen for example in uniforms or judge gowns (Fontaine, 2011).

It is obvious that for outdoor clothing the protective function is of prime importance. As already mentioned above, functional clothing is exposed to more extreme conditions than fashion clothing and therefore further specific protection is required (Scott, 2005). There are several aspects clothes can protect the human body from. These can be classified into five different categories: chemical, thermal, mechanical, biological and nuclear (Raheel, 1994). For the outdoor industry especially thermal aspects need to be considered, like extremes of hot or cold weather. Especially cold weather circumstances represent a huge risk for the human body, because cooling impacts the work performance, the physiological functions and the well-being of the human body (Holmér, 2005). Abrasion is an additional hazard, garments developed for outdoor activities are facing. Therefore abrasion resistance and tear strength of fabrics are two very important characteristics to achieve the protective function of an outdoor garment (McCann, 2005).

Positioned in the second place is the decorative function of clothing. Developers and designer of outdoor clothing will always opt for the protective function over an aesthetic purpose. But still according to Gupta in some sports, including tennis, swimming and skiing, as part of outdoor activities, aesthetics are as important as performance aspects for users (Gupta, 2011a). So obviously the decorative function of clothing cannot completely be left aside and the importance of an aesthetic look of performance wear is getting more important to customers. Therefore there need to be a well-adjusted balance between protective factors and aesthetic design considerations. That way it can be avoided that a perfectly functional and protective garment is rejected by users because of an unaesthetic appearance or that users are put at risk because of inefficient protective features in favour of an aesthetic look of the garment (Scott, 2005).

The communicative function of outdoor garments plays a subordinate role, considering the importance of the decorative and especially the protective function of outdoor activities.

For the fashion industry the priorities are assigned differently. The most important function of fashion clothing is the decorative function. As described by Entwistle (2009) “[...] fashion is about aesthetics, [...] clothes that are promoted and popularized as attractive, stylish, or chic” (Entwistle, 2009). According to Entwistle (2009) fashion clothes are chosen because

they look good. These statements show clearly that the decorative function and therefore the aesthetics of clothes play the dominant role in the fashion industry. Followed by the communicative function and the protective function, as the least important function.

Design

Design is considered to be the arrangement of different elements, guided by aesthetic principles, to create products that are considered pleasing to the observer (Keiser & Garner, 2012).

For the design of functional clothing, including clothing for outdoor activities, beside aesthetic design considerations, the requirements of the users play an important role and more or less determine the final design of an outdoor garment. Therefore a detailed analysis of user requirements is inevitable (McCann, 2005). Four different user requirement sectors have been identified by Gupta in his research paper “Design and engineering of functional clothing” (Gupta, 2011a). To design an efficient functional garment for outdoor activities, all of those four sectors need to be taken into consideration. To which extent depends on the particular activity the garment is developed for. The requirements are the following: physiological, biomechanical, ergonomic and psychological. The physiological requirements are related to the anatomy of the human body and the need of humans to feel comfortable (Gupta, 2011a). Outdoor clothing should, like every sportswear, provide wear comfort and guarantee the well-being of the wearer (Bartels, 2005). In order to provide users with garments which serve their physiological needs best and make them feel comfortable, several aspects need to be considered designing clothing for outdoor activities. For example heat and moisture transfer processes, moisture management or thermal insulation (Bartels, 2005). The second sector is dealing with biomechanical requirements. As written in the English Oxford Dictionary biomechanics are “The study of the mechanical laws relating to the movement or structure of living organism” (Oxford Dictionary, 2016a). In the context of designing clothes for outdoor activities the unusual postures and movements of the particular outdoor activity have to be taken into account. Another approach regarding biomechanical requirements is to support specific body parts preferentially by compression (Gupta, 2011a). Compression garments can help to maintain muscle functions, reduce injuries and improve the performance of an athlete (Liu, Fu, He, & Xiong, 2011). The third requirement deals with the ergonomics of a garment. Ergonomics in general can be defined as the science of work and is dealing with the design of tools, as well as the design of environments for human use (Pheasant & Haslegrave, 2005). Taking ergonomic aspects into consideration designing apparel for outdoor activities, means that mechanical aspects of the garment should not restrict the degree of freedom, range of motion and the movement of joints.

In this regard the fit of a garment plays an important role. Last the psychological requirements (Gupta, 2011a). Psychology is the scientific study of the human mind and its functions, as described in the English Oxford Dictionary (Oxford Dictionary, 2016b). When designing clothes the psychological factor should not be underrated (Bartels, 2005). It is important to consider preferences and expectations of the wearer and take age, gender, social and cultural background and geographical location into account. As already explained aesthetic considerations are important for functional clothing, including apparel for outdoor activities, but there need to be a balance between functional requirements and aesthetics of the garment (Scott, 2005).

According to Georges Pessey, founder of Jonathan and Fletcher, a French manufacturer for technical sport products, some of their garments consists of more than 25 different materials, because of the special requirements they have to fulfil (McCann, 2005). The selection of appropriate materials therefore plays an important role in the design process of outdoor clothing. Mostly used for functional garments are polyester, polyethylene or spandex. The use of cotton is rather uncommon (Prabir, 2011). Common for all outdoor garments is the demand for especially light, durable and breathable materials (Gupta, 2011a). Breathability is significant for outdoor clothing, as an insufficient breathability leads to a higher heart rate and increasing rectal temperatures (Umbach, 2002). Today's coating technology, like the GORE-TEX® Membrane from W.L. Gore & Associates, makes the fabric waterproof, draft proof and breathable at the same time (Goretex, 2015). Special attention when selecting materials need also to be paid to the trimmings of outdoor clothing, like zippers, fasteners, elastics, hook and loop tapes, buckles, cords, etc. Appropriate choice and useful installation of the trimmings extremely facilitates the handling of the garment, like for example donning and doffing of garments (Gupta, 2011a). The sometimes necessary massive layers and stiff materials, especially used as protection against cold and abrasion, can be problematic regarding the necessary freedom of movement. In this case developer or designer of outdoor clothing need to create a compromise solution to warrant the required level of movement on the one hand and the necessary level of protection on the other hand. For example less padding for more flexibility, respectively less flexibility for more padding (Boorady, 2011). They have to deliberate about whether a thicker padding or a higher flexibility is more important for the specific activity they are designing a garment for.

Sizing and fitting a garment is a crucial step in the design process and especially important for outdoor clothes. Changes in body measurements when the body is curved or in motion need to be considered. Also the measurements can vary strongly depending on the activity the garment is designed for. Regarding for example the two outdoor activities skiing and cross country skiing, totally different measurements are required. Therefore standardized size

charts cannot be used, because they are based on measurements of the human body in a fixed and motionless position (Gupta, 2011a).

To receive a pattern the garment is disassembled into its individual parts (Fontaine, 2011). In this process the 3D garment is transformed in 2D components (Gupta, 2011a). Because of the diverse requirements outdoor clothes have to meet, the pattern of those can be quite difficult and composed of a lot of different pieces and materials. Functional garments often require zonal structure, as one pattern piece is made up of several different fabrics, for example mesh fabric for ventilation in the armpit area, stretch fabric to allow a bigger range of motion in the crotch area or compressing materials to support specific parts of the body (Gupta, 2011a). Therefore plenty of adjustments and alterations need to be done to get the requested fit and performance of the garment.

The technology selected to join and assemble the garment is also predetermined by the activity and environment of usage and the characteristics of the used materials. Clearly in the last years traditional sewing technologies have been replaced by welding or bonding. Especially considering functional garments, like waterproof jackets, new assembling technologies are on the rise, because of the fact that the perforation generated by conventional sewing does affect the integrity of a functional garment (Prabir, 2011). Especially for membrane fabrics like the GORE-TEX® Membrane from W.L. Gore & Associates traditional sewing cannot be used to assemble the garment, because it would damage the membrane and therefore affect the functionality of the fabric (Gupta, 2011a).

Finally several tests need to be conducted to verify the fit, functionality and performance of an outdoor garment. Another request when testing the garments is to control how the garment interacts with the human body. Testing the capability and performance of an outdoor garment under real conditions is inevitable and therefore testing the products in the field is the best option (Gupta, 2011a). Some tests of the complete garment are conducted in the laboratory, like tests to verify the waterproofness of seams or zippers. Tests to screen the properties of the used fabrics should be executed while material selection (Gupta, 2011b).

RESEARCH METHODOLOGY

Hypothesis

Outdoor garments are worn while performing an activity outdoors. The variety of outdoor activities performed 2012 in Germany ranges from hiking, nordic walking or cycling to skiing/snowboarding, mountaineering, climbing, etc. (Forward Ad Group, 2012). Garments especially designed for those outdoor activities can be counted among the class of functional clothing (Gupta, 2011b). Functional clothing is developed to provide a certain performance or

functionality to the wearer (Gupta, 2011b). Performing, whichever of the activities listed above, the clothes are facing hazards due to the environment of usage, which they have to resist (McCann, 2005). Therefore the most important function of outdoor garments is the protective function. Functional clothing needs to fit properly to guarantee that the whole functionality provided can be successfully used, therefore a suitable fit is an absolute must. Not only environmental influences but also specific movements and postures of the different outdoor activities need to be contemplated considering an optimal fit (Boorady, 2011). To be able to meet all this demands designer and developer of outdoor apparel need to understand and implement the specifics of the particular activity and the requirements of the actual practitioners (McCann, 2005). As it is common in the sports good industry to sponsor professional athletes by providing sometimes both free equipment and regular payment (Pike, 2011). Input from the athletes for the design and development process is therefore easily accessible for designer and developer and a useful source of information from actual practitioners. Due to the previous findings the following hypothesis is compiled:

H1 *Companies of the outdoor industry are especially involving professional consumers as prosumers to maintain a constant input for developing garments meeting the needs and requirements for specific outdoor activities.*

Survey Object

For the empirical research a purposive sample of 30 different outdoor companies was chosen. The companies selected for the research are the most important outdoor clothing companies of Europe and Northern America. All of them are producing outdoor garments for outdoor activities. All of the selected companies are at least covering the following three product categories: hiking, skiing/snowboarding and mountaineering. Twenty-four of the chosen companies are either members of the European Outdoor Group (European Outdoor Group, 2015) or the Outdoor Industry Association (Outdoor Industry Association, 2016), both organisations which represents the interests and concerns of the European respectively American outdoor industry. Six additional companies with a minimum turnover of ten million euro were selected to accomplish a number of 30 investigated companies. All of the six additionally chosen companies are known for their innovative capacities and therefore predestined for this research.

ANALYSIS AND FINDINGS

In order to investigate to what extent companies of the outdoor industry already pursue the prosumer idea, a classification scheme is used. It differentiates the above discussed two

different communication channels with customers (C2B, PC2B) and the seven prosumer concepts (Fig. 2).

Figure 2: Classification of Prosumer Concepts & Relation of Communication

		Prosumer concepts						
		1	2	3	4	5	6	7
		Customer complaints	Customer survey	Mass customisation	Blogs	Social networks	Lead user concept	Do-it-yourself
Communication channel	A	C2B						
	B	PC2B						

Based on this classification the online shops and homepages of 30 different companies of the outdoor industry are analysed via a content analysis. For this study it has been captured which prosumer concepts go in here with which communication channel. The results of this content analysis of the homepages and online shops are summarized in the following chapters.

C2B Communication

Starting with the prosumer approaches used in the communication between ‘normal’ customers and the companies, the C2B communication channel. With the invention of the internet and especially the Web 2.0, the C2B communication is on the rise. Companies of the outdoor industry are using six different prosumer approaches in the communication between ‘normal’ customers and businesses. By far the biggest part represented by Web 2.0 technologies and especially social network sites. All of the 30 reviewed companies are using possibilities given by Web 2.0 to communicate with their customers. Therefore they maintain profiles on different social network sites, like Facebook, Instagram, Twitter, etc., and allow members of those social networks to share their ideas, concerns, suggestions etc., on the profiles the companies provide. Some of the companies are also explicitly asking customers and simultaneously members of social networks to share their experiences. For example the American outdoor

company Lowe alpine wants to hear outdoor stories of their customers on Instagram, Twitter or Facebook adding the hashtag # for moments like this or the outdoor brand Marmot who asks their customers to tell why they love the outdoors adding the hashtag #what gives you live. Ten companies are also administrating blogs on their homepages. On these blogs the companies publish news about products, athletes, events, etc., and customers are able to comment on and announce their personal opinions. As mentioned earlier 60 percent of Europeans are using possibilities given by Web 2.0, like reading or writing blogs or taking part in social network sites (Forrester Research, 2007). This number shows how important the applications of Web 2.0 nowadays are and why customer information supplied by Web 2.0 is becoming more and more important, also for involving customer needs and requests.

The second prosumer concept companies of the outdoor industry are using regarding the C2B communication between consumers and the companies, is represented by customer complaints. Over 56 percent of the companies enable their customers to give direct feedback either in their online shops or on their homepages. As this is the easiest way to involve consumers and get valuable feedback, it is quite surprising that the number of companies offering this opportunity is not bigger.

The other prosumer approaches followed by companies of the outdoor industry lag far behind. Three companies offer mass customisation approaches. Two of them only in a rudimentary way. For example the German outdoor company Schöffel. They offer an in-house alteration service for new purchased Schöffel products, like trousers, jackets as well as waterproof garments. Customers can send in their products and alteration experts from Schöffel extend or shorten the garment, according to the measurements of the customer (Schöffel, 2015). The American backpack specialist Osprey offers a so called Osprey PackSizer™ app. Using the camera in the mobile device of the customer, the Osprey PackSizer™ will match the torso size to the right pack size across the entire Osprey range (Osprey, 2015). Although Osprey does not offer mass customisation in the actual meaning, they enable the customer to search for Osprey products which best correlate with their personal body measurements. Only one company provides proper mass customised products. The American outdoor supplier The North Face enables consumers to customise a fleece jacket in their online shop. Customers can determine six different points on their own, given several colour options they can determine from. They can choose the colour of the fabric, the zippers, the zipper pulls and the colour of the logo stitching. Additionally a custom label with the name of the customer is integrated in the interior back of the jacket (The North Face, 2015).

Two companies involve 'normal' customers as lead users, offering them the opportunity to test new products in the actual outdoor surroundings. Examples for involving ordinary users

are the outdoor test events of the Mammut Sports Group, in which they ask customers to take part in the testing of key products for the following season (Mammut, 2015). As well as the Swedish outdoor supplier Fjällräven, who gives once a year customers the opportunity to take part in a 300 kilometre long sled dog race equipped with Fjällräven products (Fjällräven, 2015). In both cases representatives of the product development take part in the events to get first-hand information from the users.

Customer surveys were only conducted by two companies: The North Face and Vaude. Vaude for example executes different surveys to get to know their customers better. By obtaining their opinions about different aspects, as their favourite material for underwear or their favoured outdoor activity in winter, Vaude involves their customers in the actual decision making process.

One of the 30 companies investigated does offer a kind of Do-it-yourself approach. The American outdoor company Patagonia provides guidance for consumers to repair their outdoor equipment, apparel as well as hardware on their own. They offer repair instructions for different damages possibly occurring on Patagonia products, for example replace the slider on a plastic tooth zipper or change a wheel on a Patagonia wheeled luggage (Patagonia, 2015). By involving the customers in the actual repair process Patagonia addresses the consumer segment of 'Do-It-Yourself' customers.

PC2B Communication

The 30 investigated companies are using two different prosumer approaches to involve professional users (PC2B) into their product development or improvement of existing products. 27 companies are using the so called lead user concept. According to Hienerth (2006) professional athletes can be labelled as lead users, because they are using the products more frequently and in more extreme conditions. Therefore they are facing needs which will become general in a marketplace month or even years earlier. As described on the homepage of the outdoor brand Mountain Hardware: "Mountain Hardware athletes are leaders in their sports for two reasons: they inspire their peers by constantly pushing past the edges of their potential and they inspire product designers by constantly thinking about how their gear could become better, lighter and more empowering" (Mountain Hardware, 2016). The athletes are using the products, sponsored by their cooperating company, in the actual circumstances of usage. So they are testing the products in the field and therefore contribute input which cannot be supplied by testing the products in a test laboratory. As illustrated on the homepage of Marmot, an American outdoor brand, their sponsored athletes tested and authenticated the Marmot products, clothing, outerwear and equipment on every continent and major mountain range in the world (Marmot,

2015). One company, Bergans from Norway, is going one step further. They are offering a collection of outdoor clothing designed and developed by Cecilie Skog, a Norwegian adventuress and member of the Bergans athlete team. They are not only using the input generated by the athletes, as lead users, but enable one of them to design and develop a collection perfectly matching their needs and requirements. Eleven companies are additionally cooperating with ski clubs, ski schools, mountain guide services or organisations like “Deutscher Skiverband” (German Skiing Association). The members of this organisations also provide beneficial input, as they can also be seen as lead users, using the products more often and in a more extreme way than ‘normal’ customers do. As mentioned on the homepage of Mountain Hardware, an American outdoor brand, the guide services they are collaborating with, for example “Alpine Ascents International”, are providing them with a permanent stream of uncensored feedback and inspiration offering Mountain Hardware the possibility to steadily improve their gear (Mountain Hardware, 2015).

Nine companies are maintaining blogs, where athletes report on their latest expeditions, the equipment they used, hazards they were facing etc. Ordinary customers are mostly enabled to leave comments in blogs provided on the homepages of the different brands. For example the American outdoor specialist Columbia (Columbia, 2015) or the Canadian competitor Arc'teryx (Arc'teryx, 2015) are providing blogs on their homepages. As discussed above blogs can be seen as virtual communities (Blanchard, 2004) and therefore are representing a pool of important product know-how (Füller et al., 2006) on the one hand from professional users and on the other hand also from ‘normal’ users, as they are able to comment. All this input provided by blogs can be integrated in product development and the improvement of existing products.

DISCUSSION

Due to the results of the literature review analysing diverse prosumer concepts, the different communication channels and the logic of the outdoor industry, it was assumed that companies of the outdoor industry are mainly focus on involving professional users as prosumers. After the content analysis of 30 different companies of the outdoor industry by contrasting their homepages and online shops with the classification scheme developed and explained earlier, this hypothesis can be proofed right. 27 out of 30 companies are working together with professional users of their products. Therefore they are using the prosumer approach of the lead user concept. As the design and development of outdoor apparel requires a method to create the fit and function of a garment, which is on the one hand dictated by the activity itself and on the other hand by the environmental surroundings the activity is executed, to involve professional users makes perfect sense. Who should know better what is actually important

than the people who are using the products day in and day out and in the roughest conditions possible on earth. But still there is only one company which enables one of their professional users to design and develop a whole line from scratch. Most of the other companies, as far as apparent, involve professional users more likely in feedback on prototypes or products already existing on the market. So it can be said that the products are rather influenced by lead users than completely developed by professionals as lead users.

The importance of the internet as well as the significance of the possibilities given by the emergence of the Web 2.0, becomes obvious investigating the 30 homepages and online shops of outdoor brands. Nowadays the use of Web 2.0 in the communication between consumers and the companies is more or less mandatory. This becomes also obvious contemplating the companies of the outdoor industry. All of the 30 companies are at least maintaining three different social network sites (Facebook, Twitter, Instagram, etc.) and nine companies are additionally administrating a blog on their homepage. Therefore it can be said, that the use of Web 2.0 (social networks, blogs, communities, etc.) is also of prime importance and nearly mandatory regarding the implementation of the prosumer idea.

Other approaches to involve 'normal' consumers are, until now, only poorly conceived from companies of the outdoor industry. Although the companies are using overall six different prosumer concepts in the communication with ordinary consumers, the different concepts are only implemented by a few. Even the easiest concept, in the form of customer complaints, is only utilised by 56 percent of the companies investigated. The other concepts used in the C2B communication channel are the mass customisation concept, the lead user concept, customer surveys and the Do-It-Yourself concept. But as they are not even used by one third of the companies investigated, they are of no consequence for the result of this study.

CONCLUSION

The analysis shows that companies of the outdoor industry are already in a quite advanced stage regarding consumer involvement and the implementation of the prosumer idea, though certainly concentrating on the involvement of professional users and the communication with professionals. For all the reasons collected during the literature review, pointing out the special characteristics of the outdoor industry, the cooperation with professional users and the integration of their know-how and input is totally reasonable and understandable. However when testing products exclusively with professionals, companies have to consider that product tests also should reflect when, where and how 'normal' customers are using the products and that sometimes products which perfectly match the needs and requirements of professional athletes, fail to satisfy the needs of 'normal' customers. Therefore approaches to involve non-

professionals as lead users, like the sled dog race organized by Fjällräven for ordinary customers or the test events of Mammut involving 'normal' customers, are helpful finding a balance between requirements of professional and ordinary users. Thus approaches to involve ordinary consumers and therefore transform them into prosumers should be considered by more companies of the outdoor industry.

As seen the possibilities given by the internet and the emergence of the Web 2.0, like social network sites, are implemented by all 30 analysed companies. But as nowadays using the possibilities of the internet and Web 2.0 is nearly mandatory, companies need to complement the approaches of Web 2.0 by other prosumer concepts to satisfy the diversifying needs of their customers. Regarding the other prosumer concepts in the communication with 'normal' customers (C2B) companies' efforts are so far more or less limited to the prosumer approach of customer complaints. And even here not every company takes the chance to use this simplest alternative to involve customers. But as explained above it is important to get feedback not only from professionals to guarantee that the products developed not only satisfy professional requirements but are also appropriate for non-professionals. Some companies, like The North Face, also try to involve ordinary customers using the prosumer concept of mass customisation. The North Face does offer customized fleece jackets, where customers can choose between different colour options and additionally add a custom label. According to Gupta in some sports, including for example skiing, the aesthetics are as important as the performance of the garments. Therefore approaches like the mass customisation approach of The North Face are well-founded and expedient. As examined earlier in detail, for outdoor garments the functionality and as determining aspect the fit is especially important. Therefore to match the measurements of the garment with the individual measurements of the customer would for example be another reasonable approach implementing mass customisation in the outdoor industry. As customer needs and requirements are seem to get increasingly diverse and furthermore the desire for individuality is getting stronger, it does make sense to intensify the involvement of 'normal' customers. Therefore the use of a multitude of different prosumer concepts simultaneously is advisable, not only to supply customers with improved products, but also to enable customers to satisfy their demand for individuality.

It can be concluded, that companies of the outdoor industry are already pursuing the prosumer idea, though until now focusing strongly on only one prosumer approach, the lead user concept and the involvement of professional users. For reasons mentioned already above intensifying the efforts, implementing several prosumer concepts and strengthening the involvement of 'normal' consumers is advisable.

Although the present work does reveal insights about the outdoor industry and the cooperation between companies, users and professional users and the implementation of the prosumer idea, the findings uncover further areas for research. For example how systematically companies are using the input given by professional athletes and people who are doing outdoor sports occupationally as well as how great the potential of managing and organizing the input, given by the professional users, more systematically could possibly be.

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APPENDICES

Appendix Table 1: Company Sample

	COMPANY	ORIGIN
1	66°North	Iceland
2	Arc'teryx	Canada
3	Bergans	Norwa
4	Berghaus	England
5	Black Diamond	USA
6	Columbia	USA
7	Fjällräven	Sweden
8	Haglöfs	Sweden
9	Helly Hansen	Norway
10	Jack Wolfskin	Germany
11	Kjus	Switzerland
12	Lowe Alpin	USA
13	Maloja	Germany
14	Mammut	Switzerland
15	Marmot	USA
16	Millet	France
17	Mountain Equipment	England
18	Mountain Hardwear	USA
19	Norrna	Norway
20	Ortovox	Germany
21	Osprey	USA

22	Outdoor Research	USA
23	Patagonia	USA
24	Peak Performance	Sweden
25	Salewa	Italy
26	Salomon	France
27	Schöffel	Germany
28	The North Face	USA
29	Vaude	Germany
30	Ziener	Germany

Appendix Table 2: Evaluation Outdoor Companies

	COMPANY	ORIGIN	C2B							PC2B						
			A1	A2	A3	A4	A5	A6	A7	B1	B2	B3	B4	B5	B6	B7
1	66°NORTH	Iceland					X									
2	Arc'teryx	Canada	X			X	X					X			X	
3	Bergans	Norway					X								X	
4	Berghaus	England	X				X								X	
5	Black Diamond	USA	X				X								X	
6	Columbia	USA	X			X	X					X			X	
7	Fjällräven	Sweden	X				X	X							X	
8	Haglöfs	Sweden					X								X	
9	Helly Hansen	Norway	X				X								X	
10	Jack Wolfskin	Germany	X				X								X	
11	Kjus	Switzerland					X								X	
12	Lowe Alpine	USA	X			X	X					X				
13	Maloja	Germany				X	X					X			X	
14	Mammut	Switzerland					X	X							X	
15	Marmot	USA	X			X	X					X			X	
16	Millet	France				X	X					X			X	
17	Mountain Equipment	England				X	X					X			X	
18	Mountain Hardwear	USA	X				X								X	
19	Norrøna	Norway					X								X	
20	Ortovox	Germany					X								X	
21	Osprey	USA	X		X		X								X	
22	Outdoor Research	USA	X				X								X	
23	Patagonia	USA	X				X								X	
24	Peak Performance	Sweden					X								X	
25	Salewa	Italy	X				X								X	
26	Salomon	France	X				X									
27	Schöffel	Germany			X		X								X	
28	The North Face	USA	X	X	X		X								X	
29	Vaude	Germany	X	X		X	X					X			X	
30	Ziener	Germany				X	X					X			X	
		total	17	2	3	9	30	2				9			27	