Innovative Consumer Behavior in Online Communities

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ABSTRACT
In this study, we analyze creative consumer behavior in online basketball communities. More precisely, we are interested in the kind of ideas generated, how innovations in online communities develop, and how the members of online communities support each other in generating creative solutions. While the process of innovation slightly differs between Chinese- and English-speaking online communities, the quality and quantity of the ideas developed is impressive in both cultures. Various examples indicate that community members, in principle, are willing to share their ideas with manufacturers.

INTRODUCTION
Creative consumers attracted by new products and innovation can be found in online communities that are centered around common interests (e.g. Kozinets 1999; McAlexander et al. 2002; Muniz and Schau 2005). While several scholars emphasize the creative capacity and enormous innovative potential of online communities in the area of new product development (Kozinets 2002; von Hippel 2005), little is known about how innovations within online consumer groups develop. Until now, no study has thoroughly explored consumer innovation in online communities. According to Borroughs and Mick (2004), it is generally surprising that consumer creativity is such a rare topic in consumer research, considering the undisputed success of many products that were initially invented by consumers—from Kleenex to mountain bikes (von Hippel 2005). Despite the fact that that innovative consumer behavior is actually an integral part in the daily life of every consumer, not a rare activity (Moreau and Dahl 2005), little is known about when, why, or how consumers act creatively (Burroughs and Mick 2004). In this study, we explore the process of innovation in online consumer groups. More precisely, we are interested in the quantity and quality of the ideas generated, how innovations in online communities develop, and how the members of online communities support each other in generating creative solutions. We further investigate how creative output is facilitated by the social environment of online consumer groups. With this study, we aim to advance the general understanding of creative consumer behavior in online communities.

THEORY OF INNOVATION CREATION
Coming up with innovative ideas and problem solutions is considered a highly creative task and an important precondition for successful innovations. Often, creativity is equated with the ability to come up with unique yet appropriate ideas and novel solutions (Amabile 1996). An outcome is considered creative if it surpasses previous products in the domain (Csikszentmihalyi 2002), often determined by external experts or peers (Sternberg and Lubart 1991).

Creativity Process: According to Amabile (1996), creative outcomes follow a sequence of five steps: 1) problem or task identification 2) preparation 3) response generation 4) response validation and communication and 5) outcome. When the solutions generated either fulfill or fail to fulfill initial requirements, the creative process ends. If there are some practical ideas, but no satisfactory solution, some process iterations may occur until a more advanced outcome is reached or task motivation has fallen below minimum level, applying the additional knowledge gained in previous trails. While successful outcomes may stimulate task motivation, lead to increased knowledge, and initiate even more creative outputs (Csikszentmihalyi 2002; Csikszentmihalyi 1975), failures—as a confirmation of incompetence—may lead to frustration and decreased motivation (Deci and Ryan 2002; Deci and Ryan 1985).

Creativity is predominantly driven by intrinsic motivation. Individuals consider the act of creation as playful and rewarding activity. Intrinsic motivation can be noticed as interest, involvement, curiosity, satisfaction, or positive challenge. Extrinsic motives that increase someone’s sense of competence, need for finding a creative solution, or prevailing task involvement are considered as synergistic and creativity enhancing, while task engagement because of pure extrinsic motives such as money, status, or job promotion, is considered detrimental to creativity (DeCharms 1968; Deci and Ryan 2002; Deci and Ryan 1985).

Individual Characteristics and Social Environment: The creativity level of the outcome is determined by the creative talent of the individual and the social environment facilitating or undermining creative outputs (Amabile 1996; Csikszentmihalyi 1999). On an individual level, task motivation, domain-relevant skills, and creativity-relevant processes are considered main components of creativity. In addition to the individual creativity components, the social environment affects an individual’s creativity. The influence of social factors on individual creativity results from communication and social interaction (Amabile 1988). Since the social environment influences an individual’s creativity, it also affects consumers’ abilities to generate innovative products and services. Theories of organizational creativity and innovation identify several dimensions that are related to creativity. Encouragement, challenge, unconditional rewards, adequate pressure, support, autonomy, group diversity, and cultural norms are considered social factors that enhance creativity (Amabile et al. 1996; Kanter 1988).

Creativity and Innovation in Online Communities: Ideally, community members will score well on each creativity component. Interested consumers that are low on creativity skills may not come up with very creative solutions themselves, but they may be able to assess the appropriateness of someone else’s solution, challenge it, and contribute valuable modifications due to their domain specific knowledge. On the contrary, motivated consumers low in domain-specific skills may come up with ideas that seem bizarre, but may be used and modified by others in possession of relevant knowledge. Consumers that are low on both-creativity and domain-relevant skills-may be considered unqualified unless they inspire others to become more innovative, give support in coordination activities, ask challenging questions, or just admire the more creative members. They thus inspire creative consumer behavior in the community.

RESEARCH FIELD
Online communities dedicated to basketball shoes were selected as research object based on four considerations: first, basketball is played and watched by a great number of people all over the world. Hence, a high number of dedicated online communities can be expected. Second, as basketball is a team game, players typically have tight relationships and share their experiences both on and
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offline. Third, one of the authors played basketball enthusiastically for more than ten years and possesses a profound knowledge in the field of basketball footwear. Fourth, the aim of this study was to focus on products of an already established major mass market. This distinguishes our research from former studies on creative sports communities which mainly focused on product innovations in emerging sports in offline contexts.

METHOD

A netnographic approach (Kozinets 1999; Kozinets 2002) was chosen for data collection. Netnography has its origin in ethnography (e.g. Arnould and Wallendorf 1994), which is the study of groups and their members through direct involvement of the researcher. Netnography is ethnography adapted to the Internet. While before the emergence of the Internet it was necessary for a researcher to participate in a group, nowadays netnography enables observation and analysis of the communication of online communities without active participation. In this sense the social interaction and communication among members, rather than the people themselves, are the subject of the research. Since netnography is conducted without direct researcher participation, it can be used to unobtrusively study the nature and behavior of online consumer groups. The analysis is conducted in the natural context of the community and is thus free from the bias which may arise through the involvement of the researcher or experimental research settings.

Out of more than 800 Chinese- and English-speaking online basketball communities which could be identified on the Internet, ten online communities were selected as the most interesting ones for the research by considerations of relevance and quality of content, numbers of members, posting frequency, and professionalism. The ten communities comprised five English-speaking (Niketalk, Basketballboards, Solecollector, Kickz101, Kicksology) and five Chinese-speaking (Chinese Streetball, Good Shoes, Xinxin Sport Shoes, Chedan, Wild Donkey) communities. All ten communities were observed over a period of 6 months. During the observation phase, all content related to knowledge and innovation was screened and the most relevant discussions were filed electronically. More than 11,000 posts selected from 240,000 initially identified relevant posts were analyzed and interpreted using software. After the analysis, the trustworthiness of the results was checked by comparing the findings with data received from additional literature and interviews, as well as by comparing the results among different communities and cultures.

FINDINGS

Communities and Their Members: Typically, members are between 15 and 25 years old and go to school or university. Their intense involvement with basketball footwear is shown by the fact that they often possess numerous pairs of basketball shoes; often more than twenty and in some cases even up to one hundred different pairs. Consequently, they have extensive use-experience with a variety of models and brands. Social ties among the most active participants are so strong that they even organize so-called “summits” where they meet and get to know each other offline. Each community has a group of highly active, well-known, and knowledgeable insiders (Kozinets 2002). What these “opinion leaders” express is immediately adopted by most other members of the community. Some members even save the opinion leaders’ comments electronically for future reading:

Yi Ming is one of the earliest sneaker lovers in China, he wrote lots of good shoes articles in the community. To tell you a secret, I saved all Yi Ming’s posts in my computer...also his top level posts.

Quantity and Quality of Creative Output: In all of the observed online basketball communities, members develop innovative ideas for new or improved products. Chinese- and English-speaking communities are similar in that the quality and quantity of innovative output is impressive in both groups. Approximately 30% of all members of the ten online communities engage in innovation activities in one way or another. For them, joint innovation is one of the main reasons to join the community. One quite common type of innovation is the modification and customization of existing basketball shoes, for example some members attach denim or glitter to their shoes while others lace their shoes in certain ways so that they can spot each other offline:

Hey.. Now we can spot one another on the street without saying a word! I wonder if I see anyone at bizerkeley this year doing this...

Creative members conceptualize not only modifications and improvements of current models but also develop entirely new technologies and basketball shoes from scratch. In total, analysis identified 24 components and attributes of a basketball shoe for which community members make specific contributions, create modifications, and come up with new ideas (e.g. cushioning, lacing, and ventilation). Typically, innovations are freely shared within the community either in written descriptions or self-made drawings.

Consumer innovators seem to be either motivated by the perception of a so-far unsatisfied need or by the inner satisfaction they derive from engaging in the creative activity itself. While some of the ideas posted are driven by the perception of a need that is still not met by any existing product on the market (e.g. the protection from injury), a much higher number, approximately 80% of the ideas posted in the sample, are triggered by members in search of excitement. These innovators develop and pursue new ideas because of the fun, pleasure, and enjoyment they derive from the activity itself rather than to achieve a desired outcome. In contrast to functional need-driven innovators for whom innovating is not part of their community routine and who typically express their ideas solely in a verbal manner, innovators driven by excitement regularly and consciously engage in innovation activities. They contribute more sophisticated ideas, which are usually translated into prototypes in the form of drawings or even computerized, sometimes threedimensional, renderings (see figures 1 to 4). For the most skilled innovators, developing designs combines the fun of creative activities and the desire to find solutions for perceived problems into one activity. The following statement refers to a member who perfectly manages to design futuristic looks—a quite enjoyable activity—and still does not lose the focus on the functional aspects of a basketball shoe:

Not only do your designs look sweet, but they are quite innovative. Whenever I draw shoes I don’t think about function. Just looks. But you got the whole shebang.

Innovators typically spend significant time making their own drawings of basketball shoes or shoe features and demonstrate impressive drawing and design skills. For them, making their own renderings is more than just a hobby, it is their intended career. In order to achieve this goal, many study industrial design or go to art schools.
FIGURE 1
Innovative user design for a new basketball shoe inspired by iPod nano
(source: Niketalk, 2006)

FIGURE 2
User design which incorporates the picture of the Chinese opera mask
(source: Xinxin, 2005)

FIGURE 3
3D computerized rendering of a fictional basketball shoe including innovative lacing technology
(source: Niketalk, 2005)
Maybe the most intriguing example illustrating the highly innovative and creative potential of community members is the story of “Alphaproject”. Jason Petrie, known under the username “Alphaproject”, continuously showcased his designs in the online community “Niketalk”. He was hired by a sporting goods company which was impressed by the creativity, skills and footwear-related knowledge displayed in his designs and nowadays works as a basketball footwear designer for Nike, the most prestigious brand for basketball enthusiasts (Kicksguide, 2003). In addition, the high quality of ideas and their desirability for manufacturers was confirmed by four experienced product managers of a leading sporting goods company to whom we showed the user designs and with whom we conducted interviews.

While English- and Chinese-speaking communities are similar in their highly impressive creative output, we found that the designs they develop differ in some ways. In Chinese-speaking communities, innovators sometimes incorporate cultural aspects, such as Chinese characters, into their creative designs. For instance, the design in figure 2 is based on the colour and symbolism of the Chinese opera mask. The mask can be seen when looking at the shoe from top as well as on the side of the box.

The Innovation Process: In the beginning of the innovation process, a creative idea comes from one member of the community, stimulated either by a shoe review, a perceived need, or the inner desire to engage in a challenging, innovative activity. The innovator then draws from his creativity and skills to transfer his idea into an innovative design. In this activity, unarticulated knowledge about basketball such as perceptions of the latest footwear trends and design preferences flows in. Typically, as soon as members have a creative idea, they become so dedicated to their innovation activity that a first draft is posted often within hours, as shown by the statement of one member who plans to skip sleeping in favor of developing a new design:

Working on mine right now...don’t know how long it will take but...should be on here by the end of the night!!

Once an innovator has transferred his ideas into designs, they are shared freely within the community. Typically, reactions to the designs follow promptly. Other members share their honest opinions, give fair evaluations of the new idea, come up with suggestions for improvements, and state their ideas regarding other potential ideas. The feedback is generally appreciated, as it motivates and challenges the innovator to come up with improved ideas:

Thanks man, that really helps and motivates me. I will keep it up. I’m trying to develop a “fast, swift” look, but it’s hard without having a pointy toe I guess. I’ll work on it.

Besides the competent feedback, a main element of most responses to newly posted designs is encouragement to continue innovating.

Continue producing your masterpieces and thank you for always sharing with the community!

Since different members of the communities have different backgrounds, knowledge, experiences, values, skills, and needs they expose the innovator to a variety of problems and alternative solutions. This in turn inspires the innovator to come up with even more creative solutions. Typically, revised versions of the initial design are posted shortly thereafter, as shown by the humorous reaction of an innovator who received numerous suggestions for improvements:

I think I will be redoing mine tonight, as it is tough for me to accept this much of an ass kickin’!

Also other designers may be inspired by the proposals of others and come up with even more radical innovations:

Seems very simple: if the sockliner and a unit at the heel lead to very responsive cushioning wouldn’t an extra full-length unit make it even more responsive?

Besides contributing their knowledge, another important function of the less skilled community members is to admire the designers, provide recognition, and take the role of fans (McAlexander et al. 2002). Designers who repeatedly showcase creative designs are awarded for their efforts and contributions with a certain degree of prestige and status within the community.

I’ve been a big fan of yours since you posted those VC removable Shox. These are VERY nice shoes man.

Through the intense interaction of members who contribute different essential elements to the innovation process, and through repeated feedback and revision, designs eventually evolve that are superior to those that would have been developed by just a single
user. Some members are even convinced that their ideas could compete with the offerings of professional manufacturers:

Too bad we can’t get all these heads together and start our own shoe company! That would be the you know what!

In English-speaking online communities, in addition to the innovative ideas that appear “out of nowhere”, numerous ideas emerge in a structured process in which innovations are restricted to a certain topic and time frame. To increase the challenge and fun when making renderings, innovators of English-speaking online communities from time to time initiate so-called “Designer’s Roll Calls”. In these friendly competitions a community member assigns a specific innovation task, for example “design the basketball shoe for the year 2050”, and then the creative members of the community try to fulfill this task. However, when doing so they have to work within certain constraints or toward clearly defined goals or they have to incorporate certain features into their designs (e.g. “your design should have a lace cover”), and are even given deadlines. This competitive character constantly challenges the participants’ creativity, and thus leads to submissions which impress through their high level of creativity:

whoa…I really think that ALL the submissions from you guys are incredible! wow!! there ain’t never gonna be a shortage of creative talent in here.

Despite the high quality of their ideas, innovative members are not only willing to share their knowledge within their online communities but also externally. Several examples indicate that user-innovators are willing to collaborate with companies free of cost. For example, numerous members send their designs to companies in hope that some of their ideas are realized. Other innovative members submit their designs for a contest on “Kicksguide.com”, a private website dedicated to basketball shoes. They hope that one of their designs will be elected as the “Artist Series Shoe Design of the Year”, and as the site submits the winning design to various sporting goods companies-their creative and innovative talent will be recognized by a company looking for new designers.

**DISCUSSION**

As shown by our study, consumers encountered in online basketball communities are highly creative. The innovative output of community members is impressive in its high quality and quantity. However, community members not only conceptualize innovate ideas for new products, but also use their creativity to modify or individualize their own basketball shoes. In this regard, their creativity is a form of self-expression and social communication (Burroughs and Mick 2004; Holt 1997).

Although online communities are linked only virtually, the process of innovation resembles creative processes observed in teams in traditional working environments (Amabile et al. 1996). Members become aware of existing problems and needs by exchanging experiences and points of view, as well as by reporting innovative product uses (Hirschman 1980; Price and Ridgway 1983). As soon as creative members find a solution, idea, concept, or product design, it is presented to the community, either in verbal descriptions or visual designs. Through the ongoing dialogue, creative community members are constantly challenged. They rethink their innovations with respect to the suggestions made and thereby generate new and more appropriate ideas or find solutions for previously unsolved problems. In addition, presenting new innovations motivates other community members to build on those ideas. Finally, new products emerge that are superior to those that would have been innovated by a single user and superior to the sum of the individual outputs (Sawhney and Prandelli 2000).

An interesting, so far unexplored, pattern of innovation is the so-called “Designer’s Roll Calls” pattern. To make innovation more challenging, some English-speaking online communities initiate professionally conducted design competitions. While on one hand, “Designer’s Roll Calls” help to set clear goals, on the other hand they limit members’ creative output to a certain category. In many cases, such constraints actually seem to increase the community’s creativity (Moreau and Dahl 2005). Within creative online basketball communities, aesthetics, in form of appealing shoe design renderings, seem to be the link between problem solving and creative play (Burroughs and Mick 2004).

As shown, consumer communities provide a conducive culture for creative behavior. They deliver a social environment full of encouragement, challenge, and support, similar to working contexts demanded for creative teams (Perry-Smith and Shally 2003; Taggar 2002). Creative talent helps community members to become known and to maintain and receive respect and status from the peer group. Similar to early adopters (Rogers 1995), creative community members are often asked for advise and therefore tend to be opinion leaders. They seem to have an influence on the community’s aesthetic taste, be able to create certain product desires and trends, and through their opinion, influence the success or failure of new product introductions.

In contrast to Lead Users, who innovate because they derive benefits from using the solutions themselves (von Hippel 1986), consumers in online settings engage in joint innovation activities mainly because it is fun, considered to be a rewarding activity in itself, and perceived as a possibility to learn and to show-off their knowledge.

Despite the fact that virtual space brings together consumers irrespective of their geographical region, our study shows that culture still has an influence not only on the kind of creative output, but also on the creative process (Lubart 1999). While this study gives first insights into innovation within online consumer groups and provides a lot of plausible evidence that online consumer groups are a promising source of innovation, further research is required to produce more generalizable and quantifiable results. Based on our findings, it would be interesting to examine whether other online communities centering around physical consumer goods (e.g. mobile phones, cameras, or skis), demonstrate similar patterns of innovation and creative potential.

**REFERENCES**


