



# The dark and the bright side of co-creation: Triggers of member behavior in online innovation communities



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## ARTICLE INFO

Available online 29 September 2012

### Keywords:

Co-creation  
Online innovation communities  
Dysfunctional behavior  
Word-of-mouth  
Fairness  
Sense of community

## ABSTRACT

Online innovation communities are often seen as a rich source of innovation that offers added value to its members. However, innovation in collaboration with communities may also create frustration and evoke angry reactions. This article with two combined studies investigates triggers of both positive and negative behavior of members of the 'SPAR Bag Design Contest' and helps to explain the bright and dark side of co-creation. It shows that dis-/satisfaction with the outcome, perceived fairness, and sense of community are beside co-creation experience major determinants for negative as well as positive reactions of innovation community members. The findings unfold that perceived unfairness and dis-/satisfaction with the outcome can cause negative reactions of participants like negative word-of-mouth. Perceived fairness and sense of community on the other hand are suggested as prerequisite for positive actions of members of co-creation communities. Thus, the results challenge the direct influence of co-creation experience on members' actions as e.g. sense of community fully mediates its influence on willingness to pay for and willingness to positively talk about the co-created outcome. The article further shows that dealing with such critical situations and managing conflicts in co-creation communities means an open dialog in the public sphere which requires co-negotiation and co-moderation.

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## 1. Introduction

In recent years online co-creation and innovation communities have gained popularity in attempting to involve enthusiastic consumers in a company's development processes (e.g. Füller, 2010; Nambisan & Nambisan, 2008; Ogawa & Piller, 2006). Innovation community members may be invited to contribute to development activities such as generating and evaluating new ideas; elaborating, evaluating or challenging concepts; and creating virtual prototypes. Thereby, they may generate valuable ideas and solutions (Kozinets, Hemetsberger, & Schau, 2008), positive word-of-mouth (Kozinets, Wilner, Wojnicki, & de Valck, 2010), and collective commitment toward new offerings (Nambisan & Baron, 2007). Various companies have therefore begun to actively incorporate their customers in their value creation process (Li & Bernoff, 2008). Popular examples can be found in both business-to-consumer settings such as Swarovski's Enlightened Watch Design Community, Volkswagen's App my Ride Competition or Osram's LED Emotionalize your light Idea Contest

(Füller, Hutter, & Faullant, 2011) and in business-to-business settings such as Siemens Smart Grid Innovation Contest, Lufthansa's Air Cargo Challenge or SAP's SAPIens Idea Contest (HYVE, 2012).

Users of such online community platforms derive benefits through the interaction with other like-minded peers and mutual assistance from other community members. Thus collaborative innovation activities further establish social relationships and create a sense of community among the participants. Besides the improvement of a company's innovation process (Dahan & Hauser, 2002; Sawhney, Verona, & Prandelli, 2005; von Hippel & Katz, 2002) co-creation and innovation communities may therefore also be seen as a promising way to establish valuable relationships with existing or potential customers and increase loyalty (Füller, 2010). However, innovation communities may not always live up to the expectations of its members or be considered a success by the initiating companies. Like any form of autonomous interaction between companies and users, it may evoke negative reactions.

Kraft Foods, for example, experienced serious opposition from its customers when the company conducted an idea contest to choose a new name for its popular spread Vegemite, a salty yeast paste beloved by millions of Australians for decades (e.g. Vasek, 2009). The label design contest for Pril, a well-known dishwashing detergent owned by Henkel in Germany, provides another topical example of hitherto peaceful contestants engaging in negative word-of-mouth (WOM) and actually starting to protest against the contest and the

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brand behind it (Breithut, 2011). In both cases, engaged participants were not satisfied with the jury decision and the selected winners as outcome of the co-creation project. They engaged in active resistance in order to give voice to their dissatisfaction and perceived unfair company decision. The initially positive co-creation experience dumped into a negative one.

While substantial experience has been gained from the literature addressing the benefits of innovation communities (Füller, Bartl, Ernst, & Mühlbacher, 2006; Romero & Molina, 2011) and the value of co-creation experiences (Füller, Mühlbacher, Matzler, & Jawecki, 2009), little is known about the potential negative consequences and how to deal best with them. So far, research on co-creation experience has mostly concentrated on the triggers of a compelling and enjoyable experience and its positive effects. On the other hand, research on user misbehavior in offline settings shows that both dissatisfaction and perceived unfairness are among the most relevant triggers for dysfunctional user behavior (Blodgett & Granbois, 1992; Wirtz & Kum, 2004). A more general model on the triggers and consequences of online innovation community behavior is missing.

This article therefore will explore the triggers for positive as well as negative reactions resulting from the engagement in online innovation communities. It takes a more balanced approach and comes up with a more general model aiming to explain both positive as well as negative reactions. The phenomenon of frustrated community members whose previous enthusiasm and excitement switch to active resistance and public attacks against the initiating brand is of special interest as social media may exaggerate the protest of individual members and evoke enormous waves of resistance. This research aims to deepen our understanding of the bright as well as the dark side of innovation communities and how to deal with dissatisfied, angry users. It sheds light on the following questions:

- 1) What forms of dysfunctional behavior manifest themselves in online innovation communities and what influences these forms of behavior?
- 2) How do experience, satisfaction, perceived fairness and a sense of community influence the behavior of members?

The paper is structured as follows: First, an overview on user behavior in online innovation communities and social media environments is presented with regard to potential conflicts. Following the discussion of the theoretical basis, the case of the 'SPAR Bag Design Contest' is introduced and analyzed by a qualitative analysis and the findings of the analysis are presented in Study 1. Based on these findings, a conceptual model including factors responsible for user behavior in online innovation communities is developed. The derived model is analyzed in Study 2 in order to verify the relationship of the observed factors and to test its applicability to negative and positive reactions. Finally, the findings from both studies are discussed in combination and both theoretical and managerial implications are outlined.

## 2. Theoretical background

### 2.1. Potential conflicts in innovation communities

Despite the expected positive outcomes, innovation communities may also be the setting for conflicts and unfavorable reactions toward the nodal brand. Such negative user behavior may be compared with dysfunctional customer behavior explored in the service literature. Dysfunctional customer behavior refers "to deliberately deviant behavior by customers" (Fisk et al., 2010, p. 418). Customers who act in such a manner may be also referred to as "jay customers" defined as "one who acts in a thoughtless or abusive way, causing problems for the firm, its employees, and other customers" (Christopher Lovelock, 2001, p. 73). Various economic, situational or personal as well as cognitive and emotional reasons may trigger such behaviors

(Fisk et al., 2010). In particular, perceived injustice as well as dissatisfaction with a company's actions and offerings may unleash customer misbehavior (C. Lovelock, 2010; Wirtz & McColl-Kennedy, 2010). Typical forms of misbehavior range from complaining (Ralph L. Day, Grabiske, Schaetzle, & Staubach, 1981) and boycotting of a certain brand (Braunsberger & Buckler, 2011; John & Klein, 2003), to various forms of fraud (Freestone & Mitchell, 2004; Harris, 2008) like opportunistic customer claiming during service recovery (Wirtz & McColl-Kennedy, 2010) and even verbal or physical abuse of employees (Keashly & Neuman, 2008). Dysfunctional behaviors may result in negative brand perceptions of customers, stress and job dissatisfaction for affected employees, and financial damage to the company and a loss of reputation, e.g., due to bad press (Fisk et al., 2010).

The conceptual model for customer complaint behavior suggested by Blodgett and Granbois (1992) provides further insights into the processes, dynamics, and relationships of dysfunctional behavior. The model considers dissatisfaction with a product or service as the main motivation for complaining, particularly when it is important to the customer (Richins, 1985). Dissatisfaction emerges if the expectations of the customer are not met (Oliver, 1980) and the consumption experience is accompanied by a negative affect such as anger (Westbrook, 1987). Whether the dissatisfied customer seeks redress from the company and starts complaining or not further depends on different factors such as: the customer's estimation of how likely complaining will succeed in obtaining compensation (R.L. Day & Landon, 1976); one's general attitude toward complaining (Richins, 1980); and one's level of loyalty (Hirschman, 1970). Besides seeking redress, dissatisfied consumers may also become active and, for example, engage in negative WOM. The reactions of complaining consumers largely depend on the company's reaction to the complaint, particularly to the perceived injustice. Consumers who complain and feel unjustly treated in reaction to their complaint are likely to exit, engage in negative WOM, or complain to third parties (Homburg & Fürst, 2007; Tax & Brown, 1998; Wirtz & McColl-Kennedy, 2010). Similar reasons may drive community members to engage in negative actions against the initiating company of the co-creation project.

### 2.2. Magnitude and forms of conflict in social media environments

Studies in offline settings have shown that customers who engage in negative WOM spread their unfavorable opinion to five other people on average (Blodgett, Granbois, & Walters, 1993). However, in online settings these figures may be completely different and of a much larger magnitude (Deighton & Kornfeld, 2010). As users in online communities and in particular in virtual social networks are connected virtually to a considerably larger number of people (e.g., each user of Facebook is on average connected to 130 other users) (Facebook, 2012), and due to the fact that opinions that are posted on the Internet are open to the public and in most cases for an unlimited time, the effect of WOM may be much more powerful and severe in online environments (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004). The way consumers organize and express their negative WOM may also be more powerful (Dalli & Corciolani, 2008; Deighton & Kornfeld, 2010). Anti-brand communities on the Internet, for example, are a far reaching form of consumer resistance where users gather in online communities to collectively oppose global brands and express their concerns about corporate practices related to, e.g., environmental issues and human rights (Hollenbeck & Zinkhan, 2006). The members of anti-brand communities gather together for a perceived common moral obligation and the common objective of forming resistance against their enemy brand (Kozinets & Handelman, 2004). Thompson, Rindfleisch, and Arsel (2006) investigated a phenomenon called the Doppelgänger effect, where logos are deformed and distorted pictures of brands are shown in order to harm the brand in focus. The intensity of the described resistive reactions depends on consumers' perceived relevance of the topic and their level of engagement and

emotional concern. Users who post negative comments such as complaints and even take defamatory action or engage in anti-brand communities have had negative experiences that usually go beyond sheer product failure thus leading to negative emotions such as anger, frustration, or irritation (Wetzer, Zeelenberg, & Pieters, 2007). As members of co-creation projects are rather creative, active, and literate in using social media they may be able to initiate conflicts of large magnitude and harming brands on aching levels.

### 3. Empirical studies

The 'SPAR Bag Design Contest', an international online design contest for shopping bags initiated by SPAR Austria, one of the leading retail chains in Austria, served as a research field to analyze our research questions (Fig. 1). This contest qualified for our research as it provides deep insights in the behavior of members of innovation communities while it was not free of conflict and had to deal with frustrated participants. Negative reactions and certain forms of resistance emerged as a minority of the almost 2500 community members did not agree and were not satisfied with the outcome of the contest. Community members started complaining by posting negative comments on the winning designs as well as messages on members' profiles. These negative reactions as well as the behavior of satisfied participants provide insight on the triggers of user behavior in online innovation communities.

The contest invited interested fans of SPAR, design students as well as professional designers to submit their ideas. In order to attract heterogeneous participants with diverse backgrounds, interests and skills, the contest platform offered a variety of functions. Community members could, for example, contribute freely-created bags or bags created with an easy-to-use online configurator. Participants were further invited to vote on the bag designs and comment on the designs of fellow participants. In addition, user profiles were enriched with functionality for leaving messages to other participants. In the forefront of the official jury-meeting a well-structured, multi-step process was applied by a committee consisting of seven SPAR employees to determine the 150 finalists out of 5297 submitted bag

creations. In the final jury meeting, the official contest committee consisting of a professional designer, the CEO of SPAR and the publisher of Austria's news magazine with the largest circulation selected the top three winning designs based on intensive discussion regarding the predefined criteria. The three best designs chosen by the jury as well as the three best designs chosen by the community through the ranking were awarded. The designer of the best bag design determined by the jury received a monetary prize of 2000 €. Additionally, the winning design was produced in a run of 1 million bags and shipped to all SPAR stores throughout Austria. Originality of design, alignment with the SPAR brand, and ease of realization served as criteria. The evaluations by the innovation community did not have an influence on the final decision of the jury. The contest lasted for 7 weeks. During that time, 2435 participants were registered; 1355 users contributed designs and accounted for 5297 bag designs (2706 freely created and 2591 via the configurator). The community conducted 57,729 community evaluations, 12,200 comments on designs, 6194 messages on profiles of members and 558,891 page views. The participants spent 338,720 min of residence time on the platform accounting for more than 2 h of residence time per participant. A multi-study, multi-method approach was chosen to explore the research questions, to uncover coherences and to avoid common method bias (McAlexander, Schouten, & Koenig, 2002).

In order to get an understanding of the triggers and forms of dysfunctional behavior encountered in online innovation communities, first a qualitative study was conducted. Subsequently, a quantitative study 2 was set up to test how the identified triggers influence the behavior of members of online innovation communities.

#### 3.1. Study 1

As the contest was conducted on a community platform on the Internet, rich data could be gained from the publicly accessible platform. Due to the involvement of the researchers in the running of the contest, data stored in the contest data base was accessed as well as information from the pre-selection process and the jury meeting.

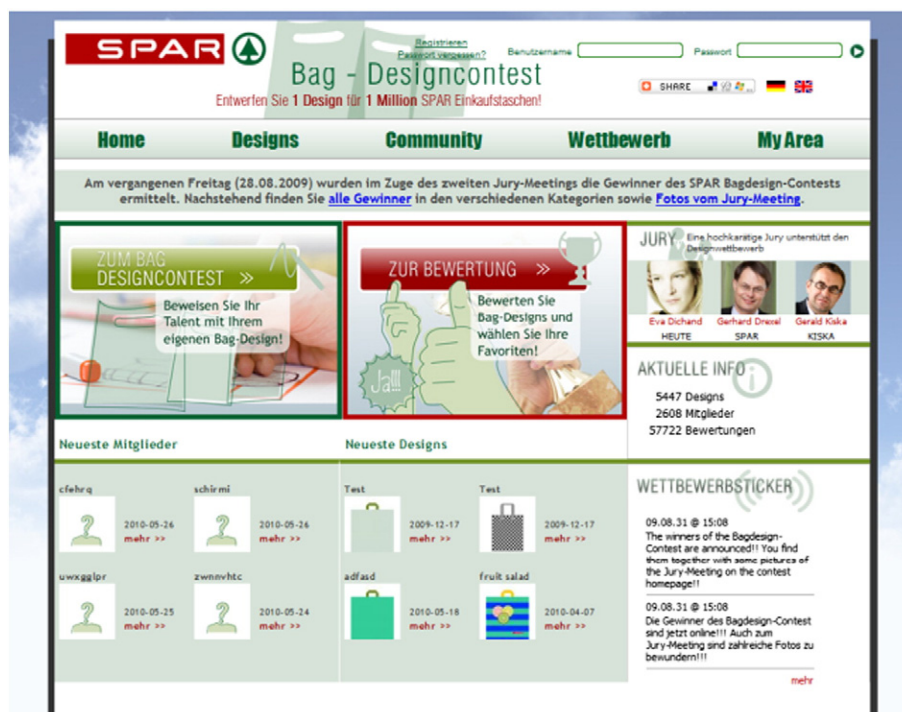


Fig. 1. The SPAR bag design-contest. Source: <http://www.bagdesign-contest.com>, access date 02.06.2010.

### 3.1.1. Method

**3.1.1.1. Netnography.** A netnographic approach was applied in a first step in order to explore the community of the SPAR bag design contest and to gain familiarity with the participants and their communication patterns and topics. Netnography is “participant-observational research based in online fieldwork and uses computer-mediated communications as a source to enable a contextually situated exploration of the behavior of members of an online group” (Kozinets et al., 2010, p. 60). The analysis includes the observed consumer statements – downloaded textual and graphical files, the reflective field notes, the screen captures—and other netnographic products of participation and observation.

**3.1.1.2. Content analysis.** In a second step, the conversation on the online contest platform was analyzed. Activity data (visits, amount and form of activity per user, time spent on the platform by users), user data (usernames, user ID, sent and received messages on profiles) and information on designs (graphics, number of received comments, number and average of received evaluations) was exported from the platform system log-file and quantitatively analyzed. Interpretative analysis was conducted based on evaluating the content of the qualitative comments and messages that users posted on uploaded designs and profiles of others. This approach enabled the identification and understanding of members' reactions in the context of the contest and in particular in the discussion of the winning design. Atlas.ti, a computer-assisted qualitative data analysis software, was applied for content analysis of text data and made it possible to combine the qualitative data with data on the users' activities in the contest such as number of designs, number of comments and number of evaluations. The contributions were then further sorted, marked, and categorized (Lewins & Silver, 2007).

Based on the text material, the following categories were developed inductively (Glaser & Strauss, 1967; Krippendorff, 2004): (0) neutral, (1) constructive criticism, (2) positive comment, (3) negative comment or accusation, (4) aggressive or defensive comment, (5) appealing comment or (6) social interaction. To ensure the reliability of the categories, in a first step two coders independently categorized comments and messages into the predefined groups. In a second step the two independent analyses were compared with each other to check if the engaged researchers had a common grasp of the fixed categories. The comparison revealed that the bulk of attributions were congruent except for 7%. In a third step the comments on which there was disagreement on the allocation to a specific category, were discussed. By bringing together the different views and discussing the reasons for the different allocation, greater clarity was achieved, leading to a common understanding and an explicit classification.

### 3.1.2. Findings Study 1

After the announcement of the winners on the contest website, an intense and mainly negative discussion about the winning design quickly evolved. Some community members did not agree with the decision as they considered the quality of the graphical design of the winning bag as inferior in comparison to a number of other contributions. Even though the online competition was communicated as a design contest, the jury found the winning bag was creative with regard to word play rather than in the elaboration of the design itself (Fig. 2). Hence, the jury picked the design as its members agreed that the bag's sparkling humor was perfectly in line with SPAR. However, contest participants did not agree with this logic.

In total, the community generated 12,200 comments on designs and 6194 messages on profiles of users during the contest. The vast majority of comments was contributed before the announcement of the winners and primarily positive with 67.73%. Only 3% of the comments prior to the announcement of the winning design were

negative or accusing. The majority of the rest of the comments was either neutral (14.95%) or offered constructive criticism (7.97%). A few comments (4.63%) were categorized as social interaction between members without direct reference to a design. The majority of the comments were made in English (82.41%) while 14.71% of the comments were made in German. The remaining 14.43% of comments were contributed in other languages or were of an indifferent nature. Subsequent to the announcement of the winning design, 97 additional comments on designs were contributed to the contest platform. A total of 51 comments were submitted on the winning design of which 50 were related to the jury's decision and 40 of these comments were negative. The other 47 comments, which were contributed after the announcement of the winners on other designs, did not refer to the jury's decision. Although the winning design had been online on the platform for four weeks, it did not arouse the attention of the community prior to the jury's decision, yet it became the most discussed design in the contest. In the following section, the users' reactions to the outcome of the contest and the reasons for those reactions are discussed. The outcome of the contest thereby is defined as the winning designs based on the decision of the jury.

**3.1.2.1. Reactions to the outcome of the contest.** Approximately 40% of the entire post-jury interaction consisted of negative WOM with clearly negative comments and messages, stating disappointment and frustration over the outcome of the contest.

*“what a joke...Im really disappointed...” Anne94*

*“...if it's not a mistake,it must be sad joke of sad people... How SoniaSophie write above: 'I saw so many great designs, great ideas'- I agree 100% It's not even worthy opponent in competition. And this bag will be printed 1 million times??? Jury take some strong drugs (?), or what (???)” funny\_bunny*

Altogether, 35 participants engaged in the discussion of the jury's decision. The discussion involved 10 different users who were not engaged initially within the course of the discussion. While the discussion primarily focused on the outcome of the contest, some users also expressed open criticism of the design contest and the brand SPAR:

*“SPAGHETTI is written like this!!!! I'm curious if these SPAR-idiots are going to print that spelling mistake also 1,5 million times!” rakete*

Negative feelings were not only expressed by posting comments and messages. One user used the configurator in order to state a protest. The created bag is designed as a black mourning band and displays a message that expresses his/her disappointment, showing both high involvement and creativity. The title of the bag (“Sad Good-bye”) further indicates the user's intention to retire from the contest (exit) (Fig. 3).

One user in particular showcased serious anger and posted the request to send complaints to SPAR and provided the email address with the posting:

*“Send complaints to SPAR: presse@SPAR.at or office@SPAR.at” mbo.*

The user at the same time displayed systematic and harmful behavior e.g. by using different alias accounts in order to spread the stated request on more than 100 profiles of other users in an attempt to involve otherwise neutral participants. The database of the contest system revealed that there were four user accounts which were registered on the exact same day and within 45 min with very similar usernames (bob, billybob, bobby, bobbily) as well as similar email addresses using the same email provider. In a posting, the user

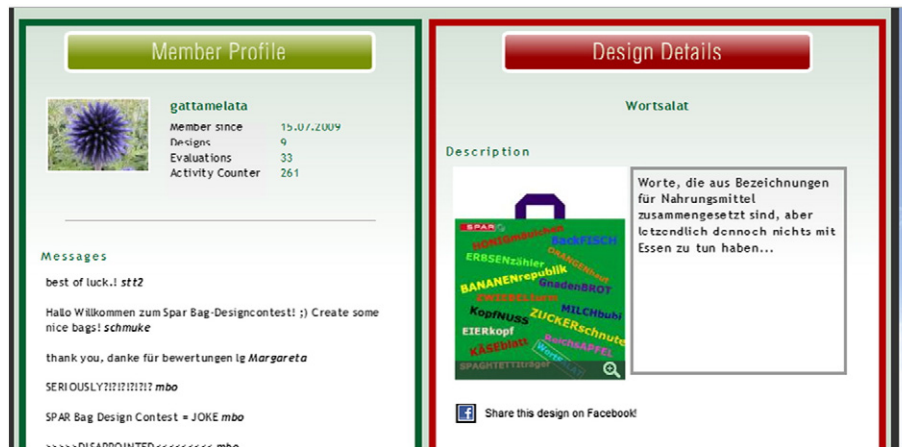


Fig. 2. Winning design "Wortsalat" by user gattamelata. Source: <http://www.bagdesign-contest.com/ideaDetails/index/ideald/2907>, access date 05.06.2010 (translation: title—"Word Salad").

"bob" refers to the user "mbo" as himself. It therefore can be assumed that the user accounts belong to the same user.

*"Can you believe this setup of a competition? They blocked me as mbo from posting any comments & even threatened me with an email. PLEASE SEND COMPLAINTS ABOUT THIS CONTEST TO SPAR: presse@SPAR.at or office@SPAR.at" bob*

The activity resulted in a series of complaint letters from different users which were sent to the specified email address. The majority of the comments in the discussion on the winning design were aggressive and critical. However, some members also tried to take the heat out of the discussion and even provide support for the nodal brand:

*"i just want to say congratulation to Gattamelata for winning this competition... And despite of some disappointments about the juries decision, i think Gattamelata is not the one to address your feelings here.... just think positively that SPAR was searching for something entirely 'different'." damang*

As the discussion got more personal to some extent and a few participants addressed the winning designer directly with their anger,

other users counteracted and sought to assist and encourage the winner:

*"I think the critic here is not addressed to you at all but to the jury, so don't take it personal, have a good day as well and lots of fun with the award" gudaltus*

**3.1.2.2. Reasons for the negative reaction.** Several reasons for the negative reaction of the members can be identified. The main reason that was expressed by users who made angry comments was disappointment with the outcome of the contest due to the decision of the jury. The members stated their disagreement with the decision of the jury in comments on the winning design:

*"Is SPAR serious about choosing those TOP 3 Designs?!?!? This is a joke. I am very disappointed in the jury selection: I am utterly shocked by SPAR's decision!" mbo*

Despite the observed dissatisfaction with the outcome, some critical statements also expressed emotions such as anger, frustration and irritation leading to an overall negative experience of the co-creation activity:

*"This is a disgusting contest..." ramilbaylon*

As the jury based its decision on the word play that was in German and incorporated in the design of the bag, the bulk of the criticism was due to the fact that the non-German speaking participants were unable to appreciate its creativity and concentrated their criticism on the graphic design. The jury's reasons for choosing the winning design were not communicated to the community with the announcement of the winner. As a result of this lack of transparency, the users had the impression that the contest was unfair:

*"The SPARBag Contest admin could have specified that this contest was actually based on WordPlays, and nothing graphical of some sort... WASTE OF TIME!!!" damang*

All the users who engaged in the negative discussion of the winning design by making critical comments or messages had already been active participants during the contest period. They showed high involvement in the contest clearly above the average level. The users who were engaged in the discussion of the winning design contributed 18.43 designs and 78.54 comments on average while the average active participant only contributed 3.91 designs and 4.57 comments during the contest period. These activity levels indicate a



Fig. 3. Protest design "TRAURIGER ABSCHIED" by user Margareta. Source: <http://www.bagdesign-contest.com/userDetails/index/userId/446>, access date 05.06.2010 (translation: title—"Sad Good-bye"; content: "All the artists' efforts and troubles for nothing/kind regards MM", "This game makes you cry/SPAR is mourning").

high personal relevance of the contest for the complainants. The intense interactions with other members through numerous comments and personal messages led to a strong identification with other members and a distinct sense of community (McMillan & Chavis, 1986).

**3.1.2.3. Conflict management.** As the discussion was about to get out of hand and became increasingly critical on the day of the announcement of the winner, the community management was urged to act. One community manager who attended the jury decision promptly contributed a statement to the discussion in which the motives of the jury were explained in order to clarify the misunderstanding as well as to calm down the discussion:

*“Dear Community-Members, I had the chance to attend the Jury-Meeting last Friday and I can tell you in regard to the winning design, that not aesthetic factors were in the focus rather the creativity in terms of the wordplays made the Jury picking this design. As a matter of fact, the wordplays may be not as funny for non-native speakers as they are for native ones. [...]”* sevennine

In the case of the user who appealed on numerous user profiles to send complaints to SPAR, the community management reacted by referring to the terms and conditions of the contest participants had to agree to when registering and deleted the majority of the postings with the justification of avoiding spam on the platform.

The community management decided to clarify matters by both explaining their reasons for deleting the multiple postings and also responding to the false accusations of having blocked the user by writing on the user's profile. The community management articulated their suspicions and simultaneously explained their actions publicly in order to reinforce transparency and understanding:

*“Hey bob, we did not block you—you can post as much as you want as mbo, billybob, bob, bobby, bobbily or whatever bobbude you feel like. Please do not double post, that's it”.* diplomod

Confronted with this unexpected hostility, SPAR also reacted to the discussion. As the discussion and the resentment expressed became more severe, SPAR considered the opposition to the design as serious feedback and backed down from the plan to print and distribute the winning design on their bags in grocery stores across Austria. Instead, SPAR decided to print the second and third ranked designs which were accepted by the community. Yet since the realization and distribution of the design was the intended award for the winning designer, SPAR directly approached the winner, explaining their alternative intentions of realizing the other designs and the reasons behind their decision and this way reached an amicable agreement with the original winner.

## 3.2. Discussion Study 1

Our study demonstrates that conflicts in online innovation communities may arise for different reasons and this can lead to a variety of negative reactions.

### 3.2.1. Reasons for the negative reactions

In the qualitative study dissatisfaction with the outcome was identified as one of the major reasons for the negative reactions when the users complained about the jury's decision on the selected winning design. This matches with findings from Berkowitz (1978) and Ouchi (1979) who showed that the absence of an expected outcome leads to dissatisfaction and dysfunctional behavior. In our case, participants favored other designs than the jury and therefore were disappointed with the result. The findings further reveal that members who show dysfunctional behaviors also expressed a distinct sense of community (SOC) (McMillan & Chavis, 1986). Due to their strong interactions with other members and lot of time spent on the

community platform, these members felt highly affiliated and committed to the innovation community. As the jury decision did not meet their expectations they considered their participation as waste of time and could not accept the unwanted jury decision. Thus, these initially enthused and highly involved community members started causing troubles.

The observed misbehavior was mainly triggered by perceived unfairness which resulted from a lack of transparency. In particular, low procedural justice (Folger & Bies, 1989) and interactional justice (Bies & Moag, 1986) fuelled the discussion. Procedural justice in our case referred to the missing communication of the reasons for the decision of the jury. Participants also missed the expected respect, politeness and honesty referring to interactional justice (Bies & Moag, 1986). Distributive fairness, as further important component of fairness (Adams, 1963), was not an issue in the SPAR case as contestants did not criticize the amount and forms of offered prizes. Our study enforces the relevance of fairness in co-creation and in particular highlights the importance of procedural and interactional justice.

Apparently, the community and, in particular, its highly involved members develop clear expectations of what the winning design should be. When these expectations are dashed by an unpopular decision which in addition is perceived as unfair, the participants may react as observed and engage in negative WOM (Blodgett et al., 1993).

### 3.2.2. Reactions of the users and conflict management

The negative experience in this study led to emotions such as anger, frustration and irritation which are related in the literature not only to negative WOM, with a view to venting and taking revenge but also to systematic and harmful behavior (Ward & Ostrom, 2002). Negative opinions may spread out and could be found on other channels such as social networks, where the brand itself was criticized for failures originated in a co-creation activity (Facebook, 2011).

In line with existing literature on customer complaint behavior in the offline context our study has underlined the importance of effective conflict and crisis management in order to avoid severe damage of a company's brand (e.g. Pearson & Clair, 1998; Ulmer, 2001).

While the general principles for conflict and crisis management such as promptness, transparency and a mutual set of rules (McCole, 2004; Ulmer, 2001) seem to be the same for the offline and online world, crisis management for social media requires additional skills and actions as critical incidents spread much quicker to a much larger audience (e.g. González-Herrero & Ruiz, 2006). The negative discussion gained momentum throughout the contest, drawing in comments from other users on the platform. Immediate and consistent action was necessary as such situations can easily get out of control. The “united breaks guitars” video for example was viewed by millions of users showing the musician David Carroll who complains about United Airline breaking his guitar (Deighton & Kornfeld, 2010). Due to its spread through social media channels, this single video lead to a negative brand perception and severely affected United's stock price, costing shareholders about 180 million USD in value (Ayres, 2009; Carroll, 2009).

In our case, rich and open dialog with the community aiming to develop an understanding of each participant's point of view and to creatively disrupt unspoken assumptions that restrain commitment and satisfaction have been important. The achievement of a common agreement on particular issues turned out to be an effective strategy for managing the conflict in the community (Varey & Ballantyne, 2006).

Despite the observed aggressive behavior of participants, attempts to calm down the discussion as well as support for community members who were attacked within the course of the discussion and support as well for the brand SPAR have been observed. This implies that co-creation communities do possess a certain level of self-healing powers (Forte, Larco, & Bruckman, 2009). In fact, our findings imply that when dealing correctly with dysfunctional users,

these participants may be transformed into valuable members of the community who even take over the role of the community manager themselves.

The open dialog on the platform also offered the opportunity to become aware of issues which would otherwise remain unnoticed. The management of conflicts may thus be interpreted as an opportunity to resolve problems and thereby profit from reputational gains in the case of successful issue management. Service literature identified this effect as 'service recovery paradox' which states that consumers satisfaction may even increase after service failure once consumers feel treated courteously and experience high levels of fairness during a complaint (e.g. Magnini, Ford, Markowski, & Honeycutt, 2007). For example, in reaction to the extreme protest of customers against the choice of the new name for its product as the winner of an idea contest, Kraft also stepped back and verified the compatibility of the final name with its customers' preferences in an online and telephone poll. With these efforts to keep consumers involved till the very end of the process, the launch of the new product was then quite successful (Foley, 2009).

Our findings further demonstrate that it is crucial for the official community management to take an active role in the contest in order to have a legitimized position when dealing with critical issues and thereby communicating regulatory measures such as the deleting of comments or official statements regarding the unpopular jury decision. Since conflicts are inevitable in large communities with thousands of participants and public discussions, community management is not only urged to allow and accept controversial opinions, but to provide structures for dealing with such conflicts. Drawing on suggestions from complaint literature, participants in co-creation activities should be provided with opportunities to complain and vent steam (e.g. C. Lovelock, 2010). In line with democracy theory (Bucy & Gregson, 2001), the findings recommend actively engaging community members in management and decision making in order to avoid or solve conflicts and create understanding. Governance mechanisms such as the establishment of norms, the application of certain incentive structures, as well as active integration in the community management increase the acceptance and reduce the risk of conflict (Sorensen, 1997; Stuart Mill, 1946). Upfront integration of community members in the leadership of the community and decision-making thus may be an appropriate strategy to reduce the risk of conflict and increase the legitimacy of the community management. Being able to participate in the democratic process may provide a sense of psychological empowerment that leads to a better understanding and a more holistic view of issues related to the democratic management of a community (Bucy & Gregson, 2001; Füller et al., 2009). Thus, participants in online co-creation initiatives may be more likely to accept decisions if they have participated in making them (Deutsch, 1975), even if they are unfavorable for them (LaTour, 1978). In any case, conflict and crisis management should be considered with great care in order to minimize eruptional effects (Coombs, 2004).

### 3.2.3. Derived framework on member behavior in online innovation communities

In addition to a deeper understanding about the reasons, reactions, as well as conflict management in innovation communities, study 1 further provides insight on members' general behaviors in online communities and challenges a solely positive or negative perspective as both negative and positive reactions could be observed. Based on these insights and in line with the conceptual model of consumer complaint behavior of Blodgett and Granbois (1992), the following framework for members behaviors in online innovation communities can be derived (Fig. 4).

The framework suggests that both positive and negative reactions of members can result from satisfaction/dissatisfaction with their experience and the outcome of the innovation community (Füller et al., 2009; Kozinets et al., 2010; Nambisan & Baron, 2007). Depending

on the satisfaction with the experience in the co-creation activity and the outcome (defined as the winning designs as result of the jury decision), participants may show favorable reactions such as positive word-of-mouth and increased willingness to pay as well as unfavorable behaviors such as negative word-of-mouth and boycott. The level of positive or negative reactions may be directly affected by the perceived satisfaction/ dissatisfaction for example with the winning design respectively with the decision of the jury (Santos & Boote, 2003). It may also be affected by the satisfaction with the experience in the co-creation activity. Literature on mass-customization, for example, states that consumers will show great interest in and willingness to pay for their self-designed products if they enjoy the co-creation design process (Franke & Piller, 2004). The influence of satisfaction on potential reactions may be further affected and mediated by members' sense of community expressed by its personal relevance of the contest and the community (McMillan & Chavis, 1986). High levels of satisfaction or dissatisfaction paired with high personal relevance may drive members' actions. Algesheimer, Dholakia, and Herrmann (2005) investigated social interactions among various community members and found that the identification with the community does strongly affect the individual level of interaction and engagement in activities. Community members' perception of the company managing the innovation community as fair may be another mediator influencing members' reactions. Perceived justice or fairness may relate to distributive as well as procedural justice. For idea and design contests, a fair distribution of the rewards is expected by the participants in order to provide distributive fairness. Procedural justice may be particularly important, as the process for winner selection, and the decision about the winner is necessarily the focus of an ideas contest. Depending on the perceived fairness or unfairness, co-creation participation may positively or negatively affect the relationship with the brand, in particular the WOM about the nodal brand as well as the willingness to pay (WTP) for the products generated by the community (Ajzen, Rosenthal, & Brown, 2000).

### 3.3. Study 2

Study 2 was set up to test our suggested framework and to explore how co-creation experience, perceived fairness, satisfaction, and sense of community influence member reactions such as word-of-mouth (WOM) and willingness to pay (WTP).

#### 3.3.1. Method

**3.3.1.1. Online survey.** After an online pre-test with 25 participants, data collection with the final questionnaire was conducted during two weeks in September 2009. A total of 2435 emails with a link to the online questionnaire were sent and 213 completed questionnaires were returned. This corresponds to a response rate of 8.74%. The questionnaire was provided both in English and German and recipients could choose their preferred language. Within the survey sample, 42% of the respondents were male; 58% were female. On average, participants in the survey were 33 years old. 71.8% of the participants did the German version of the survey while 28.2% did the English version of the survey. The means of early respondents and late respondents were compared to test the sample for possible bias from non-respondents (Armstrong & Overton, 1977). No significant differences were found between early and late respondents, indicating that non-response bias may not be a problem.

**3.3.1.2. Measures.** The following measures were applied to operationalize our conceptual framework: Three items derived from Dahl and Moreau (2007) served to measure the co-creation experience. A further four items from Folger and Konovsky (1989) were adopted to measure contestants' satisfaction with the outcome of the co-creation activity. Five items adopted from Bagozzi, Dholakia, and Basuroy (2003) were applied

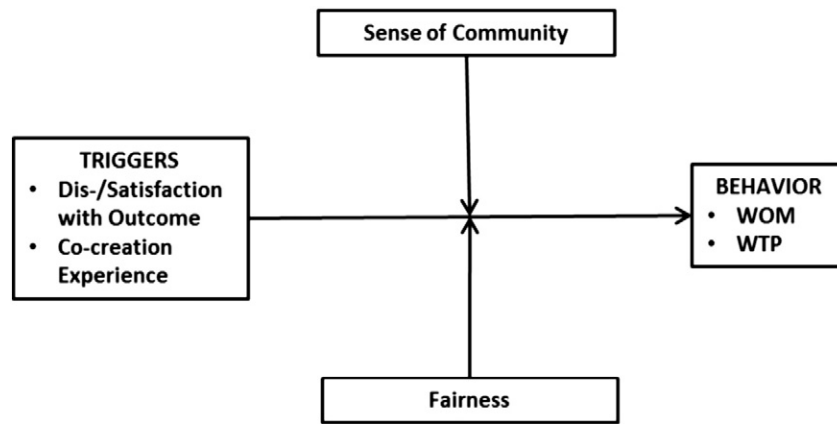


Fig. 4. Conceptual model of user behavior in online innovation communities.

to measure the sense of community (SOC). Another two items for perceived fairness were derived from studies based on procedural and interactional fairness (Folger & Konovsky, 1989; Moorman, 1991). To investigate whether participants would engage in positive WOM about the brand of the company initiating the innovation community, we adapted three items from Hennig-Thurau et al. (2004). Finally, WTP was determined by directly asking how much participants were hypothetically willing to pay for the winning bag design. Similar one-item measures were used by Homburg, Koschate, and Hoyer (2005) and Franke and Piller (2004) and are commonly used when asking for consumers' WTP. Seven point Likert-scales anchored by (1) "strongly disagree" and (7) "strongly agree" were used to measure all items except WTP. WTP was measured with a scroll bar ranging from 0 cents to 5 Euros. All measurement items as well as their psychometric properties are shown in Table 1. All indicators show good factor loadings and the respective factor reliabilities exceed the requirements (R. Bagozzi & Yi, 1988). Convergent validity determined by the average variance extracted as well as discriminant validity estimated by calculating the Fornell–Larcker-Ratio (Fornell & Larcker, 1981) achieved satisfactory levels.

### 3.3.2. Findings Study 2

Structural equation modeling was applied to test our conceptual framework and explore the effect of perceived fairness and sense of community on the relationship between co-creation experience and satisfaction with the outcome on participants' willingness to pay (WTP) for the designs as well as intended positive word-of-mouth (WOM).

First, we analyzed the direct effects of satisfaction with the outcome and co-creation experience on WTP and WOM (Fig. 5). Next, we amplified our model and introduced procedural fairness and sense of community (SOC) in order to test its direct as well as mediating effects (Fig. 6).

Multiple indexes of model fit were applied to examine and evaluate the measurement models. The fit was assessed with the chi-square test, the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), the comparative fit index (CFI), the normed fit index (NFI) and the root mean squared error of approximation (RMSEA). Satisfactory fits are obtained when the GFI, AGFI, CFI and NFI are greater than or equal to 0.9 and the RMSEA is less than or equal to 0.08 (see for example Browne & Cudeck, 1993; Hu & Bentler, 1999; Kline, 1998). The results for the model fit were:  $\chi^2/df = 1.363$ ,  $p = 0.037$ , GFI = 0.950, AGFI = 0.918, CFI = 0.992, NFI = 0.969, and RMSEA = 0.041 for the first model, and  $\chi^2/df = 1.741$ ,  $p = 0.000$ , GFI = 0.903, AGFI = 0.865, CFI = 0.976, NFI = 0.945, and RMSEA = 0.059 for the second model.

The results given in Fig. 5 show that satisfaction with the outcome has a significant influence on both WTP for the winning design ( $\gamma =$

.16\*\*), as well as participants positive WOM about SPAR ( $\gamma = .21^{**}$ ). While enjoyable experience in the co-creation activity has a positive effect on participants' WTP ( $\gamma = .14^*$ ), it does not significantly affect their intended positive WOM ( $\gamma = .03^{n.s.}$ ). In total, the first model explains 9% of WTP and 12% of participants' positive WOM about SPAR.

Fig. 6 shows the results of the amplified structural equation model assuming that procedural fairness as well as Sense of Community (SOC) have additional effects on participants' WOM and WTP. In total, these two variables are able to raise the explained variance of WOM from  $R^2 = 0.12$  to 0.19 and WTP from  $R^2 = 0.09$  to 0.15. The path analysis further reveals that SOC significantly impacts WTP ( $\beta = 0.31^{***}$ ) as well as WOM ( $\beta = 0.21^{**}$ ). SOC also fully mediates the impact of co-creation experience on WTP as experience has a significant impact on SOC ( $\gamma = 0.37^{***}$ ), is able to account for a considerable amount in variance of SOC ( $R^2 = 0.14$ ), and changes the previously significant experience–WTP path to an insignificant relationship.

While perceived fairness significantly impacts WOM ( $\beta = 0.44^{***}$ ), it does not affect participants' WTP ( $\beta = 0.04^{n.s.}$ ). In addition, another mediating effect can be observed: perceived fairness fully mediates the impact of satisfaction with the outcome on intended positive WOM as satisfaction has a significant impact on perceived fairness ( $\gamma = 0.72^{***}$ ;  $R^2 = 0.51$ ) and the formerly highly significant satisfaction–WOM path becomes insignificant.

According to Baron and Kenny (1986) a variable functions as a mediator when (a) variations in the independent variable significantly account for variations in the presumed mediator, (b) variations in the mediator significantly account for variations in the dependent variable, and (c) when a previously significant relation between the independent and dependent variables is no longer significant, with the strongest demonstration of mediation occurring when this path is zero. In our model, all three conditions are applicable, indicating a full mediation effect. Perceived fairness and SOC can thus be interpreted as dominant predictors for both WTP and WOM.

### 3.4. Discussion Study 2

Overall, the quantitative study has confirmed the applicability of our conceptual framework. Satisfaction with the outcome and perceived co-creation experience may indeed trigger community members' reactions. The study also highlighted the importance of perceived fairness mediating the relationship between satisfaction with the outcome and WOM and sense of community (SOC) mediating the relationships between co-creation experience and WOM as well as WTP. Interestingly, perceived fairness and sense of community show different effects. While sense of community as an indicator of one's personal involvement in the community significantly affects both WTP as well WOM, perceived fairness only significantly

**Table 1**  
Measurement items used in the final model.

Construct	Indicator	Factor loading	Factor reliability	AVE	Fornell–Larcker-Ratio
Perceived fairness	The jury ... adequately considered the viewpoint of the SPAR Bag-Design-Contest community in making decisions.	0.96	.92	.86	.60
Dis-/Satisfaction with the outcome	... treated the community with respect and dignity in making decisions.	0.90	.97	.88	.59
	I really like the design of the winning bag.	0.97			
	I think the design chosen by the jury is an appropriate and well-deserved winner of the SPAR-Bag-Design Contest.	0.95			
	I would have made the same decision like the jury in regard to the design of the winning bag.	0.90			
Co-creation Experience	The winning bag was also one of my personal, favorite designs.	0.93	.82	.60	.23
	I have enjoyed the entire SPAR-Bag-Design-Contest.	0.72			
	I had a good time designing the SPAR-Bags during the SPAR-Bag-Design-Contest.	0.80			
	This task was a lot of fun.	0.81			
Sense of Community (SOC)	I consider myself as a member of the Contest Community.	0.87	.94	.76	.18
	I think the Contest Community platform is a good place to spend my SPARe time.	0.95			
	I feel closely connected to other participants of the Contest Community.	0.85			
	I feel a sense of kinship with other Contest Community members.	0.78			
Positive WOM	I have a strong desire to further interact with participants of the Contest Community.	0.89	.96	.88	.20
	I say positive things about SPAR to other people.	0.95			
	I recommend SPAR to someone who seeks my advice.	0.94			
	I can recommend SPAR without any concerns.	0.93			
Willingness to pay (WTP)	How much would you be willing to pay for the winning bag?	1.00	n.a.	n.a.	n.a.

influences WOM. These findings indicate that participants who do not like the selected winning design may still talk positively about the initiating company as long as they see the decision process as fair. Nevertheless, they will not buy a design that they do not like, no matter how fair the process is since fairness has no significant impact on WTP. Consumers apparently do not intend to buy a design any more likely because its creation is perceived as fair rather than only if they really like it. Nonetheless, they may very well talk about whether the creation was fair or unfair regardless of any purchase intentions. The findings further indicate that only those participants who had an enjoyable co-creation experience which also contributed to a distinct sense of community show a higher WTP for the winning designs. Mere enjoyment has no direct effect. Rather than the involvement in the product or service as mentioned by [Blodgett and Granbois \(1992\)](#), it seems to be the sense of community which triggers reactions in the co-creation and innovation community context ([Algesheimer et al., 2005](#)). These results again reveal that perceived fairness seems to be of high relevance in co-creation communities. Companies who engage users may be generally perceived as powerful and wealthy and their commercial interests behind any co-creation activity may provoke mistrust. Therefore, it is of particular importance for companies to act transparent and fair when engaging consumers in co-creation. So far, this aspect has gained little attention in the co-creation and innovation community research (c.f. [Franke, Klausberger, & Keinz, 2012](#)) but definitely deserves more consideration.

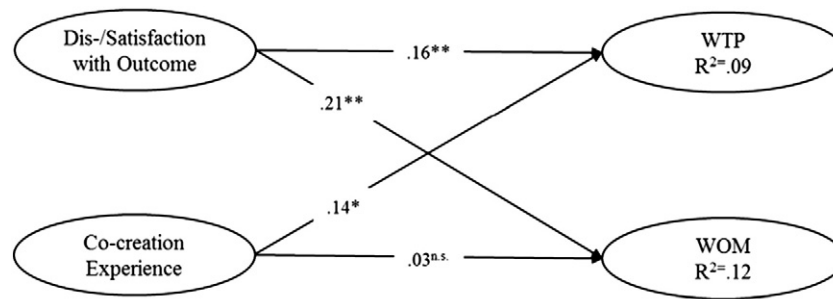
#### 4. Contribution

This paper contributes to a better understanding of co-creation and innovation communities. It showed that co-creation projects indeed carry the risk of conflict. However, members may also react positively if they experience a strong sense of community and feel they are being treated fairly. Community members may for their own purposes make creative use or abuse of the tools on offer. In the Spar case they, for example, expressed their disappointment through bags designed with the easy-to-use configurator, comparable to findings by [Thompson et al. \(2006\)](#) on a phenomenon called the Doppelgänger effect, where, e.g., logos are deformed and distorted pictures of brands are shown in order to harm the brand in focus. Unsatisfied community members may also act systematically and purposefully by posting their negative experience on multiple profiles of other members and thereby deliberately try to pass on

their discontentment to fellow users and to harm the brand. This finding is congruent with literature which states that community members seek to obtain the attention of other users and mobilize their network in order to increase the number of participants who engage in the protest and thereby enforce the negative impact on the brand ([Ward & Ostrom, 2002](#); [Wetzer et al., 2007](#)).

Considering that an individual user on Facebook is connected to 130 other users ([Facebook, 2012](#)), these activities indeed bear an increasing potential for harm as they can spread much faster through social media ([Deighton & Kornfeld, 2010](#)). Unlike complaint management in offline settings where interaction between the complaining customer and the company is mainly dyadic ([Emerson, 1981](#)), conflict management in co-creation and innovation communities inevitably happens in the public sphere. An intense dialog is not only required among individuals, but with an entire network consisting of other community members as well as other players such as friends, bloggers, and even journalists who are connected with the community members via other social networks such as Facebook. Managing conflict in co-creation communities therefore becomes a multi-user dialog in which opinions from various participants and reactions in different formats interplay. Important here is to consider not only the interactions between the company and the participants but also interactions among the participants. In the study at hand, the contribution from community members who showed some understanding for the jury decision and defended the winning design was important in curtailing the negative reactions and de-escalating the conflict. This suggests that conflict management should not be limited to the company itself but should be carried out in collaboration with the community. This finding is consistent with literature which suggests a rich and open dialog with the community for managing conflicts ([Varey & Ballantyne, 2006](#)).

The research also revealed that it is shortsighted to ask a community for their creative contribution but neglect their feedback when taking decisions. While fairness is an important trigger for both negative (Study 1) and positive (Study 2) WOM, procedural and interactional justice require frequent mutual interactions as key determinants of perceived fairness. Besides honest and respectful exchange it requires active engagement of the users in the decision-making process and (co-)influence over the outcome ([Thibaut & Walker, 1975](#)). The role as well as the self-understanding of users who engage in co-creation projects thereby is changing from solely being creative providers of input to equal partners of the company within the co-creation activity.



Note: \*\*\*<.001; \*\*<.01; \*<.05; P=.037; CMIN/DF 1.363

Fit Index: GFI .950; AGFI .918; CFI .992; NFI .969; TLI .988; RMSEA .041

Fig. 5. Structural equation model.

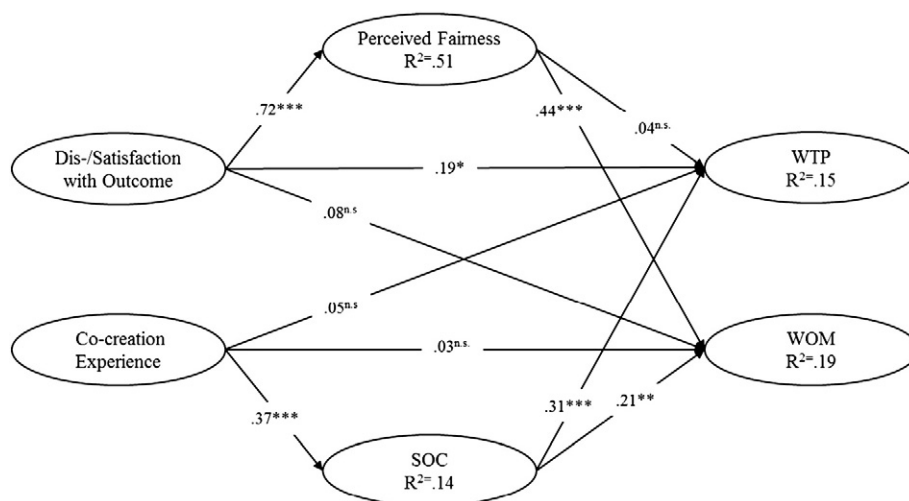
This evolution is confirmed by literature which states that community members feel progressively empowered and see themselves as valuable contributors to the innovation activity (Fuchs, Prandelli, & Schreier, 2010; Füller et al., 2009).

One of the most important means for de-escalation in the SPAR case was the consideration of the community opinion by selecting another winning design with the consent of the former 1st prize winner. The immediate reaction of SPAR accompanied by consistent and transparent communication helped to regain trust and provide the community with a feeling of control and that they were being treated as equals. The reaction of SPAR shows how decisions can be adopted in the case of justified criticism and how such willingness to give in can have a soothing and even positive effect. Putting emphasis on the opinion of the community instead of only the jury opinion increases perceived fairness and control of the community. Managing conflicts in co-creation communities in this way becomes a co-negotiated and co-moderated way of dealing with critical situations where community members themselves start to defend the company and take on the role of the community manager during the discussion. This, however, requires substantial moderation and mediation skills and previously established relationships as well as commonly agreed values and norms.

Previous studies have shown that an enjoyable co-creation experience may lead to positive reactions such as participants' intentions to actively engage in future co-creation projects (e.g. Füller et al., 2011). It has also been argued that the ongoing involvement and interaction

over several weeks may lead to positive WOM and deeper relationships between the company and users, and an increase in loyalty intentions (Nambisan & Baron, 2007).

Our research with the combined studies confirms these findings. However, it also highlights the importance of dis-/satisfaction with the outcome, perceived fairness, and sense of community rather neglected in co-creation and innovation community research so far. No joyful co-creation experience for example may be able to compensate for negative perceptions of fairness or dissatisfaction with the outcome. Only if participants consider the contest as fair and are satisfied with the outcomes they may be willing to positively talk about it or be interested in the created products. A positive co-creation experience may then contribute to spreading the word and willingness to pay. Our study also challenges the direct influence of a positive co-creation experience on participants' interest in the created products as it revealed that sense of community fully mediates the relationship between co-creation experience and WTP. Thus, our study suggests that positive or negative experiences may not automatically lead to actions. Only if consumers feel affiliated and committed to the innovation community they may take positive or negative actions. The findings from the qualitative as well as the quantitative study suggest that satisfaction with the outcome, sense of community, and perceived fairness should be considered in addition to the co-creation experience when exploring community members' reactions towards co-creation projects in the future. These components seem to be major determinants for negative as well as



Note: \*\*\*<.001; \*\*<.01; \*<.05; P=.000; CMIN/DF 1.741

Fit Index: GFI .903; AGFI .865; CFI .976; NFI .945; TLI .970; RMSEA .059

Fig. 6. Structural equation model including mediators.

positive reactions of innovation community members. The identified model thus seems to be able to explain community members' reactions in more general accounting for both the bright and dark side of co-creation.

#### 4.1. Limitations and future research

This research provided insight into potential reactions of community members and how to deal with conflicts. It thereby also tries to encourage a continuing dialog on this topic since a number of interesting additional questions have been raised for further research. It is not clear if the suggested means for conflict management will also work for other co-creation projects in other contexts. Additionally, little is known about why different participants choose different forms of resistance and the additional reasons besides perceived fairness, sense of community, negative experiences and unfulfilled expectations. Future research attempts should investigate other important aspects such as how additional dimensions like previously established relationships exactly influence such behavior. How much guidance and control should be given and how much should companies who initiate co-creation activities rely on the principle of self-organization and management of communities even in such critical situations? In addition, the role of stakeholders who are not involved in co-creation activities but may become aware of occurring trouble like the media, trading partners or other customers, should be analyzed in more detail. Appropriate strategies to deal with these relationships should be derived.

This paper aimed to provide insights and a deeper understanding on both the dark and the bright side of co-creation.

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