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Harnessing user innovation for social media marketing Case study of a crowdsourced hamburger

Abstract

User innovation is a form of open innovation in which the users of a product or service have an active role in shaping the product or service they want to use. It has been found particularly promising for innovating service solutions. The present study investigated the process of user innovation utilizing crowdsourcing on an online communication platform with thousands of customers. Building on an in-depth case study of a hamburger restaurant chain's co-innovation initiative, we analyzed key activities in customers' value-creating processes, the crowdsourcer's value-creating processes, and innovation encounter processes that determine co-innovation outcomes. In doing so, our study sheds light on factors that contribute to customers' commitment to co-innovation outcomes. We identified three key activities by which a crowdsourcer can facilitate the realization of desired innovation outcomes: development of opportunities for co-innovation, planning co-innovation activities, implementation and assessment of the outcomes. For customers, the innovation process should comprise cognitive, emotional and behavioral engagement for improved commitment to these outcomes. In light of the findings on these processes, we recommend possible future directions for research and practice.

Keywords: *user innovation, co-innovation, crowdsourcing, online collaboration platform, social media*

1 Introduction

Companies use technological platforms to integrate users into new product and service development. This phenomenon, called user innovation, is a form of open and collaborative innovation (Baldwin & von Hippel, 2011; Witell et al., 2011). User innovation allows customers

to express their needs and preferences efficiently and thus it helps firms to design new offerings (Kamis et al., 2008). While developing products and services that better meet customer needs is the primary aim of user innovation, this kind of collaboration can also be used for marketing purposes, such as improving customer loyalty (Berthon et al., 2008; Henfridsson & Holmström, 1999). Collaborative activities may generate novel products, services, and features for customers, and thus increase their intentions to advertise, purchase, and even pay a premium for participation in co-creation activities (Fuchs et al., 2010). Furthermore, customer willingness to engage in collaboration with product and service providers (Greenhalgh et al., 2004) driven by positive experience seeking (Füller et al., 2011), can develop attachment to the offering (Franke et al., 2009).

Prior research has examined diverse methods of integrating customers in new product or service development. They include crowdsourcing (Estelles-Arolas et al., 2012), co-creation (Prahalad & Ramaswamy, 2004), user innovation (Franke et al., 2006), open innovation (Chesbrough & Appleyard, 2007), and virtual customer environments (Nambisan & Baron, 2010). Crowdsourcing is an increasingly popular form of user innovation, exemplifying a trend in which innovation activity is moving away from firms innovating for their users to firms co-innovating with users and even with users initiating an innovation activity.

While we know from previous research that user involvement in product development can improve products and services, thus making them more useful and desirable, there is a need to explore how such involvement affects participants' relationships with products and companies. Studies have shown that users develop a stronger relationship to a product if they have participated in its creation (Franke et al., 2009), been given power to choose the product (Fuchs et al., 2010) or have seen that users developed the product (Schreier et al., 2012). Although there

is a strong connection between user involvement in new product development and marketing benefits, it is not yet clear how such activity influences customers' relationship with the company's offerings. Moreover, many studies of crowdsourcing have focused on high-involvement products and services such as software (Blohm et al., 2013) and media content (Bojin et al., 2011) or popular crowdsourcing platforms such as Threadless.com (Brabham, 2010) and Amazon Mechanical Turk (Azzam & Jacobson, 2013), or engaging environments such as virtual worlds (Kohler et al., 2011). There are fewer studies on the use of crowdsourcing systems for marketing and innovation of low-involvement products such as fast food, beverages and snacks. This is surprising given that leading global consumer brands such as Coca-Cola, Pepsi, and Oreo frequently use crowdsourcing (eYeka, 2015).

Understanding the potential and limitations of collaboration with customers through social media platforms to obtain marketing goals such as brand and product awareness as well as customer reach and engagement can help companies to make better use of collaborative tools and improve the return on investment in these technologies. Therefore, this study investigates *how a company can leverage the benefits of user innovation with an online collaboration platform*. Building on a case study of a burger design contest hosted by a fast-food chain, we explore mechanisms that contribute to co-innovation processes with a low-involvement product. We show that online collaboration can be used for marketing purposes while using new product development to engage the user community in interaction with the company.

The crowdsourcing project investigated here achieved three outcomes that the company perceived as important. First, the winning design became the best-selling campaign product in the company's history. Second, the co-creation campaign increased sales and the number of Facebook followers, raised the company's visibility among the target customer segment, and

improved the company's engagement with its customers. Third, the contest presented customers with product information, thus meeting the marketing aims of the firm. Therefore, the findings indicate that a design contest can both facilitate product development and improve marketing outcomes.

The findings extend the current understanding of the uses of crowdsourcing, as provided, for example, by Azzam and Jacobson (2013). The findings unite several research streams that focus on the technical environment facilitating user innovation (Corney et al., 2010) and the community and organizational outcomes of such innovation activity (Huberman et al., 2009).

This paper is structured as follows. After this introduction, the theoretical underpinnings of the study are presented. The third section covers the empirical research, and the fourth section discusses the findings from the theoretical and managerial perspectives. Lastly, limitations of the study are noted with avenues for future research.

2 Background for research

2.1 Crowdsourcing as a form of user innovation

Collaborative innovation with the users of a product or service is an innovation paradigm where new ideas and approaches from internal and external sources are integrated to create value for all parties (Lee et al., 2012). The core of collaborative innovation consists of engagement, co-creation, and a compelling experience for the participants about value creation (Sawhney et al., 2005). Examples of collaborative innovation with users include joint product development activities such as generating and evaluating new product ideas; elaborating, evaluating, or challenging product concepts; and creating virtual prototypes (Kohler et al., 2011). The practices and outcomes of collaborative innovation are often highly context-dependent and difficult for competitors to imitate (Lee et al., 2012). A co-innovation project involves contributors who share

the work of generating a design, while showing outputs from individual and collective design efforts for the stakeholders to use. In such projects, some participants – including users – benefit directly from the collaboratively designed outcomes, whereas other stakeholders – such as suppliers – may benefit indirectly from the activity as their complementary offerings may increase in value by that design (Baldwin & von Hippel, 2011).

Crowdsourcing is an increasingly popular form of co-innovating with users (Zwass, 2010). It is used to integrate a crowd of users and customers into a development activity (Howe, 2009). Crowdsourcing is a type of participative online activity in which a firm proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of tasks (Estelles-Arolas et al., 2012). Crowdsourcing comprises a set of methods that establish active, creative and social collaboration between producer and customer in new product development (Piller et al., 2012).

Prior research has investigated crowdsourcing platforms as web-based information systems that enable connectivity and collaboration among participants (Doan et al., 2011; Soliman & Tuunainen, 2015). Schlagwein & Bjørn-Andersen (2014) identify three streams of crowdsourcing studies based on their focus: a) on the IT artifact; b) on the crowdsourcer organization; or c) on the participants.

Crowdsourcing can be used with users of all levels of skill or experience. However, each kind of crowdsourcing has its own task requirements and expected outcomes (Ye & Kankanhalli, 2013). Crowdsourcing requires a variety of activities and encounters of collaborative innovation, for example, bringing the service provider and customers together, in addition to planning and implementing different innovation activities, such as outsourcing of design, ideation, and integration of external knowledge resources to an innovation process.

Crowdsourcing researchers have identified four strategies -- crowd processing, crowd rating, crowd solving, and crowd creation (Geiger & Schader, 2014). This study focuses on *crowd solving*, which is designed to solve complicated problems by equipping users with customization tools and evaluating contributions according to well-defined criteria. For example, customers have designed vehicles using a set of predefined design kits (Birke et al., 2013). Furthermore, ideation contests running on a platform such as Innocentive or Eyeka request creative user input in suggesting new solutions to problems or designing objects from scratch (Nambisan, 2009).

Interestingly, prior research on user innovation has focused on active participants. However, passive participation in collaborative activities can also be valuable for companies. Studies of the behaviors of passive users on digital collaboration platforms show that even these participants may engage by using and recommending products through word-of-mouth, endorsement, and community involvement (Choi et al., 2015). With this opportunity in mind, it is worthwhile to consider all participants – active and passive -- as potential collaborators. Therefore, to comprehend the organizational outcomes of user innovation (Huberman et al., 2009), we need to understand how user innovation on online collaboration platforms can be used beyond developing new products for marketing purposes, for instance, by fostering customer engagement.

2.2 Experiential perspective to user innovation

While crowdsourcing can be a valuable strategy, the co-innovation outcomes come only if external innovators – that form a crowd – are engaged. How to engage them is both a system-level issue and a strategic imperative (Kazman & Chen, 2009). User participation in a crowdsourcing activity can be driven by intrinsic motives, such as curiosity, and by extrinsic motives such as monetary rewards (Füller, 2010; Roberts et al., 2014). While extrinsic incentives

should be present to attract users, engagement in the crowdsourcing projects comes through intrinsic – experiential motives (Soliman and Tuunainen, 2015). A compelling and enjoyable creative experience is important in evoking participant interest in idea and design competitions and when there is support for generating creative contributions (Füller & Matzler, 2007; Nambisan & Nambisan, 2008; Prahalad & Ramaswamy, 2003). As a result, crowdsourcing can be a source of hedonic experience for its users, eliciting the flow of fantasies, feelings, and fun (Holbrook & Hirschman, 1982).

Researchers have highlighted the need for compelling experiences in collaboration and acknowledged the positive relationship aspect via post-activity outcomes (Füller & Matzler, 2007; Nambisan & Nambisan, 2008; Oestreicher-Singer & Zalmanson, 2013; Prahalad & Ramaswamy, 2003). Prior research has identified external contributors' sense of empowerment from, for example, writing a blog (Stavrositu and Sundar, 2012), generation of content, or interaction and sharing of activities with friends online (Oestreicher-Singer & Zalmanson, 2013). Even more so, external contributors have been shown to feel a sense of accomplishment from helping to design a product (Franke et al., 2009) as benefits derived from performing co-innovation activities. Additionally, a positive experience stemming from co-innovation activities can lead customers to increase their product consumption and creates an additional incentive to purchase the product or service (Franke et al., 2009). The research also suggests that consuming a product or service during the innovation process can have a positive influence on users' beliefs about the product (Frank et al., 2014). Such participation may lead to increased trust and loyalty to the brand (Laroche et al., 2012), willingness to purchase premium offers (Oestreicher-Singer & Zalmanson, 2013), and increased purchase intention for the products that a user co-created (Frank et al., 2014; Franke et al., 2009; Fuchs et al., 2010).

One way to explain this phenomenon is to look at a co-innovation platform as an advertisement channel. Users can perceive product-related experiences directly or indirectly. For example, physical first-hand experience with the product or service affects the customer directly; advertising and word-of-mouth are indirect experiences (Brakus et al., 2009). Participating in co-innovation activities makes customers better aware of the value proposition of the product or service and engages them in behaviors where they relate the value proposition to their lives, objectives and aspirations (Payne et al., 2008). In this way, participants in co-innovation can have an indirect experience of the product.

The crowdsourcing type of co-innovation affects users who participate in the innovation activity, but also other users and customers, as a product with the label “designed by the users” gives the impression of an innovative company and thus increases the perceived value of being a customer of that company (Schreier et al., 2012). For example, online design and idea competitions can help companies to portray a customer-oriented focus and innovation, thus strengthening their brand and increasing customer loyalty (Pfeil & Zaphiris, 2009). Therefore, co-innovation can lead to positive marketing outcomes such as increased brand awareness, better customer information, and increased interaction with customers even without successful new product or service development.

2.3 Platforms for user innovation

The use of digital platforms has made user involvement in product innovation and product support activities more feasible and cost-effective (Nambisan, 2002). Digital platforms for co-innovation with the customers or users of a product or service offer facilities that range from online customer discussion forums to virtual product design and prototyping centers (Nambisan & Nambisan, 2008). Such platforms can play a central role in engaging users and increasing their

involvement in co-innovation as they facilitate a positive interaction and better their attitude to the firm (Nambisan & Baron, 2007). They can also contribute to knowledge creation (Huang & Güney, 2012) that may prove beneficial both to the service provider and to the users.

Companies can build their own platforms or use existing platforms such as social media services to integrate users into online innovation activities (Zwass, 2010). Today, social media is a key venue for co-innovation (Piller et al., 2012) that enables a company to reach large audiences to address its problems and request input. Additionally, customers can be given the development tools to translate their ideas, needs and preferences into solutions. Co-innovation through social media can strengthen the customer-firm relationship, customer attachment to the brand, and even stimulate higher product demand (Piller et al., 2012).

2.4 Co-creation framework

We adopted the framework by Payne et al., (2008) as an analytical frame to structure our analysis of user involvement in collaborative innovation and the management of the innovation activity. We used this framework to understand how the activities conducted by the crowdsourcer led to compelling customer experiences and ultimately to marketing-related outcomes.

In their study on value co-creation, Payne et al. (2008) identify the actors involved in this activity and the processes in which they participate. According to Payne et al. (2008), collaboration for value creation consists off two main actors – the consumer and the organization -- and three processes: *customer value-creating*, *supplier's value-creating*, and *encounter*. We adapted the framework to our study and focused on crowdsourcer processes rather than the generic processes of a product supplier.

These three processes encompass procedures, tasks, mechanisms, activities and interaction. The processes support co-innovation and a long-term interactive relationship between the provider and the customer. *Customer value-creating processes* are the resources and practices that customers use to manage their activities. In the *crowdsourcer's value-creating process*, the crowdsourcer defines the target of the innovation activity, then uses resources and practices to manage co-innovation activities and harnesses its relationships with customer and other relevant stakeholders for the desired outcomes. In the innovation *encounter processes*, interaction and exchange between customer and the crowdsourcer happen in a virtual environment which needs to be managed to develop opportunities for successful co-innovation.

Figure 1. Analytical framework (adapted from Payne et al., 2008)

As depicted in figure 1, Payne et al. (2008) suggest that engagement in collaboration and relationship experience consists of cognitive, emotional and behavioral engagement. Cognitive

engagement describes engagement in goal-directed activities, and relates to utilitarian side of decision making, such as needing a product or service that could ease user's daily activities. Emotional engagement relates to non-utilitarian aspects of consumption and valuing experience of the process, such as playing a game. Behavioral engagement is a result of perceived cognitive and emotional experience such as exhibiting action for co-innovation.

Conversely, the crowdsourcer processes of co-innovation center on leading the innovation activity and designing the relationship experience. It involves developing opportunities for collaborative innovation, which can involve providing technology for the collaboration, and inviting customers to participate in the activity. In addition, it includes planning innovation activities that describe outside-in process, starting with understanding processes that creates a value for customers, and providing support for them. Finally, it necessitates implementing and assessing outcomes of the innovation activities by metrics development. An important part of the assessment is measuring the value of the outcomes as perceived by the customers.

3 Methodology

We adopted an exploratory single case study approach to improve the understanding of the factors important to crowdsourcing for user innovation on online collaboration platforms. We also examined the ways in which a platform was used to engage a user community to interact with the company, and thus influence marketing outcomes, such as customer attachment to the product and to the company. Due to the lack of prior empirical research on this aspect of co-innovation, we chose an inductive method. Inductive in-depth case studies have been widely used in information systems research (Walsham, 1995) as they enable a deeper understanding of the problem, the nature and complexity of the process, and generate insights into emerging topics (Rowlands, 2005; Yin, 2003).

We chose the hamburger design contest due to its uniqueness compared to prior co-innovation research. The aim of the campaign involve as many users as possible in the innovation activity. The contest and the campaign was developed in collaboration with the hamburger restaurant chain and its advertising agency. As the company gave users toolkits and let them design the product, later launched as a campaign product, our case is appropriate to study the use of crowdsourcing in a co-innovation initiative with customers.

During our engagement with the case, we collected primary and secondary data (Silverman, 2011). We interviewed every member of the project team that developed and executed the campaign. The team consisted of digital director (C:1), copywriter (C:2) and art director (C:3). The interviewees stated that decisions in the project team were made collectively based on discussions. In addition, all interviewees reported that they were able to express their viewpoints and opinions freely. Later, we interviewed the R&D manager (C:4) to reflect on company's experiences from co-innovation with customers.

The interviews were semi-structured. Most of the questions were similar for all participants, while some questions were based on the position and expertise of the interviewee. The first interview lasted 1.5 hours, while the other three took approximately 50 minutes each. In the first interview, the researcher and interviewee discussed the project setting and timeline. All interviews were recorded, transcribed, and coded.

We used open coding (Strauss & Corbin, 1998) to analyze the empirical material. Later the aggregation of codes to concepts, and analysis of relationships between concepts was done. We followed a systematic procedure (cf. Thomas, 2006) to condense the raw textual data into consistent blocks in a summary format; to establish clear links between the evaluation or research objectives and the summary findings derived from the raw data; and to develop a

framework of the underlying structure of experiences or processes that were evident in the raw data. This methodology is widely used for qualitative data analysis (Bryman & Burgess, 1994). Our analysis process was iterative, as we created most of the codes by analyzing the first interview and then adding new codes afterwards. Moreover, we categorized the codes and repeated the process for all interviews after gathering the codes.

In addition to interviews, we collected relevant press releases, newspaper and magazine articles. We also observed the activity and discussions on the case company's Facebook page for a two-year period, and analyzed official video-recorded material on the design contest and the case released by the company.

We used the data that we collected during interviews and other sources to identify theoretically meaningful patterns (Markus & Robey, 1988). During the analysis, we used our framework based on Payne et al. (2008) to decipher the patterns that emerged from the data. Taken together, the analysis of the empirical observations allowed to synthesize key principles of the environment supporting the desired outcomes of the co-innovation activity.

4 Case Context

The company that sponsored the contest is Hesburger, a family-owned, Finland-based fast-food chain established in the 1960s. Hesburger has 280 restaurants in Finland and 140 in Estonia, Latvia, Lithuania, Russia, Germany, and Turkey. The chain that employs 6,100 people. In 2015, the aggregate revenue of Hesburger restaurants in Finland was 203 million Euros, making it the leader of the Finnish fast food market.

Hesburger's product selection comprises hamburgers, salads, fries, soft drinks, milkshakes, and desserts. The menu offers a permanent selection of products with campaign products that are

sold for two to four weeks. Campaign products allow the company to test new products with customers and introduce new products to the market while keeping the menu fresh.

Based on information revealed in our interviews with the marketing manager, Hesburger started using social media, particularly Facebook, for marketing in late 2009. After one year on Facebook, Hesburger had gained 60,000 fans. The Yummy of the Year hamburger design contest was launched in 2011 on Facebook. The idea of the contest was to invite people to create their own burgers. All participants were given an online toolkit with which to customize a burger based on a large selection of toppings and ingredients along with an option to suggest additional ingredients.

The contest involved three stages, each focused on different activities crowdsourced from the customer community. In the first stage, the participants designed their burgers (figure 2) with the design toolkit. In the second stage, a company-appointed jury evaluated the burgers and selected three finalists. People would then to vote for their favorite (figure 2.b). In the third stage, the burger that received the most votes was launched as a campaign product in all Hesburger restaurants in Finland. At the same time, the company introduced a slot machine game on Facebook, where the winning burger's ingredients were presented as reel symbols. The game included a draw of gift vouchers for Hesburger products. The purpose of the game was to thank the users for participation and to promote the contest, the winning burger and other Hesburger products (figure 2).

Figure 2. Illustration of Hesburger's Yummy of the Year hamburger contest

As a result of the contest, Hesburger obtained 70,000 new Facebook fans and became a Top 3 brand on Facebook in Finland. The contest participants submitted 17,756 burger designs, used 185,600 ingredients, proposed 6,380 new ingredients, shared 8,605 burger designs as wall posts, placed more than 6,000 votes in the second stage, and played approximately 400,000 coin slot games. In addition, the winning burger became the all-time best-selling campaign product. A video released by Hesburger's advertising agency and marketing partner for the Yummy of the Year contest summarized the marketing outcomes to be the key objective of Hesburger's contest and revealed that the company pursued capitalization on social media through the contest (Satumaa, 2012).

The second Yummy of the Year design contest was launched in 2013. This competition followed the same three-stage pattern; however, after the voting stage, two finalists were nominated and introduced them to the public which would choose the winner. After the first stage, approximately 30,000 burger designs were submitted.

The key reason for Hesburger's use of social media and establishing the design contest was to increase sales. In addition, the company was able to achieve product development outcomes, and

with the help of design toolkit to collect user ideas about their burger preferences. Apart from hamburger design ideas, Hesburger obtained ideas for new product names from the competition, which were later used for internally developed products. Moreover, the contest made the company's Facebook followers more active as customers started to suggest new ideas and ingredients on Facebook.

In terms of marketing outcomes, the company could obtain detailed demographic information about their Facebook fans, in addition to contact details, and even information about their likes on Facebook. Moreover, the company benefitted by saving advertising expenses. The contest allowed customers to see the broad selection of available ingredients, and thus affecting customer learning.

To summarize, the Yummy of the Year competition achieved outcomes that satisfied the company at a reasonable cost. The company launched its most successful campaign product, gained new insights into user preferences, and obtained thousands of followers on Facebook.

5 Findings

5.1 Crowdsourcer processes

We structured our observations of the crowdsourcer's process in the co-innovation into three categories according to our analytical framework: 1) developing opportunities for co-innovation, 2) planning the innovation activities and 3) implementing the activities and assessing the outcomes. Our findings are presented next.

Developing opportunities for co-innovation. The crowdsourcer was highly committed to the project, and communicated openly with participants. Moreover, it was evident since the early phases of the crowdsourcing project that the company would devote sufficient resources to implement changes in their communication if required:

Hesburger put a lot of effort and time into this, they were really devoted. They are also very honest and always wanted to make sure that everything was done properly. They felt, "If we are going to do this [burger competition], we will definitely keep this real and prepare a real person's burger." (C:2)

The increased interaction with customers generated an increased number of negative comments varying from comments expressing disappointment in the winning product to general complaints about the brand. Negative comments were not removed, and each was responded to when applicable:

Some companies have mistaken the importance of being open in their dialogue with the customers. If someone is being critical or giving negative feedback, you shouldn't just delete it. Doing so may bring back customers that are extremely disappointed and who will post comments such as, "What do you think you are doing?!!!" (C:2)

Hesburger fostered collaboration with the users by allowing discord. The managers of the campaign believed that the community itself could resolve troublesome behaviors and negativity if it had the right culture. However, someone had to follow the information flow for emergent situations:

In Hesburger's case, there is a feedback system, operating through the community website. Usually they respond to critical postings by expressing that the company feels sorry about the user's negative experience and asking the user to email about their experience. The email goes to the system they have. It is of utmost importance to answer and to not let the customer down, because otherwise it might turn into something very negative. (C:1)

Planning the co-innovation activities. One of the initial goals and key marketing outcomes of the contest was an increased number of Facebook fans. Hesburger was quite ambitious in not wanting to engage people who were just seeking a one-time benefit from becoming a fan:

Of course they [Hesburger] wanted supporters, but they could have done something a lot easier if they only just wanted fans. But what is the point of just getting likes without real liking? (C:2)

A known problem in the planning of the collaboration was that the company wasn't able to reach higher product development outcomes because the contest was based on the use of standard ingredient listings, which were well known to R&D personnel.

There was also the problem that there was the standard selection of ingredients and few customers entered anything on their own, or if they did we still didn't feel that this could become a tool for product development. It is so that we need to look for new campaign ingredients. We cannot rely on competition listings. (C:4)

Our informants revealed that the central aim of the contest was the ability to strengthen the company's brand identity:

The slogan of Hesburger is "As you like it" and it means something like – how would you like it, just for you, according to your preferences. The Yummy of the Year promotion reflected a lot of that [idea of the slogan]. It's very near the Hesburger brand. (C:3)

Implementing the activities and assessing the outcomes. In addition to marketing outcomes, Hesburger could achieve product development outcomes. Using the design toolkit to collect user ideas about their burger preferences, Hesburger created a product that customers were willing to

purchase. An additional benefit from the competition was increased understanding of customers' preferences:

Currently, a healthy life is a megatrend, but this [burger winner] totally destroyed that idea, as the winner was the biggest burger, which has more than one thousand calories. It's confusing, as people talk a lot about healthy life, eating healthy, but still they buy the biggest burger immediately when it comes to the market, and they want it even more. (C:1)

Interaction with customers via digital platforms can bring insight into their preferences. However, customers seldom offer genuinely original ideas.

It makes sense [collaboration with customers]. But in fact we get very few ideas about products from customers. They are more like people that wish for example an old campaign product to be re-launched... But tangible suggestions like this and this would fit very well to a burger, for example a spice or something, those we get very little. (C:4)

One of the reasons might be lack of the core skills needed to design a product.

...there were totally ridiculous ideas. For example, fish steak, chick steak, normal steak all in one burger. It occurred to me that maybe the consumers are not capable of really thinking in terms of taste... It is maybe quite difficult to come up with a product if you don't have any experience from cooking or a restaurant background (C:4)

Instead of new product development, the burger design contest was more of a new, experimental approach to marketing.

Our experience from campaign products is that big products sell well... I think about the Megamunch [the winning burger] as it was also about trying a new type of marketing. Like

not just old school advertising the product but emphasizing the fact that a customer has developed that and make get people to try the product. (C:4)

5.2 Encounter processes

While basing analysis through our chosen analytical frame, we did not find much support for system mechanics, and a more detailed design of encounter processes. Thus we structured our observations of the encounter processes in the crowdsourcing contest into four new categories: system propositions for supporting the social nature of interaction, construction of identities during the collaboration, and constructing a game-like experience in the context of use. Our findings related to these three categories are presented in the following section.

Fostering social interaction. The company had experimented with hamburger design contests before the Yummy of the Year contest but used the company's website instead of Facebook. Compared to these early experiments, a key success factor in the Yummy of the Year contest was that Facebook was selected as the hub of activities. This not only eliminated the need to create a user account in the contest website but also allowed participants to socialize with each other and obtain social recognition from their ideas. In addition, the company could communicate with the participants and invite new people to enter the contest.

Previously, Hesburger made "a machine" that customers could use to build their preferred burgers, but it was in the time before Facebook. They tried it, but it didn't work so well, because it didn't take place in Facebook, so sharing the design was impossible, and it was just on the company website. (C:3)

The aim of the co-innovation activity was to build up a small community that could be used via communication with customers for marketing activities, and specifically to boost sales. Besides

marketing, the campaign was planned and implemented as a serious development project. Social media strengthened customer perceptions of the project:

You can't push the number of fans and followers to growth by just posting something irrelevant. You will need to show the fans that you really are interested in creating value for them. It should feel like a real campaign. If you have a nice-looking environment that has all the mechanisms needed to invite friends, and if you make full benefit of, say, Facebook as a platform, you should use them properly. If you do something substandard, people will notice it immediately. People recognize nowadays what is good stuff and what is not. (C:1)

In addition, the members of the project team believed that the contest lowered barriers to the expression of opinions and opened a dialogue with the company:

It goes both ways. Of course, it's a channel for advertising, and Hesburger wants to reach a larger audience, but on the other hand, people can reach the company as well. (C:2)

Identity construction. Our case exemplifies the crowdsourcer's need to differentiate the innovation activity from other initiatives to raise interest in the initiative among potential contributors. Our informants saw that the participants needed to identify with the initiative for them to commit to the innovation outcomes. In this regard, the digital environment has its own risks. One of these risks realized was with the second "Yummy of the year" contest. A new feature of the second content was related to more publicity for the persons who design the winning burgers. Our informants believed that this could increase the credibility of the completion by showing that the winner is a real person and not an employee and give a face to the competition.

the first time we put, we just made more or less all in Facebook type of thing, so the whole thing, game, voting, after the finals were voted by fans (in Facebook), in this new one we'll pick only two but we bring this makers like with their faces, and we put them in the TV ads, there is panel of burgers we put them in the sales, they will sell already the finalists. (C:1)

Therefore, the culmination of “Yummy of the year” design contest was a battle of the top 2 products where also the designers of the burgers were presented. Similarly to the first year’s contest, the winner’s burger would be launched as a campaign product. However, this did not happen because the contest ended. The person who designed the winning burger was a slightly overweight adolescent and was bullied at school because of the publicity he attracted by winning the contest. The bullying drew negative attention to the contest and to the company in traditional and in social media. Partly in response, no subsequent burger design contests were held.

To avoid these incidents...well... we cannot ask people's BMI [body mass index] at the same time with their burger ideas, it just does not work... (C:4)

The company also created a memorable public identity for the contest. The identity manifested a diversity of the users and was built on the participants’ genuine contributions. The company did not remove negative or hostile comments. Preventing users from expressing their opinions on one social media platform could unleash hostility on other platforms, where other community members may start supporting the person whose comments would be removed, and potentially harming the company’s reputation. There are, however, ways to respond to negative comments:

Companies are often concerned about what to say publicly, as social media is so open, but uncontrollable. If people reveal their own identity, they don't spread so many negative messages, except maybe the youngsters and some competitor's supporters. But

the community members often take care of troublemakers – “Don’t come here, please go make trouble somewhere else”. Therefore, you don’t have to control the community so much. Hesburger has one person, a marketing manager, responsible for the task. She answers most of the questions alone, and has lots of other things to do, of course, which gives you an estimate of the amount of resources needed. (C:1)

After the Yummy of the Year contest, some people – such as professional designers and people whose entries did not win – criticized the winning design. Nevertheless, the organizers of the contest resolved the conflicts by keeping to rules specified at the beginning of the contest. In general, the openness of the communication was seen by the audience to foster awareness and commitment toward the community among customers. Redirecting disappointed or angry customers from the public space to private discussion is a common strategy for counteracting negative comments in social media:

I remember there was a comment about “Megamunch,” which is the name of the winning design. It’s not a very sophisticated name. Someone emailed us indicating she was very worried, stating that “why do you have this kind of a product, the name is awful and it’s not good for the young people, this does not make a good example, please don’t do this.” I understand where the criticism originates, but at this point, we had to answer that the name was the result of the contest and was developed by the participant who designed the burger. Hesburger didn’t create or change it. (C:2)

Constructing game-like experience. According to Malone (1982), for users to have a game-like experience that they will enjoy, it must consist of challenge, curiosity and fantasy. Hesburger’s design contest met these criteria. The challenge was for users to create burger designs. Their curiosity was stimulated and maintained throughout the contest, as users waited eagerly for the

next activities. The content visualization fostered fantasy in the design, which was another key issue for the platform operation. In fact, between the 2011 and 2013 Yummy of the Year contests, the company used a different type of visualization in a salad-designing competition. Although the salad contest had fewer entries, salads still sold well:

We made similar thing with salads, it sold also very well, it wasn't so successful in Facebook how the burger did, but maybe it's normal, but sales of the salads were very good. (C:1)

It is possible that the salad was not as appealing to customers, –or the type of visualization used for representing the salad was less fantasy-driven, bringing the user from the game to reality:

We tried various things with salads. Last summer, we made video clips of people cutting tomatoes; it was a video clip on how to slice a tomato. We had a video of all the ingredients. It was looking good, and the salad looked good and fresh, but it was more complicated. The salad campaign didn't work so well, and it felt more complicated [than the burger contest], but maybe it was because of salads. [C:3]

5.3 Customer processes (Relationship experience, and learning)

Following our analytical frame, we categorized our observations from the case in terms of cognitive, emotional and behavioral engagement in online collaboration. Cognitive engagement took place throughout the contest, as people learned about the opportunity for collaboration and became interested in it. Emotional engagement was related to the opportunity to collaborate. The participants who were most emotionally engaged in the collaboration were the ones who had the strongest sense of belonging, and of being a potentially important contributor. We identified behavioral engagement as acts of co-innovation, such as posting an idea or commenting on the ideas of other participants.

Cognitive engagement. According to the interviewees, the contest made Hesburger's Facebook fan community more active, as customers suggested new ideas and ingredients on the company's Facebook contest page:

New ideas come from some ingredients in "Megamunch" [the winning burger], which haven't been included in other burgers. People are now asking on Facebook: "can you put this in too?" In a way, people also started to create and propose things spontaneously. Then they find out that this is good, it suits the burger, even though they haven't tried it before. (C:1)

The contest also allowed customers to see how many available ingredients there actually were, which contributed to their learning about company and its products:

Often, you don't even think that the scale or the offering is so big. Hesburger offers eight different breads, lots of different meats, and then all the extra ingredients like – 30 or 50. [The contest makes] you see what you can really choose at Hesburger. (C:1)

Emotional engagement. An engaging environment allowed users to feel like active participants in product development, and to derive pleasure from the activity itself:

It was Hesburger's classics... customers wished to have some old products back, because they had not seen it for years, and we thought, okay, let's just pick all the classics. Then users can vote for which ones they want to get back. And it went all right, but it wasn't like this [Yummy of the Year contest], it wasn't like new fans were popping in through windows. It was okay, but voting is so common nowadays, they do it a lot on Facebook. (C:2)

Hesburger allowed all of the finalists to design their own burger so that fans could vote for it. This was another type of co-innovation. However, the company knew that mere voting would not provide enough benefits to stakeholders. More active user involvement in the design process was a key to success, and this was achieved by using the design toolkit, which required users to invest some time and effort.

One of the design intentions was to inform users of the company's many offerings:

when they build burgers they also think about it so they will start being hungry, and think about it (C:3)

Behavioral engagement. The combination of social media and a design toolkit allowed Hesburger to engage customers in a positive experience. Users were kept interested by playing a game that had several stages. First, they designed their burgers. Then they voted for the best ones. In the final stage, the users competed for vouchers to try the winning burger:

The whole idea is to think of it as a loop. First, you have a well-made application – a game type of creation tool – which is fun and easy to use, which doesn't take too much time, and which gives you a chance to win fame and fortune and burgers for a whole year. Thereafter, you have a break, and then you come up with voting opportunity and that's again fun. Finally, you have the winners, and it's more or less about how to keep the customer in the loop. (C:1)

The slot machine game kept users updated and enticed them to try the winning burger. However, users became so engaged that they played the game repeatedly. In that way, they would memorized the ingredients of the winning burger, and developed positive feelings toward the company:

We thought of something simple to make [slot machine] as an activator. We had this Yummy of the Year contest, and then it took a long time before we were able to start selling the product. We wanted to make people remember, and tell them that we have “Megamunch” now available. (C:3)

6 Discussion

6.1 Key findings

The purpose of this study was to investigate how a company can leverage the benefits of user innovation with a social media-based online collaboration platform. To this end, we analyzed a hamburger chain that innovated its product line with the participation of its users. We structured our analysis using the framework of engagement with customers in collaboration, suggested by Payne et al. (2008). The framework consists of three elements – cognitive, emotional and behavioral engagement. Our findings add to the understanding of the ways an innovator can harness social media platforms to support a collaborative innovation activity with users (figure 3).

Figure 1. Proposed framework for user innovation on digital platforms

In our framework, the digital platform is constructed to address customer value drivers focusing on three encounter processes: social interaction, identity construction and constructing game-like experience. Identity construction is the platform's ability to help customers to create or alter their identities in real or virtual lives. Social interaction describes capabilities to integrate users in their preferred social environment, such as using the system in a group or by themselves. Game-like experience are the characteristics of the platform that draw and sustain user attention. Our observations underscore the role of a game-like experience in fostering customer participation. This is in line with prior research from crowdsourcing (Birke et al., 2013) and supports the use of gamification in designing activities and platforms for co-innovation. While co-creation research concentrates on delivering a compelling experience for a user with the final product (Lee et al., 2012), we add that experience in co-creation projects is also important in the development of the

solution. Additionally, our findings imply that a game-like experience can contribute to continued participation, which is a prerequisite for meeting the marketing goals of co-innovation. A successful game-like experience fosters participants' flow experience (Csikszentmihalyi, 1975), making them more attentive to details. Malone (1982) has suggested that for users to perceive a game-like experience, there must be fantasy, challenges and curiosity. Moreover, a game-like experience is connected with increased cues and stimuli (Jiang and Benbasat, 2007; Moore et al., 1996; Severin, 1967).

6.2 Theoretical implications

The literature on value co-creation (e.g. Bayus, 2013; Birke et al., 2013; Kozinets et al., 2008; Ren et al., 2014; Ye & Kankanhalli, 2013) supports crowdsourcing for pure product development. Kazman and Chen (2009) suggest that many organizations use crowdsourcing for cost reduction, increased innovation, and faster development time for delivering products and services that meet customer needs. We provide a case suggesting that crowdsourcing may be just as beneficial for reaching marketing-related outcomes. Crowdsourcing contests attract users and create small communities. What is known is that only a few users can provide a breakthrough design (Franke et al., 2006; von Hippel, 1986), leaving the majority of user efforts unexploited. Our study shows that company did not learn much from most users, and received only a small number of innovative ideas, thus neglecting product development outcomes. This is consistent with lead-users theory (von Hippel, 1986). However, the company was extremely satisfied with the marketing outcomes, such as reaching more customers and increased sales that were attributed to the design competitions. In this sense the company did not so much benefit from a minority of participants, but rather from the majority. Therefore, we suggest that crowdsourcing

in co-innovation settings with customization toolkits might be more suitable both for product development purposes and for marketing.

While Tuunanen et al. (2010) suggest that the user's perceived hedonic experience is a key to perceiving higher value of the service used, the connection between a user's desired hedonic experience and user innovation is not yet clear. In other words, we are still left asking how an innovation system can be developed with features that enable hedonic experiences from the online collaboration. Therefore, in addition to the system-level elements of engaging customers in collaboration, as suggested by Payne and colleagues (2008), our findings give rise to the proposition that harnessing social media for collaborative innovation with users demands 1) the creation of identity for the activity, 2) support for social interaction among the users, and 3) the construction of a game-like experience of the action so that users are emotionally and behaviorally engaged in the activity.

6.3 Managerial implications

For managers, the implications of our research settle around our proposition that crowdsourcing might be more efficient for marketing outcomes, for example by increasing customers' attention and commitment to the company. The improved commitment can translated into higher sales, rather than sustainable product development outcomes. If a product development contest brings thousands of participants, and the company adopts only a few ideas, it might not be the most efficient way of crowdsourcing. Converting users into customers could be a more useful benefit.

By entering the hamburger design contest and using the design toolkit, customers learned about the product selection and the ingredients available. As a result, tools of online collaboration can provide information and build a consistent and memorable association with a product or a company. In this vein, co-innovation platforms that encourage the interactive process, support

transparency, and that were created as a continuous game could enhance users' learning about products while facilitating concentration, stimulation and a feel for solutions.

As online design contests can evoke curiosity, concentration and enjoyment, they can be used for interactive marketing. Considering the lessons learned from this case, several factors made the burger contest a success. In terms of followers on social media, and thus stronger brand factors, both burger design competitions resulted in thousands of followers, while the salad competition and traditional voting did not. This implies that the product should appeal to a mass audience, and that competition should require more effort than a single click. Another explanation for the variety in success is suggested by Malone's study (1982), in which fantasy is presented as a component of enjoyable games. Fantasies are useful for making boring tasks interesting. However, the implementation is critical to success. In this case, drawings of burgers provided a fantasy alongside a connection to reality in the burger design contest. In comparison, videos of people slicing tomatoes in the salad contest provided reality, but not the fantasy.

It is also important to note that merely adding social components to the co-innovation activity does not automatically yield a benefit or profit (Oestreicher-Singer & Zalmanson, 2013). Rather, integrated design toolkits are crucial in shaping a user's perceived experience. We argue that a compelling and enjoyable creative experience was a key contributor to the marketing outcomes. The company facilitated user involvement in the process through a design toolkit and by asking users to perform tasks that required considerable effort and time. At the same time, the toolkit contained only a limited number of possibilities so that users were not overwhelmed. This strategy allowed users to enjoy each task. Enjoyment is important in evoking participant interest in an idea and design competition, and for supporting the generation of creative contributions (Füller & Matzler, 2007; Nambisan et al., 2008; Prahalad & Ramaswamy, 2003). Further, it is

possible that the enjoyment of participating in a co-innovation activity can have increase purchase intention at a later stage.

7 Conclusions

We derive three main contributions from the study. Our first finding emphasizes that activities and technical features that enhance socializing with other participants, that support active participation, and that create a participatory experience. All of these activities and features are essential for harnessing social media for collaborative innovation. In addition, our findings show that social media can be used to engage customers in an innovation activity even without the primary aim of developing new products or services. Finally, the most important benefits for innovation stems from engaging the customers in the activity. Thus, designing collaboration projects like a game is pivotal when designing a system support for user innovation.

The key outcomes of this research can be summarized to increase understanding of the feasible practices and implications of user innovation on digital platforms of collaboration for product and service marketing purposes. Our findings show that the interaction among a firm and its customers should engage the customers emotionally and socially to produce outcomes that are significant to those customers. We found that an online collaboration platform can be used to engage customers in product and service innovation if the platform enables social interaction among the participants, desired identity construction for the outcomes, and game-like experiences. Building on Payne et al. (2008) we suggest an enriched framework for understanding customer collaboration and design of these activities. Our case shows that game-like and hedonic experiences are key to the success of the products innovated in such settings. The findings add to the knowledge and go beyond the findings of prior studies (see e.g. Franke et al., 2009) regarding factors that determine the success of toolkits used in co-innovation. These

findings entail preference fit, design effort, and awareness of being a creator. We propose that one more aspect that needs to be addressed in developing design toolkits for crowdsourcing purposes: a learning-oriented environment. Hence, online collaboration tools should be equipped with features that facilitate user learning about the company's offerings. While improving the understanding of the usefulness and specifications of tools for online collaboration, our findings imply that the innovation activity fosters user attachment to the co-created offerings.

Our study, however, is not free from limitations. The main limitation is that the empirical findings are based on a single case with a small number of interviewees. In addition, most of the participants in the hamburger design contest were teenagers, suggesting that the game-like design might not resonate with older collaborators. Therefore, the findings should be treated with caution. However, these limitations provide fruitful areas for future research. Future research could build testable hypothesis based on our findings to develop causal explanations of information system features that affect the outcomes of co-innovation. Additionally, further research could more thoroughly explore the cognitive and behavioral engagement link.

References

- Azzam, T., & Jacobson, M. R. (2013). Finding a comparison group: is online crowdsourcing a viable option? *American Journal of Evaluation*, 34(3), 372–384.
- Baldwin, C., & von Hippel, E. (2011). Modeling a paradigm shift: from producer innovation to user and open collaborative innovation. *Organization Science*, 22(6), 1399–1417.
- Bayus, B. L. (2013). Crowdsourcing new product ideas over time: an analysis of the Dell ideastorm community. *Management Science*, 59(1), 226–244.
- Berthon, P., Pitt, L., & Campbell, C. (2008). Ad lib: when customers create the ad. *California Management Review*, 50(4), 6–31.
- Birke, M., Bilgram, V., & Füller, J. (2013). *Innovation is the aim of the game: using gamification when co-creating and co-selecting ideas with consumers*.
- Blohm, I., Leimeister, J. M., & Krcmar, H. (2013). Crowdsourcing: how to benefit from (too) many great ideas. *MIS Quarterly Executive*, 12(4), 199–211.

- Bojin, N., Shaw, C. D., & Toner, M. (2011). Designing and deploying a “compact” crowdsourcing infrastructure: a case study. *Business Information Review*, 28(1), 41–48.
- Brabham, D. C. (2010). Moving the crowd at Threadless. *Information, Communication & Society*, 13(8), 1122–1145.
- Brakus, J. J., Schmitt, B. H., & Zarantonello, L. (2009). Brand experience: what is it? how is it measured? does it affect loyalty? *Journal of Marketing*, 73(3), 52–68.
- Chesbrough, H., & Appleyard, M. (2007). Open innovation and strategy. *California Management Review*, 50(1), 57–76.
- Choi, N., Chengalur-Smith, I., & Nevo, S. (2015). Loyalty, ideology, and identification: an empirical study of the attitudes and behaviors of passive users of open source software. *Journal of the Association for Information Systems*, 16(8), 674–706.
- Corney, J. R., Torres-Sánchez, C., Jagadeesan, A. P., Yan, X. T., Regli, W. C., & Medellin, H. (2010). Putting the crowd to work in a knowledge-based factory. *Advanced Engineering Informatics*, 24(3), 243–250.
- Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety*. San Francisco, Jossey-Bass.
- Doan, A., Ramakrishnan, R., & Halevy, A. Y. (2011). Crowdsourcing systems on the world-wide web. *Communications of the ACM*, 54(4), 86–96.
- Estelles-Arolas, E., Gonzalez-Ladron-de-Guevara, F., Estellés-Arolas, E., González-Ladrón-de-Guevara, F., Estelles-Arolas, E., & Gonzalez-Ladron-de-Guevara, F. (2012). Towards an integrated crowdsourcing definition. *Journal of Information Science*, 38(2), 189–200.
- eYeka. (2015). *The State of Crowdsourcing in 2015. Analyst Report #CSReport2015*.
- Frank, B., Herbas, B., Enkawa, T., & Schvaneveldt, S. J. (2014). Affect versus cognition in the chain from perceived quality to customer loyalty : the roles of product beliefs and experience. *Journal of Retailing*, 90(4), 567–586.
- Franke, N., Schreier, M., & Kaiser, U. (2009). The “I designed it myself” effect in mass customization. *Management Science*, 56(1), 125–140.
- Franke, N., von Hippel, E., & Schreier, M. (2006). Finding commercially attractive user innovations: a test of lead-user theory. *Journal of Product Innovation Management*, 23(4), 301–315.
- Fuchs, C., Prandelli, E., & Schreier, M. (2010). The psychological effects of empowerment strategies on consumers’ product demand. *Journal of Marketing*, 74(January), 65–79.
- Füller, J. (2010). Refining virtual co-creation from a consumer perspective. *California Management Review*, 52(2), 98–123.
- Füller, J., Hutter, K., & Faullant, R. (2011). Why co-creation experience matters? Creative experience and its impact on the quantity and quality of creative contributions. *R&D Management*, 41, 259–273.
- Füller, J., & Matzler, K. (2007). Virtual product experience and customer participation - a chance for customer-centred, really new products. *Technovation*, 27(6–7), 378–387.
- Geiger, D., & Schader, M. (2014). Personalized task recommendation in crowdsourcing

- information systems – current state of the art. *Decision Support Systems*, upcoming.
- Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., & Kyriakidou, O. (2004). Diffusion of innovations in service organizations: systematic review and recommendations. *The Milbank Quarterly*, 82(4), 581–629.
- Henfridsson, O., & Holmström, H. (1999). Developing in internetworked organizations : a case of customer involvement throughout the computer gaming value chain. *ACM SIGMIS Database*, 33(4), 38–50.
- Holbrook, M. B., & Hirschman, E. C. (1982). The experiential aspects of consumption: consumer fantasies, feelings, and fun. *Journal of Consumer Research*, 9(2), 132–140.
- Howe, J. (2009). *Crowdsourcing: why the power of the crowd is driving the future of business*. Crown Business.
- Huang, K., & Güney, S. (2012). Toward a framework of Web 2.0-driven organizational learning. *Communications of the Association for Information Systems*, 31, 128–152.
- Huberman, B. A., Romero, D. M., & Wu, F. (2009). Crowdsourcing, attention and productivity. *Journal of Information Science*, 35(6), 758–765.
- Jiang, Z. (Jack), & Benbasat, I. (2007). The effects of presentation formats and task complexity on online consumers' product understanding. *MIS Quarterly*, 31(3), 475–500.
- Kamis, A., Koufaris, M., & Stern, T. (2008). Using an attribute-based decision support system for user-customized products online: an experimental investigation. *MIS Quarterly*, 32(1), 159–177.
- Kazman, R., & Chen, H.-M. (2009). The metropolis model a new logic for. *Communications of the ACM*, 52(7).
- Kohler, T., Fueller, J., Matzler, K., & Stieger, D. (2011). Co-creation in virtual worlds: the design of the user experience. *MIS Quarterly*, 35(3), 773–788.
- Kozinets, R. V., Hemetsberger, A., & Schau, H. J. (2008). The wisdom of consumer crowds: collective innovation in the age of networked marketing. *Journal of Macromarketing*, 28(4), 339–354.
- Laroche, M., Habibi, M. R., Richard, M.-O., & Sankaranarayanan, R. (2012). The effects of social media based brand communities on brand community markers, value creation practices, brand trust and brand loyalty. *Computers in Human Behavior*, 28(5), 1755–1767.
- Lee, S. M., Olson, D. L., & Trimi, S. (2012). Co-innovation: convergenomics, collaboration, and co-creation for organizational values. *Management Decision*, 50(5), 817–831.
- Malone, T. W. (1982). Heuristics for designing enjoyable user interfaces: lessons from computer games. In *Conference on Human Factors in Computing Systems* (pp. 63–68).
- Markus, M. L., & Robey, D. (1988). Information technology and organizational change: causal structure in theory and research. *Management Science*, 34(5), 583–598.
- Moore, D., Burton, J., & Myers, R. (1996). Multiple-channel communication: the theoretical and research foundations of multimedia. In *Handbook of research for educational communications and technology* (pp. 979–1006).

- Nambisan, S. (2002). Designing virtual customer environments for new product development: toward a theory. *Academy of Management Review*, 27(3), 392–413.
- Nambisan, S. (2009). Platforms for collaboration. *Stanford Social Innovation Review*.
- Nambisan, S., & Baron, R. (2007). Interactions in virtual customer environments: implications for product support and customer relationship management. *Journal of Interactive Marketing*, 21(2), 42–62.
- Nambisan, S., & Baron, R. a. (2010). Different roles, different strokes: organizing virtual customer environments to promote two types of customer contributions. *Organization Science*, 21(2), 554–572.
- Nambisan, S., Nambisan, P., Nambisan, & Nambisan, P. (2008). How to profit from a better “virtual customer environment.” *MIT Sloan Management Review*, 46(3), 53–61.
- Oestreicher-Singer, G., & Zalmanson, L. (2013). Content or community? a digital business strategy for content providers in the social age. *MIS Quarterly*, 37(2), 591–616.
- Payne, A. F., Storbacka, K., & Frow, P. (2008). Managing the co-creation of value. *Journal of the Academy of Marketing Science*, 36(1), 83–96.
- Pfeil, U., & Zaphiris, P. (2009). Investigating social network patterns within an empathic online community for older people. *Computers in Human Behavior*, 25(5), 1139–1155.
- Piller, F., Vossen, A., & Ihl, C. (2012). From social media to social product development: the impact of social media on co-creation of innovation. *Die Unternehmung*, 66, 7–27.
- Prahalad, C. K., & Ramaswamy, V. (2003). The new frontier of experience innovation. *MIT Sloan Management Review*, 44(4), 12–18.
- Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation experiences: the next practice in value creation. *Journal of Interactive Marketing*, 18(3), 5–14.
- Ren, J., Nickerson, J. V., Mason, W., Sakamoto, Y., & Graber, B. (2014). Increasing the crowd’s capacity to create: how alternative generation affects the diversity, relevance and effectiveness of generated ads. *Decision Support Systems*, 65(September), 28–39.
- Roberts, D., Hughes, M., & Kertbo, K. (2014). Exploring consumers’ motivations to engage in innovation through co-creation activities. *European Journal of Marketing*, 48(1), 147–169.
- Rowlands, B. (2005). Grounded in practice: using interpretive research to build theory. *The Electronic Journal of Business Research Methods*, 3(1), 81–92.
- Satuma. (2012). *Yummy of the year 2011*.
- Sawhney, M., Verona, G., & Prandelli, E. (2005). Collaborating to create: theInternet as a platform for customer engagement in product innovation. *Journal of Interactive Marketing*, 19(4), 4–17.
- Schlagwein, D., & Bjørn-andersen, N. (2014). Organizational learning with crowdsourcing : the revelatory case of Lego. *Journal of the Association for Information Systems.*, 15(11), 754–778.
- Schreier, M., Fuchs, C., & Dahl, D. (2012). The innovation effect of user design: exploring consumers’ innovation perceptions of firms selling products designed by users. *Journal of*

- Marketing*, 76(September), 18–32.
- Severin, W. (1967). Another look at cue summation. *Educational Technology Research and Development*, 15(3).
- Silverman, D. (2011). *Interpreting qualitative data* (4th ed.). London: UK: Sage.
- Soliman, W., & Tuunainen, V. K. (2015). Understanding continued use of crowdsourcing systems: an interpretive study. *Journal of Theoretical and Applied Electronic Commerce Research*, 10(1), 1–18.
- Stavrositu, C., & Sundar, S. S. (2012). Does blogging empower women? Exploring the role of agency and community. *Journal of Computer-Mediated Communication*, 17(4), 369–386.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage.
- Thomas, D. R. (2006). A general inductive approach for analyzing qualitative evaluation data. *American Journal of Evaluation*, 27(2), 237–246.
- Tuunainen, T., Myers, M. D., & Cassab, H. (2010). A conceptual framework for consumer information systems development. *Pacific Asia Journal of the Association for Information Systems*.
- von Hippel, E. (1986). Lead users: a source of novel product concepts. *Management Science*, 32(7), 791–806.
- Walsham, G. (1995). Interpretive case studies in is research: nature and method. *European Journal of Information Systems*, 4, 74–81.
- Witell, L., Kristensson, P., Gustafsson, A., & Löfgren, M. (2011). Idea generation: customer co-creation versus traditional market research techniques. *Journal of Service Management*, 22(2), 140–159.
- Ye, H., & Kankanhalli, A. (2013). Leveraging crowdsourcing for organizational value co-creation. *Communications of the Association for Information Systems*.
- Yin, R. K. (2003). *Case study research, design and methods*, 3rd ed. Newbury Park: Sage Publications.
- Zwass, V. (2010). Co-creation: toward a taxonomy and an integrated research perspective. *International Journal of Electronic Commerce*, 15(1), 11–48.