

Challenges of Using Open Online Design Spaces – Case Monimos

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Abstract. Social software makes it possible to involve large user groups in innovation projects. In the Monimos case study an online innovation space was used for designing a social media service for a network of multicultural associations. Immigrant representatives participated in the core design team in regular face to face meetings and workshops. Additionally an online design space was used to make participation in certain design activities open for the public. Although open innovation may result in better solutions, a lot of facilitation is needed in order to integrate online contributions efficiently into the web service development process. In this paper we present the challenges of combining open and restricted design spaces with different participant groups.

Introduction

Social media provides new opportunities for companies and researchers to involve customers and end users in innovation and product development. Online tools seem attractive especially in idea generation and feedback gathering, since a lot of users and customers can be reached easily, quickly and cost-efficiently. Users can be involved as innovators and design partners that are continuously connected with the developers via social software. An open and transparent design process that allows more people to participate with their knowledge and skills may lead to higher quality in design, even if individual participants only make minor contributions (Tapscott & Williams, 2006).

Typical examples of utilizing social media in open innovation relate to idea campaigns or design challenges, in which people submit an idea or design

solution once, but do not participate actively in the design process over a longer time period. Even if a feedback and idea forum is constantly open for anyone, users are mainly proposers instead of partners in the new product development process. The company makes the decisions, although user feedback and suggestions are taken into account. On the other hand, there are a lot of examples of participatory design projects in which users participate as design partners and decision makers during the whole process. However, in these cases users, designers and developers normally communicate in closed workspaces either face to face or using software tools. Social software may be used as well, but the workspace is normally restricted for the selected user group and not publicly accessible.

We studied how these two approaches, namely open innovation and participatory design, could be combined by taking the best of both worlds. We designed and developed a multicultural social media service using an online design space which was open for anyone during the whole development process and involved a team of end users in regular face to face design meetings during a period of eight months. The online design space was used by both the "core team" as well as "strangers", who may have contributed only once or continuously during the design process.

While establishing and using the open design space we encountered a lot of difficulties. Total openness and continuous online representation of a design process produce new challenges that are reported in this paper. Based on our experiences, we conclude with suggestions for using online design spaces in user-driven innovation projects.

Background

User-driven innovation

The popular concept of *open innovation* refers to utilizing both internal and external ideas and knowledge in innovation processes (Chesbrough, 2003). This paradigm stresses the company-company relationships as well as technology, knowledge or IPR (intellectual property rights) transfer over the company boundaries, but users are not necessarily involved (Piller & Ihl, 2009). *User-driven innovation* is a more exact form of open innovation that regards potential users as a resource in the innovation process (Holmquist, 2004). In user-driven innovation, a *participatory design* approach can be used, meaning that users are involved as co-designers of the system by means of methods like workshops, scenarios and mock-ups (Schuler & Namioka, 1993, Ehn & Kyng, 1991).

Even in user-driven innovation, the locus of innovation is still usually inside the company that is responsible for the design decisions and implementation of

the product or service. Depending on the level of user involvement and role in the innovation process different terms are used:

- *Co-creation*: Interactive value creation with the customers and users starting from the early phase of the innovation process which is still driven by the company (Prahalad & Ramaswamy, 2004; Piller & Ihl 2009)
- *User innovation*: Users are not seen only as consumers or customers but as a significant source of innovation. Users typically innovate at the site of using the product or service. (von Hippel, 1986; von Hippel, 2005) Company's role is to find the so called "lead users" and provide them with toolkits that help users to carry out own design tasks (von Hippel, 2001).
- *Community innovation*: Innovation starts outside companies in distributed and networked user communities (Botero et al. 2009). Company may act as an enabler or facilitator.

Social media as an online design space

Social media, like blogs, wikis and community services, provide a fertile ground for user-driven innovation, since they rely naturally on user participation, content creation and communication. Two different ways to use social media in innovation can be identified: using the power of masses on the web (crowdsourcing) and using online tools as so called open design spaces with users.

Crowdsourcing means outsourcing a part of the innovation or design work to the public - unknown crowd on the internet (Howe, 2006). It has been used both in idea competitions (Leimeister et al., 2009) and in small design tasks - so called micro-tasks (Kittur et al., 2008). The tasks are typically defined by a company and only short time contribution in the early stage of the process is expected from individual users instead of continuous collaboration (Huber et al., 2009).

Social media tools can also be used as *open design spaces* that support users' participation during the whole innovation process. Transparent and community driven design approach was first known from the open source movement but can be applied in other domains as well (Hagen and Robertson, 2009). Despite the name, open design spaces of long-time co-creation projects are often restricted to only a certain group of users. E.g. Hess et al. (2008) formed a remote user parliament that used conference calls and wiki for communicating feedback, problems and suggestions for a new product version. All interested users of the product could apply for membership in user parliament, but after the project started, no new members were admitted to the online forum.

User-driven design of the Monimos service

In our case study a multicultural social media service Monimos¹ was developed in collaboration between the Somus² and EPACE³ projects and the Moniheli network, which is a co-operation network of multicultural associations in the Helsinki region. The aim of the Monimos service is to support immigrants' networking and civic participation both online and offline. Monimos service provides means for associations to raise public or internal discussion, create polls and advertise events. It supports bottom-up civic activity and will eventually be administered by the Moniheli network.

A community-driven participatory design approach was used, meaning that the idea and goals for the service were created together with the user community and the community also had an active role in design and decision making throughout the development process. The potential end users were contacted via Moniheli.

The core design team consisted of ten immigrants, two representatives of Moniheli, a web developer, a designer, and six researchers from different areas (social media, civic participation, immigrant media, participatory design and software business). The core team held monthly design workshops, in addition to which the researchers had their weekly meetings.

Since the goal of the Monimos project was to create a social media service that supports civic participation, it was natural to use social media to involve users in the design process, as well. We used an online space which was open for anyone who wanted to participate in developing social media services for immigrants.

Owela as an online design space

The Monimos development process utilized a design space in Owela (Open Web Lab)⁴ that is a blog-based online space for user-driven innovation (Näkki & Virtanen, 2008). Owela supports writing ideas or suggestions, commenting, and voting between different suggestions. Ideas are typically in textual form, but images, videos or slideshows can be added to the posts as in any blog system.

In the Monimos case, content and commenting in the online design space was open for everyone, but in order to create an own profile and take part in voting, users needed to register in the website. Sixty users signed up, forty of which did not belong to the core design team and thus participated only via online design space. People were invited to the the online space by sending email or sharing the address on the web, e.g. on a discussion forum for immigrants in Finland. The

¹ <http://www.monimos.fi>

² <http://somus.vtt.fi>

³ <http://www.kansanvalta.fi/en/Etusivu/Tutkimusjakehitys/EPACE>

⁴ <http://owela.vtt.fi>

participants included members of the Moniheli network, as well as individuals who had no connection to any multicultural associations. The most active users of the Owela space were the core team members who used the online tool for communication between the workshops as a tool to supplement email.

Initial ideas for the social media service were collected in a design workshop with representatives of public sector, immigrants and media. Altogether eighteen ideas were then presented publicly in the Owela space, in two languages (Finnish and English). Both registered and non-registered users could comment and rate the ideas as well as add their own ideas for the immigrants' social media services. These comments were used as a basis for the service concept development..

Later on,, Owela was also used to create a wish list of features and for prioritization of the features by voting. Comments and voting were also utilized for decision-making about the structure, layout and name of the service. Open discussion was used especially to clarify the relation of the Monimos service and other websites of the associations that were involved. In the final phase, comments regarding specific questions, e.g. the display and publicity of user profile information were requested, but very little discussion took place anymore. Table I displays the amount of posted topics, comments and votes (if available in that type of posts). The original topics were written by researchers, except in the discussion category. Comments and votes were given both by users and researchers.

Category	Ideas	Features	Layout	Name	Discussion	Profile questions
Number of:						
Topics	18	33	3	26	11	6
Comments	43	85	5	90	32	2
Votes		370	4	41		

Table I. Amount of topics, comments and votes in different categories.

Challenges of using the Owela online design space

In the beginning of the design process there was great interest in having the design and development process be totally public, transparent and open for anyone. However, it turned out to be challenging to update the public design space in such a way that newcomers would always get the point easily and that the contributions of random users would support the design process. It also appeared to be challenging to use the same open design space both with the unknown public and with the core team that had a lot better understanding of the state of the process and aims of the service based on the face to face meetings and workshops.

Type of tasks. The advantage of crowdsourcing is that when many people collaborate, small individual contributions make the big picture. In this case study the online contributions by were mostly useful in relatively simple tasks. The most discussed topics were the single features and the name of the service. Layout or user interface issues related to user profile produced only few comments.

Structure and schedule. When the whole design process is open for everyone all the time, there is a need for very clear goal setting and structured process with well-defined tasks in which newcomers can easily participate without needing to understand the whole development process. In our case it was difficult to communicate the goal of the process in the beginning, when there was no idea about the service that was actually going to be innovated and developed together with the users. Some users felt frustrated, because they could not see the concrete goal or outcome of the process.

Updates. Continuous documentation of the state of the process requires a lot of work from the facilitator or moderator of the design process. However, it can also be seen as an advantage, since thorough documentation makes participation easier also to those core team members who could not be present in all the workshops.

Transparency. It was necessary to continuously balance what to publish online and which information should be kept within the core team. Eventually, quite a lot of the essential communication was done via email among the core team, since the open online space did not feel appropriate for all issues that were relevant only for the core team. One clear missing feature in Owela discussions was that users did not get any automatic email notifications of new discussions and comments, and therefore the core team preferred sending email in important and urgent matters. The online participants who did not participate in the core team and meet face to face were thus left out of the design process. Of course, not all the details are relevant for those who only randomly comment some questions online, but they should still receive enough information to be able to participate equally.

Clarity of expression. The formulation of ideas and questions needs a lot of consideration, since the participants can be basically whoever with different backgrounds and in this case even with different languages and cultures. Abstract concepts and ideas in the early phases are understood in different ways, especially when people are introduced to them only in written form. Therefore visualizations of the concept would be useful already in the very early phases of the process. However, they may also lead to wrong conceptions, if participants get stuck with the early concept pictures.

Moderation. In the case study no inappropriate comments were posted in Owela, although commenting did not require registration. However, there were some technical problems with the spam filters, and the moderator needed to clean

up the spam comments sometimes. A bigger challenge was to consider, if very negative comments of some users to others' ideas should have been moderated to promote more positive and inspirational environment for innovation. On the other hand, all participants should have the right to express their opinion in their own way.

Beta development. The development version of the Monimos service was constantly online on the web. However, the address of the website was given only to the core team and was not published openly in the Owela space. We did not want to show the early development versions of the service to "strangers" to avoid giving them a negative first impression of the service that was still under development. Therefore, the continuous testing and evaluation was done only by the core team, and the open design space was not used as such anymore. Instead, chat sessions were organized for the core team. Everyone could test the Monimos service at the same time and report findings, ask questions and suggest improvements in a chat. The developer and researchers also participated in the chat session, so that minor modifications could be implemented and deployed to the service right away. Although the Owela space was not updated in this phase anymore, some users still commented older ideas that did not have any relevance for the development.

Conclusions

We used Owela open online design space for the development of a social media service for multicultural associations. The open design space proved to be beneficial in the clearer phases of the process, especially for comments on concept ideas and features, as well as for voting between different suggestions. However, the vision of the service and common goals are abstract and difficult to crystallize using only text-based online communication. Face to face meetings with the core design team proved to be important for creating a common language and shared understanding of the service especially in this case with multicultural participants.

Facilitation of a public design space requires careful consideration and a lot of resources. The information must be continuously up to date and clearly expressed to make it understandable for participants with various backgrounds. Open innovation does not just happen by itself: Someone needs to develop the concepts and do the "hard" work between the ideation and evaluation parts that are inspiring for the users. Being part of an open process requires openness from the participants, too. Especially in the beginning, they must be able to tolerate the blurry goals that will be refined and more clearly formulated throughout the process.

Based on our experiences, we suggest that an open online design space should not be used as an only communication tool among the design team, but as a

complement to the team work in certain moderately simple design tasks. It could be most beneficial in the starting phase, when a lot of ideas are sought after. Later on, clear questions or tasks for the open public should be defined after each design team meeting. The online comments and votes could then be taken into consideration in the next design phase. The tasks must be scheduled clearly so that online contributors know, if their comments can still be taken into account in the development.

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