PAPER I

Online Tools for Co-design
User Involvement through the Innovation Process

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Online Tools for Co-design:
User Involvement through the Innovation Process

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Abstract. Social media tools provide new possibilities to involve end users as co-designers through the whole innovation process. Owela (Open Web Lab) is an online community that supports participatory design within users, designers and developers. Currently Owela serves as a platform that collects user feedback, experiences and ideas from different physical and online sources. In this paper we present the Owela co-design model and tools for different phases of the innovation process. The co-design process consists of open innovation space and scheduled projects for product and service development. We present a case example of the use of the Owela process in a design process of the social bookmarking service called Tilkut. We conclude that online tools can make the co-design easier and cheaper to apply in everyday work. However, the traditional tools and methods can not be directly applied on the web, but the whole design process should be reconsidered in aim to work well online. A combination of online and offline tools is needed for effective co-design.

Keywords: co-design, online laboratory, social media, innovation process, web tools, participatory design

1 Introduction

Along the rise of Web 2.0 phenomenon consumers roles have shifted from passive objects to active participants. Consumers are more and more involved in business processes as co-creators and they are actively participating into the value creation processes. Social media tools also offer easy ways for users to share their ideas and feedback openly. Therefore, numerous open innovation platforms aiming to attract consumers to innovate or act as co-designers have emerged on the web.

By opening their innovation processes, companies may increase their effectiveness and enhance their relationships with customers and end users. Co-design describes a process that allows customers to express their product requirements and carry out product realisation processes by mapping the requirements into the physical domain of the product [1] [2].Co-design process can involve different stakeholders, such as customers, end users, designers, developers and managers.

2 Online Tools for Co-design

In aim to motivate users to participate in open innovation and participatory design processes, offering appropriate tools for users is important. Understanding the distributed innovation process and users' roles is in a central role. [3] For example, some manufacturers provide users with toolkits and configurations to customize and even design their own products.

Tools for participatory design should enhance and support the creativity of users. Farooq et al. [4] suggest three design implications to support creativity within information systems: 1) Integrate support for individual, dyadic, and group brainstorming; 2) Leverage cognitive conflict by preserving and reflecting on minority dissent and 3) Support flexibility in granularity of planning. In general, Farooq et al. stress the importance of including also the skeptic voices in the discussion. Furthermore, social networks and their management is a crucial part of creativity. [4]

Technology changes constantly and rapidly, which sets some requirements for the participants, too. A decade ago, most Internet users were, of necessity, skilled computer programmers, or at least, they had a relatively deep understanding of network applications. Nowadays, many people have access to the Internet and the skills that are needed. However, in avoiding misunderstandings and making it easy to participate there is a need for a clear and simple design of service and tools. People are not willing to use too much of their valuable time to learn how a questionnaire should be filled in, for example.

Furthermore, an average Internet user is often overwhelmed by a variety and vast amount of information. For this reason, people have difficulties processing and selecting the relevant information that increases the demand for clear, attractive design as well. Clearly, utilizing online environment in participatory design needs specific and carefully designed instruments that not only accommodate but also exploit the features of the electronic environment to attract respondents [5].

Finally, one thing to consider is the openness of discussion on web forums. The positive point of view is that the method remains a group discussion enabling participants to gain others' viewpoints. On the other hand, the openness of the discussion can sometimes generate some challenges as well. Firstly, openness can increase a threshold to participate for some participants. Secondly, the openness of the discussion raises a question about the IPR management, and therefore, it is important to clarify guidelines and provide information about such issues for all participants.

3 Owela as a Co-design Platform

To study the phenomenon of co-design and the suitability of online tools to support the process we have created an online laboratory Owela for designing especially digital media products and services. Owela (Open Web Lab) aims to be a conversational online community that connects users with developers and researchers promoting open innovation. Owela offers social media tools for gathering user needs and development ideas as well as collecting feedback for scenarios and prototypes.

The participants create own profiles to the service, which makes the roles of different people transparent to everyone. Visual aids like profile pictures and different colors of comments are used to make the roles visible.

We first started with an open innovation space where anyone was allowed to tell their needs and ideas as well as rate and comment the ideas of others. In the first trials it was seen that the people are more motivated in the participation if they can clearly see, how their feedback and ideas influence the final product or service [6]. Therefore more structured and transparent process for innovation management was developed.

3.1 Co-design Process in Owela

The Owela process consists of two parts shown in the Fig. 1: open ideation and scheduled projects. The open ideation takes place in a tool called IdeaTube, where participants may report their experiences and problems with current solutions as well as suggest development ideas and needs for new products and services. IdeaTube is a blog based tool where ideas can be rated and commented by other users [7].

When new ideas emerge in the open space, some of them will be carried on as Owela projects. The project starts with scheduling and goal setting which are articulated also to the participants. The project phases are co-design of scenarios, evaluation of the concepts, and LivingLab where users can take part as active testers and co-developers of the prototypes. The goal is to provide users not only a channel for feedback and ideas but also tools for modifying or creating own services together with other users.
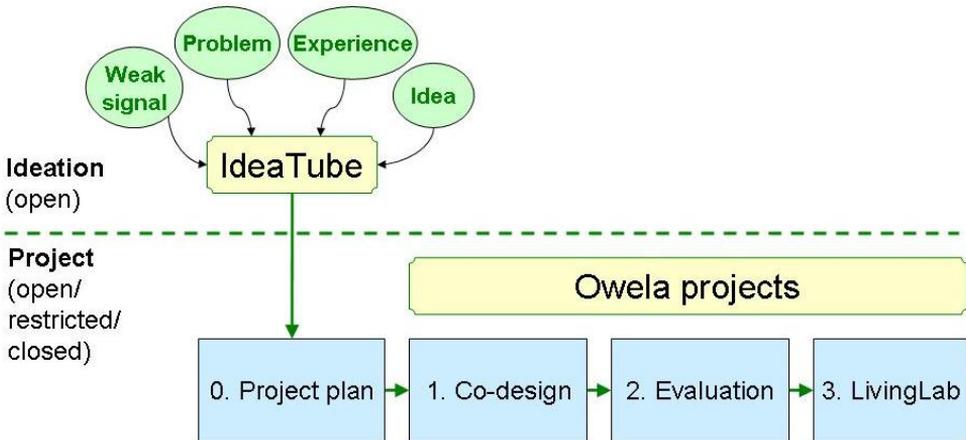

Fig. 1. Owela co-design process consisting of open ideation and structured projects.

Common experience shows that consumers typically discuss on services in various online communities and real life discussions. Owela will later serve as a platform that collects user feedback, experiences and ideas for further development from different physical and online environments. Various mobile and web tools will be used to gather ideas and weak signals of future trends from different places.

3.2 Support for the Different Phases of the Innovation Process

We believe that users can be involved as co-designers in all phases of the innovation process starting from the acquisition of weak signals and future needs and continuing up to sharing use experiences and further development ideas when using the real products and services.
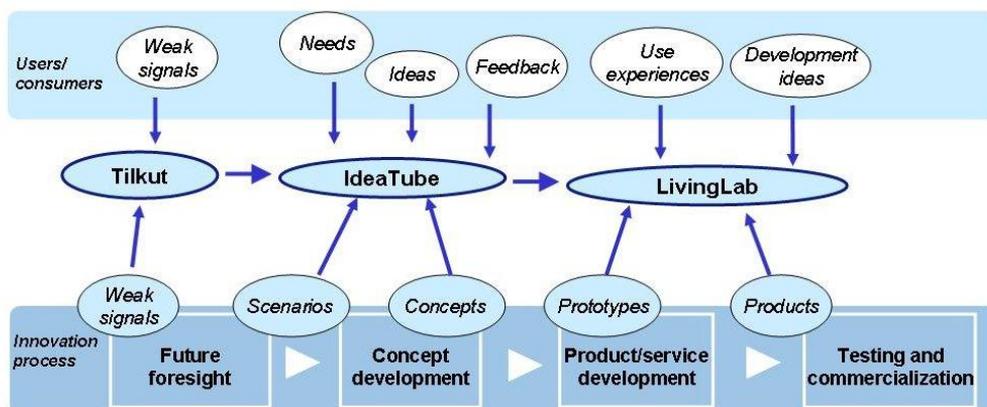

Fig. 2. User participation and Owela tools for different stages of the innovation process.

Different tools can be used in the different phases of the innovation process as the Fig. 2 shows. The upper part of the figure shows the input from users, whereas the lower part illustrates the innovation process inside a company and the input from designers and developers. The innovation process starts with future foresight, in which both professionals and end users may participate in finding and collecting weak signals of possible future needs. Social bookmarking tool called Tilkut can be used in that phase to bookmark interesting findings both on the web and in the real world. Tilkut makes it easy to share the findings within a certain group, categorize them for further analysis and discuss them.

When end users' and designers' insights meet the aims of the company a concept development process can be started. In this phase IdeaTube can be used for collecting the needs and ideas for the certain concept either openly or within a certain group of people in an Owela project. The designers create scenarios based on the user needs and provide them openly for commenting and further development by both the users and the developers. In this phase designers propose new suggestions in rapid pace so that the users can easily see, how their feedback influences the design of the concept. IdeaTube makes it easy to get quick feedback to visualizations of the concept, because the users are ready to comment small changes right away and no special arrangements for e.g. focus group sessions or workshops are needed.

Based on the user feedback real prototypes can be developed and given to test in the LivingLab that can be either a physical laboratory in the real world or an online test laboratory when it comes to digital media services. In both cases user experiences and further development ideas can be collected in the Owela LivingLab section. When people share their feedback within the community, new ideas may evolve as a combination of various comments. Also problems can be solved faster, when the test

users may give hints to each other and the developers can participate in the discussion right away. The LivingLab phase may continue also after the commercialization of the product or service. New development ideas can evolve during the real use and be as a basis for further development.

4   Case Tilkut

The Owela co-design process was piloted and developed in the user studies of a social bookmarking service Tilkut that was developed in a project called Täky. The aim of the project was to study user experience of tagging in different web and mobile applications.

The study started with an ideation phase where problems and needs regarding to tagging were studied with the users of the Delicious social bookmarking service. An online questionnaire and interviews (either face to face or phone) were done to find out present tagging conventions and needs for more intelligent services. In the interviews we already demonstrated some features that the researchers had designed for improving the current services. We also collected ideas for further development in an open IdeaTube discussion in Owela.

After that, the development of the Tilkut prototype started. At the same time, more requirements for the service were collected in a user test, in which a combination of existing online services was tested. Test users were recruited from Owela users to who were thus familiar with the online feedback tools in advance. Especially lead users of the new Internet services were selected. The inquiry methods included online questionnaire for background information, initial and final interviews with all participants and an online test period of a certain set of current services, during which the participants discussed their experiences and ways of using the services in a blog.

After analysis of the feedback and further development of the prototype, the third phase of the user study was made with the real Tilkut prototype. In this LivingLab phase users were asked to test the new service and give feedback and ideas for further development. The study consisted of interviews, an individual testing period, blog discussion and traditional usability tests. The developers participated in the blog discussion as well, which made it possible to fix some reported problems in the software already during the test period. Bigger changes were made afterwards based on the user experiences and results of the usability tests.

5   Conclusions

Current state of the Web 2.0 makes it easy to take end users as co-designers by using online tools. This is convenient both for the users and the researchers, because everyone can participate in the design process from the place they want and at the time that is best for them. Online tools lower the threshold to invite users into the different phases of innovation process as a daily practice. Online community also serves as a permanent connection to the users during the more silent phases of the process and enable constant forum for discussion and feedback. Since the online

space is not limited like physical rooms, more people and different stakeholders can participate more easily and effectively.

Utilising open innovation in scheduled projects requires planning the methods, tools, guidelines and schedule. This is helpful in achieving the goals set as well as in committing the users since they know when the project ends and after that they will get the outcomes and possible rewards. Besides designing online research environment, strategy for the user administration should be done. In other words, the administrator needs plans on how to attract users, how to activate them, and finally, how to commit users. In addition to offering appropriate service design and tools as well as motivating tasks, rewarding can influence on users' motivation. Also rewarding strategy should be well planned in aim to lead into the planned consequences.

We believe that combining online and offline methods with users may help to get in-depth knowledge on the users' needs and behaviour. The Owela process presented in this paper is not meant to rely only on virtual communication, but direct interaction with users is recommended. However, the online tools make it easier to involve the users through the whole process and use them as co-designers in small tasks, as well.

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