Open Innovation as a service design approach

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Abstract
As one of the largest academic publishers in the world, Elsevier is always looking for innovate services to offer to clients. In this Open Innovation project, STBY was commissioned to conduct a Lead User Research among academic researchers in The Netherlands and The United Kingdom. The insights gained from this research were used as input for a series of Co-Creation Workshops, where a multi-disciplinary team from the client organisation and a selection of lead users explored potential opportunities for new online tools and services. The workshops were guided and facilitated by STBY and Radarstation, who regularly collaborate as partners in the Global Innovation Group. This paper reflects on the process and methodology used in this Open Innovation project, and how these may contribute to the emerging framework of service design.

Background

With a global market share of 25% percent of scientific and health related publications, Elsevier is the biggest international academic publishers. Throughout Elsevier's 130 year history, it has developed a deep knowledge of its audiences and the uses of its products and services. Elsevier has been able to stay ahead of the market by innovating its online products and services, and by adequately responding to challenges posed by new emerging technologies and user practices.

Current challenges to Elsevier's core business of publishing and content distribution include services and practices such as Google scholar, creative commons and open source software. Many of these are services challenge the publishing business models by providing free and unlimited access to content. Elsevier must respond to these developments by re-aligning its position and adding value in this area. For companies this is a natural process of keeping their service offering up to date and aligned to developments in the outside world.

In parallel to that, Elsevier also recognises the benefit of exploring potential new areas outside of its existing core business that offer services to clients beyond mere publishing and content distribution. One area identified for such exploration is collaboration between academic researchers, for which new insights about the practices and needs of (academic) researchers are required. These insights do not naturally follow from the existing interaction with customers in Elsevier's current core business. The aim of the project discussed in this paper was to explore opportunities and ideas for this new area of services.

Open Innovation methodology

The methodology chosen for this project was Open Innovation, which is an approach that has many commonalities with service design. The Open Innovation approach to innovation

stresses the importance of keeping an eye and ear open for ideas and suggestions that can be derived from outside an organisation.[1] Many authors, such as Henry Chesbrough, Eric von Hippel [2] and Patricia Seybold[3] have eloquently described how Open Innovation provides a useful addition to traditional internal and exclusive R&D processes. While internal R&D processes tend to be successful in leveraging technical and marketing expertise within an organisation, but have a limited potential in identifying 'left field' opportunities, Open Innovation processes aim to identify new opportunities for service innovation from an outside-in perspective. This is usually done by actively engaging in the daily practices of customers who use the products and services currently provided by an organisation or competitor organisations, and by investigating the wider context of this usage to identify unmet needs, that are not covered by the existing service offerings. These customers have rich experiences with the benefits, and moreover the limitations, of the tools and services they use in their everyday work. Prompted by suitable research techniques, they can indicate how certain aspects of their daily practises and routines are not sufficiently supported by appropriate services or tools. In doing so they offer insights into the attributes they currently miss and the new attributes they would value or dislike. This customer-led investigation can lead to clear identification of potential opportunity spaces for innovation.

Because of its focus on insights generated from direct interaction with customers, the Open Innovation approach can also be characterised as 'user-centred innovation' or 'consumer-centred innovation'.[4] This customer focus is a characteristic overlap between Open Innovation and Service Design. Service Design is a useful framework for maintaining the perspective of the outside world of users/consumers as the leading element in selecting and elaborating ideas for potential innovation, rather than internal focus on available technologies or company capabilities. Parker and Heapy have successfully ascertained that services can be seen as a 'journey', a series of critical encounters or 'touch points' between a customer and a service provider that take place over time and across channels.[5] The practice of Service Design focuses on integrating the dynamic collection of service elements within a customer journey around a qualitative and integrated user experience. In order to be able to deliver this, distributed organisational resources need to be combined to create an optimal service offering.[6] Similar to Open Innovation, the Service Design approach aligns the strategic decisions within a project with the broader business goals of the organisation.

Two of the main methods used in Open Innovation processes are Lead User Research and Co-Creation Workshops. By combining the investigation of opportunities for innovation

1 Henry Chesbrough (2003) Open Innovation: The New Imperative for Creating and Profiting from Technology, HBS Press.

2 Eric von Hippel (1988) The Sources of Innovation, Oxford University Press

3 Patricia B. Seybold (2006) Outside Innovation. How Your Customers Will Co-Design Your Company's Future, Collins

4 Eric von Hippel (1988) The Sources of Innovation, Oxford University Press

5 Sophia Parker & Joe Heapy (2006) The journey to the interface. Demos

6 Sophia Parker & Joe Heapy (2006) The journey to the interface. Demos

through Lead User Research with the development of ideas and rough concepts for new service propositions through Co-Creation Workshops, Open Innovation processes effectively bridge the research and design elements in all stages of the process. Both methods will be discussed in more detail in the next paragraphs of this paper. Figure 1 illustrates how these methods are embedded in the Open Innovation process set up for the project with Elsevier.

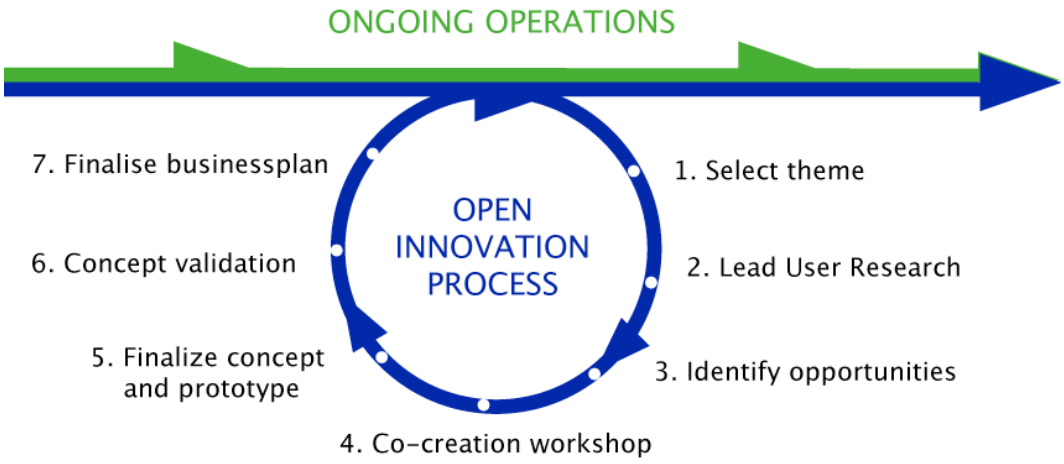

Fig. 1 - Open Innovation process for Elsevier

Open Innovation is an inter-disciplinary process that requires experts from various backgrounds to work closely together throughout the project. For the Open Innovation project for Elsevier we devised an iterative process that consisted of a series of meetings and workshops, interspersed with periods of elaboration by individual experts on specific aspects.

Lead User Research

In many experimental projects over the past 20 years, Von Hippel [7] has proven that in relation to product and service innovation, a specific group of users has a particularly high potential to catalyse the identification of opportunities for innovation. These are the 'lead users' of the products or services in the area of focus. Lead users are users that:

a) are ahead of the target market with respect to important trends.

b) experience needs that are still unknown to the more general group of users in the target market.

c) would greatly benefit if they obtained a solution to these needs.

d) are often 'innovators' themselves.

In the course of their frequent and intense use of certain products and services they often adapt the tools available to them to get more out of their usage. As they expect to get high benefits from innovations, they have a strong incentive to either innovate on their own account or participate in initiatives that lead to an innovation. Because of their use-based

7 Eric von Hippel, Eric (1986) Lead users: a source of novel product concepts. Management Science 32, 791–805

perspective, their creativity and their strong engagement, it can be highly profitable and valuable to involve lead users in the exploration stages of innovation processes.

For the Elsevier Open Innovation project we conducted in-depth interviews with 10 lead users among academic researchers in the Netherlands and in the United Kingdom. These lead users are all experienced researchers, some working in universities, others in industry. They are all involved in various internationally distributed and multi-disciplinary teams that work on collaborative research projects. The recruitment of these lead users was done through snowballing, a method to find participants that are otherwise difficult to get access to[8]. Each lead user was visited at his/her workplace by one of the researchers, often accompanied by someone from the core client team, for an in-depth interview. During the interviews various paper-based prompts were used to map the project networks, workflows and interactions of the participants. Sticky notes were used to annotate specific points in these maps with additional comments and insights. The interviews were audio recorded and partly photographed. The techniques used during the interviews were social network mapping, activity analysis and flow analysis.

Fig. 2 - Data gathering with paper-based visual prompts

The data gathered during the Lead User Research was shared among the client team and the group of participating lead users through a blog. This blog contained notes, quotes, visuals and pictures from the interviews, categorised on the key emerging themes. A second blog was set up to allow the client team access to the repository of the other research materials (e.g. interview script, planning, profiles of participants, background literature). Both blogs were edited and hosted by STBY, but open for comments from all team members. The blogs, operating as platforms for organising and sharing the research materials, provided STBY with a useful way to gradually categorise the data and share the insights that were emerging from the data collection process and the discussions with the participating members from the client team. Based on these emerging categories and insights STBY developed an analytical framework that was used as a reference during the

[8] R. Atkinson and J. Flint (2001) Accessing hidden and hard-to-reach populations: snowball research strategies. Social Research Update, p. 33

rest of the project. To further elaborate this framework and to sharpen the shared reflections on the emerging themes a workshop session was run with the core client team and Radarstation. This session allowed the joint team to strategically reflect on the potential opportunities identified by the Lead User Research. Key to aligning user insight with the wider business objectives of Elsevier was having a diverse background of experience in the core client team (product management, marketing, strategy, user-centered design and technology).

Fig. 3 - Insights creation in joint session with core client team

The results of the Lead User Research clearly pointed to areas in the workflow of participants that could benefit from better support with new tools and services. It became apparent that much of the frustration in the current workflow is not so much related to the publication and distribution of the papers (as this is already well serviced by publishers), but more often to the actual co-writing of the papers and the related co-handling of the data in the research project between the various collaborators. These are areas where the lead users were clearly struggling (some called it “a real nightmare”) and would be grateful for better support. These areas were obviously interesting for Elsevier to further explore during the co-creative workshops. The lead users expressed a wish to be better facilitated with dedicated tools and services in their collaborations with other researchers. Existing, relatively new tools (such as Google Docs and MS Sharepoint) do offer some valid options, but they are often not sufficiently customised or secure enough for these highly specialised professionals to use. The existing relations of (academic) researchers with Elsevier seemed to offer a relevant basis for improvement. With Elsevier they already have a professional relationship, and as a trusted brand they expect Elsevier to be able to identify and understand their concerns and wishes. Developing and delivering high-quality services is based on long-term and reciprocal relationships, rather than one-off transactions. By further broadening this existing working-relationship, Elsevier can potentially service its market more broadly.

Co-creation Workshop

At the next stage of the project, after the Lead User Research and the exploratory meetings with the core client team, a three-day Co-Creation Workshop for generating ideas and developing early-stage concepts for new services was held with an extended team from the client side and a few of the lead users. The extended team from Elsevier again represented various departments, now consisting of a wider group of people with complementary expertises and backgrounds. The lead users participating in the co-creative workshop were a mix of people who had been interviewed in the Lead User Research and others who were new to the project and could respond from a fresh perspective to the concepts in development. Involving a wide team of internal and external participants in the exploration, idea generation and concept development is often called co-creation. [9] All participants contribute to the iterative creative process that evolves during the workshop. The co-creation workshop functions as a catalysing moment in the Open Innovation process. It builds on the preparations and discoveries from the lead user research, and then accellerates the thinking about the topic in a series of quick exercises in small groups.

In Open Innovation projects it is crucial to have an interdisciplinary team with experts from divers backgrounds to closely work together thoughout the process. Likewise, the service design approach typically requires the perpective and expertise of design and technology as well as marketing, strategy and communication. A holistic view on value creation for the consumer is crucial, while at the same time the results need to be aligned with the company's core abilities and strategies. In our experience, the co-creative process in these interdisciplinary workshops benefits from being 'design-led'. The design perspective, together with the many creative methods that have been developed in this discipline, can facilitate and direct the effective exchange of ideas/knowledge and discussions between experts from the various disciplines that are involved.[10] For a successful outcome of the innovation process, every member of the innovation team needs to be able to engage in design thinking, just as the whole team needs to be consumer-focused. Various authors, such as Bill Moggridge[11] and Curtis Carlson[12] have eloquently described this their writings.

To prepare for the three-day Co-Creation Workshop, the insights that emerged from the lead user research and explorative meetings with the core client team were processed by STBY and Radarstation into presentation and briefing materials: posters visualising the key information on a selection of participants, needs maps that pointed to the main opportunity spaces for Elsevier, and assignments to trigger more detailed explorations. The programme for the Co-Creation Workshop with the extended team was a highly dynamic mix of plenary sessions for presentations and overall reflection and small-scale

[9] E. Aarts and S. Marzano (eds.) (2003) The New Everyday, 010 Publishers, Rotterdam

[10] Ré Dubhthaigh & Toke Barter (2006) Food for thought, Royal College of Art, London.

[11] Bill Moggridge (2007) Designing Interactions, MIT Press, Cambridge USA

[12] Carlson & Wilmot (2006) Innovation: The Five Disciplines for Creating What Customers Want, Crown Business, Random House, New York.

break-out groups for more detailed discussion and exploration. The focus during the three consecutive days in the Co-Creation Workshop was:

1) Exploring insights and idea generating ideas
2) Defining service propositions
3) Detailing service concepts and initial business cases

Some of the key concepts and methods used throughout the workshop were Persona and Day-in-the-life creation, Customer Journeys, Touch points, Rapid Prototyping and Thinking Hats Feedback.

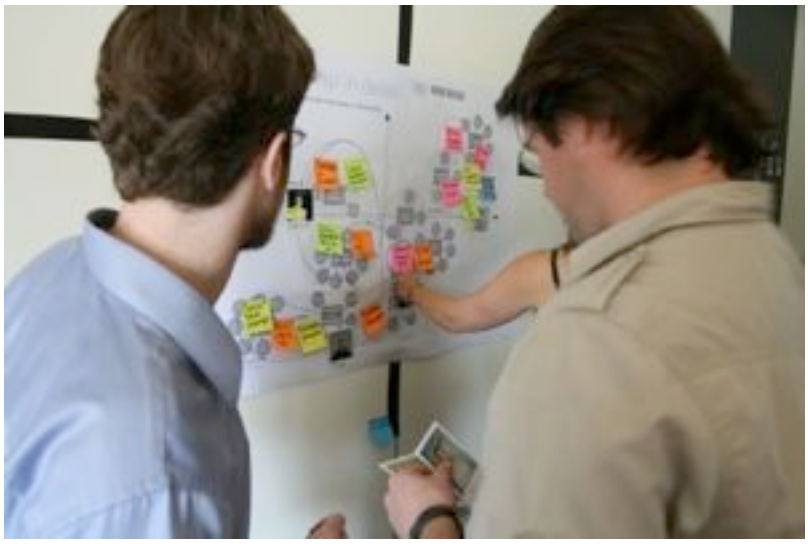

Fig. 4 - Idea generation in workshop with extended client team

The results from the Co-Creation Workshop were three well-defined concepts for new directions for services within the area of collaboration. Based on the overall, high-level analytical framework and the opportunity spaces identified in the early stages of the project, many more concepts can still be identified in future follow-up stages. The initial three concepts defined during the three-day Co-Creation Workshop have been elaborated and detailed into solid business cases by the Elsevier team. They will be further explored and iterated through prototypes that can be user tested, evaluated and refined. To accomplish these tasks Elsevier is working with a internal team specifically set up to develop tools for this new market.

To strategically embed the innovation process in the wider organisation, we documented the process and results of the Open Innovation project in such a way that it can easily be communicated to people in other teams and departments within Elsevier. An extensive and highly visual presentation offers a showcase of the project and generates the response and support needed to strengthen the success of the innovation project. This also enables the process to be repeated over time for different contexts and domains (as opposed to being a one-off brainstorm-based event). This aim is supported by using a sustainable process based on rigorous methods and value creation around customer needs that work towards concrete deliverables.

Discussion

This paper reflects on an Open Innovation project for a service-driven organisation. Using a Service Design approach for the project proved very successful. It was a natural match with the profile of the client, as the business of Elsevier is in fact a service model. The perspective of the (academic) researcher is a central reference in the evaluation of the successful tools and services that Elsevier offers. Key concepts from Service Design, such as customer journeys, user experience, service frameworks and touch points proved to be paramount in exploring and innovating services throughout this project. They effectively supported the exploration of the work practices and needs of the participants, and the generation of ideas for potential additional services for this market by Elsevier.

Open Innovation and Service Design as specialised fields of work do cross over, but they are not necessarily the same thing. Innovation is not always about service delivery to consumers. It can, for instance, also be about improving manufacturing processes or internal organisational models. In that case 'Open' Innovation would imply involving for instance professionals as lead users, rather.than consumers. Service Design on the other hand is not always about innovation. It can, for instance, also be about incremental improvements to existing services. In that case the customer research would be focusing on current average usage of these services.

For this Open Innovation project for Elsevier the Service Design approach worked well as a mental map, or a general attitude for the Open Innovation project. It helped in directing the focus for the Lead User Research and the Co-Creation Workshop and steered the project well away from more traditional R&D and technologically focused innovation processes. While introducing the Service Design approach to the project team we realised however that it is difficult to give a well-defined set of methods and techniques. There is not a clear methodology for service design yet. Customer journeys and service framework maps currently seem to be the main tools. Service Design at this stage still appears to be more an approach than a methodology. Most service design projects are basically compiling their methodologies from useful elements from neighbouring areas, such as ethnography, Human-Computer Interaction and marketing research[13]. Possibly this will change over time, as the area of service design further develops and matures. Below we have listed the key methodological learnings we derived from the Open Innovation project with Elsevier, indicating strands in the service design methodology that we believe are important for the further development of the field.

- The integration of the Lead User Research and co-creation activities in a tightly knit project cycle strengthens the qualitative hand-over of consumer insights and the successful translation of these insights into ideas and concepts for new services.
- An iterative process with meetings and workshops interpersed with periods of elaboration by individual experts on specific aspects ensures both the dynamics needed for creative engagement and the contemplation needed to make analytic and strategic choices.

[13] G. van Dijk (2008) HCI informing Service Design and visa versa. Paper presented at HCI2008 conference, Liverpool, 2 September 2008

- The active and simultaneous involvement of an interdisciplinary team with a wide variety in backgrounds and expertises helps to align the idea generation and concept development with existing capabilities and strategies within the client organisation.
- Involving lead users in the creative process ensures that the idea generation is inspired from a fresh and external prespective and helps to keep the focus on the people the innovations are ultimatley meant for.
- The guidance and facilitation of the Open Innovation process from a design perspective helps to bridge the variety of work styles within the interdisciplinary team by offering a useful balance between ‘making’ and ‘thinking’.
- Using visual tools throughout the Open Inovation process to communicate research data, insights and ideas among the team members creates iconic reference materials that enable easy to retrieve shared references for future discussions.

These learnings and reflections probably resonate with the experiences of other people working in Service Design and Open Innovation. By working on concrete projects and reflecting on the process and the results, like we have done in this paper, we hope to contribute to the reflection on the theory and practice that is needed to further enhance this still young but promising area of work. We encourage further discussion and exchange of experiences on this matter.

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STBY and Radarstation are founding members of the Global Innovation Group, together with the Silicon Valley based company EDG.