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# DESIGNERS INITIATING OPEN INNOVATION WITH MULTI-STAKEHOLDER THROUGH CO-REFLECTION SESSIONS.

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## ABSTRACT

This paper explores a designerly approach to open innovation initiation as start of the PhD research of the third author. More specifically, it presents the application of co-reflection sessions by designers in a healthcare open innovation project to initiate multi-stakeholder participation. Integrating co-reflection in open innovation initiation provides designers with the opportunity to a) negotiate with and function in multi-disciplinary environments consisting of stakeholder representatives and stakeholder customers (possible end-users); b) analyze complexity and structure of stakeholder ambitions, wishes, concerns and restrictions in order to frame a collaboration space; c) synthesize, visualize and materialize the value proposition to communicate the benefits to multi-stakeholder networks in order to define a design space and motivate their participation; and what is more important, keeping the balance between design thinking and design action. Lessons learned from this study a) can be used to provide a set of skills and practical guidance to designers when initiating open innovation b) define a spectrum for research on how designers can initiate innovation.

**Keywords:** co-reflection, open innovation, multi-stakeholder.

## INTRODUCTION

The aim of this paper is to present the knowledge gained from applying co-reflection sessions to initiate a healthcare, well-being, and good life innovation collaboration platform. It provides a set of criteria and practical guidance to designers when initiating open innovation with multi-stakeholders.

A research through design approach (Frayling, 1993) and reflective practice (Schön, 1983) was taken, considering design action and reflection on action as creators of knowledge, and the design outcome as the physical proof of the knowledge generated. The paper is therefore structured as following: it starts by introducing the challenges of initiating open innovation with multi-stakeholders and later explaining co-reflection and our motivation for selecting this user involvement method. Next the implementation of co-reflection sessions in multi-stakeholder innovation initiation is presented. Then, a case study helps to support the reflection on the implementation and drive conclusions by means of a set of skills needed for designers to initiate open innovation.

## INITIATING OPEN INNOVATION

Open innovation is dynamic and continuous event of sharing knowledge, experience, and skills in the development of complex product system, and related services (Chesbrough, 2003; Chesbrough, 2006). In cases like healthcare innovation, open innovation is a requirement (Keller et al., 2009). Open innovation usually takes place in a network with different stakeholders (organizations, representatives) who are lined together by means of ties (connection of interests between the stakeholders) (Simard & West, 2006; Vanhaverbeke 2006). These stakeholders all have their own requirements, organization culture, industry background, power, relations, and attitude towards knowledge while represented by individuals who on their own all have a different motivation, priorities, and rank. Communication and finding ways for collaboration is therefore still difficult for stakeholders in open innovation (Simard & West,

2006; Gassmann & Enkel, 2004; Lichtenthaler & Ernst, 2006; Lichtenthaler, 2010).

To reach successful collaborations, the initiation phase of open innovation is of high importance. Initiating open innovation is very challenging due to the openness and complexity of the process. While numerous authors share their vision on open innovation and describe the benefits of multi-stakeholder collaboration (Chesbrough & Vanhaverbeke & West, 2006; Dodgson et al., 2006; Kirschbaum, 2005; Eason, 1987), there is very limited literature that concretely describes practical steps for the initiation of open innovation (Hopma, 2010). Moreover, there is need for a practical guidance to support the initiation of open innovation (Chesbrough & Vanhaverbeke & West, 2006)

Knowledge about stakeholder representatives (their agenda, ambitions, and priorities), the organizations that they represent (possible gains/benefits), and what they can offer (their organization resources, inputs, and their professional expertise) is extremely important to define a collaboration and design space. Many stakeholder analysis methods are available in literature (Mitchell et al., 1997; Fletcher, et al., 2003), however these methods only help to understand stakeholders as they are, they do not help to negotiate with and function in multi-disciplinary environments consisting of stakeholder representatives and stakeholder customers (possible end-users).

#### **A DESIGNERLY APPROACH**

When initiating open innovation, framing both the collaboration and the design space is required. Framing a design space is making explicit possible embodiments of a value proposition while framing a collaboration space is clarifying the motivations and defining boundaries between a group of profit and/or non-profit organizations. These 2 framing activities are closely related to each other and cannot be discussed separately. On the one hand, defining an initial value proposition will make no sense if the potential multi-stakeholder network does not prefer this proposal. On the other hand, a multi-stakeholder network will not work if there is lack of at least one initial value proposition to connect them. Initiators

need to jump between these 2 framing activities continuously. The challenges to initiate multi-stakeholder open innovation are therefore three-folded.

- They should be able to analyze and understand the complexities and different perspectives rising from multi-stakeholder innovation, such as expectations, motivations, organizational structures, and etc.
- They should be able to synthesize to create value propositions that connect different parties and create added values for each individual party.
- They should be able to negotiate between stakeholders to ensure the balance between gives and gains.

Designers often have been actively involved / seen in product development and innovation as functional specialism, or part of the multi-functional team, or the leader of the new product development (Perks et al., 2005). Designers hold highly developed skills, which are relevant at larger levels of scope and complexity (Sanders & Stappers, 2008). During the last decades, user involvement has developed from 'research that informs' to 'research that inspires' (Sanders, 2006). Research that inspires the design process, or more specifically generative design research (Sanders & Stappers, 2008), is based on the relevance, generativity and evocativeness of results. Generative design research can be used to synthesize, visualize and materialize the value proposition to communicate the benefits to multi-stakeholder networks in order to define a design space and motivate their participation. Experience prototyping (Buchenau & Fulton Suri, 2000) allows understanding existing experiences, exploring design ideas, and communicating design concepts. Make tools (Sanders, 2000), empower everyday people to express their ideas and feelings. Drama and props (Brandt & Grunnet, 2000) can be used to evoke the future.

Generative design research can also be used to analyze complexity and structure of stakeholder ambitions, wishes, concerns and restrictions in order to frame a collaboration space. Cardboard mock-ups (Säde, 2001) provide a common language and

facilitate conversations in multidisciplinary design projects. SPES (situated and participative enactment of scenarios) support trying out emerging ideas, discerning important contextual information and collecting creative contributions from participants (Iacucci & Kutti, 2002). Endowed props (Howard et al., 2002) increase stakeholders' sense of immersion during participatory design sessions by making real the possible interrelationships between stakeholders, the prop and the physical, social or technical context.

Finally, generative design research can be used to negotiate with as well as function in multi-disciplinary environments consisting of stakeholder representatives and stakeholder customers (possible end-users). Place storming (Anderson & McGonigal, 2004) allows engineers, designers and strategic marketers exploring new directions and applications for consumer electronics by performing new technologies in context. Situated make tools (Vaajakallio & Mattelmäki, 2007) explored the support setting the stage for co-design in collaborative design explorations. Co-reflection sessions (Tomico et al., 2009) allow confronting the designer's rationale with society's motivations and values.

Given the challenges facing in initiating multi-stakeholder open innovation and the strength of generative design research, in this article we propose designers to take up these challenges to initiate open innovation. We advocate for a designerly approach to open innovation initiation. Open innovation initiation is like designing for the unknown. It requires a highly dynamic and unstructured design process like the reflective transformative design process developed by Hummels and Frens (2009): a versatile and holistic design process where multiple iterations and reflective practice are key to deal with the complexity of framing the design and collaboration spaces. At the initial phase, the collaboration and the value proposition are unknown. Initial framing actions will lead to dynamic changes in the relation between the design space (and initial value proposition) and the collaboration space (the multi-stakeholder network), which will require following framing actions to

automatically keep searching a sort of harmony between these 2 spaces.

Generative design research into design practice will change how we design, what we design, and who designs (Sanders & Stappers, 2008): designers will be valued by their roles as developers of generative design tools, facilitators during generative design sessions, experts on the design process, besides being skillful design professionals. The challenge now resides in keeping a balance between craftsmanship and management, between design action and design thinking. Among the generative design techniques presented before, co-reflection allows the designer to both facilitate and design. It empowers the designers not only to facilitate stakeholders to collaborate, form, express, and conform their visions but also allows designers to form, express, and confront their own vision towards the stakeholders. In this article we will explore the use of co-reflection in initiating multi-stakeholder innovation.

### **CO-REFLECTION SESSIONS FOR MULTI-STAKEHOLDER INNOVATION INITIATION**

Co-reflection sessions are an approach to end-user involvement that allows confronting the designer's rationale with society's motivations and values (Tomico, 2009). Co-reflection (Yukawa, 2006) is a collaborative critical thinking process mediated by a dialogue (tacit and explicit). The co-reflection process consists of 3 stages: sharing experience, information, and feelings; achieving an inter-subjective understanding through collaborative meaning making; and creating synergy between co-reflection and relationship building. These 3 stages of co-reflection, applied in the design field, become the exploration, ideation, and confrontation phases of the co-reflection sessions (Figure 1). In the first 2 phases, the designer facilitates end-users in exploration and ideation of a challenge in order to bring them to an appropriate level for reflection with him, who is working on the same challenge. During the third phase, i.e. confrontation, different ideas are reflected on. Through this, the frame of reference of both the designer and end-users can change.

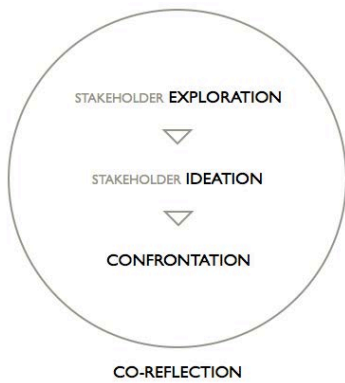


Figure 1: The 3 stages of co-reflection.

The main goal to use co-reflection for initiating multi-stakeholder innovation is to enable designers to design both for and with stakeholders, to balance design action and design thinking. This means that on one hand, designers should be able to generate an initial value proposition first with their own vision in the given context; while on the other hand, designers can involve stakeholders through co-reflection sessions and facilitate them to provide their constructive feedback and inputs, this way, fine-tuning all visions (vision of the stakeholders with the vision of the designer). In addition to these qualities, by means of reflection on finished iteration(s), designers can steer and fine-tune the project progress. Designers can define the next iteration(s) of the project based on obtained joint insights through reflection on the earlier iteration(s) together with multi-stakeholders. Consequently, not only the design space but also the collaboration space can then be explored. By conducting co-reflection designers can plan the process, create content jointly with the stakeholders, and evaluate/validate the results along the way.

Co-reflection sessions have been successfully applied in a multi-stakeholder setting to frame the design and collaboration space during early stages of a design research project (Tomico, 2011): exploring and framing a design space by reflecting on short design activities in situ, and motivating stakeholders to collaborate in the design research project by making them reflect on the expertise and interests they can share and gain. Compared to a co-reflection sessions applied to involve end-users, co-reflection sessions with multi-stakeholders are team processes. The confrontation becomes a joint reflection to form

a joint vision and a related value proposition based on the current design iteration. A vision and related challenges which designers and all stakeholders share. It is not an agreement. It is not a sum of different views. It is coming from an inter-subjective understanding between the participants of the session. Their frames of reference are merged. No one owns the resulting initial value proposition individually, but all of them share its ownership. The design and collaboration space is collaboratively set.

A scenario of how co-reflection sessions can be integrated in multi-stakeholder innovation initiation could be as follows. Firstly a complex challenge needs to be identified by or for the designers. The complexity of this challenge requires a collaborative solution between different stakeholders, but both of them are unknown. The designers take this challenge by doing an own (i.e. without direct input from the stakeholders) design iteration where they define their own vision and an initial value proposition which they articulate in a visual and or material way (e.g. a prototype or use case scenario). Secondly, the co-reflection sessions with stakeholders are carried out where the initial value proposition is confronted with multi-stakeholders. Designers have to prepare the session beforehand by: making the results of their design iteration presentable, creating a co-reflection session program (e.g. like a workshop program), and creating a set of templates (e.g., Figure 2) to collect stakeholders input during the co-reflection session.

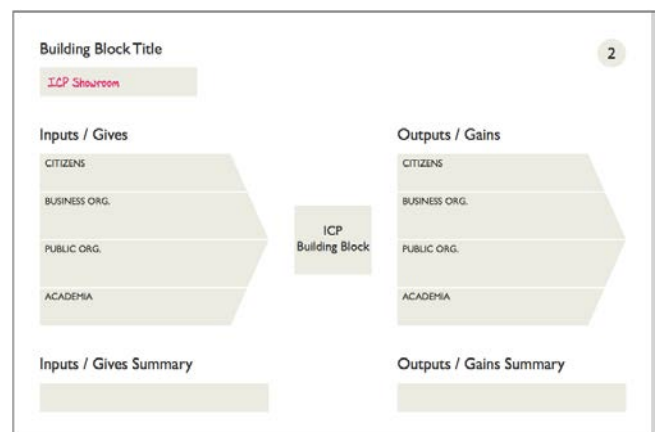


Figure 2. The stakeholder analysis exploration template.

Designers also need to explore, select, motivate, and invite stakeholders to the co-reflection session based on the initial value proposition and/or their own

position inside the organization or multi-stakeholder network. Moreover, during the exploration, ideation and confrontation phases of the co-reflection session, designers need to facilitate by leading, guiding and providing scaffolds.

#### ***EXPLORATION BY STAKEHOLDERS***

The intention of the exploration phase is to give stakeholders awareness regarding the shared initiation context while motivating them to get involved and explore collaboration possibilities. At the end of this phase there should be multiple challenge definitions, an overview of how everyone can contribute. During the exploration, designers introduce the topic to the stakeholders and the stakeholders introduce themselves to each other by introducing themselves, explaining their professional expertise, the organization that they represent and their position in the organization, but also their personal ambitions, agenda, and priorities. Next to that, designers facilitate relating the information above described to the context of application.

#### ***IDEATION BY STAKEHOLDERS***

The intention of the ideation phase is to make the design challenge a relevant challenge to all the stakeholders and encourage them to generate opportunities based on their own experiences in the field. This will give stakeholders a feeling of involvement when creating the design opportunities and room for expression. At the end of this phase the stakeholders (separately or in groups) should have positioned themselves by having some ideas for collaboration and expectations from each other. Consequently, different visions towards the challenge will be expressed and related ideas will be generated. This will enable each stakeholder to reflect on the vision and solution of the designers and his own. During the ideation, designers facilitate the stakeholders to generate, make and communicate their ideas.

#### ***CONFRONTATION BETWEEN STAKEHOLDERS AND DESIGNERS***

The intention of the confrontation phase is to stimulate stakeholders to reflect upon and take decisions regarding their own, each other's, and the designer's proposals. This is the point in which the

gives and gains are discussed and reflected upon in a constructive way. During confrontation, the stakeholders get a chance to confront designers with their ideas while the designers will confront them with their ideas. Resulting in a value proposition, which has shared ownership.

#### **OPEN INNOVATION INITIATION IN HEALTHCARE**

The practical case to which we applied the co-reflection sessions is a joint research project between the Industrial Design Department of Eindhoven University of Technology (TU/e) in The Netherlands and Finland's Laurea University of Applied Sciences (Laurea UAS). Laurea UAS wanted to develop a (physical) healthcare innovation platform together with profit and non-profit organizations to support the healthcare of the aging population. Practically, they were in need of an initial value proposition that would tie a group of potential stakeholders and motivate them to participate in this creation. Designers and researchers from both TU/e and Laurea UAS have worked together to create this value proposition with a group of potential stakeholders.

Economists point to Finland's aging population, among the fastest in Europe, as the biggest worry in coming years (Lamppu, 2009). By 2030, Finland is projected to have 26% of its population over 65 - a figure the UK is not due to reach until 2051 (Jeavans, 2004). According to Bank of Finland governor Erkki Liikanen (2006), in Finland, aging is not an issue of future, but of today. Therefore, a huge challenge for the country at the moment is to increase productivity in social and health services (Ruoho, 2010). In other words, Finland needs sustainable innovative ways of providing healthcare, well-being, and good life to citizens, mainly the elderly.

Since most healthcare innovations are open innovations, Finland's Laurea UAS believes it can contribute to this challenge best by creating, developing, and offering to elderly by cooperating closely with Small to Medium Enterprises (SMEs) and other stakeholders. One of the initiatives of Laurea is the Active Life Village (ALV) (Figure 3), a building located in Otaniemi (An industrial, commercial, and residential region in Espoo) were one of Laurea's

units is located. This unit has a number of 60 staff members and 800 students who major in nursing, physiotherapy, social work, and business. Next to Laurea, inside the ALV there are 8 SMEs that operate in the building daily and represent a sample of Finland's private and public healthcare, well-being, and good life sector. As such, the ALV is daily being visited by real life clients who come to make use of healthcare, well-being, and good life services provided in the building but also contribute to various stages of healthcare, well-being, and good life (service) innovations. While the building is owned by Laurea it is run by the Active Life Village Company which is owned 40% by the City of Espoo, 40% by Laurea, and 20% by Aalto University.



Figure 3: The Active Life Village in Otaniemi, Espoo, Finland.

The ALV exists for a year now and it has become evident that only sharing a building with SMEs and other stakeholders is not enough to innovate collaboratively. In other words, the existing infrastructure and processes are insufficient to fulfill the objectives of Laurea UAS, the SMEs, and other stakeholders. Laurea UAS wants to design a platform that can empower them, the ALV SMEs, and other stakeholders to communicate and innovate collaboratively. Moreover, a platform that helps the ALV to integrate itself more in the Otaniemi region but also attracts (international) public and business organizations to come and be active inside the ALV.

### APPLYING CO-REFLECTION TO INITIATE MULTI-STAKEHOLDER INNOVATION IN HEALTHCARE

A team (all authors of this paper) of 2 assistant professors (one with background in interaction design and the other in business process design) from TU/e, and 2 staff members (a principal lecturer with background in Nursing and health and a director of internationalization with background in

physiotherapy and innovation management) from Laurea UAS supervised a graduate industrial design Master student (third author of the paper; in the case used for this paper we will refer to him as 'the designer' accordingly) from TU/e to follow a multi-stakeholder innovation initiation iteration cycle in which co-reflection (Figure 1) was used and initiate a multi-stakeholder innovation for the above-described case.

Before this iteration cycle however, another iteration took place. Although in this paper we will elaborately discuss the results of the second iteration cycle in which co-reflection was used, we will provide a brief summary of the work done in the first iteration cycle as they are chronologically related. Moreover, the second iteration is a zoom in inside a concept generated in the first iteration.

In the first iteration, the graduating industrial design master student spent the first 3 months in Espoo to explore the design context and generate initial ideas. Based on the Triple Helix innovation model (Etzkowitz and Leydesdorff, 1995) and Living Lab methodology of involving end-users as co-creators in innovation (Van der Walt et al., 2009), he identified 4 different categories of potential stakeholders:

- **Government organizations:** Municipalities (City of Espoo and potential other Finnish and international cities); Potential Finnish and international public well-being, healthcare, and good life centers.
- **Academia:** Laurea UAS; Aalto University; and potential other Finnish and international universities and research institutions.
- **Business organizations:** ALV Company; SMEs inside the ALV; potential other Finnish and international business organizations (outside of the ALV).
- **Citizens:** Clients and e-clients of ALV; potential other Finnish and international clients and e-clients.

After this, he conducted a stakeholder analysis by interviewing 10 people from the 4 different categories in order to get a first understanding on what they can potentially contribute to and what

they can obtain in return from this collaboration platform. Based on the obtained insights, he created an initial concept, which was used as a case in an innovation camp called ACSI (Aalto Camp for Societal Innovation) and developed further together with 15 multi-disciplinary experts during 8 days. The outcome was an Innovation Collaboration Platform (ICP) concept with building blocks (Figure 4) that empowers people (the 4 categories) to communicate and innovate for healthcare, well-being, and good life. The building blocks of the ICP can be seen as different environments including innovation and communication empowering tools. The building blocks are divided into 3 main categories:

- **Digital building blocks:** These are a set of building blocks that only exists in the digital form (mainly online). E.g. the ICP website.
- **Physical building blocks:** These are a set of building blocks that exists in the physical form (mainly inside the ALV). E.g. the ICP gym.
- **Hybrid building blocks:** These are a set of building blocks that both exists between the physical and digital form, e.g., a virtual office inside the building for people who are not in.

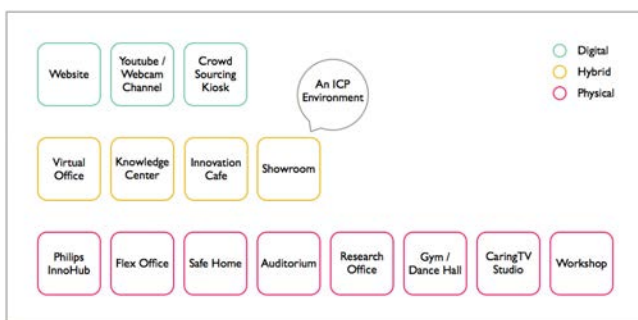


Figure 4: ICP Espoo with all of its building blocks.

After the ICP concept and related building blocks were defined (end of the first iteration cycle), the project was at a phase to zoom in and define the building blocks (second iteration cycle). Due to the complexity of the project we will only describe the multi-stakeholder innovation initiation iteration cycle in which co-reflection was used for designing one of the building blocks (i.e. the ICP Showroom building block, which is a hybrid one). The results of all 3 phases (exploration and ideation, co-reflection, and reflection on the iteration) of the second iteration cycle are discussed below.

### DESIGNER'S EXPLORATION AND IDEATION

In the second iteration, the designer designed a showroom concept in which interactive ICT devices empower people (stakeholders mentioned earlier) to innovate and communicate. Moreover, a concept in line with the European Network of Living Labs vision for the coming years to use electronic collaborative tools inside the Living Labs (Kviselius, 2008). As this concept would be used as input for the co-reflection session with the stakeholders, he visualized it by making a video (Figure 5) to demonstrate its use through a scenario.



Figure 5. Snapshots from the video of the showroom concept.

### CO-REFLECTION WITH STAKEHOLDERS

In total 15 potential stakeholders from the 4 stakeholder categories (mentioned earlier) took part in a 2-day co-reflection session. The first day they explored the given context (in situ) and started also the ideation of the showroom concept. The second day was used for confrontation. The whole co-reflection session was held inside the Active Life Village. Participants were divided into 3 groups of 5 while making sure that each group evenly contains stakeholders representing the different categories. During the exploring phase, the participants were able to walk around the space, talk with each other and get more acquainted with the context.

During the first day, the 3 stakeholder groups generated 3 concepts with different directions. They were also encouraged to visualize and materialize their ideas using clay, Lego blocks, post-it, color paper sheets, markers, glue, and tape. The vision of group 1 was that the ICP showroom should allow the visitors to actively do something and therefore gain emotional experiences during their visits (Figure 6). Group 2 suggested that the ICP showroom should not only exhibit innovation results but also allow the stakeholders to express their ways of collaborative

work (like a lab / studio tour) to the visitors and this way inquire feedback and attract potential new stakeholders to join the innovation (Figure 7). Group 3 suggested that the ICP showroom should go beyond the boundaries of the ALV in which the ICP is to be located and should be spread in different locations inside the city (e.g. shopping malls) and this way manifest itself in people’s daily life (Figure 8).

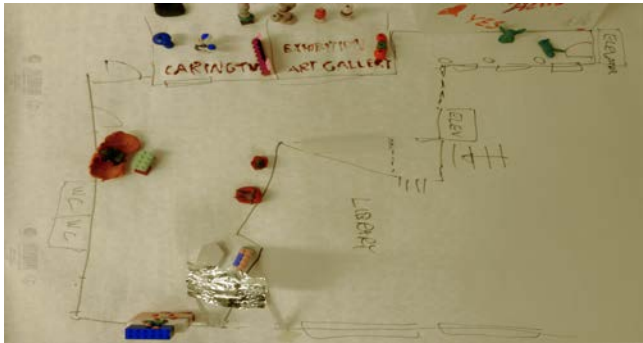


Figure 6: Showroom mockup of group 1's concept.



Figure 7: Showroom mockup of group 2's concept.



Figure 8: Showroom mockup of group 3's concept.

At the second day, the ideas from the three groups and the idea from the designer were confronted. The ideation outcomes of the groups were quite diverse and providing different directions with possibilities to be combined. To summarize them we can say that group 1 proposed way for how to get visitors to the showroom in the first place. Group 2 suggested to design the showroom in such a way that visitors are encouraged to collaborate with the stakeholders to

create innovation. Group 3 touched upon the importance of integrated the ICP showroom in the city and daily life of people by making the borders of the showroom not only inside the ALV building. Finally the designer showed how ICT tools can form different components in the showroom to empower different stakeholders to communicate, collaboratively innovate, and benefit from the showroom. These four aspects from the four ideas were eventually merged into a final concept that represents a joint vision between the designer and stakeholders. The joint vision was an ICP showroom, which provides healthcare, well-being, and good life: systems, services, products, activities, and experiences of different stages of life. Visitors walking in the showroom would then experience a journey through life and life stage related innovations (Figure 9). The stakeholders who participated in the co-reflection session were tied and motivated to further explore and develop the showroom concept. In addition, new stakeholders (e.g. GE Healthcare) were identified to motivate and contact for collaboration to realize the showroom concept.

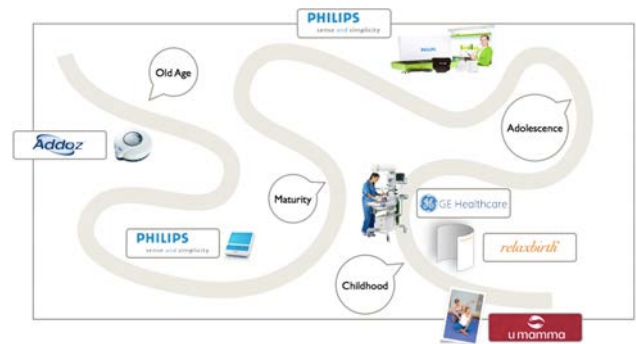


Figure 9. Illustration of the final ICP showroom concept.

**EVALUATING THE CO-REFLECTION SESSION**

The co-reflection session was evaluated by examining the progress towards the design of the joint value proposition and by considering the reflections of the designer and participating stakeholders before, during, and after the session. Both video data and questionnaires have been used to capture the evaluation. The aim was to understand how co-reflection helped to initiate multi-stakeholder innovation in this project and reflect on how it supported the synthesizing, analyzing and negotiating challenges.



### **SYNTHESIZING AND COMMUNICATING**

The co-reflection process allowed the designer to express his vision through a design and facilitate the process. Because he was able to generate his own idea prior the co-reflection session, he could express his own design vision in this initial proposal. In addition, the designer facilitated the ideation phase with the stakeholders and supported them to express their visions, ideas and motivations. At the end of each co-reflection stage, the stakeholder groups got the chance to briefly (5 min per group) present their work to each other and the designer using the stage templates (Figure 2) and or mockups of the outcomes (Figure 6, 7, 8) produced for that stage of co-reflection. Both the stage templates and mockups were used as boundary objects (Carlile, 2002) during the process. Group 1 created a 2D mockup for communicating the layout of the showroom, group 2 created a 3D model to communicate the key components of the showroom, while group 3 created a relation map mockup to show the potential expansion of the showroom concepts to regional and international level. Both the stakeholders and the designer referred to the mockups regularly when asking each other questions. After each question round, the designer crystalized the exploration and ideation results of each group and this way supported them in defining their main conclusions and direction. At the end of the co-reflection session one of the participants reflected: “this was very helpful since it helped us to finalize a stage and move to the next”. Other participants confirmed this reflection.

Using various visualizations (e.g. Figure 2, 5, 6, 7, 8) to communicate during the co-reflection process, made it possible for the stakeholders to understand each other’s ideas, expectations and ambitions including those from the designer. By walking through with the stakeholders from the exploration, the designer provided the stakeholders with a clear view of the design challenge.

### **NEGOTIATING AND FACILITATING**

During the co-reflection session, the designer went beyond providing constructive feedback and reflection on proposed ideas. He motivated stakeholders to join and actively participate during

the session. How to motivate the potential stakeholders to attend the co-reflection session in the first place was very challenging. A prior process to make “it is my chance too” in terms of design challenge and benefits, is needed for the designers to 1) increase the awareness of the challenge to the stakeholder and create a community around the design challenge 2) to be there as part of the community. In the co-reflection session discussed in this case, the designer already got to know the potential stakeholders during the personal design iteration. Largely due to the successful social contact with the stakeholders, they were interested in this design project and willing to participate in the workshop (the participants called him “a very nice person, professional and willing to listen, open and competent”).

The confrontation of each other’s ideas with a design mindset of initiating collaboration motivated the stakeholders to actively seek for possibilities to combine different ideas instead of arguing which idea was better. Group 3 e.g. started to present their ideation vision (Figure 8) based on what group 1 and 2 did (Figure 6, 7). Their presenter started explaining their ideas by saying: “Now that the other groups have created how the showroom should look like inside the building (ALV), we can explain how this would be connected to the outside world and society.” Same characteristic was also observed by Tomico and Garcia (2011). By being critical, but staying eager to initiate collaboration, the stakeholders combined different visions and ideas to the final concept, which they called “our idea”. The designer’s facilitation here was indispensable however. He recorded all comments on flip overs real-time and asked the stakeholders about the relations between them. He also made clear to stakeholders how they could give to and gain from each other. It is also important to point out that all stakeholders agreed for further collaboration. In fact they all confirmed their participation for the next meeting in which they sat together to define how to move forward with this collaboration based on this initial concept. Almost all participants reflected about how impressed they are by the process (co-reflection). One of them emphasized that: “to innovate collaboratively for healthcare it is

important that the processes change fundamentally”. Moreover, stakeholders should change their approaches to approaches similar to co-reflection. Some stakeholders showed interest by mentioning how they can combine a part of the final concept with an already ongoing or upcoming activity in their organization.

### ***ANALYZING AND STRUCTURING***

In general, while initiating open innovation with multi-stakeholders, the identified design challenge, the potential solutions, and benefits may not be recognized by some stakeholders as they may be indirectly related and are not capable of framing and reframing the solution and the design space. For example, people may easily associate overweight with unhealthy, lack of sport and overeating, but may not directly link it with social isolation.

In this case study, the exploration phase of the co-reflection session did offer opportunities to let stakeholders create an affinity towards the design challenge. Stakeholders were motivated to participate in creating the possible solutions through their own making actions. Allowing stakeholders to tinker and actively explore solutions (Figure 6, 7, 8) to the design challenge during the ideation phase, enabled them to reflect on each other’s visions and ideas, and the ones from the designer. Before the start of the co-reflection session participants were asked what they expect from the session. Most of them answered: “I do not have a clear idea what to expect from the session but I am motivated to learn”. Some said that they hope to be able to contribute based on their expertise. Interestingly, at the confrontation phase the same participants started to ask specific questions based on their expertise and contribution. E.g. right after his confrontation presentation the designer was asked by a nurse: “It was clear to me how group 1 (stakeholders) was trying to attract citizens into the showroom through their concept but how would this be in your concept?”. This is a question that could be formed based on the previous phases of the co-reflection session. Similar references to each another (different stakeholder groups) were made on a regular bases during the confrontation phase of the co-reflection session. Guided by the co-reflection

approach, the designer provided context information by being present in the physical space, facilitated the ideation session and confrontation session by actively leading, monitoring the session and recording the results, and supported stakeholders to analyze and reflect on the generated ideas by providing them different materials and tools to physically make and communicate their ideas. With his involvement, the stakeholders were able to analyze and structure the discussion and define future steps.

### **CONCLUSIONS**

Although the discipline of design looks to be very promising and beneficial for business development, specifically in multi-stakeholder innovation initiation, one should realize designing for multi-stakeholders is fundamentally different than designing for end-users only. Through this research, we have taken the first steps towards defining interesting and important topics related to multi-stakeholder innovation initiation in a designerly way. More specifically, we have applied co-reflection to deal with the synthesizing, analyzing and negotiating challenges in a real life situation in order to ensure that our future research will work in and serve real life practice situations. The results and experience suggested that co-reflection could be used to initiate multi-stakeholder innovation because of the characteristic role that the designer plays, in the balancing of design thinking and design action. Moreover, reflecting on the application of co-reflection in a real life context confronted the third author with the making, emphatic, and entrepreneurial skills that designers require. Three skills comparable to producing, facilitation, and leading categories of approaches, identified by Han (2010) in new service design, which designers use to manage multi-stakeholder involvement.

### ***MAKING SKILLS: VISUAL AND MATERIAL WAYS OF COMMUNICATION***

When initiating multi-stakeholder innovation, visualization and materialization should be used to demonstrate the benefits of participating and to help express design challenges, ideas, expectations and ambitions. It implies that designers need to know methods and tool on visual and material ways of idea

expression during the co-reflection process. Through this the stakeholders can feel that their voice is heard, understand the value of the proposition, and start to feel responsible about and a co-owner of the value proposition.

In this initiation process, designers have to be in charge (be the project leader and manager) to lead the initial design of the solution and the design space. Stakeholders can generate ideas and provide reflections but they cannot design like a designer. Therefore, it is very important for the designer to both have a design role and a facilitation role in the process. By means of their facilitation role, designers can involve stakeholders to design with them, while by means of their design role they can use their design vision to motivate and stimulate multi-stakeholder innovation. Though, designers have to be careful not to end up doing design management work instead of real designing both the solution and the design space when initiating multi-stakeholder innovation.

#### **EMPHATIC SKILLS: FACILITATING STAKEHOLDER INVOLVEMENT OVERTIME**

Stakeholders will not be involved full time in the design process. How to facilitate their involvement overtime is very challenging. Stakeholder representatives are often top decision makers with busy agendas. They cannot be in and work on the project full time and often work in different ways than designers. This context requires designers with a different mindset, approach, and interpersonal skills. Designers therefore need good facilitation skills. They should get an emphatic understanding of the stakeholders and investigate when and for what they should be involved.

#### **ENTREPRENEURIAL SKILLS: NOT ONLY DESIGN REFLECTION BUT ALSO BUSINESS REFLECTION**

Co-reflection focuses on reflecting on design solutions together with multi-stakeholders. However, to really initiate the innovation, designers need to make stakeholders aware of the potential relation between the design challenge and their businesses. Designers should be able to frame the challenge in such a way that the stakeholder can sense the relevance and be motivated to get involved.

## **FUTURE WORK**

In future research, we are interested in finding out how the making, emphatic and entrepreneurial skills influence the initiation of multi-stakeholder innovation. Especially how these skills contribute to the creation of a collaboration space.

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