

Design for cross-sectorial service innovation – provisional framework

Bettina Minder

bettina.minder@hslu.ch

Lucerne University of Applied Arts and Sciences, Lucerne, Switzerland

Abstract

Design and service innovation have received increasing attention in recent years. However, there is no agreed view on what the relation entails. Both management and design research literature acknowledge the importance of design for service innovation. However, most of the research fails to bridge the gap between differing notions of design thinking and emerging design fields.

The lack of research linking the two discourses calls for investigations that provide clarity and mutual understanding. This paper seeks to make a step towards a common ground by presenting a provisional framework of design for cross-sectorial service innovation. Emphasis is given to common terminology and characteristics. Focusing on the design discourse, this paper discusses the relationship between design and service innovation as a set of certain approaches, experiences and minds-set. The study is based on a review of key texts and indications from a set of interviews. This paper constitutes a work-in-progress report on research for a doctoral project.

KEYWORDS: service innovation, facilitation, design

Introduction

Design research projects more and more include working in service innovation projects: Instead of developing services *for* companies or organisations, designers often develop them together *with* the organisations collaboratively. This includes the involvement of both public and private partners. Interviews with project partners from past service innovation workshops caused me to ask what kind of ‘usefulness’ we produce in this case. If design is not about designing physical objects but about facilitating a range of activities, what makes it beneficial? Looking into the research literature we can state that

the concept of Design for Services innovation has received increasing attention in the last few years – especially in design discourse. Here activities are mostly set in the context of cross-sectorial innovation – between the private and public sectors. However, despite the considerable activities in research and practice in this field there seems to be no agreement on what is meant by design for cross-sectorial service innovation. Depending on the field (i.e. community work or collaboration with a municipality) research groups have introduced differing terminologies for their activities (i.e. facilitating, empower-or, catalyst). What the concepts have in common is the vision of design expanding into new arenas, mostly set in-between sectors, such as reconfiguring public services or developing cross-sectorial business strategies. These projects go beyond the realm of traditional design whereby it is linked closely with physical objects. (e.g. Cooper, Junginger & Lockwood 2009; Manzini, 2008). But there is no agreed view on what design for cross-sectorial service innovation means. However cross-sectorial innovation becomes increasingly important. In order to be able to find answers to today's pressing challenges (i.e. health, energy, food) collaboration between the public and the private is required:

The classic tools of government policy on the one hand, and market solutions on the other, have proved grossly inadequate. The market, by itself, lacks the incentives and appropriate models to solve many of these issues. (Murray et. Al., 2010, p. 4).

Murray addresses the increased importance of cross-sectorial innovation in general. But finding new ways to connect different sectors is especially important in service innovation, which has become the biggest industry in developed countries. Firstly the share of service accounts in GDP account for 69¹ in Germany. Additionally the innovation Murray is referring to more often than not consists of the development of new services – not technological innovations.

But let us first look at the term 'cross-sectorial service innovation' itself. Service Innovation can be defined as the generating and implementation of new services. To innovate between sectors means to involve organisations from both the public and the private sectors. Thus it involves organisations with multiple traditions, power structures and views on innovation processes. However the border between public and private is increasingly blurred. While 'public' and 'private' have been clear concepts for differing business models in the past, it can be more difficult to state the difference in today's market: public organisations are more and more including forms of financing through private sources, like foundations or collaborations with private companies (i.e. active in the field of social service). Private organisations on the other hand, increasingly provide services traditionally considered to be part of the public sector (like health, mobility or communication). For the purposes of this paper, private is defined as: at least partly aiming for profit and including structures of a private company (functional structures and CEO or executive board with president). Public is defined as only partly aiming for profit and not containing departmental structures such as a main organisational structure. Cross-sectorial innovation would include both types of organisations.

¹ Statista 2014, de.statista.com, accessed 20.1.2014

Design and service innovation – two streams of literature

Looking into the research literature there seems to be two streams of literature relating to design and service innovation: one in management and one in design. The former defines design as a ‘powerful, effective and broadly accessible’ approach for innovation (Brown, 2009). The latter points to a broader academic discussion that reflects upon ‘how designers think as they work’. The management discourse is a more recent one, and focuses on the need to improve managers’ Design Thinking skills for better business success (Johansson & Woodilla 2010, cited in Hassi & Laakso, 2013). Hassi and Laakso came up with a comprehensive Design Thinking framework based on management discourse, and underline the fact that Design Thinking tools and methods, etc. are mere consequences of a set of common approaches. The concept of Design Thinking is broadly accessible in management because it seems “everyone should be a design thinker” (Kimbell, 2009, p. 3).

While designers acknowledge the significance of Design Thinking as a concept for and approach to innovation that is broadly accessible, it doesn’t say anything about what design as a profession brings to the field of service innovation processes. The term ‘designer’ is ambiguous as it covers both planning [mostly in Anglo-Saxon countries] (of products and systems), and also, what most other European languages would loosely call ‘formgiving’ (Koskinen et al., 2011, p.7). For this study I refer to a definition used by Koskinen and his colleagues that links the term designer to the professional training a designer is given at Art and Design Schools. The term would also cover respective experiences in practice.

Design and service innovation – aiming for clarity

The rather unclear conception surrounding the activities of a designer in cross-sectorial service innovation calls for investigations that provide more clarity about the meaning of such a collaboration. By focusing on design discourse this study seeks to provide a provisional framework that introduces three main elements of design into service innovation.

This set is based on a review of selected literature from design discourse, and it takes its conceptual inspiration from a set of interviews with participants from a previous project. The literature review mainly draws on texts accounting for important and often cited design research projects including actors from different sectors. It also includes texts often referred to in these projects. Thus the study does not aim at an all inclusive literature review but rather draws on recent research projects in the field of service design innovation.

The field of design and service innovation has received increased attention in the past six years. The ‘Changing the Change’ conference can be considered a starting point of this recent discussion on this issue, as for the first time in Europe it brought together designers

and design researcher interested in seeing design expand into new fields and target arenas (e.g. such as collaborative service innovation aiming at more sustainable ways of living).

Design research has documented design in service innovation projects and exemplified the power of design for service innovation. 'Design for Services' is also the title of one of the key books in this emerging field (Meroni & Sangiorgi, 2011). By introducing the preposition *for*, the authors reflect on and systematise an evolving change of a paradigm, which puts design *in the service* of collaborative service innovation. Having said that, the authors are also opening up the field of service design to a broader concern with environmental social innovation. Focus is given to case study examples, illustrating tools and methods but also to the new roles of designers (as facilitators, enablers, amplifiers, provokers of change and future visions).

Design is seen as a powerful tool towards achieving solutions for a more sustainable mode of living. One of the groups most powerfully promoting this focus is the DESIS network (initiated by Ezio Manzini's research team at Politecnico di Milano). They have covered stories about design as an amplifier or promoter of local initiatives and resources, thus contributing to the promotion and distribution of 'Design for Social Innovation and Sustainability by making successful case studies more visible and approaches and difficulties more explicit.

Today's discussion also frequently refers back to, and acknowledges the contribution of, older discourses stretching back to the 1960s. These contributions from early design research have seen the coining of the expressions 'reflection through action' (Schön, 1983) and 'turning the existing situation to a preferred one' (Simon, 1969). And today's discussion often more or less explicitly refers to the movement of critical design, documented and analysed in Fuad Luke's book (2008). There he maps design practice from Bauhaus to critical design involved with change, but he also points to the limited target audience of critical design and other movements that would not exceed their own community (Fuad-Luke. 2009).

The British Design Council offers a comprehensive framework of 'transforming design', describing key features of design for effective innovation for a more sustainable mode of living – and thus reaching into communities other than design. According to them, the main elements of transforming design are 'involving diverse stakeholders', transfer of design skills and building innovation culture.

Not mentioned yet are the communicative capacities of designers. Smulders develops the concept of design acting, mainly consisting between 'conflicting discourses' of diverse stakeholders. The concept of design acting is to link design more closely to the field of change and change management, pointing to the importance of finding a common language in innovation processes. Thus Smulders' description also refers to the sociological concept of boundary object (first introduced by the sociologists Star & Griesemer, 1989) supporting the navigation between different discourses. Boundary object has frequently been present in the context of critical design. Transferred to the context of design, it refers to the quality of design objects to bind different languages together and enable the production of common future visions (i.e. Biörgvinsson et al., 2010). The authors refer to the concept of boundary objects as they develop the concept of Things, which includes the notion of innovation as a continuous process ('design after design') and design as a process of negotiation through boundary objects. Connected to this concept are notions from social design and the idea of designers building 'mutual trust relations between diverse stakeholders' (Hillgren et al. 2011 p. 9 et seq.).

There is also significant doubt about the benefit and limits of design in service innovation. Critical texts are assessing the expansion of design into new fields more critically. Issues of concerns are the risk that design for social service innovation is not considering the political aspect of its own actions (Tonkinwise, 2010). This risk has emerged in England. The development of community-based public services seemed to not be focused on making life more socially sustainable. Instead design was seen as a means of a stopgap, making up for the progressive withdrawal of the state from delivering public services (Tonkinwise, 2010). Stephane Vincent director of the ‘transformation laboratory’ 27ième Région adds to this by reflecting on Geoff Mulgan’s list of key strengths of design applied in social innovation by pointing to a lack of skills in implementation (regarding economic realism and organizational capacity); he points to the emergence of resentments though the bringing in of highly paid consultants in low-income communities; he also points to the lack of consideration of evidence and field experiencing and ‘reinventing the wheel’ (Vincent, 2013).

However despite the greater consideration the growing field of design for service innovation has received, there is no common understanding of what it means. A concept that could serve as a basis for a fruitful dialogue between cross-sectorial service innovation and design is still missing. From the short interviews I conducted with participants from past projects it became even more evident that expectations regarding the cooperation with designers for service innovation are quite vague. The problem was not so much the propositions, that were experienced as helpful, but the visionary suggestions, namely the neutral and free space for exploration and thinking and (regardless of the innovation experience of the participant) an atmosphere that was favourable to dialogue between the partners. In this respect the interviews provided some indications of what the relations mean. However, it is still far from providing firm common ground.

Design and service innovation – a three dimensional framework

Analysis of the selected literature discussing the relation between design and service innovation and the indications from the interviews, resulted in three main groups: *approaches*, *mind-sets* and *design experience*. The groups identified contain a set of elements or components. In the following paragraphs the three dimensions and the elements forming them are discussed in a compressed manner in order to provide an overview and grounds for further discussion.

The term ‘service innovation’ is not always used in the design research literature referred to. Nevertheless the projects cited there that strive to move away from future as usual, crossing boarders between public and private sectors are usually what can be called services innovation projects (developing and implementing new (and collaborative) services. Older texts however cannot be associated with service innovation. However, here these references are used to identify and portray characteristics shaping design practice till this day. Transferring general characteristics of design to the context of

cross-sectorial service innovation could be considered one of the main contributions of this section as it might point to bridging the gap between design and service innovation.

Approaches

The approaches category summarizes components that are closely connected with how service designers go about their work.

Design includes a **service approach**. This is best expressed by the preposition *for* used in the Anna Meroni & Daniela Sangiorgi Book 'Design *for* Services' (2011). Design is putting its work in the service of service innovation. The service approach also applies to the numerous descriptions of design *as* promoter of new collaborative services, as facilitator and nourish-er of strategic dialogue, a driver of new welfare or as a catalyst of change (Manzini, 2008, 2010; Jégou & Manzini 2007; Meroni, 2007). On a more general level the service approach also connects to an older discussion centered around Daniel Schön's definition of design as 'turning an existing situation into a preferred one' (Schön, 1983). The notion of turning something existent into something better, implicitly distances itself from self-referential or subjective work – as might be the case in art. Additionally 'situations' are not referring to our own, individual situation but those of a greater community.

Keeping Distance is closely connected with the fact that designers are involved in projects with others. Even though we might argue that some of the most recent cross-sectorial service design projects were initiated by designers – they tend to keep a professional distance and aim at providing a service to a community, etc. As such the two elements are closely connected and are at the foundation of every design work.

On a more general level we might add that design is **directed towards the future**. Recent collaborative design projects strongly include this focus on future visions and the forming of "alternative future prospects" (Seravalli, 2013, p. 201). However the tradition of striving towards concrete results can be problematic in projects involving various stakeholders or communities. Implementation often exceeds the actual design project, and I think it is legitimate to say that the support or facilitation of co-creation is not yet widely recognized as a 'design result'. The conflicting perception of what is to be considered a result, can be seen as a possible source for unfavourable implementation (striving for concrete results and pushing for fast implementation, might for example support the underestimation of economic realism and organisational reality). Last but not least is the previously mentioned approach of **progressing through action** (Schön, 1982).

Designer Experience

Elements categorized into the 'designer experience-dimension relate to issues that emerge from being active in the field of design. This includes design knowledge, awareness and design skill.

A great part of **design knowledge** is acquired through the activity of designing and reflecting on designing (Cross, 2001). Designers according to Cross have detailed knowledge of the composition and configuration of artefacts they design 're-use or vary' (ibid). That is, design knowledge is essentially connected to the 'making of things, the exploration, testing and learning' (Cross, 2011; Kimbell, 2012; Brown, 2006). This knowledge of the artefact can be supplemented by knowledge about the use and altering

of artefacts. Designing includes a great interest in “what people do” and “how they use things” (Kimbell & Julien, 2011, p. 14).

Skills are acquired competences. An important design skill is to be visual, which includes the practice and corresponding skill to “make sketches, physical prototypes, mockups and prototypes for communication and discussion purposes” and dialogue (Smulders, 2010, p. 8). Recently, design projects include visualisations “giving visibility to local potentials” (Manzini & Staszowski, 2013, p. 152), or are “fosters the creation of trust between [stakeholders]” (Hillgren et al., 2011, p. 179). Also the detailed knowledge of artefacts (see above) enables designers to professionally communicate with experts connected to the production of the respective services or products and carefully accompany implementation processes. The skill acquired through production in recent service design projects includes the skill to “anticipate appropriate conditions” for the collaborative service to be developed, including “subsidies, technical help of experts and professionals” (Manzini & Staszowsky, 2013, p. 151). Though this is stated as a skill it does not apply to all cases – as we saw above (see critique).

Awareness can be considered the consequence of combining acquired skills and knowledge. Designers have a good sense for details based on an in depth knowledge of composition and configuration of products and services. Thus designers contribute through an awareness of required expertise in implementation (such as expertise, materials, line of production). They often show a great sense for details such as the detailed knowledge of artefacts, etc. And as a result of continuous exploration and experimentation they are aware of possible ‘reconfiguring’ (Kimbell, 2012), transferability and scaling of services (Meroni & Sangiorgi, 2011).

Mind-Sets

Mind-Sets refer to a general view, to convictions or attitudes of designers towards their work and professional identity. It describes a mentality widely spread among designers. Some of it is prominently described in the Design Thinking Concept.

An important designer mind-set is the **hunter and gatherer** attitude: Always in search of the new, the diverting. Typically designers would surround themselves with a collection of all kinds of references (digital or analogue) images, designs, references to technologies, etc. which are at the disposition of designers and used according to requirements of the design process either to inspire a new dialogue, report on existing design experiences or to begin an exploration. The Design Thinking concept refers to this as ‘natural curiosity’ (Plattner, 2009).

Comfortable with uncertainty. The Design Thinking authority Tim Brown connects the frequent ‘exposure of changing externalities’ with successful design experimentation (Brown, 2009). The author also speaks of ‘great tolerance of risk’ as a characteristic of design. Designing requires ‘being comfortable in situations of extreme uncertainty’ (Smulders, 2010). Another important design mind-set is the **mediator** mentality. The act of designing involves being in the middle of ‘multiple discourses’ that initiate ‘conflicting

and paradoxical situations' in need of resolution' (Dorst, 2006). Dorst specifically refers to varying 'bodies of thought about technology, form and aesthetics, ergonomics etc.'. He includes the 'diverging roles, value systems of stakeholder' involved in projects as sources for multiple discourses that are in need of resolution (ibid). The discourses need to be navigated by what Smulders calls 'design acting' – or negotiation through artefacts (Smulders, 2010). In the context of collaborative projects this issue is spoken of in terms of "managing connections and tensions that hold reality together" (Seravalli, 2013, p. 203). Biörgvinsson and his colleagues introduce the concept of design projects as things "that have objectives, time lines, deliverables, and more." (Biörgvinsson et al. 2012, p. 104) and where boundary objects are required to 'bind different languages together'. The authors also point to a continuous mediation process including the 'envisioning of potential design that takes place in use after design in a specific project.

[...] addressing the challenge of design as ongoing process and as anticipation or envisioning of potential design that takes place in use after design in a specific project." (ibid. p. 104)

'Building on the existing' is a mind-set most prominently introduced in Design Thinking. Brainstorming rules include a respective invitation (Plattner, 2009). In the recent design discourse the acknowledgement of the **existing as resource** includes social and creative resources of communities and stakeholders. Design is 'starting from existing resources' and is enabling and supports 'co-creation by the population' (Manzini & Staszowski, 2013).

APPROACHES	DESIGNER EXPERIENCE	MIND-SETS
<p>SERVICE APPROACH E.g. design aims at turning existing situations into preferred ones, 'Design for Services' or design as provoker, facilitator for dialogues and as infrastructuring (Simon, 1969; Meroni et al., 2011, Manzini, 2008; Biörgvinsson, 2010).</p> <p>KEEPING DISTANCE E.g. involved in projects of others. (Buchanan, 1992)</p> <p>RESULT AND FUTURE ORIENTATED E.g. Envisioning future visions (Manzini et al., 2013) forming of alternative future prospects' (Seravalli, 2013). The tradition of striving towards concrete results</p> <p>PROGRESSING THROUGH ACTION E.g. reflection in action, design research in action (Schön, 1983, Manzini et al., 2013)</p>	<p>KNOWLEDGE E.g. knowledge in terms of composition and configuration of artefacts (Cross, 2011). Respective knowledge of and the requirements for implementation (such as inclusion and coalitions with stakeholders) (Manzini et al., 2013).</p> <p>AWARNESS E.g. awareness of the requirements of implementations (materials and line of production). Sense for possible 'reconfiguring' (Kimbell, 2012), 'transferability and scaling of services' (Meroni et al., 2011).</p> <p>SKILLS E.g. Data visualisation, give increase visibility to issues, enable creation of mutual visions (Manzini et al. 2013). Make anything from sketches to physical objects for discussion purposes (Smulders, 2010). Communicate with experts and accompany implementation</p>	<p>HUNTERS AND GAHTERERS E.g. collecting references, open to the new (Brown, 2009)</p> <p>COMFORTABLE WITH UNCERTAINTY E.g. Great tolerance for risk, (Brown, 2009) and comfortable with uncertainty (Smulders, 2010).</p> <p>MEDIATOR E.g. Frequently confronting the multitude of discourses Dorst, 2006. Used to find ways to navigate between these discourses and resolve paradox (ibid.) – design acting (Smulders, 2010). Managing connections and tensions (Seravalli, 2013)</p> <p>RECOGNIZE THE EXISTING AS A RESSOURCE E.g. Starting from the existing (social) resources (Manzini et al., 2013)</p>

	process.	
--	----------	--

Figure 1 Three-dimensional Framework describing the common elements of service design for cross-sectorial service innovation, as depicted in design discourse

Discussion

The short paper set out to make a step towards achieving a common understanding of design and cross-sectorial service innovation. The paper proposes a framework depicting dimensions underlying the recent discussion around design and service innovation but also transferring general characteristics of design to the context of cross-sectorial service innovation.

There are several recurring themes crossing these dimensions and in reality the marking-off of dimensions might not be as clear as described in the framework. For instance collecting of references leads to potential professional knowledge and input. Similarly the service approach is connected to the focus on mediation between discourses.

Many of the writers within design discourse focus on design as a service, i.e. service design. They highlight the emerging fields and new roles (promoter, facilitator, etc.) of designers. Design is also seen as a powerful and broadly accessible tool in management discourse. However, research up to now has failed to bridge the gap between the differing notions of Design Thinking and emerging design fields. Thus we fail to see the details of the contribution of the design profession in service innovation.

The provisional framework presented here lays the foundation for further discussion on this issue. Furthermore, the identification of common characteristics was based on indications from interviews with partners from a previous service innovation project, which gave a general direction to possible dimensions of the framework. Otherwise the groups of elements were identified from recent design research projects involved with service design innovation crossing different sectors. This included key reference texts often referred to in older discussions. However, this methodological approach carries the risk of missing out on relevant literature from service design or strategic design. Thus the provisional framework should be considered a first stepping stone – to be further discussed and supplemented.

Acknowledgement

My sincere thanks go to my advisor Assoc. Prof. Dr. A. Heidemann Lassen for her encouragement and support during this early phase of my PhD-project. I'm indebted to my colleague Samuel Frei who read and commented an early phase of this paper.

References

- Cross, N. (2001). Designerly ways of knowing: design discipline versus design science. *Design Issues*, 17(3), 49-55.
- Biörgvinsson E., Ehn P. & Hillgren P. (2012). Design Things and Design Thinking: Contemporary Participatory Design Challenges. *Design Issues*, 28(3), 101-116.
- Brown, T. (2009). *Change by Design*. New York, NY: HarperCollins.
- Burns, C., Cottam, H., Vanstone Ch. & Winhall J. (2006). *Transformation Design*. British Design Council. Retrieved from www.designcouncil.org.uk/red.
- Carlile, P.R. (2002). A pragmatic view of knowledge and boundaries: Boundary objects in new product development, *Organization Science*, 13(4), 442-455.
- Chesbrough, H. (2005). *Open Innovation: A New Paradigm for Understanding Industrial Innovation*. Boston: Harvard Business School Publishing.
- Dorst, K. (2006). Design problems as design paradoxes. *Design Issues*, 22(3), 4-17.
- Fuad-Luke A.(2009). *Design Activism. Beautiful strangeness for a sustainable world*. London: Earthscan.
- Hassi, L. & Laakso, M. (2011). *Making sense of Design Thinking*. In: Karjalainen, T-M., Korja, M. und Salimäki, M. (eds.). IDBM Papers, 1. Helsinki: International Design Business Management Program, Aalto University, 50-62.
- Hillgren, P. A., Seravalli, A., Emilson, A. (2011). *Prototyping and infrastructuring in design for socialinnovation*. *Co Design*, 7(3-4), 169-183.
- Jégou, F. & Manzini E. (2007). *EMUDE - Collaborative Services. Social innovation and design for sustainability*. Milano: EdizioniPOLI.Design.
- Kimbell, L. & Julier J. (2012). *The Social Design Methods Menu - in perpetual beta*. London, fieldstudio Ltd..
- Kimbell, L. (2009). *Beyond design thinking: Design-as-practice and designs-in-practice*. Liverpool: European Academy of Management.
- Koskinen, I., Zimmerman, J., Binder, T., Reström, J. & Wensveen, St. (2011). *Design Research through Practice – From the Lab, Field, And Showroom*. Amsterdam: Morgan Kaufmann.
- Manzini, E. & Staszowski E. (Eds.) (2013). *Public and Collaborative - Exploring the Intersection of Design, Social Innovation and Public Policy. The new Journal of Design Strategies*, New York: Parsons The New School of Design.
- Manzini, E. (2010). *SMALL, LOCAL, OPEN, AND CONNECTED: Design for Social Innovation and Sustainability. The Journal of Design Strategies. Change Design*, 4(1), 8-11.
- Manzini, E. (2008). Viewpoint - New Design Knowledge. *Design Studies*, 30(1), 4-12.
- Meroni, A. & Sangiorgi D. (2011). *Design for Services*. Farnham: Gower Publishing Limited.
- Meroni, A. (Ed.) (2007). *Creative Communities. People inventing sustainable ways of living*. Milano: Edizioni POLI.Design.
- Murray, R., Caulier-Grice, J. & Mulgan, G. (2010). *The Open Book of Social Innovation*, London: NESTA.
- Plattner, H., Meinel, Ch. & Weinberg, U. (2009). *Design Thinking - Innovationen lernen - Ideenwelten öffnen*. München, FinanzBuch Verlag.
- Schön, D. (1983). *The Reflective Practitioner: How Professionals Think in Action*. London: Basic Books Inc.

- Seravalli, A. (2013). *Can Design go Beyond Critique? (Trying to Compose Together in Opening Production)*. *Proceedings of NORDES*. 201-210, Copenhagen-Malmö, Malmö University. .
- Simon, H. (1969). *The Sciences of the Artificial*. Cambridge, MA: MIT Press.
- Smulders, F. (2010, October). *Design beyond design: Design Thinking & Design Acting*. Presented at the Design Thinking Research Symposium (DTRS8), Sydney, Australia.
- Star S.-L. and Griesemer J.-R. (1989). Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology 1907-39, *Social Studies of Science*, 19(4), 387-420.
- Tonkinwise, C. (2010). *Politics please, we're social designers*. Retrieved from http://www.core77.com/blog/featured_items/politics_please_were_social_designers_by_cameron_tonkinwise_17284.asp
- Vincent, St. (2013), *Design and Social Innovation* [online]. Retrieved from <http://www.socialinnovationexchange.org/designforsi/blog?page=1>