Open mind and open heart: Exploring the dynamics in stakeholder networks in complex co-design projects.

Working paper (with emphasis on ...working)

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Introduction
In co-design projects, gaining an understanding of the dynamics in the stakeholder network is imperative, to get a sense on which stakeholders to involve when and in which ways, in order to enable an effective collaborative innovation effort.

Many tools are available regarding stakeholder analysis, primarily stemming from business development. A well-known way is to set out in a graph the interest and influence of other organizations in order to identify how to deal with these (Imperial College London, 2007).

Already in 1993, Normann & Ramirez (1993) mentioned how thinking in traditional value chains is not useful in current markets, and instead propose looking at the market as value constellations, as networks that in interaction create value. Stakeholder mapping approaches that adhere to this notion, identify relations and interdependencies in the stakeholder network, typically related to the value exchange in these networks. Den Ouden (2012), for instance, identifies a set of 13 stakeholder types and 4 types of value exchanges. With this she proposes a tool to map the value exchanges throughout a stakeholder network. There are many such approaches, that compared to the traditional matrix approach provide the designer with leverage to act within a networked situation, by providing insight to the designer regarding how stakeholders relate, and where the focus of attention could be in order to initiate change.

From a systemic perspective, such approaches are of limited in several ways. They tend to:
- Oversimplify by pulling the system apart in interactions between pairs of stakeholders, thus disregarding possible emergent qualities of the system.
- have a bias to a rational exchange of (monetary or to-be-converted-to-monetary) value, rather than acknowledging the broad spectrum of contributions that stakeholders can bring to each other (the above-mentioned Value Flow Network adds, in addition to money, goods and information, only a generic type of ‘intangible value’)
- focus on the direct interest of the own organization, rather than the needs of the network as a whole (this is not the case in the Value flow network, where the customer is in the heart of the network).
- limit the investigation to the direct stakeholders, rather than getting a sense of the ‘larger whole’ in which the network functions, and therefore the way the system reacts to changes in its environment.
- regard the stakeholder network as a solid state, rather than a dynamic system, that changes over time.

In order to deal with these issues, we have explored two alternative ways of getting a grip on stakeholder networks. In this paper, we will describe these two approaches, giga-mapping and stakeholder constellations, grounding them by both theory and by cases in which we applied them in design projects. We then provide a more in-depth account of our experiences with one of these approaches, stakeholder constellations.

We describe the potential applicability and benefits, as well as the liabilities. We share first insights regarding the ways in which this tool, approaches may inform designers (and stakeholders) involved in systemic design challenges.

The title ‘Open Mind and Open heart’ relates to Scharmer’s Theory U (2009). Based on a large number of interviews with thought leaders, Scharmer devised a theory for change (2009). In it, he proposes three subsequent mindsets needed for change: An ‘open mind’ is needed to be able to take on an observing mindset, and observing mindset, void of judgement or interpretation, to broaden the view and be able to see the system as a whole. An ‘open heart’ is needed to tap into the energy movement in the system: its dynamics and forces that make the system as a whole behave the way it does. Finally, an ‘open will’ is needed to open up space for new directions to emerge. Even though it has its limitations, especially when applied as a change procedure (“let’s move this organization through the U”) for me it helps mostly as a language to name aspects of a change journey. When related to these three, the first approach for developing stakeholder understanding-Giga-mapping-supports the ‘open mind’. The second, stakeholder constellations, supports the ‘open heart’ and perhaps even the ‘open will’.
Giga-mapping

The first approach addresses the lack of a sense of the stakeholder system as a whole, by providing understanding through constructing overview of the system through large-scale visualisations. Gigmapping (Sevaldson, 2011) is a work form that attends to this need. The term Gigmapping, according to Sevaldson, “..engulfs all these processes of using visualization in design processes to understand and develop complex systems (Sevaldson 2013, p.15)”. It comes down to designers, using their design skills, to make sense of vast quantities of information, by creating dense visualisations, in an attempt to capture the system as a whole. The main challenge is to retain richness of individual items, while also making the information accessible. Analogies (road map, machine, journey, building, etc.) can be used to provide a sense of order (e.g. Munnecke & van der Lugt, 2007). In our practice, we combine the understandings of Gigmapping, with use of space as an external shared visual memory (McKim, 1972), integrating the developing design space in the visualisations on the wall. The notion here is that being immersed in a space that is dense with information of the whole system, it is easier to refer back to earlier considerations (van der Lugt, 2005), to keep a broad view, and to identify recurrent patterns in the system. As an example, we present Inclusive Lab, a setting in which four design teams generated concepts towards an inclusive society in a short intense educational co-design project. Students were asked to each develop a wall providing information regarding their case situation, combining literature, contextual- and user research, and design ideas & concepts (and how potential users reacted to these concepts). This corresponds with Nelson & Stolterman’s sense of design integrating the true, the real, and the ideal (Nelson & Stolterman, 2012)). As a final additional layer, a weaving action was done to connect and relate findings from the individual teams’ effort, to attain a larger sense of what is needed to move beyond the individual case examples (see fig 1).

Figure 1: Interweaving walls from different case situations.

Reflection

To round off, I would like to provide two reflections on Giga-mapping with designers, stemming both from personal experiences and the way we talked about it at the RSD7 conference:
The focus may become too much on form: Making a ‘cool’ visualization rather than a functional one. This can also create an attachment to a certain way of framing the map, even if it’s functioning as a guiding device has dissipated.

A bit more speculative: If we follow the Theory U line of thinking, true change involves ‘letting go’, detaching from our understanding of the situation in order to allow for a new situation to present itself. Then, the investments in developing a view of the whole system, and immersing a team in a space that is saturated with materials may inhibit the team from moving beyond the current state. Perhaps a deliberate ‘cleansing of the space’, to empty the space in order to allow for a new state to arise, may be beneficial in that case.

Giga-mapping seems to be getting a lot of attention in the systemic design community (that is, if the talk at the RSD7 conference reflects this) and I feel an additional view is needed that especially addresses a more holistic perspective, to move beyond ‘seeing the whole system’ towards ‘seeing the system as a whole. Even though authors name that this is an important next step (for instance John Ehrenfeld in his keynote speech at the conference calling for synthesis rather than analysis (2017)), designers tend to fall back on analytic procedures to reduce the complexity of the system.

**Stakeholder constellations**

An approach that does attend to the wholeness of the system can be found in organizational constellations. This approach addresses the dynamic aspects of the stakeholder network, exploring movement and forces in the system as a whole. Constellation work is a systemic phenomenological approach for understanding complex systems. This approach was originally developed by Bert Hellinger for family constellations, but is increasingly applied in organizational settings (e.g. Stam, 2012). These constellations can be set up with people as representatives, or with objects, depending on what the situation asks for and allows.

The set-up of representatives -their distances, stances and where they are facing- generate energy/tensions, etc. in the room. Think of an almost empty restaurant you enter. Where you position yourself, in relation to the other customers have a great impact on what happens in the space: If you position yourself very close to the one other filled table, things may get uncomfortable…. You may feel the need to talk to your neighbouring table. On the other hand, if you put yourself all the way on the other end of the room, you may feel a sense of disapproval. Setting up constellations can be seen as a kind of modelling, prototyping current and potential stakeholder dynamics. Working with constellations requires a continuous checking whether the set-up in the room represents/informs about the real system in the world. Systemic principles can provide an additional handle on interpreting what is happening in the constellation/stakeholder network. To name the three most pronounced systemic principles: a) Belonging: who or what is excluded? b) Exchange of take and give. Is the exchange of taking and giving reasonable? c) Order: Is there a clear and just order? Is everybody in the right place? The constellator can use these three perspectives to direct the process.
Constellation work, especially organizational constellation, has received little academic attention. However, in practice, at least in the Netherlands, working with constellation has become a much-used coaching/organizational development device, because it helps to understand hidden dynamics in a system, be it a family, an organization, or a stakeholder network. I am aware of two PH.D. theses in the Netherlands on constellation work in organizational settings: Jurg (2010) studied Brand constellations and how this technique aids managers in making decisions about brand strategy.

The only experimental study that I am aware of is from Schlötter (2005), who asked 250 subjects to take different positions in a room with mannequins. He found consistencies in what subjects became aware of while being in this ‘constellation’ with mannequins. He concludes that there is a universal ‘topological’ language in social situations. Roevens (2008) describes organizational constellations as a combination of heuristics, specific techniques, and the required mindset of the constellator. He mentions that constellators move somewhere in the spectrum of the social constructionist perspective on the one hand, and phenomenological perspective on the other. Most constellators operate from somewhere in between.

In the past years I have been trained as a constellator, following an international course on system dynamics in organizations by Jan Jacob Stam. Increasingly, I have applied the systemic phenomenological view within design projects, often dealing with designing for behavior change. Below, I will present two case examples.

**Case 1: Recycling of food fat and oil**

As an example, as part of such a project on the recycling of food fats and oils, I facilitated a constellation with as client two employees of the Dutch branch organization of food oils (MVO). The design question of the project was how to get people to return their used food oils to bins at the supermarket.

In the meeting, we set up cups, rather than people, to get an understanding of the dynamics in the stakeholder system and to explore potential ways forward. We set up representatives of the stakeholders (here, the consumer, the supermarket, the municipality, the recycling plant, the sports club (both providing alternative places for delivering recycling natural fats) and the branch organization (MVO). I asked the client to move their finger from cup to cup, to tap into the perspective of that stakeholder in the system, by being sensitive to ‘what your senses want to tell you’, how it is to be in that position (see figure 2). Then we removed the cups and I asked the clients to set up the ideal situation. Similarly, I invited them to explore the perspectives of the various stakeholders. The clients noticed that in the current situation they had positioned themselves as branch organization in the center of the stakeholder network, while the municipality was in the periphery, facing away from the issue.

Finally, we once again set up the current situation, and I asked the client to take a first step, that they could to start making the shift. The client then moved the representative cup of the branch organization towards the municipality, in to assist the municipality to take a central position, rather than for the branch organization taking ownership of the recycling problem.
Case 2: Workshop at RSD6 - Hearing protection at festivals

At the RSD conference, I facilitated a mini constellations workshop with the audience. Here I will describe my experiences and considerations as a constellator when facilitating the workshop. Because of time restraints I chose to use a case example from a recent project that we did on behavioral change.

My son, 19, loves music, both listening to and making music himself. Mostly a guitar player and singer, he also plays base, some keyboard and drums. When he first went to a music festival at age 15 or 16, he insisted on getting high quality hearing protection because he saw his hearing as a very important tool that he felt he needed to be very careful of. Five years later, he is still very much into music, goes to concerts, but does not bring hearing protection anymore. How come? In a project on designing for behaviour change, designers and behavioural scientists collaborated to create a campaign for young people to get and use hearing protection when going to concerts. The project was commissioned by a foundation dedicated to the prevention of hearing loss. Apparently, my son’s case is not unique. It is very hard to get young people to wear hearing protection at concerts, even though sound level is way too high, which can cause permanent damage.

The project resulted in a campaign with touchpoints throughout the concert journey. The problem with such a campaign though is that it solely considers the individual perspective: resulting in a whole array of communication interventions that all promote the use of hearing protection, each crying out: Use ear protection! At bus stop, when ordering tickets, when planning journey, at cash register, at the bar, in the toilet stalls, etc...
Next to individual considerations of my son, the young adult, other issues play a role that may inhibit or overpower individual behaviour change/persuasion efforts. He can be seen as an individual concert-goer, but he is also part of various different systems at different levels; his peer group, the festival as an organisation, the socio-technical regime, and he is part of the society as a whole. These systems have their own patterns, can be very persistent and dominate the behaviour of individuals. For instance, teenagers may be very much trusting the government for guarding their health: ‘if the government allows it, then it cannot be bad for you’. And, some rock bands require a minimum number of decibels, if not they refuse to be booked for a concert at that venue. This puts pressure on the venue owner to up the sound level. This brings in the need for other ways to address the systemic perspective within such behaviour change projects. Constellations could provide an additional viewpoint, by exploring the interconnectedness of these dynamics between stakeholders.

SETTING UP

In the exercise, we set up a constellation as system of functions. Main question was: How come that even though young adults and professionals are well aware of the dangers of hearing damage at festivals, they do not act to protect hearing health?

We set up representatives for: young adult, peer group, venue owner, hearing doctor, rock band, government. The challenge for a constellator is to set up the minimal number of representatives needed to get a sense of the dynamics in the system. Too many creates a blurry view in which it is difficult to discern patterns and possibilities.

Representatives were volunteers from the audience. I invited representatives one at the time to take position in the space where they felt they belonged. That resulted in the begin constellation (figure 3)
Volunteers represent different functions/stakeholders in the system. They use their senses (hearing, seeing, smelling, tasting, skin/bodily sensations) to provide insight as to how it is to be at that position, in relation to the other representatives. As a constellator, I go by the representatives one by one to ask them what they become aware of; what information they perceive from their senses, rather than giving interpretations.

INTERVENTION

By probing, making tentative interventions, you get a sense of the dynamics in the system. The constellator checks in with the client from time to time, whether what’s happening in the room connects to the real system. (e.g. are we in the right movie?). If not, the constellator can ask the representatives to return to a previous state and try out something else.

Here we noticed that Government was far removed from it all, with his attention away from the rest of the constellation. The Rock Podium Owner mentions that he kind of likes that the government is far away and that his head is turned away. He dislikes and distrusts the government. Yet he is facing the government, almost as if to protect or cover up whatever happens behind him. Government mentions that he does not really care, is busy with other things.

As a constellator I sense a repulsive force between Podium Owner and Government. I get the urge to increase the pressure to see what happens. So I push the government physically towards the rest of the constellation. Government strongly resists (see figure 4).

![Figure 3: Begin state of the stakeholder constellation](image-url)
As Government is moving in the whole constellation shifts. Representatives move into a new state of equilibrium (see figure 5). Then I ask questions like: For whom changed something? What is different? What do you notice? Is it better, worse or the same? The representatives described their experiences and in general felt that this was a much better situation.

Like in the example of the constellation with cups, we moved the constellation back to the starting position. Then I asked the audience (I would usually ask this to the client): “What can you, as designers do, in order to initiate the move of Government towards the other stakeholders, to make Government engage. What kind of intervention would make the government turn towards the issue?” Some options were given. If we had had more time, I would bring these options into the constellation in order to ‘test-drive’ them.
DISCUSSION

Holding space
It is essential to create a safe space in which people feel free to move and surrender to sensing rather than thinking and rationalizing. In constellation terms this is referred to as creating ‘holding space’.

Slow cooking
Constellations can be quite slow. It can be important to ask representatives to withhold the (sometimes strong) urge to move in order to be able to investigate and make explicit the forces present at the current state of the system. This is impossible if everybody moves around all the time (even though that could be an approach in its own right, more related to dance improvisation, such as Social Presencing Theatre (Hayashi, A., 2010).

Not Play Acting
Functioning as a representative is NOT acting. We noticed that volunteering designers at the presentation stepped ‘on stage’, and started to play a role. Not strange, as play-acting is an accepted work form in design practice. However, in constellations, being a representative meaning positioning yourself in your physicality as a sensory instrument through which changes in the system can be noticed and expressed. This requires being, rather than performing a role.

Independent representatives
In traditional constellations, volunteers are independent representatives, not related to the system at hand. A client who wants to learn about a systemic problem or question is guided by a constellator in order to set up a constellation. The constellation in the case example was created by collective input from attendees in the room. This made it impossible to check whether whatever happened in the room represented the real world system.

Social constructivist scaffolding v.s. systemic phenomenological approach
Constellations can be done from two fundamental viewpoints: On the one hand, social constructivist scaffolding, which we are very familiar with in the field of design (think Contextmapping and generative techniques, e.g. Sanders & Stappers, 2013), using materials as things to think with in order to scaffold deeper conversations. On the other hand, the systemic phenomenological approach of opening up, sense and respond to whatever presents itself in the space (Roevens, 2008). This requires letting go of analysis and taking a wider view.
During the session, we noticed that we as designers are tempted to mash the two viewpoints. However, as they require different mindsets (zooming in, rationalizing v.s. zooming out and perceiving), the insight easily becomes blurred. It may be interesting to explore more explicit utilization of the two viewpoints, for instance by altering them, without mashing them together. A first attempt at this was done by Adrian Paulsen and Manuela Aguirre in their workshop on ‘mapping the invisible’ (2017), in which they adapted their approach focused on making connections between stakeholders visible through threads and ropes of different textures and colours (social constructivist scaffolding). Instead of their approach of using physical objects to represent stakeholder hubs, they tried out working with volunteers as representatives.

CONCLUSION

In design, stakeholder constellations can be used for diagnosis purposes, to explore possible scenarios and prototyping systemic interventions. They provide an additional view, next to other design research methods, like generative techniques, giga-mapping etcetera.

Like any other approach of modelling/imitating the real world, it is good practice to continuously question the approach. Even Jan Jacob Stam, with over 20 years of experience with facilitating constellations for high-level company executives and governmental organisations mentions: “I don’t trust constellations: I am convinced that they work, but I never trust them.”

References


McKim, R.H. (1972) Experiences in visual thinking. Wadsworth, Boston, MA.


