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# Facilitating generative emergence within large-scale networks

## Unpacking six dimensions of design practice

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### Abstract

This study examines the design practice in socially complex domains, such as the facilitation of highly participatory processes for migration and healthcare innovation. We conceptually propose a visual lens that helps unpack the design practice in a way that has not been done before. This tool highlights different dimensions that underlie the design practice. Through examining two large-scale multi-stakeholder participatory processes, six dimensions behind the design practice emerge. By plotting the process and making the design dimensions visible, designers can better orchestrate their practice over long-term periods of time. The six dimensions of designerly practice are conceptual contributions based on empirical analysis, however we invite for further practical applications and development in socially complex domains.

### Introduction

#### **Muddling through wickedness**

There are certain issues that might never be ‘solved’ in the traditional way we understand solutions. These complex problems include migration, climate change, inequality, poverty, universal access to health, and the list can go on. We can ultimately aspire to ‘better address’, rather than solve these issues, as they are dynamically interlinked and ‘solutions’ potentially contribute to ‘the problem’. But again, you’ll never know for sure, as unintended consequences might not be visible in the short term or in geographical proximity. Charles Lindblom humbled policy planners sixty years ago by inserting the notion of ‘muddling through’ (Lindblom, 1959). This muddling science recognized that policymakers will never have all the available knowledge to plan the best public strategies nor predict the best societal or system-service outcomes. He introduces the importance of iterative ‘incrementalism’, which in the design world, is closely linked to prototyping small changes (in various degrees of fidelity) as a way to learn and involve many people in co-design processes. In this sense, as multiple stakeholders come together into co-design sessions, somehow the complexity of the social is brought together. In order to facilitate constructive, disruptive and/or proactive dialogue, the space and activities are carefully designed. This paper unpacks the practice of designers facilitating co-design sessions as a means of muddling through wickedness.

As the field of Design is moving into the domains of organizational and social transformation – also called the third and fourth domains of design (Buchanan, 2015; P. Jones & VanPatter, 2009), designers have to navigate polarized terrains, conflicting tensions and agendas, and power inequalities. Studies have shown benefits of working with cross functional teams to develop products in early stages (Koen et al., n.d.), and these cross-functional approaches have been adopted by designers working in the third and fourth domain. As the complexity of the cases increases, the team sizes enlarges, as many individuals need to represent the multi-faceted perspectives of the complex issues at hand. New service development processes calls for multiple actors coming together in early phase in cross functional teams to co-create value by exploring opportunities and desired futures (Clatworthy, 2013; Wetter-Edman, 2014), this is also the case when designing for policy or for large-scale organizational change (Degnegaard, Degnegaard, & Coughlan, 2015). When facilitating large-scale networked processes, with stakeholders from diverse sectors, lived experiences, and level of

governance, the most basic questions surface: Where and how to start? How to plan and execute events? How do you sustain momentum over large periods of time?

### Generative emergence

Emergence, as a phenomenon, can be observed from biological to social systems. Simply said, it is the higher-order novelty, which results from the interaction between lower-order parts.

In biology, the synchronized flocking of birds is emergent. No single bird orchestrates the flock, however the interaction between the multiple lower-order parts, in this case the birds, creates emergent compositions in motion.

In social systems, the “*network effects in large social networks display emergent qualities that cannot be designed or planned in the absence of large numbers of active participants*” (P. H. Jones, 2014, p. 117, emphasis added). Emergence can result from digital interactions over social media or from face-to-face interactions. We are interested in the latter. In co-design sessions, where participants are embodying the interactions between them, we think emergence also depend on the diversity between the participants that take part.

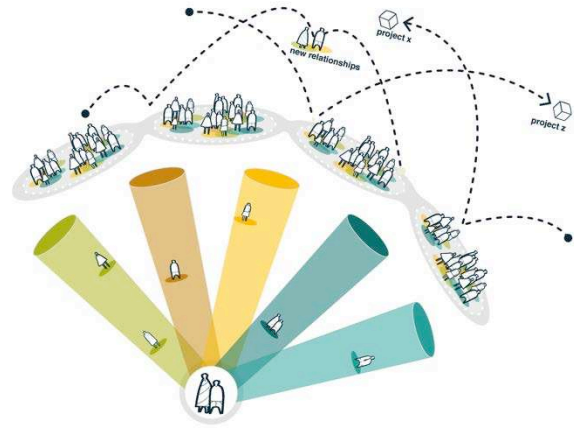


Figure 1: Illustrating generative emergence within large-scale networks. People from all levels of governance, across different silos, together with people with lived experiences, are brought together to co-create better alternatives.

Generative and emergent processes are both creative. The difference is that generative processes have a driving human intent behind them while emergence is self-organized without the human-ability to control. Emergencies often prompt emergent self-organization of social systems, such as the response in hospital’s emergency rooms, or within communities after a natural disaster. Emergencies trigger emergence and existing elements (resources, roles, decision-making power) are reshuffled, remixed or recombined to produce new short-term value. Designers can carefully curate generative conditions, but they can only design until a certain point, as they cannot design people’s behavior. Participants of large-scale co-creation sessions bring with them their full selves, their personalities, intents, histories and aspirations, and all of these elements allow for emergent and unexpected ripple effects.

However, prompting intentional change within highly regulated social systems, such as health care or parliamentary institutions is hard. When the social is normed, ownership and agency needs to be spread across multiple levels of governance. Participation is needed without alienating the people in power. Through conversations that seed hope, ideals, and aspirations in people’s minds, these conversations may enable the co-envisioning of better futures. This may lead to embrace change easier and challenge the deeply rooted assumptions that sustain and reinforce the status quo of these highly regulated social institutions.

### Tools for facilitation

Facilitation is an increasing role designers perform (Body, Terrey, & Tergas, 2010; Manzini, 2015; Meroni & Sangiorgi, 2011; Napier & Wada, 2015; Tan, 2012; Thackara, 2005). Designing for services conceptualizes services as the co-creation of value (Vink, Wetter-edman, Edvardsson, & Tronvoll, 2016; Wetter-Edman, 2014; Wetter-Edman et al., 2014), and designers act as ‘value-facilitators’ in this co-creation of possibilities process (Wetter-Edman et al., 2014). Our interpretation of *tool* in this inquiry, is broad in the sense that it includes any type of interaction or configuration that acts as *mean* towards a desired end (dictionary.com). This includes for example spatial arrangements, artefacts, visual elements, narratives, and other sensorial means that influences activities. When facilitating, designers use a variety of tools (compared in table 1). These can be generic, templated or contextual tools.

Table 1: comparing different types of tools for facilitation:

Generic tools	Tools that lack specificity and are regarded as products for facilitators.	E.g.: post-its, whiteboards, flipcharts, permanent markers.
Templated tools	Tools having a predefined format, used as a starting point for a particular application so that the format does not have to be recreated each time it is used.	Business model canvas, service blueprint, SWAT analysis.
Contextual tools	Tools that are designed specifically for a certain context or tailored for an activity, event phase, an event or series of events.	Opportunity space canvas, post-cards from the future, spatial scenery, #MyPotential.

This study focuses on the contextual tools, which were designed specifically to support both large-scale networked events compared.

## Research approach

### Case study research

The practice of design facilitation is studied through two case studies (summarized in table 2). Both of these cases are examples of large-scale networks, which are facilitated by systems oriented service designers. The main difference between both of these networks is that one is a formal network, where each partners is defined, and designers are a formal actor that take on the formal role as facilitators of the network. The other case is an informal network, initiated by designers after receiving institutional support from the Parliament. However this informal network has no predefined network actors, nor a budget, nor a scripted time frame. Even though both of these networks are different in nature, the way they have been designerly facilitated has been quite similar; therefore they become an interesting point of departure for conducting this research.

### Case 1: The formal large-scale network

The Center for Connected Care (C3) is a formal network for healthcare innovation that connects seventeen institutions in Norway from the public, private and academic sectors. This network is orchestrated by the Oslo University Hospital and the first work package was given to the Oslo School of Architecture and Design (AHO) to lead and facilitate. The intention of the first work package is to co-create a shared vision for patients in 2025 among all the stakeholders of the C3 network.

### Case2: The informal growing network

Guts to Change (GtC) is an informal (volunteer-driven) network for social innovation. This network brings together over two hundred individuals in Norway - from all sectors, disciplines, and levels of governance - to address migration participative and creatively. AHO was also significantly involved as they voluntarily initiated the network. This all started as a Member of Parliament learned about Service Design and agreed to host a series of co-creative workshops at the Norwegian Parliament.

Table 2: Characterizing the two cases compared: Center for Connected Care and Guts to Change:

Case 1: Center for Connected Care	Case 2: Guts to Change
<b>Network type:</b> Formal network for healthcare innovation	<b>Network type:</b> Informal network for social innovation
<b>Partners:</b> 17 institutions (public, private and academic)	<b>Partners:</b> two-hundred individuals (mixed sectors)
<b>Timing:</b> 8 year funded commitment	<b>Timing:</b> 6 months of design-driven volunteer movement

<b>Purpose:</b> diffuse and adopt patient-centric innovation in Norway	<b>Purpose:</b> transform a ‘crisis’ into a participatory opportunity
<b>Scope:</b> Four main events (January-September 2016)	<b>Scope:</b> Four main events (November 2015-May 2016)

### Research by Design

Our methodological approach was Research by Design. Research by Design does not decouple research from design, as they are both complementary aspects of an action-oriented reflective process. Birger Sevaldson describes it as “a special research mode where the **explorative, generative and innovative** aspects of design are engaged and aligned in a systematic research inquiry” (Sevaldson, 2010, p. 11, emphasis added). Alternating roles, from designer, to researcher, from facilitator to sensemaker also allows us, as authors “access the deeper layers of interpretation that would be inaccessible to distant observation” (Ibid:16).

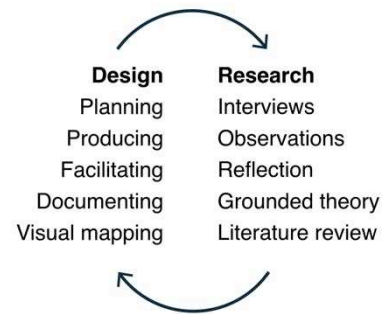


Figure 2: Design and research techniques are complementary to each other.

In both case studies, all three authors took part actively as a designer, facilitator or participant in the large-scale event. Among the three of us we can reflect on various perspectives and figure 2 summarizes some of the design and research techniques, and how they reciprocally feed each other.

### Visual analysis and reflection-upon action

In order to unpack what our own roles were as facilitators within these large-scaled networked events, both in formal and informal networks, we used a visual analysis technique as shown in figure 3. This technique allowed us to map every aspect of each workshop in a sequential way, just like a storyboard does. We used this visual prompt to reflect-upon-action (Schön, 1983) on each of contextual tools for facilitation that were designed. In total, we analysed sixty-eight tools from both case studies. We first started describing the function and intent of each tool and then analysed their particular characteristics.



Figure 3: Reflecting upon the visual analysis of the eight large-scale networked events.

From thoroughly conducting this visual analysis, through various rounds of iteration and involving different designers, different patterns started emerging across both events. These patterns were synthesized into six different dimensions for networked facilitation, which will be elaborated upon next.

## Introducing the six dimensions for networked facilitation

As briefly mentioned earlier, by mapping and reflecting on the contextual tools for facilitation of large-scale events, six dimensions for networked facilitation were highlighted. These six dimensions are split into two categories, core dimensions and designerly dimensions (table 3). Figure 4 shows the core ‘PIF’ lens in the middle, and the designerly ‘HEC’ lens as the colourful ring.

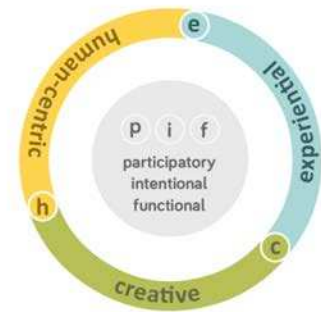


Figure 4: Six dimensions of facilitation, separated into core and designerly dimensions.

Table 3: Illustrating the core and designerly dimensions of facilitation:

Core facilitation dimensions (PIF)		Designerly facilitation dimensions (HEC)	
<b>1) Participatory dimension</b>	Enables collaboration and dialogue.	<b>5) Human-perspectives dimension</b>	Prompts empathic insights or embodies new perspectives.
<b>2) Intentional dimension</b>	Purposeful and outcome-oriented.	<b>5) Experiential dimension</b>	Uses immersive, extraordinary, sensorial and aesthetic interactions.
<b>3) Functional dimension</b>	Considers logistics, usability and ergonomics.	<b>6) Creative dimension</b>	Promotes abductive and lateral thinking. Produces novel design material.

### The core ‘PIF’ lens

The PIF lens is at the core of any large-scale facilitated process. The PIF stands for 1) participatory dimension, 2) intentional dimension, and 3) functional dimension. For the participatory dimension, the ‘who’ questions surface; for the intentional dimensions, we question the ‘why’; and for the functional dimension, questions about the ‘how’ arise.

#### Participation: Questions about whom?

Participation across multiple fields, ranges of expertise and levels of governance is increasing as “[...] there is a general paradigm shift towards interdisciplinary generation of knowledge and open collaboration [...] that are inclined towards participation of diverse public communities” (Binder, Brandt, & Gregory, 2008).

In 1969, Sherri Arnstein wrote a famous piece titled “The Ladder of Citizen Participation” (Arnstein, 1969). She talked about the spectrum of relationship between the governments and citizens. This ladder exposed (at the bottom) forms of manipulating citizens by ‘educating’ them for political support while (at the top) examples of full control from citizens. Today, when we talk about participation, it is often not clear “who is participating, in what and for whose benefit” (Cornwall, 2008, p. 269). The participatory dimension may be more political than technical thus requires understanding the dynamics of how people whom are invited and whom are left out.

In Design, the concept of participation is a contested terrain due to the 1970’s legacy of Participatory Design (PD). PD failed to address issues of power and the political/societal/ethical consequences of new ICT development (Beck, 2002). More recently, co-designing has replaced the traditional notions of participation and ‘users’ and ‘stakeholders’ have been substituted with the labels of ‘co-designers’ (Binder, Brandt, & Gregory, 2008).

Participatory questions include:

- Who should be invited to participate?
- How will they be invited?
- Who is left out?
- When people can't participate, how are they kept in the loop?
- Who is empowered and disempowered during the process, and by the 'end result'?

These questions were addressed differently in C3 and Guts to Change. The participants of C3 were pre-defined through the partners in the network, however finding and contacting them was no minor challenge. In Guts to Change, issues around ownership and power were often perplexing. As this was a volunteer-driven network, dilemmas around the 'we', and 'who are we?' became a never-ending dilemma. Involving people with a refugee status was also demanding. On one side we wanted to empower asylum seekers and make them feel comfortable, but on the other hand we recognized that everything we were doing had a Western structure, look and feel. Their trust was gained by getting to know them prior to engaging them in participation. We spent time with them in the asylum center, drinking tea in their temporary bedrooms, and testing some of the 'western' workshop dynamics in 'their' environment. Designing for participation is not only about co-designing, but also about co-governing the process and co-producing the 'results' (Staszowski, Sypek, & Junginger, 2014).

### **Intentionality: Questions about why?**

The 'I' in PIF relates to the aims, purposes and desires of every activity. It seeks not just a means, but also an end. As Harold Nelson and Erik Stolterman write in 'The Design Way', intents seek ideal outcomes, which they call *desiderata*. This moves away from a problem-solving or a need-based change approach, towards unknown but ideal and desired outcomes (Nelson & Stolterman, 2012, p. 110). This ideal seeking activity mediates *expected unexpected* outcomes, as designer aim to (unexpectedly) surprise in a relevant and significant (expected) way (Nelson & Stolterman, 2012, p. 42).

The intentional dimension is present whenever there is a plan, from the overall aim of the large-scale event, all the way to any little detail. Even when the decision is to 'improvise' (e.g. in a jazz jam) intent is present. Intuition is also intentional as it is the ability to act based on experience.

Intent has no inherent value, as acts of terrorism are intentional changes. When intent is coupled with participation, such as 'P + I' from PIF, the challenges exponentially multiply. Each participant might have a unique value-set guiding his or her intent, therefore the diverse combinations and juxtaposition of intents need to be acknowledged and negotiated. And whenever there is intent, there is judgement. This means that the intentional dimension needs to embrace the capacity to judge, evaluate and make meaning.

### **Functionality: Questions about how?**

Finally we get to the 'F' in PIF. This functional dimension makes sure the logistics are in place in order to achieve the desired intent in a participatory way. This dimension cannot be underestimated, as it is central for participants to feel physically, emotionally and socially prepared. Special attention should be paid towards inclusivity and accessibility in terms of space and cognitive stimulus; wayfinding and signage; pauses and reflective moments; the quality of the air, acoustics, food, drinks and washrooms.

The logistics of an event are never trivial and they can "make or break an event" (Body et al., 2010, p. 68). In all large-scale events studied here, the designers visited the space in advance, took pictures, and even conceptually rendered changes to facilitate the last minute adjustments that needed to be made on site during the same day of the event.

## The 'HEC' designerly lens

The 'HEC' designerly lens, as opposed to the 'PIF' core lens, is most characteristic of the designerly approaches towards large-scale facilitation. HEC stands for 1) human-perspective dimension, 2) experiential dimension, and 3) creative dimension. Each dimension can be present at a different level of intensity, from low, to medium, to high, or not present at all. Figure 5 represents how the human-perspective dimension is low, the experiential dimension is medium, and the creative dimension is high. This means the HEC designerly lens can represent its three dimensions in one graph. A set of criteria for each dimension can help define the intensities, as you will see in later in Figure 6.

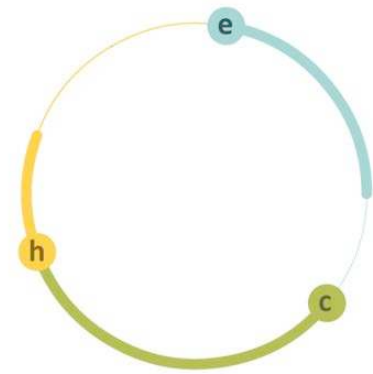


Figure 5: Each design lens can customize the intensity of each HEC dimension in high, medium, low, or none variables.

The human perspective dimension deals with empathy towards diversity and the array of perspectives. It differentiates itself from the participatory dimension, as it does not deal with the politics of 'whom' to invite, and only considers the people present in the room. The experiential dimension deals with the immersive and extremely sensorial interactions, such as composition, colours, smells, tactility, and taste. It also embraces emotional engagements as the use of appropriate humour, playfulness, metaphors and unexpected surprises. Finally, the creative dimension enables lateral and abductive thinking, generative ideas and constructive dialogue. We will now explore these dimensions more in depth to understand where they come from.

### Human-perspective dimension: Empathises diversity

The 'H' in HEC, at its essence, is about truly listening and valuing diverse perspectives. As Humberto Maturana recently urged the systemic design community, "we need to find ways to live together," (Maturana, 2016). The human-perspective dimension is all about finding ways to design together better ways to live together

This perspective has its roots on human-centered design (HCD), but moves away from 'customer-centricity' as a competitive advantage (Schulman, 2016). It also does not reduce humanity "to matters of sheer usability and when we speak merely of *user-centered design*" (Buchanan, 2001, p. 37, italics added). As Cameron Tonkinwise states, "there is a kind of freedom that comes with being able to say, 'Have a nice day' to a customer in a way that sufficiently meets the needs of the social ritual without involving genuine effort" (Tonkinwise, 2016). This inherent commercialism when being scripted human-oriented detaches itself from humanity, and moves away from the very core of HCD. Almost thirty years ago, Richard Buchanan called HCD the '*new Design Thinking*'. Until then, Design Thinking was guided through the principles of composition, aesthetics, usability, market economics and technology that underpinned products. For him, the new wave of Design Thinking would be much more deeply grounded in principles of human dignity and human rights. As he puts it, HCD "strengthen[s] the dignity of human beings as they act out their lives in varied social, economic, political, and cultural circumstances" (Buchanan, 2001, p. 37). We agree with Buchanan's vision for HCD, however we argue that it is not about centricity towards a person. It's mediating the relations between humans, and the relationships between humans and their natural and social environments. That is why this dimension is called the human-perspective dimension; to emphasis it's relational nature.

Intentionally changing perspectives is also called *reframing* (Kolko, 2010). You can reframe a problem statement or a design brief, but you can also reframe the dominant perspective from which you are looking at a phenomenon. For example, you can reframe by looking at an issue from the perspective of the person most affected by it, or through the eyes of future generations. For the human-perspective dimension, "reframing [is used as] a method of shifting semantic perspective in order to see things in a new way" (adapted from Kolko, 2010, p. 23).



### **Experiential dimension: Senses the context**

The 'E' in HEC is about our sensorial sensibilities. Our aesthetic capabilities help us make sense of what we see, smell, touch, taste and hear. These abilities are culturally and socially sensitive, however designers professionally train and develop them. Therefore designers pay special attention to materiality, tactility, colours, shape composition, and visual/spatial stimuli - and when combined - they can produce highly experiential interactions.

This experiential dimension is all about the immersive embodied experiences that engage our full selves, physically and emotionally. They go far beyond verbal and written modes of communicating and learning. Experiential learning “establish[es] a learning environment that experientially promotes inquiry into 'learning to learn' through the utilization of action-oriented [and] design exploration[s]” (Garrott, 1983, p. 122). This is exactly how we try to curate workshop settings, as actionable and explorative learning environments.

### **Creative dimension: Generates ideas**




Finally there is the 'C' in HEC, which is about generating alternatives. This can be called 'lateral thinking' - which as opposed to 'vertical thinking' - it is not about selecting one of the alternatives, but about expanding the horizon of possibilities (de Bono, 1970). Lateral thinking breaks mental schemata by provoking and disrupting “in order to allow the mind to restructure patterns” (de Bono, 1970, p. 49). Humour can also help shift logical mental models by unexpectedly breaking a deductive sequence (de Bono, 1970, p. 36). Synthesis is also a creative activity. Finding patterns, forging connections, judging and prioritizing design methods for doing creative synthesis (Kolko, 2010).

Mihaly Csikszentmihalyi has created a 'Systems Model for Creativity', which couples the Individual Person (together with it's family history), with the Field (cultural influences) with the Domain (societal influences). According to Csikszentmihalyi, the most salient characteristics of creative individuals are their constant curiosity, enthusiasm for experience, being both introverts and extroverts (depending on the stage of the creative process), and being sensitive and adaptive towards themselves as Individuals and their Domain (Csikszentmihalyi, 2014, p. 170).

Creativity has been studied in many fields, and some have claimed that group participation inhibits creative thinking (Taylor et al., 1958) while others have dug deeper into the composition of the groups and claimed that in work settings, same-sex groups are more creative than mixed-sex groups (Goncalo, Chatman, Duguid, & Kennedy, 2015). We recognize that in extremely diverse settings, where participants of the network are just getting to know each other, being radically creative might be a challenge. This is especially difficult when including people such as asylum seekers who are new to western creative settings e.g. workshops. In these cases, “the benefits of participation in creating solutions can be more important than the solution itself” (Banathy, 1996, p. 107). That means, that the fact that ideas are co-created may outweigh the radicalness of the ideas.

## How much to 'HEC'?

In order to identify the intensity of each of the 'HEC' designerly dimensions, a set of criteria is proposed. These criteria may serve as guiding poles, but not prescriptions nor recipes as we think each situation is individual and can hardly be generalized. Figure 6 presents an overview of the HEC criteria:

 <b>human-perspective dimension</b>	 <b>experiential dimension</b>	 <b>creative dimension</b>
<b>H: high</b> ●●● Prompts empathic insights or embody new perspectives.	<b>E: high</b> ●●● Immersive, extraordinary, sensorial, aesthetic.	<b>C: high</b> ●●● Prompts abductive and lateral thinking. Produces novel design material.
<b>H: medium</b> ●●● Invites participants to articulate different perspectives.	<b>E: medium</b> ●●● Interactive, applies metaphors or symbols, playful.	<b>C: medium</b> ●●● Invites abductive and lateral thinking. Builds on existing design material.
<b>H: low</b> ●●● Addresses issues of diverse perspectives.	<b>E: low</b> ●●● Accessible, provides ambience or has a peripheral presence.	<b>C: low</b> ●●● Allows for reflection, feedback and critique to evaluate design material.
<b>H: none</b> ●●● This dimension is not addressed or is irrelevant.	<b>E: none</b> ●●● This dimension is not addressed or is irrelevant.	<b>C: none</b> ●●● This dimension is not addressed or is irrelevant.

### Applying the HEC criteria

The HEC criteria are used to help determine the intensity of each of the dimensions: human-perspective, experiential and creative dimensions. First we start discussing the PIF in terms of how is this tool enabling participation (P), what is the intent (I), and finally, how does it function (F). Then, we go into elaborating how a tool is contributing to the human and empathic perspectives (H), contextual experiences (E), and lastly, creativity (C). Figure 7 shows four examples, the top two are from the Center for Connected Care, and the bottom two are from Guts to Change.



Figure 7: Four examples of contextual tools for networked facilitation. Each tool is analyzed using the HEC criteria to determine the level of intensity of each dimension: human-perspective, experiential and creative dimension.

These four tools - group tattoos, meditation room, super-powers and journey map - had completely different intentions. For example, group tattoos and super-powers both intended participants to get to know each other in a playful way. The tattoos symbolized a 'gang' and prompt participants to create a shared identity. On the other hand, the super-powers prompt each participant to write (or draw) their own super-power so their initial group introduction was more about their passion and intrinsic motivations, rather than their professional job titles.

### Applied human-perspectives

The journey map allowed participants to get closer to the subject matter in an empathic way. They used the journey map to plot what they collectively knew about an asylum seeker's journey into

Norway, and then into ‘the system’. The journey map had prompt words such as “traveling, arriving, transitioning, settling, becoming, developing and remembering” and these words enabled participants to think holistically about their whole journey.

### Applied experiences

Highly experiential tools were both the tattoos and the meditation room. As we already talked about the tattoos, we will elaborate on why the meditation room was experiential. The intent was to give participants the opportunity to reflect in the midst of an intense program. The meditation room used large pillows, candles and senses to create the atmosphere. The facilitator was dressed in a robe and was talked in a very low, slow, and soothing voice. Participants were prompt to close their eyes and not think about anything for a while. After a few minutes, the facilitator asked questions for personal reflection. Minutes later, participants were welcomed to share. This session was experiential as it brought the spa and meditation sensation into a new context. It was immersive and highly sensorial and enabled participants to engage their full physical and emotional self.

### Applied creativity

In none of the four tools showcased above (figure 7) the creative dimension was highly present. Neither of the tools prompted the production of novel design material. Many of them enabled lateral thinking, such as the super-powers as participants had to craft their own heroic roles. However this burst of creative impulse did not feed into any other activity. In figure 8 you will see two examples of highly creative tools, within the context of dimensional flows.

### Dimensional flows

By sequentially plotting each contextual tool for facilitation next to each other, followed by applying the ‘HEC’ designerly lens, dimensional flows start emerging. As you can see in figure 10, the coloured curves that appear over the images represent the intensity of each of the HEC dimensions on a timeline. This allows to visually perceive each of the dimension’s intensity during every single moment of the event, and how these dimensional intensities change over time. Each dimensional flow has a different color: yellow for human-perspective flows, blue for experiential flows, and green for creative flows.

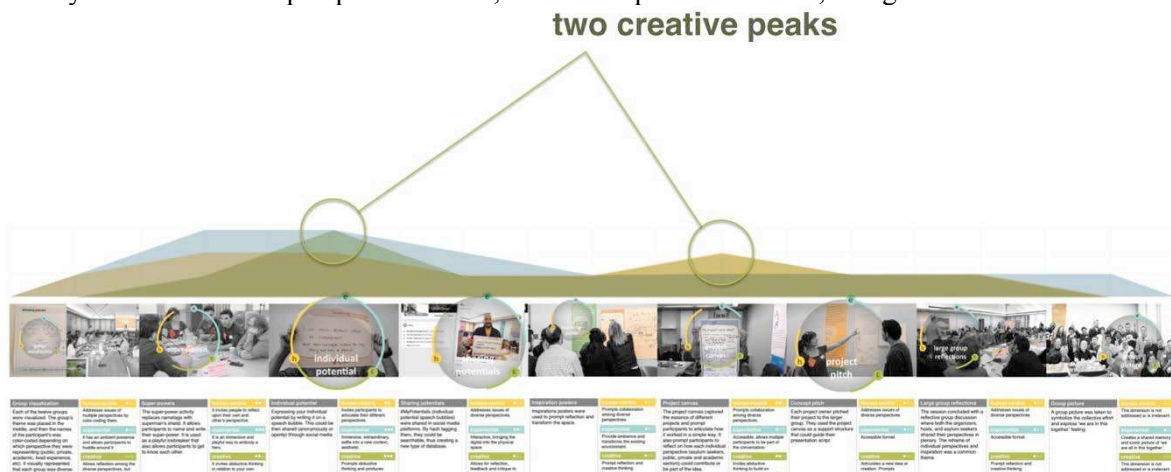


Figure 10: The dimensional flows are the coloured curves above the photographs. The dimensional flows emerge by connecting each of the tools’ ‘HEC’ dimension in a sequential way. The yellow flow represents how the human-perspective dimension changes over time; the blue flow represents how the experiential dimension changes over time; finally the green flow represents how the creative dimension changes over time.

In this particular event from the Guts to Change case, there were two creative flow peaks. The intent was that the results from the first creative peak could serve as input for the creative session. In reality, the amount of time did not allow performing both tasks well, and both activities became cognitively overwhelming. Plotting the dimensional flows of an event could better support its planning process.

## Event choreography and orchestration of events

### From an enabling interaction towards a series of events

Facilitating generative emergence within large-scale networks is a long-term process. In order to prompt long-term thinking, we suggest a five-level system of analysis (figure 8). This typology differentiates each level, from the micro interactions, such as an individual tool for contextual facilitation, towards the series of events. The macro perspective looks at how each event may feed into one another as part of a dynamic open system of creative input, reflection, and creative synthesis.

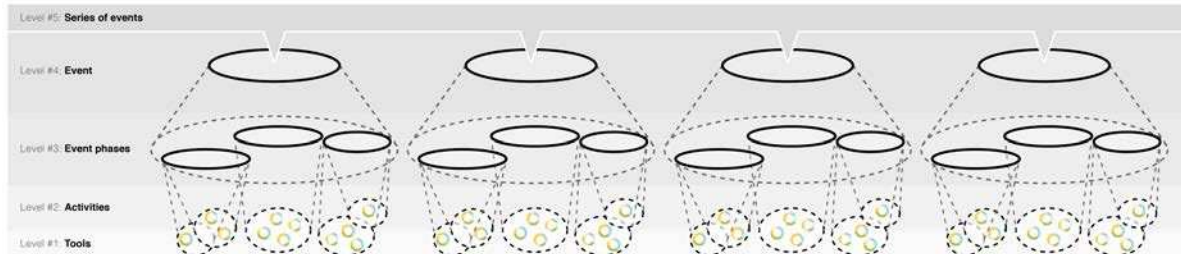


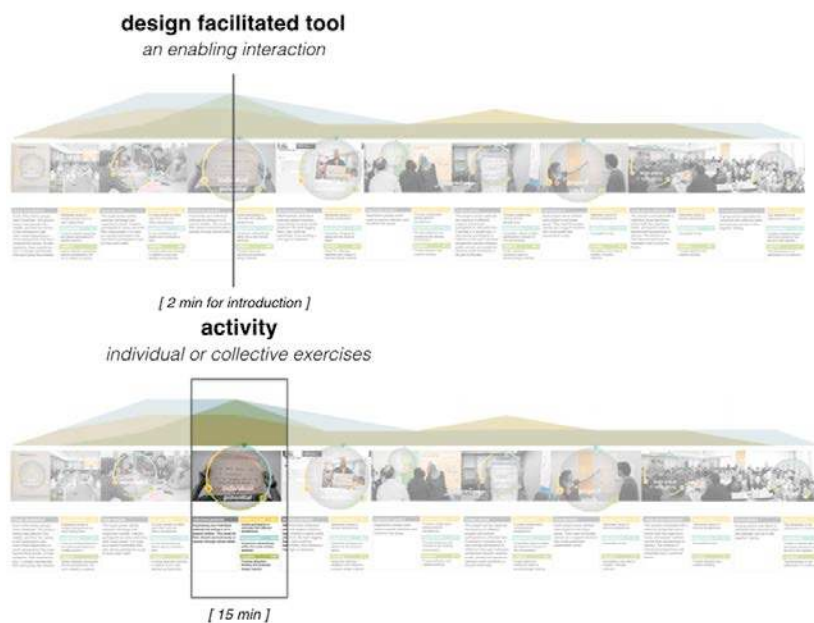
Figure 8: Illustrates the relationship between the levels of analysis, from the micro level (tools) to the macro level (series of events).

### Five-level system

The five levels include:

1. Contextual tool: an enabling interaction for facilitation
2. Activity: individual or collective exercise
3. Event phase: a purposeful theme for activities
4. Event: a participatory workshop or session
5. Series of events: the orchestration of events over time

Figure 9 conceptually shows the five levels in relation to each other.



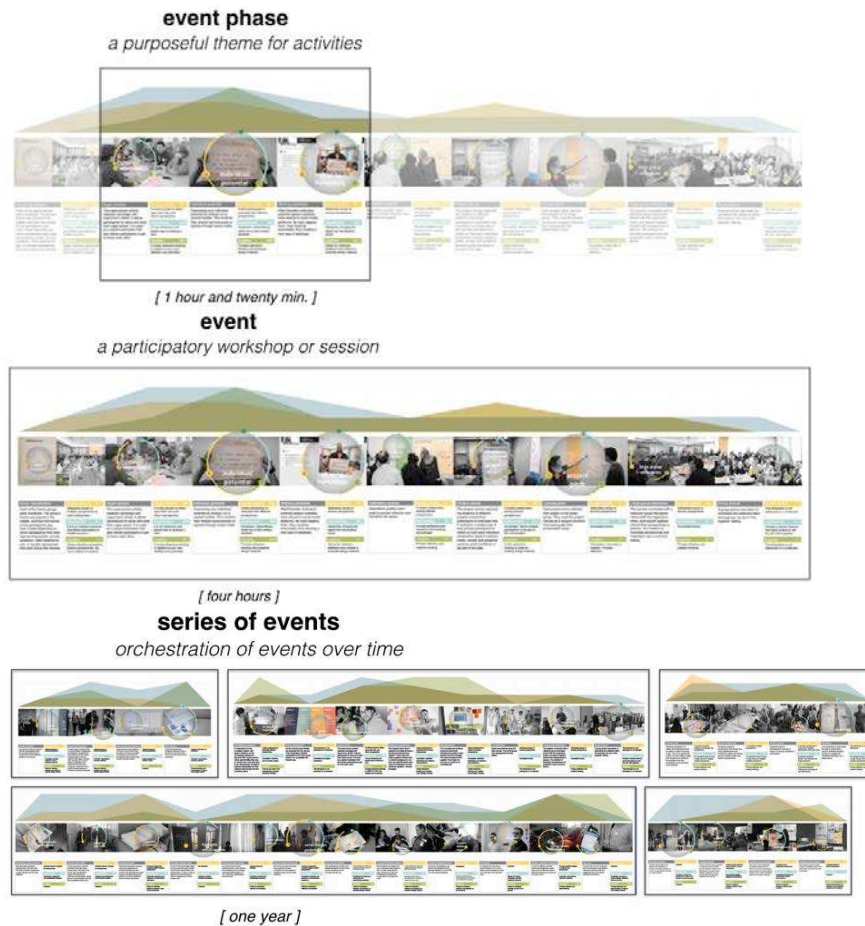


Figure 9: The five-level systems (from the micro to the macro perspectives) in relation to each other.

### Choreography, orchestration and gesamtkunstwerk

At the third systemic design conference (RSD3) that took place in Oslo in 2014, Birger Sevaldson introduced the concepts of choreography, orchestration and gesamtkunstwerk. Choreography and orchestration are similar, but in orchestration there is a higher-level intent. As Sevaldson explains, “While choreography is about the enactment of players, elements, and processes over time; orchestration is about making many players interact and correlate according to a higher-level instruction or holistic perspective” (Sevaldson, 2014, p. 11). Establishing a system typology that spans from tools to series of events, we propose that there is a higher-level intent.

Networked events, with multiple stakeholders, that take place over time, in order to address social complexities, are extremely wicked systems to orchestrate. And as Nelson and Stolterman state, “Everything in the real world is connected to everything else with varying levels of criticality and intensity of connections. These connections produce qualities and attributes at multiple levels of resolution and emergence” (Nelson & Stolterman, 2012, p. 75). Therefore whenever there is orchestration, there is intent. But that doesn’t mean it will all go as intended.

This brings us to the third concept, Gesamtkunstwerk [gə.'zamt,kunst,veɐ̯k]. This means holistic and all-embracing art form which “combines musical composition and orchestration, spatial composition, theatrical orchestration and choreography into one holistic performance (Sevaldson, 2014, p. 11). Unpacking the design practice of facilitation when designers work in the third and fourth domain of design, is all about understanding these holistic performances. The ‘PIF’ and the ‘HEC’ undoubtedly oversimplify that performance, however it seeks the essence of the design practice. Sevaldson finally reflects on what the *new* Gesamtkunstwerk means. This new wave a holistic art is more about synthesis rather than composition; is less concerned about forms than the interplay of actors; cares less

about being complete but leaving an open and adaptable coherence; and finally, it is not about the art but about the capacity to involve and evolve the context (Sevaldson, 2014, p. 16).

## Discussion

This paper explores and clarifies how designers work in the third and fourth domains of organizational and social transformation. By reflection on and upon action, the study makes the tacit knowledge related to the phenomena of design facilitation in large-scale networks (and its supporting tools) more explicit. Furthermore, we suggest that a better awareness of the identified dimensions expressed by the HEC Design Lens may improve both design research and design practice. In design research we argue that the HEC Design Lens could be used as an analytical framework in case studies, were a qualitative evaluation of the performance of design facilitation tools and/or events are needed. In design practice we suggest that the HEC dimensions may serve as guidelines in the process of designing the contextually designed facilitation tools or when planning of large-scale networked events.

Through evaluating the use of HEC and PIF in the professional design practice, it became clear that there is a hierarchical dependency between the core (PIF) dimensions and the designerly (HEC) dimensions. It is obvious that without having the core dimensions in place, the HEC dimensions do not make sense to address. Designers use a lot of time and tweak to get the core dimensions in place, and they are regarded as the most important elements that need attention and planning. Having said that, we argue that the HEC dimensions hold the potential making an extra-ordinary and tailored contribution to activities and events, that brings emotional and human aspects into the dialogue. At the same time, it makes it easier for participants to tap into their generative and creative side, and generate new ideas.

What worries us as designers moving into these new domains, is that everything gets templated. Due to lack of time, when tools work, they are quickly adapted to new contexts. We value embracing every new context and situation as “The Ultimate Particular” (Nelson & Stolterman, 2012, p. 62). We are not proposing a template for design by introducing the ‘PIF’ and the ‘HEC’ dimension for facilitation, these are just patterns of behaviour observed through and by the design practice. Making these dimensions explicit can help designers use and orchestrate them more deliberately.

As we shared the ‘PIF’ and the ‘HEC’ dimensions with two senior service design practitioners in Oslo, one of them quickly put them to use as “a ~10 second checklist to see if we're happy with our insight workshop plan” (Design consultant, LiveWork Studio Oslo) – as you can see in Figure 10.

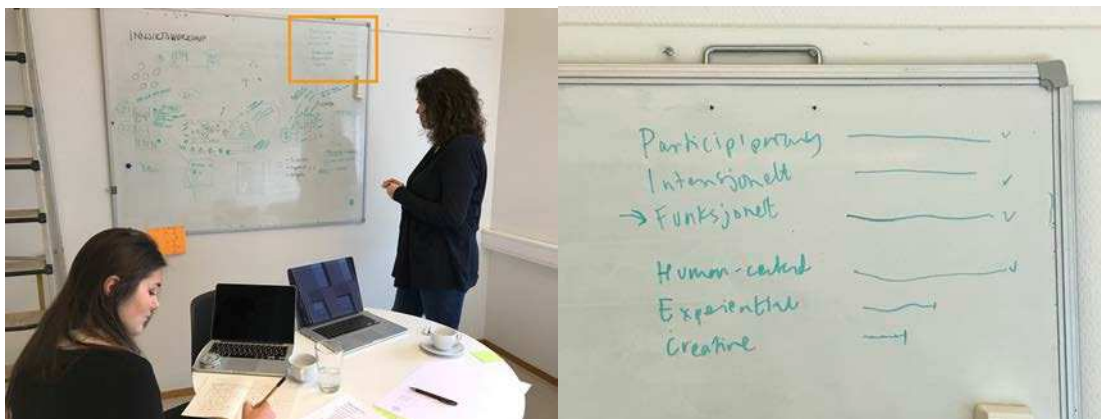


Figure 10: The ‘PIF’ and ‘HEC’ dimensions being used as “a ~10 second checklist to see if we're happy with our insight workshop plan” (Design consultant, LiveWork Studio, Oslo).

The value the design practitioner experienced when using these six facilitation dimensions was “to think twice on how to make it [the workshop] slightly more *Experiential*, and to sense-check that “low-medium *Creativity*” was in fact what we intended. Though, we spent most of our 60 minutes to tweak the *Functional* setup, ensuring we have a realistic plan with a few, but rewarding tasks.”

Perhaps this is exactly what it is. The 'PIF' and the 'HEC' are not a recipe for designing new tools, nor an evaluation framework. They are a mechanism to quality check your event plans and also a way to keep the long-term perspective in mind.

## Conclusion

We have developed a taxonomy for large-scale networks, at different levels of analysis (from micro tools to series of events). This taxonomy and facilitation dimensions can be used as checklist for design practitioners and students while planning large-scale workshops. An analytical framework has been developed which includes a visual lens and a set of criteria for evaluating the designerly dimensions by comparing two cases of large-scale networked series of events. Finally, this study has identified six dimensions for networked facilitation, and their inter-relationship. These six dimensions are organized in two groups: core dimension and designerly dimensions. Each dimension is described and applied in relation to the taxonomy.

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