

How to get a leader to talk: Tangible objects for strategic conversations in Service Design

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Abstract

This paper presents explorative work investigating how tangible objects can assist the understanding and discussion of the strategic implications of future scenarios. The paper draws upon theory and practice from co-design, particularly from the area of collaborative workshops using gaming, objects and tangible tools.

Three iterations of objects were developed, then evaluated through discussions with leaders in three commercial service providers. The results show that the tangible objects encouraged efficient and effective discussion and reflection regarding strategic implications of future scenarios. Further, they directed the discussion towards unexpected areas and helped the leaders gain an overview that supported meaningful discussion of future strategy.

The paper contributes to the field of Service Design by bridging co-design and service design and introducing tangible models, particularly as a tool for strategic discussion. It describes the development process and the results and discusses the important role that tangible objects might play in the future service co-design process.

KEYWORDS: co-design, tangible objects, business strategy

Introduction

Design is moving from designing objects and services to designing business (Martin, 2009). This is particularly true for service design, since design for service (Sangiorgi, 2012) is closely related to the design of the organisation itself. Service designers are therefore participating increasingly in strategic discussions (Gloppen, 2012) and leadership insights, will, in the future possibly become as important as customer insights.

Service Design has a tradition of using visualisation as a tool in the co-design of services (Kimbell, 2009, Segelström, 2010) and we regularly see post-its and posters as part of co-design processes. However, recent developments within co-design have focused upon

tangible objects in co-design processes. This could be gaming, using tangible pieces (Brandt, 2006), or tangible objects in group processes for business model innovation (Buur, 2012).

Within co-design and participatory design, the use of tangible objects has developed rapidly. However, we do not see the same development or uptake of tangible tools within the Service Design literature, and would, with this paper, like to encourage a natural migration of service design practice towards using tangible tools, and developing a link to the co-design field.

This study presents the results of an explorative five week study as part of an MA service design course. It was run in collaboration with the Customer Care research project, a three year project, developing new organisational approaches to the improvement of customer experience. This work relates to one of the first phases, in which scenarios were developed for the year 2020. The project wanted to discuss these scenarios with business leaders, to obtain their perceptions of the strategic challenges that the scenarios implied for their organisations. Further, we wished to discuss typical organisational measures that might need to be introduced in relation to these foreseen futures. The work required a close collaboration between researchers and students, as the students joined a research team.

Tangible models in Co-design

Wenger (2002) claims that tangible objects in co-design “may create tools, standards, generic designs, manuals, and other documents – or they may simply develop a tacit understanding that they share” (Wenger et al., 2002, p. 5,9). This leads to one of the main characteristics of co-design: it is viewed as an intertwining relationship and inseparable pair of “participation and reification” (Wenger, 1998, e.g. p. 63,105). Reification is viewed as ‘making into a thing’, (p. 133) and as “...giving form to our experiences by producing objects” (ibid, pp. 58-60).

Brandt (2006) introduces the notion of design games and how they can be used for organizing and aiding participation. She notices the need, in design processes, to include project participants actively in the design process, and suggests design games as a way to do so. Brandt describes how ‘rules’ and ‘tangibility’ are important factors for different situation in co-design that should be taken into account.

Bogers & Sproedt (2011) discuss playful collaboration in the field of open innovation. They seek the balance between pre set rules at the beginning of playing a game and then let the game flow free with room for improvisation while using tangible objects in the game play. Sproedt & Buur (2009) also describe innovation as a game where again tangible objects are used. Here innovation is seen in a business context.

Alvarez (2012) mentioned the same types of tools with a specific focus on education. Mitchell and Buur (2010) focus upon tangible models in the field of participatory innovation with a strong focus upon business models. They show how tangible model sketches help to:

“Facilitate thinking in systems, create simplicity, express the vivacity of the business, take it easier to think big, provoke new connections and associations, support story telling, work across language barriers, and provide easy to recollect experiences. In addition the interactive and collaborative nature of tangible business models show potential as catalysts to co-construct new possibilities for innovation.”
(Mitchell & Buur, 2010, p32)

Lübbe (2011) sets up principles for business modeling to frame organizational knowledge through the use of particular thinking tools. He recommends these thinking tools to be

tangible, basing this for example on the work of Clarke (2008), who suggests thinking does not only happen in the head but in collaboration between the mind, body and the world.

As well as Brandt (2005), Buur & Mitchell (2010) describe tangible model sketches functioning as boundary objects (Star & Griesemer, 1989). Boundary objects have attributes that enable a common understanding across disciplines. Star & Griesemer define boundary objects as being both plastic enough to adapt to local needs and constraints, yet robust enough to maintain a common identity. Boundary objects do not mean that they form agreement in groups, other than an agreement of representational meaning. Carlile (2002) describes three classes of boundary objects; syntactic, semantic and pragmatic, with specific reference to product development. Carlisle follows this up by describing the enabling characteristics of each type of boundary objects: syntactic=transferring, semantic=translating and pragmatic = transforming (Carlile, 2004). A pragmatic capacity establishes common interests for making trade-offs and transforming domain-specific knowledge. A semantic capacity develops common meanings for identifying novel differences and dependencies and translating domain-specific knowledge. A syntactic capacity requires the development of a common lexicon for transferring domain-specific knowledge. According to Carlile, boundary objects have the potential to transform thinking within a team. He describes this in the following way:

The ability of actors to change their own and other's knowledge only emerges when there is a pragmatic capacity, a way of representing the consequences of how the knowledge of one group generates consequences on the knowledge of another group, and then making changes accordingly (Carlile, 2004, p. 563).

Furthermore there is the idea of metaphors in co-design. Lackoff & Johnson (1980) describe how central metaphors are as part of our everyday lives. The use of metaphors is so much embedded in our way of thinking that we express a considerable amount of our thoughts through them. For example Pedersen & Buur talk about how metaphors in games and movies create understanding in co-design. (Pedersen & Buur, 2000). Van Oorschot (2013) has a critical view on the use of metaphors, based on the work of Djajadiningrat, Wensveen & Overbeeke (2005) who claim objects should have meaning in themselves. They take the position that because metaphors are so much embedded in our thinking means that the designer can allow himself to chose the simple solution by using metaphors in new design. They consider it is the responsibility of the design to create new meanings. Translated to tangible models von Oorschot (2013) introduces the idea that in the field of Co -Design it is the responsibility of the participators to create the meaning of material, rather than holding back too much on the presumptions that lie in the use of metaphor.

As shown above, several researchers show that tangible objects help in developing conversations in co-design, participatory design and participatory innovation. However, this vibrant discourse occurs in fields related to service design and there is little discourse within service design itself about this. Looking through earlier ServDes conferences we see a focus primarily upon visual tools. For example Teal et al. (2010) discuss tools for collaboration in Service design and point to visual maps and service narratives. Diana, Pacenti & Tassi (2009) discussed tools for communication in service design and describe visualisation to give insights in maps, action flows and to tell service narratives. The area of enactment and role play are described by several, including Kaario et al. (2009). However, tangible objects are not specifically mentioned at ServDes. We aim therefore with this paper to bridge the gap between these related fields, by bringing tangible models into the ServDes conference. In addition, we contribute new knowledge specifically related to tangible models related to scenarios within a service design context.

What we wanted to achieve

The project wanted to engage business leaders at DnB (Norways largest bank), Telenor (a major global Telco) and the Norwegian Post in strategic conversations regarding scenarios for 2020, in particular one specific scenario. We wanted them to talk, reflect, explore and understand all at the same time. Not only this, we wanted to help them discuss things that might take them outside of their learned corporate position, and perhaps reflect upon new aspects to them. In addition we wanted to give them insights into strategic aspects that they might not have thought about just through talking.

Its important to state that scenarios are possible futures, and that the project has developed multiple possible futures. However, to make the task a little simpler, we chose to focus upon one specific scenario (see figure 1).

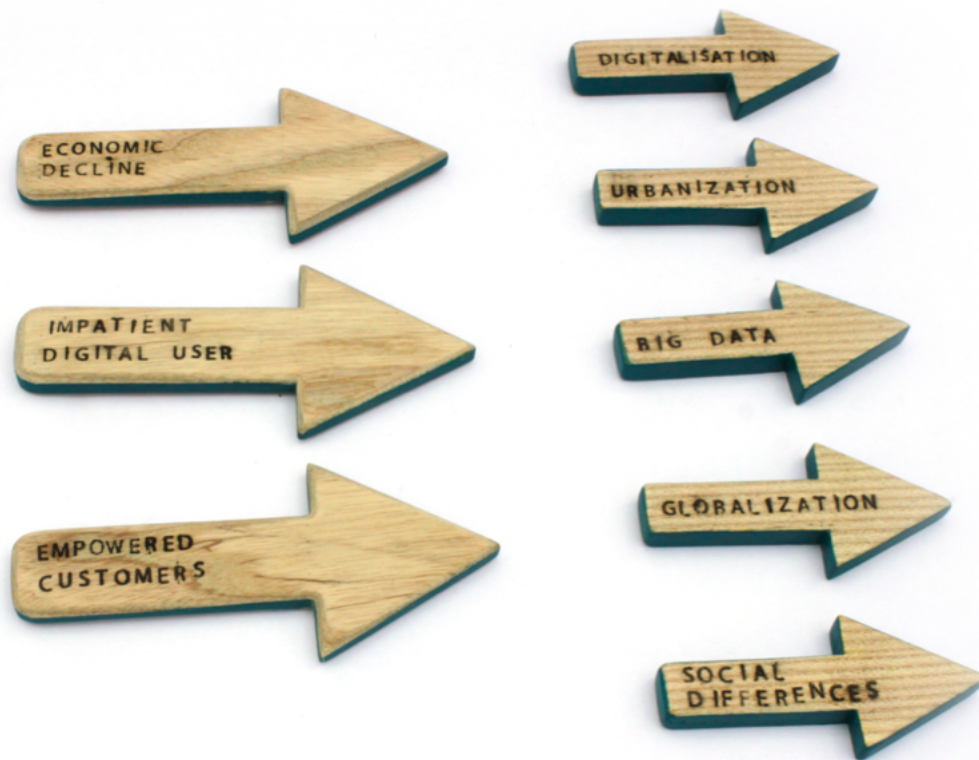


Figure 1: This describes the scenario chosen for discussion with the leaders. The larger arrows are the uncertain drivers, used as a basis for discussion for this particular scenario. The smaller arrows are the certain drivers and used across all scenarios that were developed. (Image: AHO students; SD 2)

The discussion that the project wanted the business leaders to engage in related to their perceptions of the what and the how of change that was needed within their organizations to ensure that their companies were strongly positioned within the future market described in the scenario. We were kindly allotted one hour each with a leader in each of the companies to explore this question, and wanted to get the most out of this one hour. An hour goes very quickly, and we wanted to get more out of a discussion than an interview alone would give. We felt that tangible objects would help us do this.

What do leaders do, and what would be a successful solution?

As a basis for idea generation we developed a list of tasks and responsibilities that leaders have in organisations. This was to give context to the task, and aimed to help generate

metaphors for the final solutions. This included terms such as balancing, seeing the bigger picture, taking responsibility, managing assets, develop strategies etc.

We also discussed the success criteria for any solutions, and the trade-offs that might be necessary when choosing solutions. We wanted to very much focus upon finding metaphors that could assist a leader to discuss and explore, and through this have new insights. We were clear that metaphors have different characteristics. Some metaphors afford a great degree of flexibility, whilst others are more narrow. Some metaphors might have a very low threshold for understanding the metaphor, allowing rapid take-up, whilst others might have a higher threshold that might require explanation, thereby slowing progression.

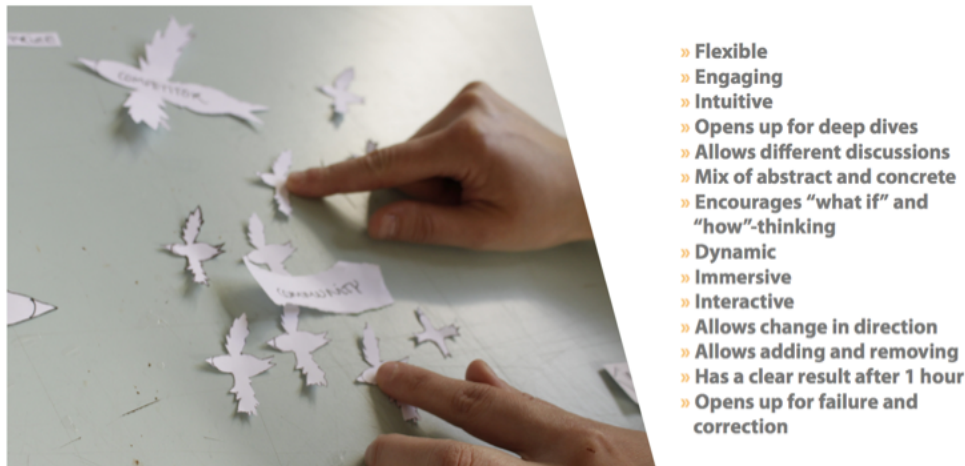


Figure 2: We developed criteria for the solutions we wanted to develop. (Image: AHO students; SD2)

Three iterations: from five prototypes to one final version

The students worked through three iterations in small groups, and increased their level of prototyping for each as they went along. The first iterations of the tangible models explored a wide range of options. These ranged from direct metaphors, such as a journey, to solutions with little metaphoric association, such as a doll with different clothes (see figure 3).

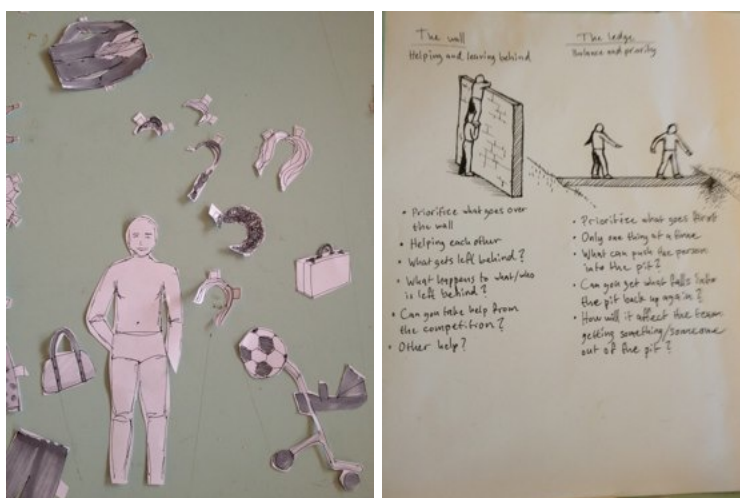


Figure 3: Two examples of simple first ideas and mock ups. The dress up doll on the left, and the obstacle course on the right. These ideas were discarded after testing. (Images: AHO students SD 2).

These first iterations were simple mock-ups and sketches and each group developed five alternatives. These were then evaluated, and reduced to three, which were prototyped and tested. From these, one was chosen for further development and then finally tested with leaders in the three participating companies (Posten, Telenor and DnB).



Figure 4: Three final solutions were tested during one hour interviews with leaders. Top left, Flight 2020 using a migrating birds metaphor. Bottom left: Angels, a multi layered solution using blocks, which didn't use a metaphor. Right, The Boat, using a clear journey metaphor. (Images: AHO students SD 2)

Evaluation and discussion

Each of the three tools was tested with a different company. 'Flight 2020' was tested with DnB (a bank), 'The Boat' was tested with the Norwegian Post, 'Angels' was tested with Telenor (an international telco). The student groups were each responsible for planning and running a one hour discussion with a leader in each company. Discussions were filmed.

Semi structured interviews were used to interview the leaders from the companies during a period of one month after the discussions took place. The interviews were recorded but not transcribed. Group discussions with the students discussed the results.

Reflective conversations with the materials of the design situation

Agger (2012, p. 219) describes the use of tangible objects and states that they can help "identifying issues of interest, and concerns". This fits with the goals of the project, namely to get leaders to discuss issues of relevance when considering a particular future scenario.

Brandt et al. (2008) discuss tangibility in relation to tangible objects and design games, stating:

An important point with using exploratory design games as formatting design dialogues is that they can engage intended users, various stakeholders and the design team in joint inquiry into existing practice and participatory design of possible futures. (Brandt et al. 2008, p. 60)

This highlights two aspects of relevance to our work, firstly engaging stakeholders, and secondly enabling joint enquiry related to possible futures. They further state that:

For games to be engaging for all parties involved, they must be both relevant and challenging. (p. 60) ...these materials helped them remember many different issues and situations and thus sped up the process of discussing valuable things within a short timeframe. (p. 61)

This helped us develop criteria for evaluation, namely relevance, challenge, aiding memory and the ability to move quickly towards relevant and valuable aspects. The latter of these is particularly important, since we only had one hour available with the company leaders.

Our evaluation of the tools show that the developed objects were relevant to the desired task, namely to support discussion about the strategic implications a specific future scenario. All three groups found the conversations quickly became relevant and went into detail.

The model allowed us to quickly move to very interesting parts of the discussion. It would have taken hours to get to the same result without it.

... If I had called a meeting and said we would make 10 strategic decisions within an hour, then everyone would have said it was impossible. Interviewee from a bank

We also observed that the tools, due to their physical form, aided memory and seemed to reduce cognitive load, such that the participants were free to discuss implications due to multiple interactions of scenario variables. This supports the research by Tversky et al. (2002) showing cognitive improvements through manipulation of tangible objects. It was also clear that the tangible objects supported *joint enquiry* such that the discussion developed rapidly through dialogue around shared understanding and meaning. The objects can therefore be described as boundary objects (Star 1990). Furthermore, the objects allowed the discussions to very quickly go into detail regarding challenging questions. This covers two aspects, firstly the affordance of the objects allowing a rapid shared understanding, and secondly, the ability of the models to ‘ask’ challenging questions. This ability of the models to challenge thinking is particularly interesting, and it is difficult to identify exactly where such challenges come from. It seems that they partly come from the reframing of an issue through its transformation into form (i.e. its reification). Naming is an example of this, since the models require that individual aspects are given names with shared meaning. This challenges participants to be specific, and names therefore become important. Secondly, the metaphors or objects have both possibilities and constraints, and challenge the participants to think and rethink their understanding of a situation. For example, the boat model had both a sail and the possibility to add engines. A discussion ensued regarding what is the sail of the organisation, and what are the engines (if any). These were rapidly converted into a discussion regarding core competences of the firm, but not only this, the objects required specific weighting - which core competences are the wind, which are the engines, and what makes them different? This physical reframing of a question was clearly visible and challenged the participants in a positive way. The bank leader expressed this as follows:

I had to prioritise, and that is something that we are not good at here in the bank. At a strategic level, you have to prioritise.(The physical models) helped me prioritise. The physical form, well the fact that it was physical gave it an emotional direction, I felt that (the customer segment) was going to literally disappear (when it was removed). Interviewee from a bank.

Concept shifts, role shifts and causality shifts

Buur (2012) describes specific effects that can be observed from the successful use of tangible objects in conversations. He calls these ‘concept shifts’, and ‘causality shifts’ and describes them in the following way:

Concept shifts are moves in which participants discover new meanings of the words they use. In daily conversation, the meanings of words we use are seldom up for discussion. But with the tangible objects that from the outset have no connotation relating to the business under discussion, every object poses a question as to what we mean by the concepts. The connotations become explicitly socially negotiated. Causality shifts are moves in which participants discover that the business logics may not apply in the way they assumed. Customers or competitors react in unexpected ways. The rolling balls cannot be controlled in simple ways. These moves relate to changes in assumptions. (Buur, 2012, p. 12)

We could clearly see both concept shifts and causality shifts through the use of the models. The naming of objects that the metaphors required gave important reflections upon terms and their meaning. For example, the leader from the Norwegian Post picked up a motor that could be attached to the boat, and discussed what the motor could represent, and did represent. This discussion was not only a discussion to fit his business understanding to the metaphor, but was a discussion regarding the concept of a motor, a major driving force, for the organisation.

When it comes to causality shifts, it became clear that the models challenged the business model logic that the leaders had, but did so in a constructive way. This was both observable, but also reflected in the interviews afterwards. Two interviewee comments show this. Firstly how the models cause a restructuring of something already known, and secondly that they adapted their assumptions for the scenarios.

I liked the associations, boat, motor, islands etc. They made me structure things I already new in a different way. Interviewee from the Norwegian Post.

I experienced that I thought both more deeply and differently. Something happens in your head when you have objects to move around, such that you see the scenarios in a different way. Interviewee from a Telco.

Integrated/ synthetic thinking

In addition to the categories mentioned above, the models seemed to support the integration of many aspects into a new whole. This can be described as a synthesis that is supported and encouraged by the physical representations. It is often a characteristic used of designers and design thinking, and we can recognise that the type of reflection encouraged by the models was *designerly* in character. One of the interviewees said the following about this:

I thought more holistically about the different customer segments. The ability to move them and between them. I saw things more holistically, at a higher level. That helped me. Visually and physically it was really helpful that I had an overview of the whole. I saw ahead and from above at the same time. Really useful. Interviewee from a bank.

This is an aspect we haven’t seen commented upon in co-design, where the focus is often upon shared group understanding, rather than individual synthetic thinking. This study does not offer enough data to be able to conclude, but it can be a useful direction to explore.

The role of metaphor

Two of our solutions were based upon metaphor, whilst the third was abstract, and although this does not give a great deal of data, it was clear from the evaluation that the metaphor-based solutions worked best. They allowed the leader to quickly understand the context of the discussion, explain the meaning attached to the various aspects of the metaphor and share this meaning - the metaphor afforded a contextual framing without dictating the meaning or role of specific objects. As an example, the solution 'Flight 2020' set the context of a journey, but the leader themselves had to identify who the birds were (were they the company, the customers, the employees?), the stops underway, the food consumed, the dangers on route etc. This offered considerable opportunity for naming and meaning reflections. The journey metaphors had a very good affordance with the scenario discussion:

It was really good that you chose a journey. Genius. ... the metaphor supported a shared vision and how we can get there. The journey idea helped. ... The flexibility of the model allowed multiple interpretations and views. It was important that some things were predefined in the model, so we avoided a lot of discussion before getting going. Interviewee from a bank.

We were interested if the metaphors limited discussion, and although based upon very limited data, we conclude that metaphors do not do this. Indeed, we consider that metaphor asks questions of the participants, since they have to transform their business thinking to a given metaphor (and vice versa) with certain affordances as a guide. This challenges the leaders to choose terms with care and to be precise. Such a transformation gives new insights, and therefore supports innovative thinking.

We therefore give cautious support to the use of metaphor as an enabler for discussion. although the choice of metaphor is important and should afford the type of conversation desired. At the same time, it should not dictate rigid terms and identity. We would like to see further work to explore this area, particularly the notion of metaphor fit for tangible objects.

A move towards tangible models in service design

In the introduction we suggested that knowledge about tangible models from the field of Co-Design might contribute to service design, particularly when it comes to strategic conversations. This study, shows that service design could benefit from the move from a post-it based approach, to a physical model based approach (we are aware that service design has some tools from co-design, such as role-play, as a basis tool in the toolbox). We conclude that service designers can utilise their design backgrounds to make the move from paper to physical models, and that service design can benefit from physical representations.

I think the (physical) tools are more useful than drawings. Everyone can move a boat. If you encourage people to draw (in a workshop), they just don't. Interviewee from a Telco

The importance of form and finish

Finally, we would like to highlight the importance that the aesthetic qualities of the solutions had upon the discussion. The high quality finish communicated aspects to the leaders about the situation. These were variously commented upon as professional, serious and planned:

I was impressed by how the model looked. I realised that they had really prepared. It's important how things look. It was serious, and prepared. It gave a professional impression. Bank Interviewee.

This supports earlier findings from the authors, also from areas such as cultural probes. The finish and attention to detail have importance for the dialogue that follows. Not only this, the whole and the detail create a form for implicit agreement between the designers and the co-designers - you have put effort into this, and therefore, so will I. This has therefore consequences that make the start-up of a session easier and more effective.

Conclusions and further work

We have shown that tangible objects function well as a means of getting a leader to talk and they enable effective and efficient use of the limited time that a leader has available. The objects encourage the leaders to rethink roles and structures through manipulation of objects, and they help challenge many taken for granted assumptions in business.

One aspect that deserves further exploration is the relationship between metaphor and the content of the discussion. We have found that metaphor was useful in the discussions, and our results indicate that the correct choice of metaphor affords a good reflective discussion. However, our results are based upon far too small a sample, and the results really encourage us to explore the role of metaphor in tangible objects for strategic discussions.

A second aspect to explore is if and how tangible objects encourage synthesis, or integrative thinking, and as such, encourage what can be termed “design thinking” from participants. Our limited observational data imply that this is the case.

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