

HOW DESIGN GAME RESULTS CAN BE FURTHER DEVELOPED FOR PUBLIC AND POLICY ORGANIZATIONS

LISA MALMBERG
LINKÖPING UNIVERSITY
LISA.MALMBERG@LIU.SE

STEFAN HOLMLID
LINKÖPING UNIVERSITY
STEFAN.HOLMLID@LIU.SE

ABSTRACT

Several studies have been done to understand similarities and differences of participative and co-creative techniques and methods. However, most studies seem to assume that results from co-creative sessions are easily transferred into the organisations for, and with, which they were created. With a gain in interest from public and policy sectors in using design approaches to challenges in society there is a need to look into how results of these approaches are transferred.

We study the results from a co-creative design game session to see what kind of input it gave the participants. We also examine how the results can be further developed to give more value and support further work rather than being left open-ended.

We conclude that delivering and communicating valuable results from design games to an organization is not just a matter of handing over the direct results from the game. Our analysis shows a need for additional analysis of the results, articulating how the organization can act and take a leading role for the results to give easy utilization and valuable input.

INTRODUCTION

There is a gain in interest from public and policy sector actors in using design approaches to identify, investigate and find solutions to challenges in society. One approach to meeting this interest has been through engaging stakeholders in the design process, for example through design games or other types of co-creative practices (see e.g. Brandt and Messeter, 2004; Gudiksen, 2014; Kaario, Vaajakallio, Lehtinen, Kantola, Kuikkaniemi, 2009; Holmlid, Mattelmäki, Sleeswijk Visser and Vaajakallio, 2015).

Bason (2010), for example, argues for co-creation as the most effective way to capture the many different interests when creating new ideas to be implemented by public sector organisations or through partnerships and networks. There are however barriers to handle and overcome for the public and policy actors when trying to find solutions to the challenges of society (see for example Bason, 2010; Mulgan, 2014; Daglio, Gerson & Kitchen, 2015). We have also in prior studies on integration of design seen indications that legitimization of design and results from design work is of importance for the results to stick and reach implementation (Malmberg & Holmlid, 2014). In this paper we look at and discuss what value the results from a co-creative design game could give a public or policy organization, in this case a municipality. As well as how the results from a design game may be presented to the organization in a way so the results can add value that support continued work and hopefully ultimately an implemented solution.

THEORY

Design games, just as many other co-creation or participatory innovation techniques, relies on some principles to achieve their results. Here two such principles will be described.

One of these principles is that by participating, the participants will also feel involved and their energy and resourcefulness is being engaged towards goals that

they have participated in developing (see e.g. Ehn & Kyng 1991; Jungk & Mullert, 1987).

Another principle is that by creating a collaborative environment, continued cooperation will be made possible. In the co-creative work participants will share views and understanding, which in turn will create a good climate for increased empathy (see e.g. Mattelmäki, 2006).

These principles are typically implemented in practices of participatory innovation through methods and techniques that exhibit one or more of the modes of co-creation as defined by Mattelmäki & Sleeswijk Visser (2011). In the first mode, the users are given a voice, and their expertise is taken care of in design processes. In the second mode, tools and techniques are used by designers to facilitate the contribution of users. In the third mode, the designer is also an active participant alongside the users. In the fourth mode, not only users are involved, but designers facilitate several stakeholders' collaboration in a co-creative process.

Several studies have been made on the participative techniques and methods themselves (Brandt, 2006; Brandt & Messeter, 2004; Diaz-Kommonen, Reunanen, & Salmi, 2009; Ehn & Kyng, 1991), and frameworks for understanding their similarities and differences. However, most studies seem to assume that results from the workshops are easily transferred into the organisations or practices for, and with, which they were created.

BACKGROUND AND FRAMING

We were approached by a Swedish municipality to take part in a European Union municipality network project focusing on quality of life for people above the age of sixty-five. Our task was to organize and host a half-day workshop during one of the network meetings. The network participants were interested in learning more about the everyday quality of life among their elderly citizens in order to build empathy and address challenges for maintaining a good life quality throughout life. They also wanted to increase the awareness among the citizens of the often complex task of developing and providing public service in order to create empathy among the citizens for this complexity. To do this they invited citizens from the target group citizens above the age of sixty-five.

To facilitate the task of building mutual empathy between the municipalities and their elderly citizens as well as creating insights about challenges and opportunities in regard to the elderly's life quality we developed a design game. The design game was based on information collected through design probes (Mattelmäki, 2006) from elderly citizens in five cities around Europe. The probes focused on their everyday life and their views on life quality, see fig. 1.



Figure 1: The Design probes with different task probing what is and affects life quality for elderly citizens in five European cities.

GAME STRUCTURE

A cornerstone in the game was to share perspectives, ideas and challenges between the participants in the game in order to create empathy for each other. The game was played in mixed groups of stakeholders from the five municipalities in the network, elderly citizens and other actors with relation to quality of life that were invited to the workshop, see fig. 2. The participants in the workshop that was not part of the European Union municipality network was chosen and invited by the project manager from the hosting municipality. The elderly citizens that were invited were a mix of those that had worked with the design probe as well as others in the region. Other stakeholders that were invited were actors working with services and innovation in the elderly sector.



Figure 2: Civil servants, elderly citizens and stakeholders playing the design game during the workshop.

Each group consisted of eight participants with four teams in each group, a game master who lead the group through the game, see fig. 3. In the beginning of the game each team in the group developed an elderly persona that would be their third team player. The purpose of the persona was to add the elderly

perspective in teams that consisted of participants from a municipality and another actor but also to maintain integrity for the elderly participants. Through the persona none of the elderly participants had to feel obliged to be in focus or answer for anyone who suffers from for example diabetes or arthritis. The persona were in the next step of the game placed in one of two everyday scenarios, see fig. 4. Half of the groups played out a scenario focusing on transportation and the other half a scenario focusing on the use of public space.

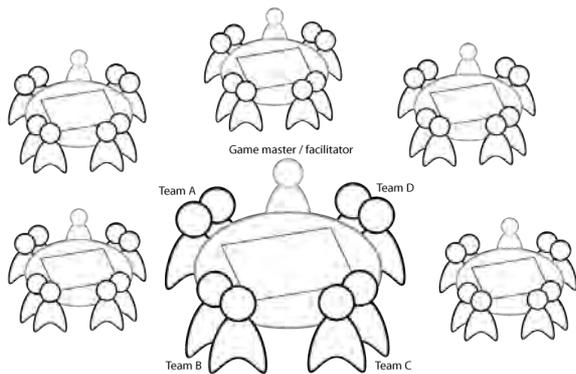


Figure 3: In each group, consisting of four teams, a game master guided the group through the design game.



Figure 4: Two teams identifying issues for their personas in the scenario regarding public space.

The aim of the game was to identify problems and needs based on the scenarios, and to suggest possible solution ideas for these. Towards the end of the game the participants were encouraged to look at what different stakeholders and actors that could be involved in the solutions, see fig. 5. This last step in the game aimed at giving the elderly citizens a picture of the complexity in implementation of solutions but also to give a general idea to the municipality and other stakeholder who could be the owner of a solution.



Figure 5: One of the groups discussing solutions and potential for stakeholders at the end of the game.

RESULTS AND OUTCOMES OF THE GAME

After the game workshop, what we have been able to understand, few or none of the results from the games have been taken care of. It seems as if the results in themselves, as generated through the design game, were not sufficient to inspire or open up for development processes addressing issues affecting the life quality of elderly citizens identified in the game.

PROBLEM FRAMING

One of the aims of the design game was to generate many ideas, which would highlight needs or problems in relation to life quality. These ideas would then be evaluated and sorted. This is a common process for investigating and finding solutions to problems for people who are accustomed to working with design. However as pointed out in a publication from Nesta (UK's innovation foundation), public sector organizations are not used to generating lots of ideas. Their often bureaucratic structure is better designed for killing ideas rather than nurturing them (Mulgan, 2014). One reason behind the quick dismissal of ideas is according to Mulgan (ibid.) due to the civil servants quick judgement of what would not work. In the public sector, objectives are often narrowly and deeply prescribed (Bason, 2010) making it easy for ideas to fall outside of the prescription, and thus being dismissed. This connects to a risk-avoiding culture that is part of many public sector organizations described by Bason (2010). The transparency in many ways expected and required by public sector organizations affect the fear of failing (Bason, 2010); there is a pressure to not act recklessly with the taxpayers' money (Mulgan, 2014). Bason (2010) argues that although risk avoidance in many public sector contexts, such as healthcare and justice is of importance, the view of failure and risk is often very narrow in public sector. This affects the civil servants ability to act on new ideas or solutions. The culture of being tough on ideas and judge them quickly, together with the fear of failure leading to risk avoidance, could affect the reception of results from generative sessions or co-creative activities such as a

design game. This may lead to ideas being dismissed at an early stage before they have matured fully. Maybe even if the core of the result fits within the objectives of the public service organisation.

Another characteristic of public sector organizations that might have effect on the way results from design work is received and handled is the functional organization. Public sector organizations are often structured in functional silos according to competence or area or responsibility (Mulgan, 2014; Bason, 2010). Mulgan (2014) points out this silo structure as a barrier for innovation and also Bason (2010) discusses the problems this structure might cause. Bason (ibid.) however also argues that a co-creative approach where different silos take part together could help overcome some of the silo barriers.

One issue the silo structure could bring is that being stuck in a silo structure could affect the organizations absorptive capacity (Cohen & Levinthal, 1990). Cohen and Levinthal (ibid.) claim that an organizations ability to exploit external knowledge is a critical component of its innovative capabilities. They discuss an organizations ability to see value in new information, assimilate and exploit it as the absorptive capacity of the organization (ibid.). The absorptive capacity is according to Cohen and Levinthal (ibid.) much related to the organization prior knowledge as prior knowledge make it easier to recognize value in new information. This perspective would suggest that whether the municipality in this case can relate to the results from the design game or not is of importance for what value the results would give it as input. The possibility for the municipality to relate or not to the input would according to Cohen and Levinthal (1990) then also affect its ability to apply and exploit the information the results contain in relation to its own operations and conditions.

METHOD

Using the life quality workshop as a case we looked at what could be the reasons behind the results not inspiring or opening up for further work and development in the municipality to preserve and increase life quality of the elderly citizens. As well as how this issue could be addressed in the design of future design games. We did this by analysing the results from the design game, studying what kind of input the results gave the municipality and what value this could bring for further work towards finished solutions and implementation. As results from the design game we consider the material produced during the game, the same material that the designers had to work with after the end of the workshop. This material contained identified issues and needs as well as suggestions for solutions to these.

We first considered what needs or problems the teams identified for their personas in the scenarios, as well as at the different solutions that were generated in the

groups for these problems. We also looked at what stakeholders and actors the participants had identified in the solutions to see how the role of the municipality was considered.

In a second iteration of analysis we looked at the problem and the solution articulated in regard to what role the municipality might have in this kind of solution. This was done to identify possible action spaces for the municipality given the problems and needs identified. Based on the second analysis we translated the specific solution generated in the design game to a general solution. In the general solutions, the municipality would have a role as a sole actor or as a partner to another stakeholder. If the problem was considered of importance to the life quality of the municipality's inhabitants but the solutions were found in an area where the municipality did not have mandate they could also act by encouraging procurement by a stakeholder with mandate.

The analysis presented here has been conducted by the authors of the paper and focuses on how the results at the end of the game could support further work in the municipality. It does not take into account the thoughts and reactions to the results by the design game participants, other than that we note that the results has not been taken care of further as far as we know.

By using this process we could first see what kind of input the raw results from the design game would give a municipality. We could then see how the results could be evolved to solutions fitting within the municipality context and giving input on possible action spaces for the municipality.

RESULTS

In the analysis we could see that solutions generated during the design game focused on the problem introduced in the game. Through contextualization by the scenarios this lead to specific solutions, which in the analysis in the game did not involve the municipality among the identified stakeholders. Moreover, many of the specific solutions seemed at a surface level not to involve the municipality as a stakeholder. These results give no input about how the municipality could act or take part in the solution for increased life quality. Even though one of the scenarios had a clear involvement by the municipality in the scenario, this did not seem to lead to the municipality being identified as having part in the solutions.

ANALYSIS ONE

All solutions described in the original results were identified in the intersection between private actors and the citizen. In the public space scenario the role left for the municipality was as provider of forms and permits, in other words, where the issue resides. The action the municipality could then take to facilitate the process is to improve the usability of the forms needed or their web to give better information. The only input given to the municipality based on these results is knowledge

about problems and needs of their inhabitants. That is, input that can build empathy and understanding of the problem space. There is however no proactive input about how the municipality itself could act and take a role in meeting these needs and problems.

In one example the identified problem was that the persona was not able to solve the issue identified in the scenario on her own and had to rely on someone else. The solutions for this problem were focused on the landlord, the caretaker of the building as well as on better relations to neighbours. The focus on landlord, caretaker and neighbours can be interpreted as a result of contextualization by the scenario as it was about taking down a tree shadowing a balcony and the process of getting the required permission from the municipality to do so. One of the specific solutions presented was to improve the interaction with the landlord. In this solution the landlord would support and inform the person through the steps of the process. Another solution was to organize a party in order to get to know the neighbours better, so they could help.

In other words, there was no input on the possible action space for the municipality in regard to the identified problem area. Thus making it difficult for a municipality to act directly based on the results from the design game and therefore easy to dismiss the solution as insignificant for the municipality's own objectives.

ANALYSIS TWO

In our second round of analysis of the results, instead of narrowing the scope of the solutions suggested with the scenario and the specific problem solved, we sought to identify more general solutions that are part of a system in which the municipality can act. In other words doing the analysis that would be required by the municipality in order for the results to bring meaning to its work. Through the second analysis the results from the first analysis were further developed to present different solutions involving the municipality and describes possible action spaces for the municipality given the identified problem or need.

For example for the solution to improve the interaction with the landlord, so that he/she could be a support for the persona, a possibility to take action for the municipality was in the second analysis identified as acting as a partner to landlords. The municipality could for example be part in a system to educate and support landlords in how they can support tenants with special needs and what support the municipality can offer. For the original solution, to improve the contact with the neighbours in order to create a support network, several options for the municipality to play a role and take action was identified. As a sole actor the municipality could support local democracy or as a partner it could team up with housing association or educating sponsors to act as an extra support for elderly in need.

The results given after the analysis of the solution in regard to the municipality's possible involvement show

solutions in the intersections between private actors and citizens as well as in the intersection between municipality, citizens and private actors. These results give the municipality input not only about problems and needs concerning the life quality of their citizens, which could create empathy, but also contains input about what role the municipality could take in solving some of the problems. How it can take responsibility and act in order to, in this case, maintain and increase the life quality. Through the description of the action space for the municipality the value of the solution to the municipality is articulated.

The action space for the municipality in the evolved solutions was thematized according to how the municipality could act and play a role within the solution. For example the municipality could act on its own as a sole actor, as a partner to other stakeholders or it could act by encouraging procurement in areas for which it does not have mandate.

DISCUSSION

The experiences from running this design game and the analysis leads to a set of issues that may be discussed. Our analysis show that the results from the design game as it was set up, that is the identified problems and solutions, as such are not enough to promote further work and eventually implementation. However, the game identifies problems actually experienced by citizens, so they should be of interest to deal with by the municipality and not just come to nothing after the workshop has ended.

THE MUNICIPALITY AS A "CLIENT" FOR THE RESULTS

An important aspect when considering the value of the results from the design game is that the municipality was not put forward as a client for the game. There were no instructions to the participants to find solutions specifically involving the municipality since the focus of the game session was to gain general insight and create mutual empathy. The goal of the game for the municipality was to learn more about citizens' quality of life; what issues could appear in everyday scenarios that could affect the quality of life. If an objective of the municipality were to develop and maintain the best quality of life possible for their inhabitants, knowledge about issues in everyday scenarios would be of interest to the municipality regardless of what actors that are involved in the solutions. However, as described in the background, civil servants are quick at judging ideas. Quick judging make it easy to dismiss ideas that do not articulate the involvement of the municipality as these ideas do not seem to fit the municipality's abilities and responsibilities. This seems to be true even if they in fact contain information valuable to the core objective of the municipality since this is less articulated in the result. It would therefore be of importance for the results of the design game to articulate the input in a way that relates to the municipality in order to mitigate the risk of early dismissal.

The results as they were presented in the end of the design game workshop did not give input that could be directly utilized or implemented by the civil servants. Thus they were not easy to relate to for the civil servants. But they did contain information that was valuable to the core of the municipality's objective about citizens' life quality. It could however be difficult for the municipality to act on this knowledge, solely based on the results from the design game since the solutions do not involve the municipality directly and is then outside of the municipality's frame of action. In a quick evaluation they do not relate to the municipalities objectives or services. This makes the results seem less valuable. For the results to give richer input to the municipality, decreasing the risk of direct dismissal, the solutions must be further developed so they even through a quick evaluation relate to the organization's objectives, for example by identifying a possible action space. As described in the theory section the feeling of involvement is one of the principles that design games rely on for success. In this case the feeling of involvement in the co-creative process seems to not be enough to overcome the lack of relation between the solutions and the municipality for the results to promote further work.

Given the objectives, the results from the design game session are of value to the municipality but the value is not directly presented thus making it easy to miss and consequently dismiss the results. To act as a driver for possible developments and improvements of life quality the value has to be articulated in the results presented to the municipality so they are not easily dismissed. Considering an absorptive capacity framework (Cohen & Levinthal, 1990), suggest that articulating the relation between the results and the objectives of the municipality would make it easier for the civil servants to assimilate and exploit the results. Articulating the role of the participating stakeholders as clients, may then lead to those stakeholders being more active in seeking applicability of results presented.

IDENTIFYING ACTION SPACE FOR STAKEHOLDERS
When considering the culture of quick judgment and fear of failure in the public sector (Bason, 2010; Mulgan, 2014) it can be understood that results that do not clearly articulate a connection to the organization, as with the original results from the design game, are not taken further even though they contain value in regard to the organization's objectives. From an absorptive capacity perspective the results do not relate enough to the municipalities for the civil servants to realize the full value in the results.

Whereas the original results are valuable to the municipality as information bearers about citizens' needs and wishes, the results that have gone through additional analysis and development also provide the municipality with additional input. Input in the form of concrete suggestions of how to take part and play an active role in the development and maintenance of a

high life quality, thus giving more concrete value. These results more clearly relate to the municipality.

By identifying the action space in the analysis and development of the solutions we open up for a connection to the municipality, aiding its absorptive capacity (Cohen & Levinthal, 1990). The connection to the municipality's function and activities make it easier for the civil servants to relate to the solution, thus making it easier to see value in it.

The conceptualization of in what way the municipality can take responsibility and be an actor in a solution, also give the result an intrinsic plan of action. A plan that would potentially increase the probability of passing the evaluation and lead forward as well as support the next step towards a finished solution and implementation.

CONCLUSION

Delivering and communicating results from design games to an organization that wishes to implement solutions based on the game, is not just a matter of delivering the direct results from the idea generation of the game to the organization, nor just to have the organization participating in the game. Our analysis show that there is need for additional analysis of the results to articulate where the organization can take a leading role, contextualized by the change or development processes that scope the possibilities to implement solutions. This analysis could either be part of the game in a longer game session or done separately and reported to the organization after the game session. But for the game to be worthwhile in regards to drive development and not just produce solutions that comes to nothing this step has to be supported in some way.

Exactly how such support should be developed, as part of the co-creative process or separate from that activity, probably needs to be developed in different manners depending on circumstances of the cases. In this specific case, using the different action spaces as an analysis technique together with stakeholders could have been one way of moving forward towards implementation. With techniques that promote participatory innovation there follows several challenges. One such challenge is how results from co-creative events can be taken care of and brought to implementation. From a given design game setting, we propose that there is an interaction between the way that co-created solutions are expressed and the propensity in public sector organisations to dismiss ideas that does not seem to concern them, which inhibits important results to be taken further.

In conclusion, the playfulness of a design game needs subsequent systematic work to reach potential benefits of using a design game.

ACKNOWLEDGMENTS

We would like to thank Sofie Andersson, Sonai Ardi, Bertil Carlson and Anders Mannerhagen who took part in the development of the design game. We would like to acknowledge Monica Hjern at Norrköping

municipality, for the invitation to, and support in setting up the workshop. This research was in part funded by a grant from the Europe for Citizens programme, project European Network on Forward Policies and Actions for the Seniors in Europe.

REFERENCES

Bason, C 2010, *Leading public sector innovation: co-creating for a better society*, Bristol, UK: Policy Press

Brandt, E 2006, Designing Exploratory Design Games: A Framework for Participation in Participatory Design? *Proceedings of the ninth conference on participatory design*. New York: ACM Press (57-66)

Brandt, E & Messeter, J 2004, Facilitating Collaboration through Design Games, *Proceedings of the Participatory Design Conference 2004*. Canada: ACM Press.

Cohen, WM & Levinthal, DA 1990, Absorptive Capacity: A New Perspective on Learning and Innovation. *Administrative Science Quarterly*, vol 35, No. 1. Special Issue: Technology, Organizations, and Innovation, pp. 128-152

Daglio, M, Gerson D & Kitchen, H (forthcoming, 2015), 'Building Organisational Capacity for Public Sector Innovation', *Background Paper prepared for the OECD Conference "Innovating the Public Sector: from Ideas to Impact"*, Paris, 12-13 November 2014, viewed 5 February 2015, <http://www.oecd.org/innovating-the-public-sector/Background-report.pdf>

Díaz-Kommonen, L, Reunanen, M & Salmi, A 2009, Role playing and collaborative scenario design development. *Proceedings of International Conference on Engineering Design (ICED '09)*. Stanford University, Stanford, CA, USA: The Design Society, 79–86.

Ehn, P & Kyng, M 1991, Cardboard Computers: Mocking-it-up or Hands-on the Future. In J. Greenbaum & M. Kyng (Eds.). *Design at Work: Cooperative Design of Computer Systems*, Lawrence Erlbaum, Hillsdale, New Jersey, pp. 169-195.

Gudiksen, SK 2014, Game feedback techniques: Eliciting big surprises in Business Model Design. In *Proceedings from Design Research Society Conference*, Umeå. Umeå institute of design, pp. 204-219.

Holmlid, S, Mattelmäki, T, Sleswijk Visser, F & Vaajakallio, K 2015, Co-creative practices in service innovation. in Agarwal, R, Selen, W, Roos, G. and Green, R. (eds) *The Handbook of Service Innovation*. Springer-Verlag UK.

Jungk, R & Mullert, N 1987, *Future workshops: How to create desirable futures*. London, Institute for Social Inventions.

Kaario, P, Vaajakallio, K, Lehtinen, V, Kantola, V & Kuikkaniemi, K 2009, Someone Else's Shoes - Using Role-Playing Games in User-Centered Service Design. *In proceedings of ServDes 2009*, Oslo.

Malmberg, L & Holmlid, S 2014, Effects of approach and anchoring when developing design capacity in public sectors, *In proceedings from 19th DMI: Academic Design Management Conference Design Management in an Era of Disruption*, London, 2–4 September 2014

Mattelmäki, T 2006, *Design Probes*. University of Art and Design, Helsinki

Mulgan, G 2014, *Innovation in the public sector: How can public organisations better create, improve and adapt?* NESTA, viewed 28 November 2014 <http://www.nesta.org.uk/publications/innovation-public-sector>