Faculty of Design

2022

Use Systems Oriented Design (SOD) for implementation

Wettre, Andreas and Christodoulou, Christodoulos

The Use of Systems Oriented Design for Implementation

Andreas Wettre and Christodoulos Christodoulou

The Oslo School of Architecture and Design

Implementation difficulties are an important issue relevant to several fields. In recent years, there has been a noticeable growth in the literature on this subject. Based on our anecdotal experiences, promising ideas/solutions are often not implemented. In this paper, we primarily focus on systemic interventions.

Big and complex problems make implementation overwhelmingly complex and can prevent the full implementation of innovative solutions/interventions. In this presentation, we explore how we could shift the focus from developing solutions to how implementing them alongside the design. Drawing on our prior professional experience, we argue that a more overlapping approach to development and implementation is needed to deal with complex issues. With such an approach, we can increase the possibility of creating the desired effect. However, we will also increase the complexity.

We believe that systems oriented design methods would enable better understanding, coping and communication of the complexity of implementation. We hope to trigger a fruitful discussion on this subject, generating vital insights for the further development of this presentation into a paper.

KEYWORDS: implementation, complexity, systemic design, systems-oriented design, SOD

RSD TOPIC(S): Methods & Methodology, Sociotechnical Systems

Presentation summary

In this presentation, we present our work in progress, examining implementation difficulties related to complex concepts in complex organisations and how SOD could potentially help. We focus on the implementation of interventions that aim to improve systems. Based on our experience, people often spend time developing solutions but give up on implementation because it seems overwhelming and complex. This phenomenon, discussed extensively by Ali and Miller (2017), is observed in different fields, such as sustainability (Govindan et al., 2014), health care (Aranda-Jan et al., 2014), the food industry (Fotopoulos & Kafetzopoulos, 2011) and consulting (Alsulami et al., 2016). Our prior experience with systems oriented design (SOD) and gigamapping shows that such approaches can be used to support collaboration, contextualisation, and the bridging of silos within a big system (Sevaldson, 2018; Wettre et al., 2019)

We argue that "it" (the interventions, the solution, the process or whatever "it" might be) is implemented when a majority of the organisations in question are doing "it" without thinking about it. Then, "it" becomes the new norm. We argue that developing gigamaps together with a number of stakeholders will help the implementation. Further, we argue that the use of ZIP and IMP analysis as mediation tools in conversations with stakeholders and bystanders could strengthen the chances of full implementation. We believe that we should look for new ways of using SOD, focusing more on implementation than on designing interventions.

Research Questions

RQ1: Can SOD lead to faster and better implementation of complex concepts in complex organisations?

When dealing with complexity, we have seen that SOD is a way of thinking and visualising that improves communication and bridges silos. Commonly, there is too much focus on developing the solutions and not enough on the implementation — often because implementation seems overwhelming and complex.

RQ2: Can the SOD perspective help make the shift from the design phase to the implementation phase more overlapping?

Traditionally, a solution is first developed and then implemented. We believe that this needs to change to a more overlapping and less linear process. This would make developing solutions and implementation more fluid and complex but also more effective.

Methods and methodology

The extensive literature on implementation mainly focuses on the associated difficulties and the three related phases: pre-implementation, implementation and post-implementation (Ali & Miller, 2017). We argue that the effect is equal to the product of the quality of the product/service/intervention times the acceptance in the organisation: $E=Q \times A$. Thus, building acceptance is essential. And this building of acceptance needs to be taken into consideration when choosing what stakeholders to include and how.

- We find that, too often, the focus is on developing the best solution as fast as possible. It seems to be a dominant logic that you are effective if we can come up with a good solution fast and make the "go" decision in a short time. This is described as being solutions oriented without taking the complexity of the implementation into account.
- There is a general hesitation to involve and talk to too many stakeholders. It feels like this slows the design process and makes it messier.
- Implementing by involving several perspectives and talking to people from different levels and positions is a messy and complex process.
- As you implement, you develop new insights, and effects emerge that you did not foresee. Moreover, some of the problems you anticipated turned out to be minor. The dominant logic is that implementing means executing and sticking to your plan, and this occurs after the development phase.

The challenges

A continuous fight to find the best solution

Designers — and people in general — like to suggest solutions to the problems they see. People seem to argue based on the assumption that if they can get agreement on the one best idea (= solution), the problem will be solved. This leads to tension between ideas, as the discussion becomes about finding the best solution, pointing out what is wrong with the suggestions that have already been developed and often partly implemented. This can result in good solutions being stopped after a good start to the implementation.

The organisation in which the solution is to be implemented is not a machine where inserting something leads to a predictable result. Rather, the organisation is a fragmented 'bunch of people'; some embrace the solution, some are less engaged, and some fight against it. This all happens at the same time but not necessarily with the same people and the same arguments.

Implementation takes time

The characteristics of the problem might change during the implementation. The solution will need to change accordingly, which again makes the whole process messier.

Concerns

Implementation in the early phase of development

Many very good ideas and well-developed interventions are never implemented, even though they could have led to an important change in major systems. The complexity of implementation can be overwhelming. The result of not following through with the implementation is that all the work that was put into its development may be a waste of time.

We claim that focusing on implementation earlier would make more ideas and interventions come alive.

People who like to develop ideas might not enjoy their implementation as much as the development. Implementation often takes considerable effort over a long period of time. Implementation needs to focus on building the acceptance of the solution.

Communicating a complex concept to several stakeholders with different perspectives is impossible with an elevator speech. More time is needed to understand complex issues.

We need to develop SOD and use it to achieve a higher implementation rate. At the same time, we need to address the implementation complexity in an earlier phase to stop wasting time on the development of ideas and concepts that end in nothing.
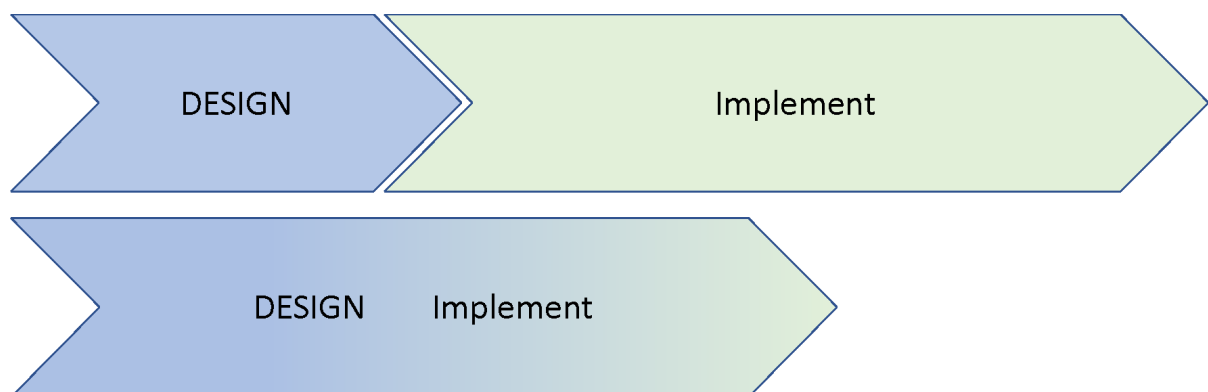
Figure 1 – The goal is to get it implemented faster, and the best solution may be to design it over a longer period of time.

References

1. Ali, M., & Miller, L. (2017). ERP system implementation in large enterprises – A systematic literature review. *Journal of Enterprise Information Management.*

2. Alsulami, M., Scheepers, H., & Rahim, M. M. (2016, January). A comparison between organizational stakeholders' and external consultants' perceptions on CSFs affecting ERP life cycle phases. *In 2016 49th Hawaii International Conference on System Sciences (HICSS)* (pp. 4676–4685). IEEE.

3. Aranda-Jan, C. B., Mohutsiwa-Dibe, N., & Loukanova, S. (2014). Systematic review on what works, what does not work and why of implementation of mobile health (mHealth) projects in Africa. *BMC Public Health, 14*(1), 1–15.

4. Argyris, C. (1982). The executive mind and double-loop learning. *Organizational Dynamics, 11*(2), 5–22.

5. Fotopoulos, C., Kafetzopoulos, D., & Gotzamani, K. (2011). Critical factors for effective implementation of the HACCP system: A Pareto analysis. *British Food Journal.*

6. Govindan, K., Kaliyan, M., Kannan, D., & Haq, A. N. (2014). Barriers analysis for green supply chain management implementation in Indian industries using analytic hierarchy process. *International Journal of Production Economics, pp.* 147, 555–568.

7. Sevaldson, B. (2018). Visualizing complex design: The evolution of gigamaps. *Systemic Design* (pp. 243–269). Springer, Tokyo.

8. Wettre, A., Sevaldson, B., & Dudani, P. (2019). Bridging silos: A new workshop method for bridging silos*. In Proceedings of Relating Systems Thinking and Design (RSD8) 2019 Symposium.* https://rsdsymposium.org/bridging-silos-a-new-workshop-method-for-training-silo-busting/