

Evaluation of Methodologies for a more Actionable Transition Design Approach

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Abstract

This paper aims to provide new methods to bridge the current gap between theory and practice within the discipline of Transition Design. Although Transition Design has been developed as a means to concretely address and overcome persistent problems by transitioning them, it insufficiently succeeds at this aim. The leading cause for the inability of Transition Design to overcome the so-called persistent problems that Transition Design focuses on is a lack of methodologies to bridge the gap between local solutions and Transition Design management through actionable components in the transition Design approach. This research assesses whether applying methods from outside of the Transition Design field can lead to more actionable elements within this approach through the application of a research prototype. It was found that a broader selection of methods available does not lead to more actionability, although some of the reviewed methods can lead to more actionability in the Transition Design approach. A direction for future research is proposed based on increased actionability while maintaining the big picture perspective of Transition Design.

Keywords: Transition design, design methods, persistent problems, wicked problems, systemic change, sustainable design

Introduction

If there is one undeniable truth that can be said about our current era, then it is this: we are living in interesting times. The challenges we are currently facing are so urgent in their need to be addressed that it would be more appropriate to call them crises. These crises come in different shapes, such as climate change, forced migration, political and social polarization, and pandemics. What they have in common, however, is that

although we are very much aware of their urgency, these crises are not (yet) experienced in sufficiently motivating ways to lead to the fundamental changes needed to resolve them [1].

A reason for our predominantly passive conduct regarding these crises is the complex nature of what needs to be addressed. A term used to express the complexity and interconnectedness of these hard-to-grasp issues is persistent problems [6], coined as the superlative to wicked problems [5]. These persistent problems - the term I will be using throughout this paper to talk about the challenges mentioned above - are defined as such by their undesired origin: they have come into being as unintended by-products of our current socio-economic system and social structures [7]. The nature of persistent problems is exceptionally complex due to their roots in different societal domains and the diversity of stakeholders that are involved. As a result, there are no singular 'solutions' to persistent problems. The only way they can be addressed is by breaking the overarching problem down into smaller subproblems that can each be overcome by an accumulation of small developments in several domains, to eventually come to a dissolution of the problem [5, 7]. The term used for this method of coming to a solution over time through developments in different domains is 'transition.' We do not solve persistent problems; we transition them.

This study will be looking at furthering the discipline of Transition Design [18], an approach proposed explicitly to address persistent problems. Although comprehensive in its theoretical framing, it remains hard to bring the theory into practice due to limited available appropriate methods and an overall lack of actionable components within Transition Design theory [2, 10]. Further research is needed to identify if disciplines outside of Transition

Design can lend their methods for the challenges Transition Design faces.

This research assesses if applying methods from outside of the Transition Design field can lead to more actionable elements within the Transition Design approach.

It was found that the methods that were introduced from design fields outside of Transition Design were perceived to be not significantly more actionable, although some of the reviewed methods can lead to more actionability in the Transition Design approach. Based on these results, a direction for future research will be proposed.

Related work

The recognition that design can contribute meaningfully to transitioning persistent problems is growing [16]. However, traditional design methods have proven inadequate for addressing them on a system level. According to Irwin [19], this is challenging for several reasons:

- ① Persistent problems involve multiple stakeholders with conflicting agendas
- ② They straddle disciplinary boundaries
- ③ They are ill-defined, and stakeholders rarely share an understanding of the problem
- ④ The problem is continually changing and evolving
- ⑤ Problems exist at multiple levels of scale and are interdependent and interconnected
- ⑥ Any intervention (attempted solution) in one part of the system ramifies elsewhere in unpredictable ways
- ⑦ Interventions take a long time to evaluate and problems a long time to resolve.

This is where the discipline of Transition Design comes into play: It promises to move from the passive approach of managing transitions towards concrete action.

Transition Design

Transition Design has been proposed as a design-led approach to address persistent problems [17]. It argues that our current predominant way of living is not sustainable, and that new and subversive knowledge and skills are required to address these intricate challenges.

Through this, Transition Design aspires to ignite system-level change and societal transitions toward “*more sustainable, equitable, and desirable long-term futures*” [20]. Key characteristics of problems that can be addressed through Transition Design are the long-term (persistent) nature of these problems and their need for intensive collaboration between various stakeholders to come to a transition [19].

Theoretically, the Transition Design approach consists of three key components: a framework, a phased approach, and a workshop toolkit [15, 19].

The framework provides a structure for bringing together a body of knowledges and skills that are “situated within four mutually-influencing, co-evolving areas that are relevant to seeding and catalyzing systems-level change” [19]. These areas are:

- ① *Visions for Transitions*, for knowing what to transition towards.
- ② *Theories of Change*, to provide methods to explain the dynamics of change within complex systems.
- ③ *Mindset & Posture*, for self-reflection and the right attitude in dealing with stakeholders.
- ④ *New Ways of Designing*, which will arise from the other three areas.

Each area contains several methods and practices from several disciplines that form a basis for design interventions, such as Backcasting, Max Neef’s Theory of Needs, Ethnography Research and Stakeholder Conflict Resolution. An overview of the framework - including its methods - can be found in the appendix.

The phased approach guides the Transition Design process on which the practices from the framework can be applied [19]. It consists of three phases:

- ① *Reframing present & future*, a phrase meant to reframe the current problem, come to a mutual future vision, and cast this back to an understanding of what is needed to come to solutions
- ② *Designing interventions*, meant to use the backcasted vision on realizing concrete interventions
- ③ *Waiting & observing*, a phase of assessing the intervention results and preparing for the next cycle of the process.

This three-phased approach is meant to be used on Transition Design cases in a cyclical manner, to accommodate for the long-term nature of Transition Design projects.

The toolkit tries to match design methods to the Transition Design phased approach [15]. This toolkit was introduced for the first case study on Transition Design and includes methods useful in a workshop setting for mainly the 'Reframing Present & Future' phase of the Transition Design framework.

The framework - consisting of the areas of knowledge and the phased approach - and the toolkit - consisting of methods for the implementation of Transition Design in a practical setting - form the basis of the discipline of Transition Design.

In practice, however, case studies on how to do Transition Design are very limited [9, 11, 13], meaning the methods and tools proposed in Transition Design have barely been validated in a practical setting [10].

A common critique on the Transition Design approach follows from this. As framed by Ceschin & Gaziulusoy [2]:

"[Transition Design] is too 'big picture' and needs to be supported by approaches that focus on development of products and services that can be part of new socio-technical systems."

Ceschin & Gaziulusoy propose a research focus on investigating how Design for Sustainability approaches can support the Transition Design approach on this topic. On the other hand, they distinguish a lack of actionable components to connect the micro-innovation level (such as local initiatives) with macro-innovation level (the scale on which the persistent problem is perceived). In other terms, there are no methods to connect local interventions to come to a transition on a bigger scale.

This limitation is understated by Van Selm & Mulder [10], who identify a lack of methods for the first two phases of the phased approach; Reframing Present & Future and Designing Innovations:

"both the framework and the toolkit are not equipped with design methods to help users think outside their own

paradigm in order to create a novel future vision" ... "there is a lack of design methods for the management and leveraging of stakeholders and their interests; they lack a component of action"

Overall, we could say that it is clear what Transition Design's ambition is, but it is still lacking in its methods to realize this potential. As indicated by Ceschin & Gaziulusoy and Van Selm & Mulder, it would be valuable to see if methods from outside Transition Design could prove to be useful in making the Transition Design approach more actionable. It is on this topic that this study aims to contribute.

Methods

This study aims to identify methods that can be used in the Transition Design approach and assess if a broader selection of available methods will lead to more actionable elements within this process. For this cause, a mixed-methods approach was adopted consisting out of the following elements:

A literature review (see appendix) was conducted to analyze the limited number of case studies on Transition Design in order to better understand the common hurdles in a Transition Design approach.

To identify obstacles experienced when working on wicked or persistent problems and introduce participants to Transition Design as a discipline, a semi-structured interview was conducted. This method suits itself well to assess perceptions and opinions on a multifaceted issue such as a Transition Design approach [8]. The interviews were set up (see appendix) using the semi-structured interview guide by Kallio et al. [4] and conducted with five groups and individuals working on cases within the domain of Transition Design or with experience in doing so. These participants were part of multidisciplinary teams with a diverse background or individuals with a background in design, working on projects related to persistent problems such as sustainable personal mobility, rethinking protein sources, decolonization of design, digital inequality, and the energy transition.

A second literature review was then carried out to identify methods to deal with the hurdles in the Transition Design approach. Using key terms from within the discipline of Transition Design to search Google

Scholar [3], such as ‘sustainability,’ ‘future,’ and ‘stakeholders’ in combination with the term ‘design method,’ a list of promising methodologies from disciplines outside the Transition Design field was compiled (see appendix). For each of the methods on the compiled list, their match to the three phases of the Transition Design approach (‘Reframing Present & Future,’ ‘Designing interventions’ and ‘Waiting & Observing’) was assessed, and the methods were categorized through this classification.

A second round of semi-structured interviews was conducted to assess if a broader availability of appropriate methods will lead to more actionable components within the Transition Design approach. That is, the degree in which goals within the design approach can be concretely reached through chosen methods. Since this ‘actionability’ is a relatively subjective concept that cannot be quantified, participants were asked to define this term themselves. Because of the scope of Transition Design approaches - particularly their long-term nature - an intervention had to be sought to assess actionability in a short-term period. For this cause, a research prototype was created.

To assess the actionability of participants’ explorations with the research prototype, a survey was conducted (see appendix). This survey provided a definition of the term ‘actionability’, but also asked participants to provide their own definition. Consequently, they were asked to rate anonymized design process steps of other participants on their actionability, using a Likert scale [12]. The appropriateness of the selected method to reach the selected goal was also evaluated in the survey.

Research prototype

The research prototype used for this study is a digital design process management tool based on Process Mapping [14]. This method is used to divide a design process into steps and to reflect on these steps. It can also be used to plan future steps in a design process. For the sake of this study, an interactive process map was made that allows participants to map their past process and plan future steps (see appendix). Additionally, a library of design methods was added to the tool, so that participants are able to browse and pick available methods based on a short description. These methods

could also be filtered on the name and the phase of the phased approach.

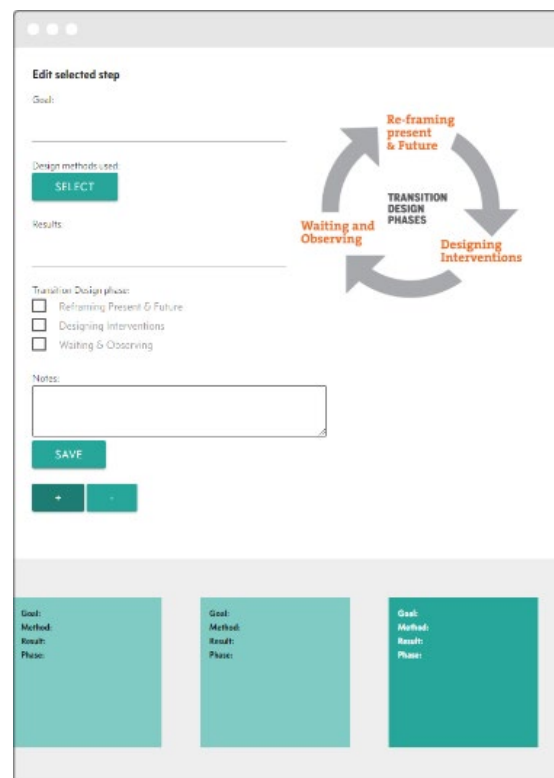


Fig. 1: The research prototype

Participants were introduced to two different versions of the tool. In the first version, methods from the Transition Design framework and the Transition Design toolkit were added to the library (see appendix). In the second version, the toolkit consisted of the compiled list of methods from outside of Transition Design (see appendix).

Participants were asked to use the different versions of the tool consecutively to map the approach taken in their respective projects and plan several possible future steps. They were also asked to identify methods that would have been proven helpful in their past process. The result of the application of these methods can be read in the next paragraph.

Results

The results of this study come in the shape of a Likert-scale survey with data on the actionability and the appropriateness of the methods potentially to be included in the discipline of Transition Design. To evaluate the results, a Paired T-Test was used on both the actionability

and appropriateness data sets. For the complete data analysis, see the appendix.

The methods from outside of Transition Design were perceived to be slightly more actionable than the methods from the Transition Design framework and toolkit. A T-value of 0,85 was observed for this, which is not significant.

Additionally, the methods from outside of Transition Design were evaluated to be more appropriate for reaching the goal of the design process step for which the method was used, compared to the Transition Design methods. With a T-value of 1.867, this is close to a significant difference.

Discussion

This study has evaluated if using methods from outside of Transition Design would be beneficial for the actionability of the Transition Design approach. The results that were found indicate that, overall, no significant difference can be observed. This can be the case because of several reasons.

Interestingly, the reason for the non-actionable perception of the statements in the survey is that the origin of this perception might be lying in the formulation of the goal instead of in the method used. For example, a goal stating 'we will use method x to develop a future vision' would be rated less actionable than a statement with a more specific and measurable goal.

Although this study has not found a correlation between perceived actionability and the addition of methods from outside of Transition Design in general, some methods seem to be very promising in this regard on their own. The Co-Design method, for example, has been rated highly actionable and reasonably appropriate, while empathic **modelling** and mind mapping also seem promising in their actionability.

Next to actionability, this study also evaluated the appropriateness of the selected methods for reaching the set goal. A non-significant increase in the appropriateness of the selected methods was perceived for the methods from outside of Transition Design. However, what was also observed was that the goals of participants became increasingly more focused on a single solution in a single

domain, in contrast to the usual Transition Design approach. This could explain the more appropriate perception of the methods from outside of Transition Design.

However, we should ask ourselves if this focus means it can still be described as a Transition Design process. It should be noted that Transition Design might benefit from connecting the micro-innovation level with the macro-innovation level, but only if it remains at a management level within this process.

This brings us to a new perspective that emerged from this study and can serve as a guideline for future research on this topic. Although methods exist outside of Transition Design that could increase actionability, future research should focus on how to do so without losing the managing role that is so essential in the Transition Design approach. As already stated by Ceschin & Gaziulusoy, there should be more to linking micro-innovation with macro-innovation. If methods can be developed for doing so in an actionable way, Transition Design can become more actionable while regaining the big picture approach that makes it so suited for dealing with crises that we are facing.

Conclusion

This paper aims to further the discipline of Transition Design by bridging the gap between theory and practise that exists within Transition Design. Although Transition Design has been developed as a means to concretely address and overcome persistent problems by transitioning them, it insufficiently succeeds at this aim. Main causes for the inability of Transition Design to overcome persistent problems are a lack of methodologies to bridge the gap between local solutions and Transition Design management through actionable components in the transition Design approach.

It is clear what Transition Design's potential is, but it is still lacking in methods to realize this potential. This research assesses whether applying methods from outside of the Transition Design field will lead to more actionable elements within the Transition Design approach. This study contributes to the existing academic debate surrounding Transition Design by assessing whether methods from outside of Transition

Design could prove to be useful in making the Transition Design approach more actionable.

The methods used to study this were two rounds of literature review, and two rounds of semi-structured interviews with five participants, followed by a survey distributed among the participants to assess the actionability of participants' explorations with the research prototype. In this survey, the participants were asked to rate anonymized design process steps of other participants on their actionability and their appropriateness. Additionally, a research prototype was used as a digital design process management tool based on Process Mapping.

The outcome of the study shows that no significant increase in actionability can be seen. Based on these results, the study was evaluated and a direction for future research was proposed, that ensure the position of Transition Design and its big picture perspective.

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Appendices

For the appendices, please refer to <https://www.jorritvanderheide.com/m12appendix.pdf>