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A Case Study of Theories of Systemic Change and Action: The Ecotrust Canada Home-Lands initiative

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A Case Study of Developing Theories of Systemic Change and Action: The Ecotrust Canada Home-Lands initiative

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We present a case study of the development of *theories of systemic change and action* (TOSCA) in support of the strategy for and evaluation of the Ecotrust Canada Indigenous Home-Lands initiative. TOSCA add systemic design methods to theories of change from the field of program evaluation, help stakeholders see counterintuitive challenges in the systemic problems they are addressing, and identifies high-leverage strategies for systemic change. We demonstrate the creation of TOSCA in a field setting, provide a case study for future research and education on TOSCA, and discuss the challenges and opportunities for a systemic design tool in decolonisation and reconciliation. In the case study, the use of TOSCA allows for novel insights into the challenge as a process in which stakeholders can engage to allow deeper discussion about the systemic nature of the challenge. The trial of this TOSCA is still underway with the implementation of a new strategic plan and an incoming executive director. So far, it is proving useful in knowledge transfer and a repository of what may have been tacit institutional knowledge.

KEYWORDS: systemic theories of change, case study, strategy, evaluation

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

Presentation description

Theories of systemic change and action (TOSCA) support the design and evaluation of strategies for accelerating systems change (Murphy et al., 2021). TOSCA help systemic designers and systems stakeholders work together to represent their collective mental models about the system and help teams appreciate the complex and often counterintuitive dynamics that drive problematic behaviour in systems as objectively and cohesively as possible (Jones & van Ael, 2022, p.174). Crucially, they support the development of systemic strategy – i.e. strategy that can take advantage of leverage points and feedback structures of the system (Murphy & Jones, 2021).

TOSCA is also a valuable tool for confronting oppressive systems. Ideally, like all systems models, TOSCA is deliberately reflective, showing not only the "system" and its role in systemic problems but also surfacing the "self" (Goodchild, 2021). By reflecting both how the system behaves and how stakeholders behave in the system and potentially perpetuate systemic problems (Stroh, 2015), these models and strategies highlight how good intentions are sometimes insufficient and may even be corrosive.

However, similar to other systems models, the development of TOSCA can be an involved process. In this presentation, we demonstrate a process of TOSCA creation through a case study involving the conversion of a conventional theory of change into a systemic theory of change. The Indigenous Home-Lands initiative[1] (IHL) is based on strategic partnerships with Indigenous communities in British Columbia. IHL's work aims to support Indigenous partners in transforming their housing ecosystems away from colonial systems to those that are built upon culturally legitimate institutions and values. IHL has three strategic areas of support

1. Enabling an indigenous forestry paradigm
2. Social innovation for housing and the community economy
3. Innovations in Indigenous land tenure

[1] https://ecotrust.ca/priorities/home-lands/

At the outset of our work, the IHL had a classical theory of change (Funnell & Rogers, 2011) and a set of strategies to take action on that theory. We were engaged to support program evaluation from a systemic perspective, and recognising the wicked nature of the transformation they sought, the IHL was amenable to adapting the program's theory of change into TOSCA and exploring evaluation of the program from a systems lens. In this project, we are working with IHL to develop a systemic understanding of the challenges and opportunities facing IHL's communities from the initial theory of change.

We report lessons learned from the process, helping future practitioners learn from the challenges we faced in implementing this methodology. We discuss the challenges and opportunities of using these systemic design tools in addressing reconciliation and decolonisation (Truth & Reconciliation Commission of Canada, 2015). Our aim is to provide future practitioners with a practical example of the development of TOSCA to learn from and implement in their own fieldwork. We hope that this case study will provide an effective tool for systemic design education (e.g., by demonstrating the development of TOSCA in a field setting and by providing rich material for classroom analyses and case study-based learning).

Methods

Don't re-research what's already understood: using hermeneutic analysis to model the system from existing research

One of our objectives in this process was to avoid overburdening community stakeholders and IHL staff with the sometimes-intense demands of a systems analysis process. The IHL's existing theory of change and strategies had already involved extensive research and community engagement. We sought to use research methods that could build on this existing work instead of redoing it. So, we invoked objective hermeneutics (Wernet, 2014). Hermeneutic analysis is a qualitative research method involving a deep reading of phenomena from observations or records, such as text documents. Wernet (2014, p. 239) proposes four principles for objective hermeneutics:

1. **Exclude the context:** insights from analysis must be derived straight from the text first before connecting it to the researcher's assumptions and understandings of the context of the text.

2. **Take the literal meaning of a text seriously:** the researcher must not try to correct and re-interpret text based on what they think the author meant, but instead to generate understanding by the exact words used to construct the text.
3. **Sequentiality:** the text must be processed line by line, reproducing the reality represented by the text by iteratively accumulating understanding. In particular, Wernet (2014, p. 242) strictly disallows "jumping" around the text to verify understanding, as this may lead the researcher only to identify statements that fit their hypotheses. This also forces the researcher to relate phenomena in one sentence to the phenomena of the next, a relationship that is particularly valuable in systemic analysis.
4. **Extensivity:** the researcher works to understand the whole text by extending a deep understanding of its constituent parts.

In using objective hermeneutics to analyse strategic documents in service of systems understanding, we search for systemic structures represented in the text of documents about the system, validating and re-validating our understanding as we read more deeply while connecting these structures to others to build a holistic systems model.

By deeply reading the strategy documents, problem statements, and project proposals of the IHL, we were able to identify and map phenomena in the system and infer the causal relationships project staff and stakeholders had already identified. This process roughly followed the following steps:

1. Review a program document to search for phenomena of interest (entities or variables in the system, e.g., "Close relationships with the system")
2. When a phenomenon is found, ask, "Has this been mentioned before?"
3. If not, add it to the systems map. (Identifying phenomena)
4. Ask, "What other phenomena are mentioned relating to this focal phenomenon? What is the nature of the relationship?"
5. Add the additional phenomena to the systems map, inferring the causal relationship between the two variables. (Identifying relationships)
6. Repeat from (2) for these additional phenomena.

Our objective hermeneutic analysis of the IHL's program documents resulted in three subsystems arising from the different documents

1. *a strategy subsystem* developed from the program's strategic plan
2. *a problem subsystem* developed from problem statements in the theory of change
3. *a principles subsystem* developed from documents describing the community's values and ambitions

In our analysis, however, we found many clear relationships across the phenomena of these subsystems, resulting in a comprehensive systems model. Thus the result of analysing a document completely with this sequential, iterative, extensive, context-free, and literal interpretation was a comprehensive model of the system. This methodology was particularly valuable because it allows systemic designers to develop deep, rich models relatively quickly from the words of system stakeholders without having to ask those stakeholders for substantial amounts of their time. The resulting model is shown in Figure 1.

Qualifying the integrity of the model: dissonance and resonance tests

In service of continually adopting an "emic" perspective of the system, this methodology relied on triangulation and reflexivity and took advantage of the prolonged engagement with the community that the original documents required (Murphy, 2018). However, with an abundance of caution, we sought to use the additional two qualitative research procedures required for emic understanding identified by Murphy (2018): disconfirming evidence and member checking and collaboration. To achieve this, we developed a novel method for testing the integrity of the model with the community we call *dissonance and resonance testing.*

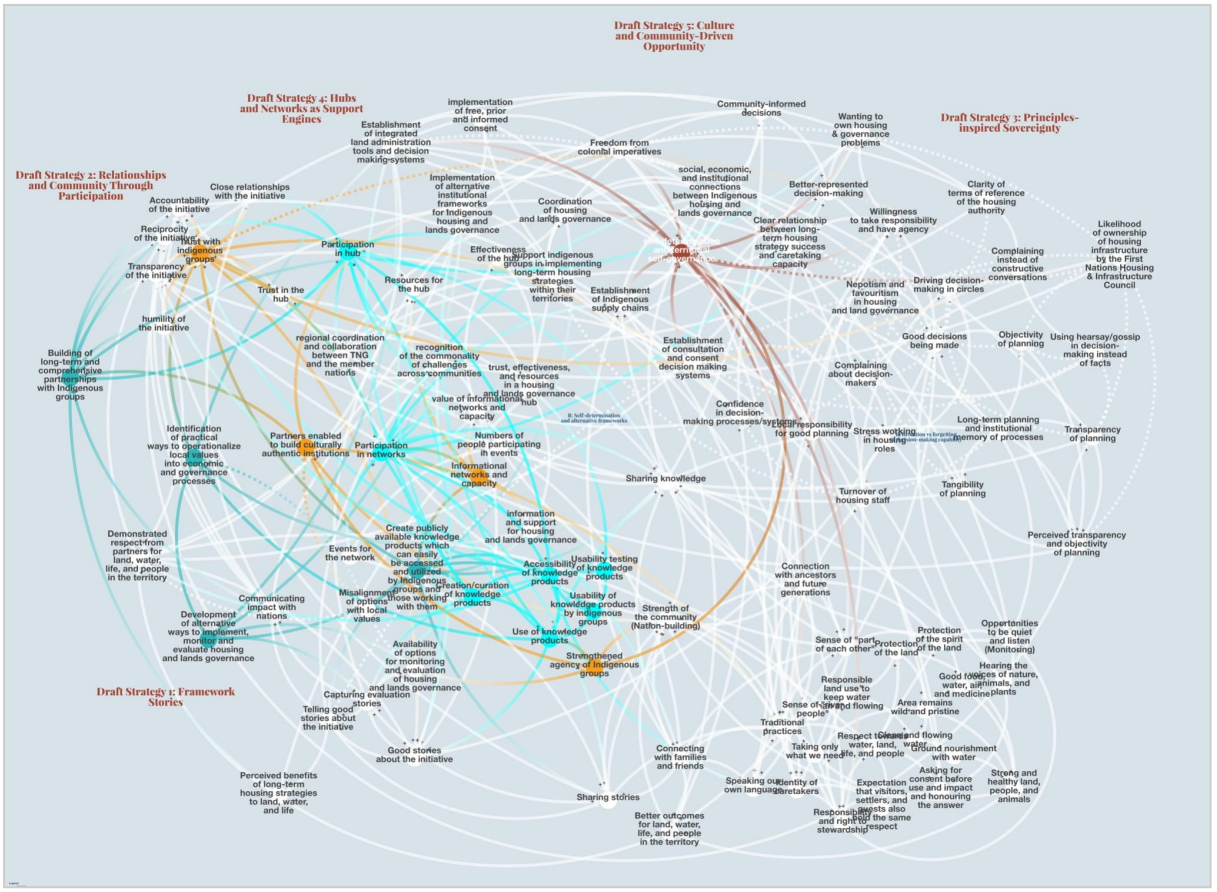

Figure 1. The model resulting from objective hermeneutic analysis of program documents. Resolution is limited both because of the size of the model and to protect the collective identities of the communities we are working with.

The goal of this method was to attempt to identify weaknesses in our systems understanding by hearing evidence from the community that suggested inaccurate observations. A challenge, however, is that the complexity of systems models tends to make them difficult to share, present, and gather feedback on, especially with limited time. Again, we sought to develop our systemic understanding without overburdening stakeholders with research activities.

We modelled our system using Kumu,[2] a web application designed for systems modelling. Using Kumu's built-in community detection algorithms, we identified six clusters of phenomena representing major themes in the model:

1. Traditional practices and principles are (still) important
2. Trust and humility between supporters (Ecotrust, Government, etc.) and Indigenous groups is crucial and depends on good shared stories and knowledge
3. The success of the initiative depends on both good processes and good results, but good processes come first
4. Communities currently rely on informal and haphazard frameworks for housing decision-making
5. Co-creation and community reinforce participation and ownership
6. Coordination: Working together to go far

For each of these themes, we identified two to three phenomena in the model that were keystones of the theme. For instance, for theme 5, we chose the phenomena "Wanting to own governance problems" and "Numbers of people participating in events." Next, at a participatory co-design workshop with the community (Mosse & Muirhead, 2020), we sought to hear statements from the community that reflected the opposite of these phenomena. This would suggest that the community's understanding of the system was dissonant from our own and that, therefore, the subsystem represented by these phenomena was flawed. Our analysis found disconfirming evidence for two of the themes, and we reworked the model to fit our new understanding (Figure 2).

[2] https://kumu.io

Developing TOSCA

Dissonance-tested model in hand, we are now in the process of developing IHL's TOSCA. This process roughly followed the steps described by Murphy & Jones (2021).

1. Model the system (discussed above)
2. Identify strategic objectives and actions within the system
3. "Thread" strategies from actions to objectives
4. Create views of the model to show systemic strategies

In particular, for step 2; we used leverage analysis (Murphy & Jones, 2020) to identify possible leverage points and bottlenecks in the system. These phenomena suggest strategically valuable points of intervention for the system. For step 3, we reorganised the systems model into a conventional inputs → activities → outputs → outcomes → impacts model, providing a visualisation of both the systems model and theory of change and action. This allowed us to identify pathways between inputs and activities of the IHL, strategic leverage points and bottlenecks, and the ultimate phenomena the IHL aims to influence. As of this writing, we identified five such pathways, leading to five possible systemic strategies for the IHL initiative. Figure 2 shows the current state of the model.

Lessons learned

Objective hermeneutics was a useful approach to developing an initial systems model, especially in a project whose stakeholders had already been deeply involved in an earlier engagement. We learned that the iterative analysis of different "subsystem" documents allowed us to map different aspects of the system and that these subsystems (at least in this case) were easily connected to one another to form a holistic description of the system. These different maps of current initiatives, perceived problems, and the community itself each provided paths of understanding through different parts of the system.

Even though our analysis and strategising still have work to be done, this process has already been fruitful. For example, our analysis revealed indeterminacies in the logic of the initial theory of change. The systems perspective helped us to see how the

connections between intervention and impact may not be as straightforward as originally planned. Thus, the development of TOSCA may be a valuable way of revealing critical weaknesses in the linearity of strategic strategies and theories of change.

In adapting and utilising this model for the IHL team, we found that knowledge translation is important for such a new and, at first take, complex model. Using Kumu's analytics and visualisation tools allowed us to display interconnections and highlight areas of the map for use in strategy discussions. At the time of writing, IHL is onboarding a new executive director, and the TOSCA is providing a repository for what may have been tacit knowledge about the system and the challenges that IHL faces. The discussions around building an updated strategic plan have already been aided by this rich map of the connections and activities that currently exist.

Future research

TOSCAs present a fascinating and important intersection of the fields of systemic design and change management. In our research, we have identified another valuable tool: dissonance testing. This tool helped us to disconfirm some of our theories about the system we're working with, leading to greater confidence in the model we have developed. What other tools, techniques, and methods might emerge from joint ventures between program evaluation and systemic change? We see the emergence of transdisciplinary systemic change management as an exciting new approach to addressing and evaluating progress on complex problems.

We also recognise the need for vital future work in connecting these tools to and critiquing them with Indigenous worldviews and relational systems thinking (Goodchild, 2021). An important related question raised by this research is "how do systemic design and change management research practices integrate and conflict with the principles of Indigenous research ethics protocols" (e.g., Hayward et al., 2021)? For example, to minimise requests for the community's time, we sought to develop the insights of this research based on secondary data (namely, program documents and workshop activities that were developed and led independently of this research and analysis). However, this somewhat conflicts with the principle of self-determination in research (Hayward et al., 2021, p. 410). Research and action of this nature, therefore, demand a

careful balancing of priorities. Ethical engagement and action must be paramount, and our systemic understandings must be clear, complete, and well-evidenced, all while ensuring timely processes such that strategies can be developed and acted upon before the system changes.

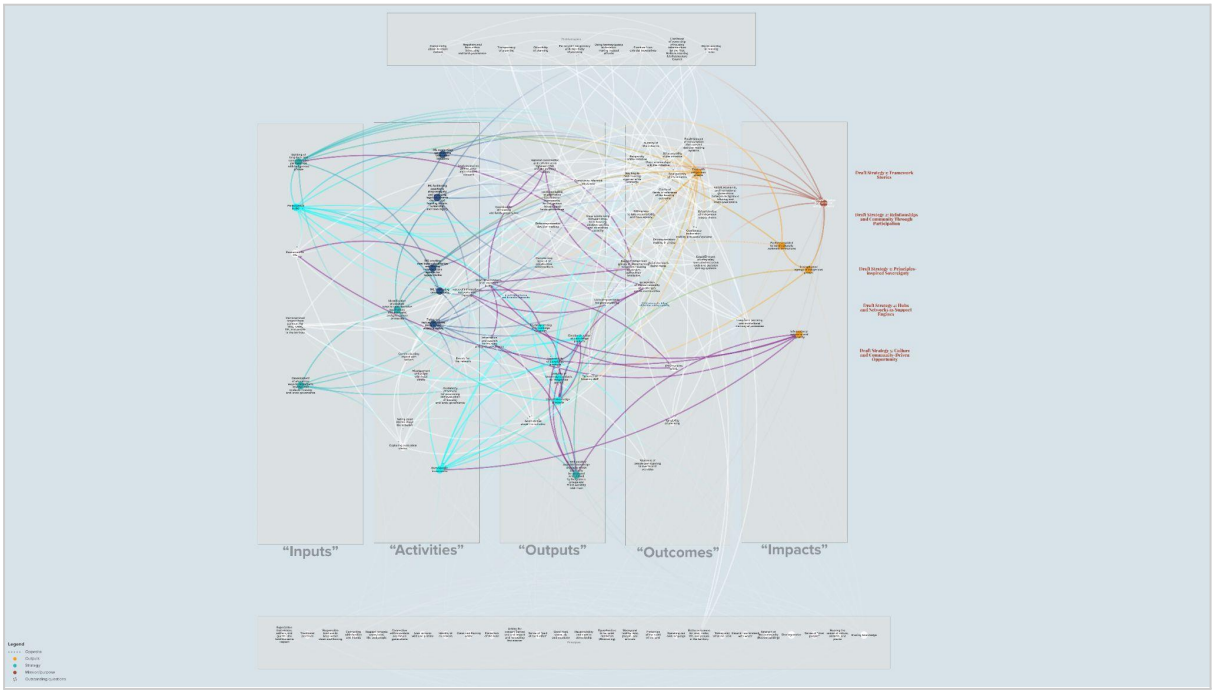

Figure 2. Representative map of the current state of the TOSCA model. Resolution is limited both because of the size of the model and to protect the collective identities of the communities we are working with.

Acknowledgements

Ryan J. A. Murphy lives and works in the territories of the Mi'kmaq and the Beothuk.

Lewis Muirhead lives and works in the unceded traditional territory of the Coast Salish peoples.

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