

Evaluating Social Innovation Prototypes: A Guide

This Guide

SI Canada's goal is to help people, organizations and systems to be better problem-solvers by building connections, fostering collaboration, building peer-to-peer networks and sharing insights and inspiration gained from change-making grounded in the knowledge of communities. SI Canada is helping building our individual and collective capacity for creating a people-and-planet first world.

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Preface

“A Day in the Life of Social Innovation & Change in Canada”

Twenty funders and executives of Indigenous non-profit organizations meet in a community hall to ‘role play’ each step of a proposed collaborative granting model for their large city. They discuss strengths and limitations of each step, summarize the insights with sharpie pens and flipchart paper, and identify a dozen ways to improve the next iteration of the proposed model.

A pair of advocates for a ‘clean, green and distributed’ energy system use their i-phone to film a home builder as she installs their small-scale, experimental windmill on a residential rooftop. They interview her immediately after she climbs down the ladder to discuss how she feels the windmill design might be improved so it is easier to install. They then hurry home to watch the video in case it reveals other helpful clues.

A team of urbanistas eager to promote more walkable neighborhoods create a ‘mockup’ of a vibrant city block – complete with fake cafes, gardens, traffic-taming cross-walks and public displays. They then invite local residents, city staff and planners and local politicians to spend time in the space. People are encouraged to use a dozen whiteboards to share what they like, don’t like, and if, where and how the set-up would require changes to municipal bylaws, regulations and practices. They are asked to leave their names if they are willing to discuss their feedback at greater length with researchers.

A group of citizens committed to dramatically reducing the incidence of racist behaviors in public spaces (e.g., public transportation, city parks). They ask shoppers in a city mall to review a story-board that describes safe and positive ways in which they can ‘intervene’ in racist incidents. They then have an informal conversation with passers-by to explore if the presented options are useful, and other guidance or support they might need to get involved in such situations.

These social innovators are working on wildly diverse challenges. Yet all are using the same methodology – the prototype – to develop and test promising solutions.

How To Use This Guide

This Guide is for social innovators, and their supporting facilitators and evaluators, who want to make more effective use of prototypes in order to address complex social challenges.

A growing number of resources explain how to facilitate the experimental process of prototyping. Even more resources offer guidance on how to evaluate and learn from policy, programs and other interventions. However, very few resources show how to test and learn from prototypes.

The Guide offers a framework – not a recipe – to fill the gap. A one-size-fits-all approach cannot properly address the impressive diversity of situations in which social innovators are using prototypes.

People will find this resource most useful if they treat it like a true ‘guide’ and adapt its ideas, steps and tools to the specific context in which they are working.

Out of Scope

A number of important topics related to the evaluation of prototypes are beyond the scope of this resource:

- evaluation of the overall process of developing and testing prototypes,
- evaluating social innovation/R&D activities that often occur after prototyping processes, such as pilot projects and the scaling of social innovations,
- the changes that emerge out of the prototyping for the participating social innovators (e.g., increased confidence) and/or the actors, and
- the overall implications of prototyping findings for a larger social innovation or social change process.

Foundational Ideas

1.1. PROTOTYPING

The Greek root of the word prototype is ‘proto,’ meaning ‘first,’ ‘early form,’ ‘primitive,’ and/or an ‘impression’ of a thing.

Prototyping is the act of making an idea of a product, tool or process visual and tangible, and then testing and improving it further before deciding if it warrants a more formal and sophisticated design and test – or even full-fledged adoption as a ‘solution’.

Social innovators have understood that the experimental process of trial and error is necessary if progress is to be made on such complex social problems as inequitable social outcomes, biodiversity, climate change, racism and exclusion.

For years, grassroots community development approaches have engaged everyday people in solving problems through learning-by-doing. By the start of the 21st century, prototyping has become a core practice of a variety of ‘social innovation,’ ‘social research and development,’ and ‘social change’ methodologies¹. Some of the most popular include:

- Human Centered Design
- Systemic Design
- Agile/Lean Start Up
- Theory U/Social Lab

Prototyping appears to be on the verge of becoming mainstream as an increasing number of change-makers, policy-makers, philanthropists and agencies across Canada employ some version of prototyping to test new policy ideas, service models and governance processes.

1 Appendix A contains links to different innovation methodologies that employ prototyping.

1.2 WHY PROTOTYPE?

Prototyping is attractive to those eager to make progress on complex challenges for three distinct, but interconnected reasons:

- **Prototyping leads to more innovation.**

Given the opportunity to create and test multiple, low-risk options to a social challenge, people produce ideas that are more creative and bold, and more of them. They also are able to develop and test more ideas in a shorter period of time for less cost.

- **Prototyping empowers change-makers.**

Prototyping enables people to participate more fully in civic life. It deepens their understanding of the challenge they are trying to address, and of the systems that hold it in place. It can expand their networks and increase their sense of agency: their conviction that they can make a difference.

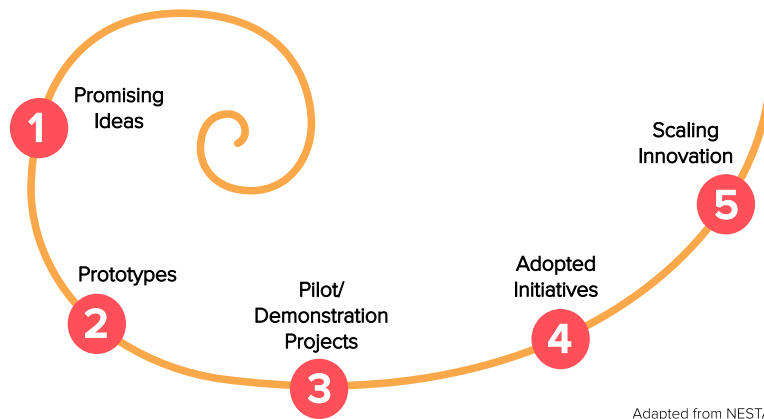
- **Prototyping can nudge systems.**

The simple act of developing and testing new ideas with people ‘in the system’ can disrupt traditional hierarchical processes and power structures. In turn, these can trigger new relationships and shifts in perspective.

For social innovators, prototyping is a bit like a Swiss army knife. It can be applied to multiple ends in all sorts of circumstances.

1.3 THE EXPERIMENTAL NICHE FOR PROTOTYPING

The development and testing of prototypes has a niche role in the process of social innovation.



It typically follows an exploratory phase in which social innovators surface promising ideas about how to address a challenge.

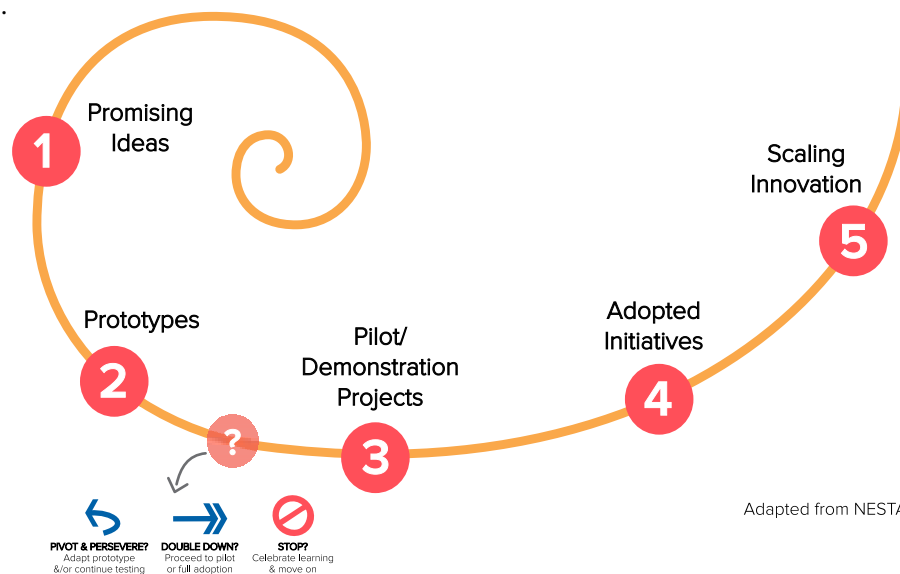
It most often precedes traditional pilot or demonstration projects in which functional working models of a promising solution are developed, and then systematically tested to determine if the solution should be adopted and sustained and/or scaled.

Prototyping is the process of making and testing small bets on promising ideas to see if they warrant a 'bigger bet' pilot project or adoption.

To do this, social innovators use prototyping to make a promising solution more visible and tangible. They then test it with innovation stakeholders to learn more about its relevance, strengths and limitations. Finally, they use this feedback to make one (typically) one of three decisions:

- **Stop** – discard the idea, celebrate learnings, and turn their attention to another solution,
- **Pivot and Persevere** – continue developing and testing the prototype, or
- **Double Down** – develop a more sophisticated test of the solution ('pilot') or on occasion to adopt it outright and/or scale it without further testing.

To make good decisions, social innovators must be thoughtful and systematic in how they evaluate their prototypes.



1.4 PROTOTYPING IN SOCIAL INNOVATION

Formal prototyping first arose in sectors where designers wanted to test solutions that took the form of a tangible product or artifact (e.g., chairs, vacuum cleaners, software applications, cars).

It is much tougher to prototype promising solutions that are not tangible ‘things’, such as a new policy or regulation, a way of making decisions more democratically, or a service model. However, social innovators are getting creative in making their promising solutions more tangible through:

- **Lower Fidelity Prototypes** – rough expressions of a promising solution. They are easy and quick to put together and useful for getting ‘scrappy’ feedback from ‘users’. Examples are sketching, Lego Serious Play, wireframe, storyboarding and video.
- **Higher Fidelity Prototypes** – more operational manifestations of the promising solution. Users can interact with the prototype, and thereby generate offer deeper insights and feedback. Examples are mock-ups, simulations and role playing.²

On paper, the journey between lower fidelity and higher fidelity prototypes is linear. If testing a lower fidelity prototype surfaces positive findings about the potential of a solution, then social innovators can invest more time and energy developing and testing a higher fidelity prototype.

However, sometimes the feedback from the test of a lower fidelity prototype is so positive that social innovators decide that no higher fidelity prototype is required. They move on directly to a pilot phase or even to full-fledged adoption and scaling.

2 Appendix B contains more examples of prototypes used in social innovation processes.

1.5 SUCCESS

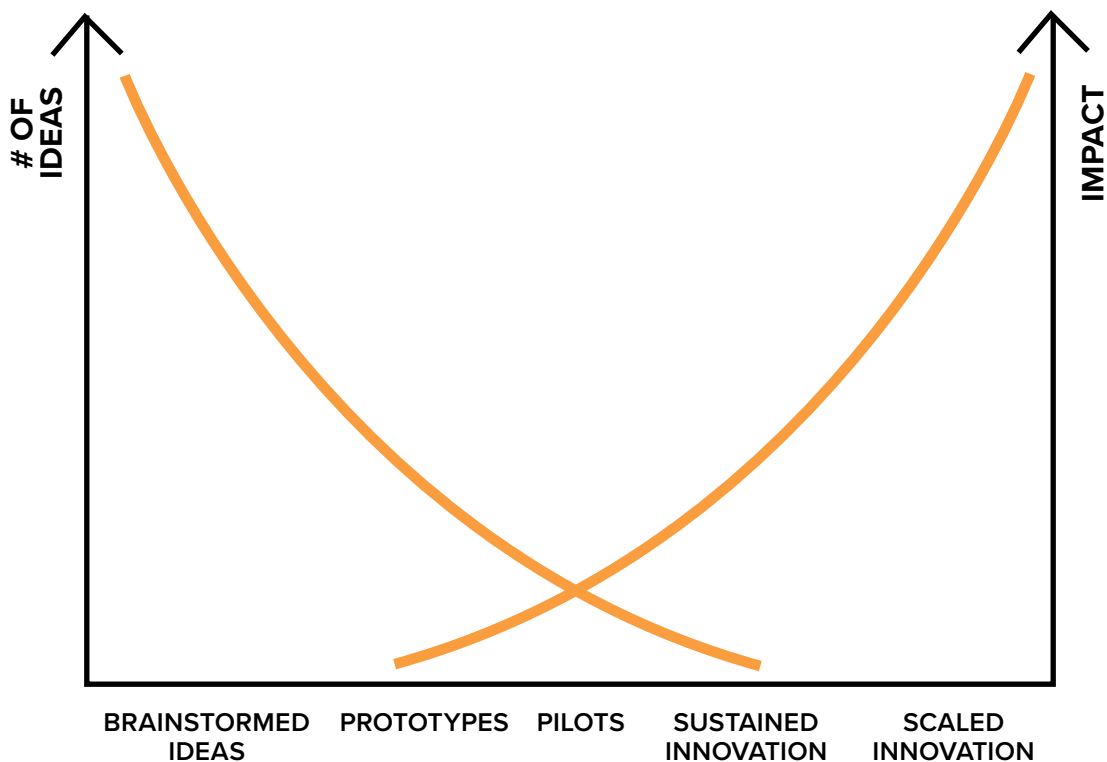
In prototyping, 'success' is getting the maximum amount of quality learning about the potential of a promising solution in the least time and with the least resources.

$$\text{Prototype Success} = \frac{\text{Quality Learning}}{\text{Time} + \text{Resources}}$$

This definition of success encourages social innovators to develop and test multiple ideas rather than focus their efforts on just one.

Success in prototyping is not about:

- 'Generating an impact'. Pilots are designed to see what impacts can be achieved in field conditions. By contrast, prototypes are only meant to help social innovators determine if the possibility of impact is high enough to warrant a more fulsome pilot or adoption.
- Automatically 'graduating to a pilot phase or to adoption'. Most social innovation prototypes are not good enough to warrant further development and testing. For example, the Dyson Company developed and tested over 5,000 prototypes before landing on the most successful vacuum cleaner ever. The more prototypes tested, the more likely one may show sufficient promise to go to the next phase.



Testing Prototypes

2.1 THE PURPOSE

Testing prototypes has a primary and a secondary purpose.

The primary purpose is learning. This means (1) learning more about the potential of the idea represented in the prototype and the challenge it is meant to address; and (2) to assess the ‘merit’ of that promising solution in order to make a decision about its possible future.

The feedback is important for possibly two groups of people:

- It *always* includes the participants of the social innovation team that is developing and testing the prototype. They are the ones who are closest to the experiment and will make the preliminary assessment and decisions about next steps.
- It *sometimes* includes a larger constellation of actors who are not directly involved in the prototyping (e.g., beneficiaries, other social innovators, potential innovation adopters) yet have a stake in the findings and in the recommendations that emerge from the process.

The secondary purpose is accountability to others. The people and organizations who provide financial, political and/or administrative support, oversight and/or legitimacy to the prototyping process want to know what activities were undertaken, by whom, and how what insights and recommendations emerged from the process.

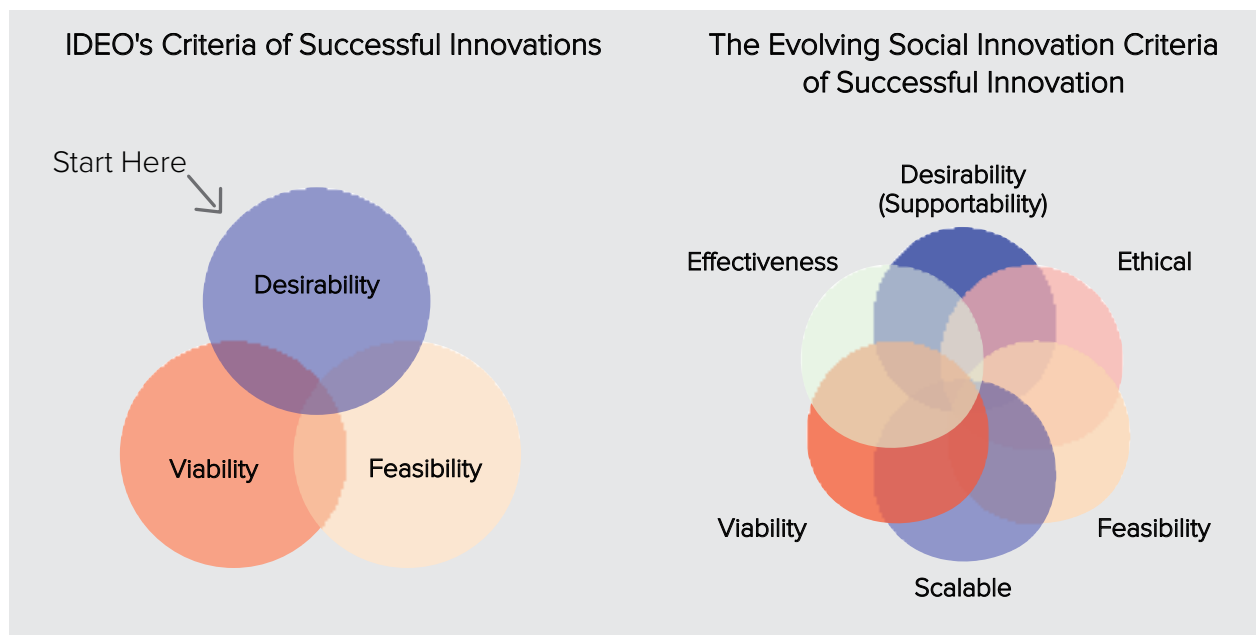
The ability of a social innovation team to meet the secondary objective purpose of accountability depends largely on the success they have in meeting their primary objective about learning more about the potential of the solution they are prototyping.

2.2 THE TEST CRITERIA

Through testing the prototype, social innovators must (1) gain insights into the promising solution it represents and the challenge that solution aims to address, and (2) determine the criteria against which to assess the merit of the promising solution.

The simplest and most popular criteria are the three employed by IDEO, a world-famous human-centered design company. (See Table 1)

Social innovators have expanded on these three domains to include several more that reflect other dimensions of success when one is addressing stubborn societal issues. (See Table 2)



Each team of social innovators must develop a set of domains, criteria and questions that work best for their specific prototype and solution. They must also be prepared to constantly upgrade their criteria based on what they learn as they work through different iterations of their prototype.

Table 1: Traditional Criteria for Learning & Testing Prototypes

Domain	Learning About Solution & Challenge	Assessing Merit
Desirability	Who are the stakeholders of this promising solution? What is desirable – and undesirable – to them? Why? What are the similarities and differences in preferences across stakeholders?	Is the promising solution something that stakeholders want? How might it be adapted to become more acceptable to them?
Viability	What are different and/or best ways to frame the ‘boundaries’ of this (eco) system? Who are its various stakeholders? What are its power dynamics? What important elements (e.g., policies) relate to the promising solution? What are the systemic patterns of behaviour? Where are the leverage points for change?	Will the promising solution be able to fully operate in the current (eco) system of policies, cultures, relationships and structures? How might it be adapted to operate more effectively?
Feasibility	What capabilities (i.e., skills, knowledge, attitude and resources) are required in order for this promising solution to succeed?	Do we have the capabilities to implement the promising solution? What adaptations might facilitate implementation?
Overall	Given these early findings on desirability, viability and feasibility, how strong is the case for moving the idea to the next phase?	

Table 2: Additional Domains for Learning & Testing Prototypes

Domain	Learning About Solution & Challenge	Assessing Merit
Effectiveness	What do we mean by effectiveness? What does ‘success’ mean for different stakeholders? How will we know it when we see it? What ripples of outcomes are likely to emerge?	How likely is it that the promising solution will generate the intended results (or negative ones)? How might it be adapted to maximize the former possibility and minimize the latter?
Ethical	What ethical issues emerge from this prototype, particularly as it relates to the promising solution? Where do stakeholders differ and align on what constitutes ‘ethical’?	Does the promising solution support (or undermine) human rights or ethical commitments? How might it be adapted to provide stronger support?
Sustainability	How does this solution affect bio-diversity, pollution or GhG emissions and other elements of sustainability? What does ‘sustainability’ look like in the context of this challenge?	How will the promising solution positively or negatively contribute to bio-diversity, limits on pollution and/or GHG emissions? How might it be adapted to generate more positive contributions?
Scalability	Where and how might the solution be scaled? What might be required in terms of new resources, policies and partners?	Can the innovation be scaled for greater impact? Or will it succeed only in one location and/or at a smaller scale?
Supportability (Broader than desirability)	What are the values and interests of the issue stakeholders? What do they find important? What would do they want in a solution? What sort of solution do they want to avoid?	Will stakeholders translate their desire for a promising solution into concrete support for it in the near future? How might it be adapted to facilitate that transition?

2.3 THE LEARNING & EVALUATION TEAM

The process of learning from and evaluating prototypes is a participatory process that involves (at least) three distinct categories participants, each with a different role:

- **Prototype Team Members** – responsible for informing, designing, and implementing the learning and evaluation process, and using results to make decisions and recommendations
- **Social Innovation Facilitators** – responsible for the design of the social innovation initiative, including laying out expectations, timelines, resources and tools for assessing prototypes.
- **Evaluators** – responsible for providing technical assistance and ‘hands-on’ support in all aspects of the design, implementation and use of the learning and evaluation process.

There are also (at least) three archetypical options for how these participants can organize themselves to manage the entire evaluation process.

- **Prototype Team Led** – prototype team is responsible for designing and implementing the entire evaluation process (drawing on templates and directions provided by facilitators).
- **Evaluator Led** – an experienced evaluator(s) facilitates the entire learning and evaluation process, from scoping to facilitating use, and can also implement specific evaluation tasks.
- **Facilitator Led** – the curators/facilitators are responsible for facilitating the learning and evaluation process, engaging prototype teams and evaluators as required.

As with any option, each has their strengths and limitations and efforts can be made to maximize effectiveness of the processes (See Table 3).

Table 3: Different Options for Evaluation Teams

	Description	Strengths	Limitations	Enabling Conditions
Prototype Team Led	Prototypes teams are responsible for scoping, designing, implementing, assessing and using the evaluation feedback on the prototype.	Increases likelihood that evaluation responds to participants' needs. Deepens Prototype Team members understanding, appreciation and ownership of feedback	May exceed the time, resources and expertise of participants May result in weaker evaluation design, implementation and findings	Offer use evaluation templates and tools to on which to build and adapt Recruit research savvy participants on team Include evaluation activities into Prototype Teams Terms of Reference
Evaluator Led	Evaluator facilitates the prototype teams' scoping, designing, implementing, assessing and using evaluation feedback, and assuming responsibility for select implementation tasks.	More likely to lead to more effective and efficient learning & evaluation process Allows Prototype Team members to meaningfully engage in the process	Requires additional resources (paid or in-kind) of evaluator A risk of securing a traditional – rather than innovation -oriented - evaluator	Secure an innovation-oriented evaluator Mobilize necessary financial or in-kind resources
Facilitator Led	Curators/Facilitators manage the overall process, engaging Prototype Teams and Evaluators as required.	Provides the greatest degree of flexibility in the evaluation process, including determining if, where, when and how to best engage Prototype Team Members and evaluators	Can lead to confusion, uncertainty and inefficiency in process More difficult to anticipate level of efforts Evaluator may not be immersed enough in process to be helpful	Curator/Facilitator Team has someone with evaluation expertise on their team Create opportunities for evaluator to be 'embedded' in key moments of change process.

PART 3

Principles

The following eight distinct yet overlapping principles provide Prototype Teams with high level guidance in designing and implementing a process that fits their unique context.

1. Focus on Learning, Not Theatre
2. Prioritize, Start Small, Evolve
3. Promote Social Justice
4. Embrace Bricolage
5. Seek The Right Level Of Evidence
6. Employ Mixed Methods
7. Be Culturally Responsive
8. Attend To Ethics
9. Get Smart about Sampling
10. Counter Your Biases
11. Think In Horizons
12. Zoom In on Individual Prototypes and Portfolios³

3 Appendix A contains a number of links with more information on each principle.

3.1 FOCUS ON LEARNING, NOT THEATRE

The primary reasons for testing a prototype are two: 1) to learn more about the potential of a promising solution; and 2) to gain insight into the nature of the complex issue it is trying to address, so social innovators can determine whether they should pursue the solution further.

However, while testing prototypes, social innovation teams occasionally get caught up in two types of 'theatre' that can undermine these purposes:

- **Innovation Theatre** – going through the motions of developing and testing new ideas in order to be seen to be 'trying something new'. This despite the fact that those in power may have little interest in upsetting the status quo or in the pursuit of promising ideas beyond the 'concept' phase.
- **Evaluation Theatre** – testing a prototype when the decision about next steps has already been made by others in advance. In these cases, the social innovation team often feels pressure to select questions, methods, data sources and interpretive processes that lead to whatever 'findings' best reflect this prior decision.

Both types of theatre dramatically reduce the value of a testing process and its findings, regardless of their quality.

It is often difficult for a social innovation team to influence the broader cultural and institutional context in which they operate. Nevertheless, there are a variety of ways in which they can improve the chances that their testing process is taken seriously:

- Clearly describe the complex challenge that they are trying to address, why it is important, and why they are employing prototyping techniques to develop and test promising solutions.
- Confirm that most prototypes generate rich learnings, but only occasionally lead directly to solutions that work.
- Design a testing process that engages a wide range of innovation stakeholders, particularly those interested in finding ways to make a difference.
- Commit to sharing the findings of the testing process fulsomely and transparently with innovation stakeholders.

3.2 PRIORITIZE, START SMALL, EVOLVE

The usefulness of a prototype test depends on the willingness of the Social Innovators to establish priorities for what they would like to learn about their idea. It is rarely possible to explore all their questions, particularly if they are constrained by time and resources.

The process of testing of social innovation prototypes should be incremental, rapid, and evolutionary learning. This requires:

- Focusing on fewer questions (e.g., 3-6) to begin.
- Running quick tests to answer them.
- Reviewing the results and identifying more questions to explore in another round of testing.
- Ensure stakeholders know and support participating in several cycles of inquiry

There are (at least) three ways for Prototype Teams to focus their initial testing efforts:

- » Open-ended Probing
- » Targeted Testing of Assumptions
- » Assessment against Criteria

Table 4: Options for Focusing Learning

Type	Description	Sample Questions	Useful When
Open-Ended Probing To Get Initial Reactions	Asking open-ended questions to get stakeholders' quick 'gut reactions' to a prototype and to surface issues that may deserve further investigation.	<ul style="list-style-type: none"> • What do you like most/least about this idea? Why? • What would you like to know more about [...]? • Please fill in the blank: <ul style="list-style-type: none"> – I like this feature because [...]. – Have you thought about [...]? 	<ul style="list-style-type: none"> • Getting feedback on early or rough prototypes. • The first-round of testing for a more complex, nuanced or sophisticated solution with new stakeholders when Teams are interested in getting general feedback
Testing Key Assumptions	Focusing on developing and testing a few key assumptions about whether and how a promising solution might make a difference.	<ul style="list-style-type: none"> • We suspect if we put a garbage can on this street corner, people will use it and the area will look tidier. • We think people will buy this app at this price. • Our hunch is that we can implement this new service model without any changes to policies or regulations. 	<ul style="list-style-type: none"> • The promising solution depends largely on one or a few critical assumptions • The effort to land on key assumptions can help a group get on the same page about the 'core' of their promising solution
Assessing Against Criteria	Exploring questions that relate to one or more broad criteria of a promising solution.	<ul style="list-style-type: none"> • To what extent is the solution likely to be effective in addressing the challenge with which we are concerned? • To what extent will it be feasible in terms of skills, resources and knowledge? • To what extent will our promising solutions likely to be embraced and supported by stakeholders. 	<ul style="list-style-type: none"> • Allows for a more systematic and rounded assessment of an idea. • A group wants to organize the findings in a way that makes it easier to assess the merit of the idea (e.g., "The idea seems likely to be effective, but there are a lot of problems with its feasibility in its current form.").

3.3 PROMOTE SOCIAL JUSTICE

*Social justice [...] works for enduring changes that increase the power of those who are most disadvantaged politically, economically, and socially. It tackles the root causes of inequities for those who are systematically and institutionally disadvantaged by their race, ethnicity, economic status, nationality, gender, gender expression, age, sexual orientation, or religion.*⁴

Many social innovation and social change initiatives that experiment with proposed solutions to complex challenges are motivated by a desire to create social justice in society.

For decades, evaluators have been developing and applying a variety of social justice-oriented approaches to program and policy assessment. Some of these Empowerment Evaluation, Equitable Evaluation, Gender-Based and Anti-racist Assessment.

While each approach is distinctive, all tend to share the following features:

- Evaluators should consider themselves as “agents of change” – not just neutral technicians – who should be actively involved in trying to make a difference.
- Evaluation processes should be designed and implemented in ways that increase the skills, confidence, ownership, and influence of those experiencing the very inequities that the change initiative is trying to overcome.
- Evaluation designs should employ culturally responsive approaches to collecting, analyzing, and communicating data and findings.
- Evaluation should explore the extent to which interventions address the deeper structural and cultural factors which create systemic inequity in the first place, particularly from the perspective of race, gender, class, and other experiences.
- Evaluation should track the extent to which interventions reduce, ignore, and/or increase inequitable outcomes for people who are systematically disadvantaged.

While the case for a social-justice informed prototype testing is strong, the practices are relatively new, emergent, and works-in-progress. Innovation teams eager to employ the approach will typically encounter and need to respond to a variety of challenges, including the five described below.

4 Klugman, B. Using a Social Justice Lens in Advocacy Evaluation. Retrieved from: <https://www.evaluationinnovation.org/publication/using-a-social-justice-lens-in-advocacy-evaluation/>

Table 5: Challenges to Employing Social Justice Approach to Assessing Prototypes

CHALLENGE	DESCRIPTION	POSSIBLE RESPONSES
<p>Limited Awareness</p>	<p>People may be unaware of social justice approaches to social change and/or how a social justice orientation can be integrated into prototype testing.</p>	<ul style="list-style-type: none"> • Introduce the general idea and benefits of social justice-oriented evaluation at the beginning of the change initiative. • Offer examples of how social justice approaches have been employed in other situations.
<p>Uncertain Fit</p>	<p>In some cases, a social justice orientation to testing prototypes is obvious (e.g., access to COVID-19 testing and vaccination for racialized communities). In other cases, the fit is not as clear (e.g., making it possible for residential homeowners to generate their own clean power through solar panels).</p>	<ul style="list-style-type: none"> • Explore if, when, and where social justice-oriented evaluation is a stronger or weaker fit for a change initiative. • Present examples of how a social justice orientation can apply even when the link is not obvious. (e.g., “What systemic barriers do different groups face when purchasing and maintaining solar panels?”)
<p>Navigating Options</p>	<p>There is a wide selection of approaches, techniques, and practices from which to draw. But guidance remains uneven about which might be most suitable in a change effort.</p>	<ul style="list-style-type: none"> • Scan the various social justice-oriented approaches at the beginning and throughout a social innovation process to identify those that seem most relevant to your change initiative.
<p>Limited Capabilities</p>	<p>The integration of social justice-oriented evaluation approaches (e.g., analysis of the systemic roots of inequity) may require special skills, knowledge, and resources that exceed those available the participants of a change initiative.</p>	<ul style="list-style-type: none"> • Make an extra effort to secure additional capabilities required for a social justice-oriented evaluation. • Commit to building capacity to employ social justice-oriented evaluation over time. Select a few practices that fit your current capacity.
<p>Managing Conflict</p>	<p>Social justice-oriented evaluation can surface issues about power and oppression that create discomfort and conflict amongst innovation stakeholders.</p>	<ul style="list-style-type: none"> • Alert participants to the likelihood of sensitive issues and encourage them to perceive them as opportunities for learning. • Create a “safe container” – with skilled facilitation – for participants to have tough, yet safe conversations about their proposed solutions and deeper systemic issues in which they are embedded.

3.4 EMBRACE BRICOLAGE

There is no “single” or “best” set of methods and tools for assessing prototypes. Teams should choose whichever methods and approaches add the greatest value to their testing and to their learning yet practical in their context.

To accomplish this, they will find it helpful to adopt the stance of a “bricoleur.”⁵ This requires Prototypes team to find creative, yet practical answers to the questions they want to explore, while taking the following factors into account:

- The time, resources, and expertise that are available.
- Methods that are culturally responsive, safe, and ethical.
- Credibility in the eyes of those who are meant to use the evaluation findings.
- Whatever methods and data generate the most learning and insights.
- Methods that can be quickly adapted in response to new questions.

5 The bricoleur (a French term) is a jack of all trades who goes from place to place, doing repairs with whatever odds and ends are available. The modern equivalent is the television program hero MacGyver, whose talents, knowledge, and improvisational ability enable him to find a practical solution to a challenge using whatever scarce resources he can muster in the moment.

3.5 SEEK THE RIGHT LEVEL OF EVIDENCE

Prototype teams should seek a level of proof that is appropriate to help them decide if they should discard, continue to test, or graduate their prototype.

To do so, they must consider two factors.

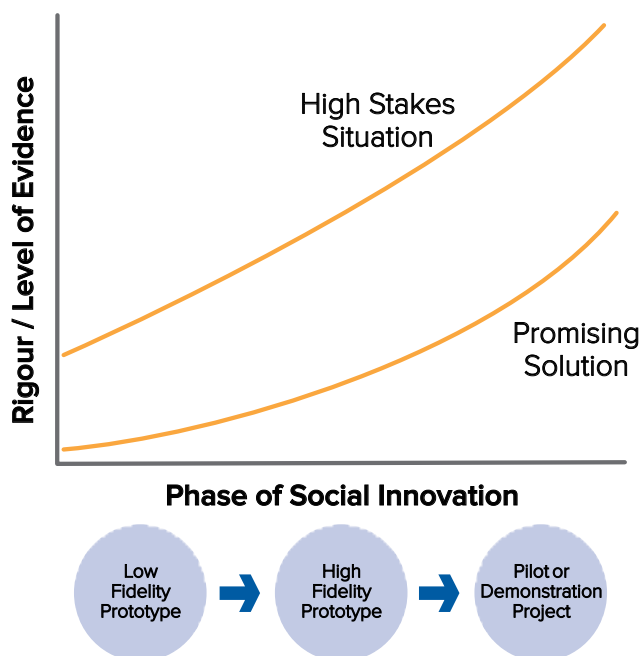
The first factor is the *level of proof* that is generally appropriate for a prototype. The level of proof required to decide if and how to move a promising solution from the prototype phase to the pilot phase is *lower* than that required to move it from the pilot phase to the adoption, institutionalization, or scaling of a solution.

Table 6: Traditional Criteria for Learning & Testing Prototypes

	FROM PROTOTYPE TO PILOT	FROM PILOT TO ADOPTION AND SCALING
Decision	Should we discard, continue to test or graduate to a pilot?	Should we discontinue, adopt and sustain, or scale the pilot?
Key Features	Working Model	Full-fledged operational model
Timing	Rapid	Longer Term
Priorities	Likely effectiveness, feasibility, viability	Actual effectiveness, feasibility, viability
Level of Evidence	Lower	Higher

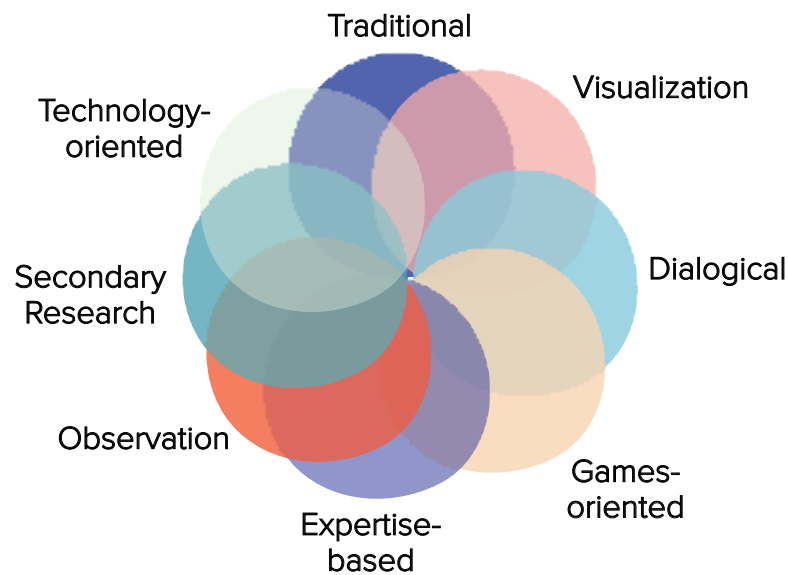
The second factor concerns the “stakes” of the situation:

- The level of risk and/or consequence of failure is high.
- The investment required to move to the pilot phase is substantial.
- The case for proceeding must be compelling enough to convince stakeholders to move to the pilot phase despite inertia, fear, or politicization of the issue.



3.6 EMPLOY MIXED METHODS

There are (at least) eight broad categories of methods that might be useful when assessing prototypes, each with their own strengths and limitations.⁶



The quality of feedback on a prototype increases when a prototype team combines qualitative and quantitative methods for collecting and analyzing that feedback. There are (at least) three major ways to mix the two:

- Use different methods to answer different questions: e.g., a focus group for question x, key informant interviews for question y.
- Use different methods to answer the same question: e.g., using a focus group, key informant and surveys to answer question x.
- Use one method to inform the design of another method: e.g., start off with a survey with a rating scale with a sample of innovation stakeholders to surface general themes, and then use interviews with an even smaller sample of those who express ‘extreme’ views in order to dig a bit deeper.

Mixed methods are now mainstream to traditional evaluation. However, two main factors shape their application to the testing of prototypes:

- Qualitative methods will be most suitable for getting feedback on low-fidelity prototypes because the primary “data” are the perceptions and reactions of innovation stakeholders. Some options for quantitative data are to ask innovation stakeholders to rate the prototype according to various dimensions or to analyze the frequency with which different themes emerge from feedback.
- The prospects for employing qualitative and quantitative methods in higher fidelity prototypes is much higher given that they offer opportunities for innovation stakeholders to interact with the proposed solution.

⁶ Appendix B contains a summary of different evaluation methodologies that might be used to test prototypes.

Table 7: When to Use Qualitative & Quantitative Methods⁷

Task	Qualitative Methods	Quantitative Methods
Research	<ul style="list-style-type: none"> • Working with unfamiliar subjects • When data is complex ambiguous or unclear • In order to understand meaning • When you require flexibility • For studying issues in detail 	<ul style="list-style-type: none"> • When the data is clearly defined • When metrics are known • When detailed numerical data is required • When repeatability is important • When generalizable findings across populations is needed
Analysis	<ul style="list-style-type: none"> • For text/image data • For coding • For themes • For description • For interrelated themes 	<ul style="list-style-type: none"> • For numeric data • For descriptive trend analysis • For deep hypothesis testing, effect size.

⁷ Weprin, M. 2016. Design Thinking : Mixed Method Design. UXDICT.IO. Retrieved from <https://uxdict.io/design-thinking-mixed-method-research-76d85ac5e759>

3.7 BE CULTURALLY RESPONSIVE

Culture is the sum of attitudes, customs, and beliefs that distinguishes one group of people from another and shapes the behaviour, world view and ways of living of its members. Without recognizing the influence of culture on human behaviour, the evaluators may arrive at conclusions which are fundamentally flawed. (Better Evaluation)

Social innovators need to test their prototypes in ways that are culturally responsive and safe.⁸

Social innovators exploring the possible effects of an Indigenous based approach to governing a sensitive river shed may adopt a ‘two-eyed seeing’ approach – one that combines Indigenous and western ways of seeing the world - exploring the strengths and limitations of the approach. Similarly, the participants of a health innovation lab seeking to find ways to develop responses that are relevant and effective in keeping racialized communities safe during a Pandemic worked closely with trusted representatives from that community to develop, test and gather feedback on promising ideas.⁹

Culturally-responsive testing of prototypes is an orientation, not a technique. However, some useful guidelines include:

- Acknowledge and respect the worldviews and ways of knowing and working of stakeholder communities.
- Gain awareness of your own cultural biases (e.g., language, preferred methods) and how they affect the evaluation.
- Employ, test, and adapt methods that conform to the cultural norms and values of the stakeholder community and are perceived as credible in that community.
- Engage the members of stakeholder communities in all aspects of the evaluation design – framing the questions, gathering and interpreting data, and using the findings.
- Become aware of – and seek to mitigate - the unequal power relationships involved in research.

8 The terms cultural “competence,” “aware,” and “humility” are also used.

9 The Health Common Solutions Lab has an excellent example of this: <https://www.healthcommons.ca/covid-response>

3.8 ATTEND TO ETHICS

Research ethics govern the standards of conduct for scientific researchers. It is important to adhere to ethical principles in order to protect the dignity, rights and welfare of research participants. (World Health Organization)

Prototype teams need to gather feedback from stakeholders in a way that preserves and promotes (rather than diminishes) their dignity, human rights, and well-being.

The question is “how?”

Principles, standards, and practices have been established to define ethical research in different fields (e.g., mental health, pharmaceutical drugs, social sciences). Each tends to have a governing body (e.g., professional association, university research office) that oversees well laid out processes for developing, reviewing, and approving research proposals accordingly. Gaining the approval of an ethics committee for a research plan usually takes time.

These approaches are robust but ill-suited to the realities of the prototyping process. Social innovators are seeking “scrappy,” real-time feedback on possible solutions. Typically, they also operate independently of any formal institution or profession, and often address challenges that do not fit easily into a single recognized field (e.g., housing, disabilities, Indigenous). In these situations, highly scripted, institutionally-specific processes for promoting ethical research are unrealistic.

The team at Common Good Lab are pioneers in integrating ethics with the testing of promising solutions. Their Ethical Research Canvas provides a checklist and a set of practices that social innovators can use to design and assess their approaches to testing promising solutions. The canvas includes questions in the following nine areas.

- The social value of researching a topic.
- The desired participants for taking part in the research.
- The potential harms and benefits of the research.
- The project logistics.
- The respect for individuals and communities.
- The collaborative partnerships that may be required.
- The approach to engaging communities.
- Issues related to implementation.
- The way of ensuring informed consent.

Table 8: Prototype Canvas

PROJECT:		CLIENT:	DATE:	This is a thinking tool to help create an ethical research plan	
5. Respect for Individuals and Communities		6. Collaborative Partnership	1. Social Value	3. Harms & Benefits	2. Participants
<p>How might we protect participants from harm?</p> <p>How will we protect the confidentiality of participants?</p> <p>How might we level the power imbalance between us and them?</p> <p>Is there anything to be aware of such as cultural or behavioural issues surrounding engagement?</p>		<p>Who is already doing work in this field?</p> <p>What about Charities, Non Government Organisations or Designers?</p> <p>Who are the experts?</p> <p>How might partnerships be used to address the imbalance of power between designer and participant?</p>	<p>Who benefits from the research?</p> <p>Why is it important?</p> <p>How will this work benefit the participants?</p> <p>How will the knowledge gained from the research disseminate through the community?</p>	<p>How might we cause harm to participants throughout the process?</p> <p>How might we benefit participants throughout the process?</p> <p>How might we cause harm in the participants community?</p> <p>How might we benefit the participants community?</p> <p>How might we cause harm to ourselves throughout the process?</p>	<p>Who are the kind of people you want to take part?</p> <p>Is there anyone who you specifically don't want to talk to?</p> <p>How will we make sure our intended audience is fairly represented in the people we talk to?</p> <p>Are we able to achieve the intended social value with these participants?</p> <p><i>Consider...Age, Gender, Ethnicity, Sexuality Location, Income, Education.</i></p> <p><i>If relevant, how might needs differ across people from different background?</i></p>
		7. Community Engagement		4. Project Logistics	
		<p>Do we need to involve other communities?</p> <p>Does their involvement introduce risks for us or the participants?</p> <p>Do the participants belong to any sub-communities?</p> <p>What are the sub-communities: Values, Culture, traditions, Social Practices?</p> <p>How might that affect their involvement with the project?</p> <p>How might we engage them in designing and implementing our research?</p>		<p>How are we going to capture and document our findings?</p> <p>How are we going to safely secure them?</p> <p>Are there any points where we risk exposure?</p> <p>Who will have access to the data throughout the project?</p> <p>How will we define and measure success?</p> <p>What are the potential barriers to our project?</p> <p>Is location a problem?</p> <p>Is language a problem?</p> <p>Are we able to adequately carry out our research?</p>	
8. When the project goes live			9. Informed Consent		
<p>What happens to the information gathered?</p> <p>How will this information gathered be used?</p> <p>Where will the information be used or displayed?</p> <p>Who will see the information?</p> <p>How might this affect participants or their families?</p>			<p>Are participants able to adequately make a decision? Are they conscious, emotionally stable, understand what the project is and why they're involved and what the implications of their involvement are or could be?</p> <p>What format for consent is acceptable and practical? Literacy and issue? Is the language too formal or technical? Is it in the native or fluent language? Could physical consent form implicate the participant?</p> <p>How might we communicate an understanding of the project, process and consequences or taking part visually?</p>		

3.9 GET SMART ABOUT SAMPLING

Innovation stakeholders are the primary source of data when testing any promising solution. The people who are supposed to benefit from the innovation, as well as those who are involved in implementing or supporting it, are the best sources of feedback as to its merits.

Sometimes it may be possible to engage all these stakeholders in the test of the idea at the same time. In most cases, however, the prototype team will have to work a “sample” of each of them.

Their sampling options tend to fall into three broad categories:¹⁰

- **Convenience Sampling** is easy and practical, but leads to insights that may be misleading or not representative of key prototype stakeholders.
- **Randomized Probability Sampling** generates findings that can serve as a stronger basis for generalization, yet is more demanding and often unnecessary for the ‘roughly right’ feedback required in prototyping.
- **Purposeful Sampling** offers the possibility of securing unique and diverse insights, yet with limited value for generalization, however.

Prototype teams should follow three guidelines in order to “get smart” about sampling:

- » Take the time to choose a strategy(s) that “fits” your situation.
- » Use a sample size that is not too big and not too small.
- » Be transparent about your sampling approach, its strengths and limitations and be careful about your claims.

10 Appendix D contains a summary of different sampling strategies.

3.10 COUNTER YOUR BIASES

“There is nothing more dangerous than one idea when it’s the only one you have”.

Prototype Teams should actively try to reduce the cognitive biases that influence every part of their learning and testing process.

Cognitive biases are the mental shortcuts that shape and distort how we interpret information and make decisions or recommendations about an issue or topic. They influence every step of a prototype team’s assessment process, from the design of the test to the interpretation of results. They are particularly pronounced when developing and testing prototypes because there is a strong tendency of most people to see their promising solution in a more positive manner than it warrants in practice (see Table XX).

Social innovators can reduce – but never completely eliminate – the influence of cognitive biases in their learning and testing processes in a variety of ways:

- Build a prototype team with people with diverse perspectives.
- Bring in non-prototype team participants to review and interpret evaluation feedback.
- Deliberately seek out negative and/or disconfirming feedback.
- Employ testing techniques that require someone to view the feedback from positive and negative perspectives (e.g., Red Team-Blue Team, Devil’s Advocate, Pre-Mortem).

Table 9: Illustrative Biases in Testing Prototypes

TYPE OF BIAS	DESCRIPTION	DESCRIPTION
Scoping/Design		
Wording	Framing questions in a way that influences how people answer them.	“One a scale of 1 to 5, just how great is this idea?”
Sampling	Selecting a sample that intentionally or unintentionally privileges some innovation stakeholders while ignoring others.	“Lets not talk to marketing people – they probably won’t like the idea.”
Implementation		
Observer-Expectancy Effect	The use of gestures and body language during data gathering (e.g., interviews, focus groups, dialogues) that can influence the responses of people providing feedback on the prototype.	Frowning if someone points out the limitations of an idea during a conversation.
Interpretation of Results		
Clustering	The predisposition to find patterns and themes in data, even with the data is random, without patterns.	“We talked to three people with different ideas, but think we find a common storyline.”
Confirmation	The tendency to look for evidence that conforms with our original hypothesis or belief, while ignoring data that does not.	“This group agrees that this would work while that group, well, I am not sure they really understood what we were talking about.”
Anchoring	The habit of relying too heavily on the first information received get on a topic.	“Well, the first group was pretty positive about it, so not sure why the 2nd and 3rd group have such mixed opinions.”
Making Judgements & Decisions		
Sunk Cost (or Endowment)	The reluctance to an abandon an idea after even a little time and effort has been invested in it.	“We are not getting great feedback on this latest iteration of our idea, but we’ve worked on it so much, that it will feel like a waste of time if we drop it now.”
Action	The urge to “do something,” even if the case for proceeding with an idea is weak or ambiguous	“Hey, its not perfect, but we have pressure to respond to this issue, so lets just go with it.”

3.11 THINK IN HORIZONS

Social innovators almost always struggle with the “feasible-enough” paradox.

On the one hand, they want to test solutions that are “enough”: that is, they are capable of making deep and durable inroads on such challenges as racism, climate change and the loss of biodiversity, and inequitable social outcomes.

On the other hand, they are also looking for solutions that are “feasible” (i.e., the skills, knowledge and resources to implement them are readily available) and “viable” (i.e., social innovators can overcome technical, financial, economic, and social roadblocks to their progress).

The Three Horizons Framework illustrates a simple way that social innovators can distinguish between prototypes of promising solutions with different degrees of effectiveness, feasibility and viability (Table 10).

It encourages them to:

- Be clear about the type of innovation that they are seeking (e.g., incremental or transformative?)
- Anticipate and understand the likely reactions of stakeholders to the proposed solution.
- Consider the probable path forward for prototypes of different horizons (i.e., Horizon ideas are likely easier to implement).

Table 10: Three Horizons Framework

	Horizon 1: Incremental Innovation	Horizon 2: Reform-Oriented Innovation	Horizon 3: Transformative Innovation
Type of Innovation	The proposed solution can be implemented without much change to current systems.	The proposed solution requires changes to current systems.	The proposed solution is based on an entirely new set of worldviews, paradigms and values, and requires significant changes to current systems.
Effectiveness / Impact	Low: it likely leads to tangible but modest results relatively quickly.	Uncertain: promises greater-than-incremental impacts, but there is no guarantee.	Uncertain: has a chance of leading to deeper and durable impacts eventually, but likelihood is unknown.
Feasibility	High: it requires few new capabilities.	Mixed: some new capabilities required.	Low: new capabilities required, but some of them remains as yet uncertain.
Viability	High: it involves little to no disruption to systems.	Uncertain: requires substantive changes in systems to operate well.	Low: typically requires deep cultural and systemic change in order to work.
Desirability or Support	Mixed: higher support among managers of current systems. For them, the solution represents a manageable “win.” Support is lower among those who seek bigger and bolder impact.	Mixed: those who are eager for change are more supportive than those who dislike disruption.	Mixed: higher support from those who seek bigger, faster impact; lower support among those who seek “immediate” solutions or seek to avoid disruption.
Post Testing Prospects	High: the idea has a greater chance of being developed through further prototypes, and embraced by a larger set of stakeholders willing to test it in a formal pilot, or even adopt it and scale it.	Uncertain: the idea may require further development and testing in order to find the few niches for a more formal pilot project or policy change.	Uncertain: innovators likely need to continue to share the idea broadly to ‘keep it alive’ and the possibility of making the idea tangible through small-scale and/or deep demonstration.

3.12 ZOOM IN ON INDIVIDUAL PROTOTYPE AND PORTFOLIOS

The reasons that a solution to one part of a complex problem do not work is because they are only addressing on one part of the complex problem. (Lisbeth Schorr)

Sometimes social innovators focus on developing and testing one or two proposed solutions to a complex challenge. In many instances, however, they deliberately set out to explore a portfolio of options in order to:

- expand the opportunities to interact with a complex challenge in order to understand it better.
- increase their chances that they will uncover at least one or more solutions that work.
- surface multiple, mutually-reinforcing solutions to address the multiple dimensions of a complex challenge.

Innovators working with multiple solutions must take efforts to **zoom in** to develop, test, and learn from individual prototypes and then **zoom out** to assess their merit as part of a larger portfolio of possible innovations, testing each of them in sequence or simultaneously. They must pay attention to each solution while looking at the portfolio as a whole and examining how all the parts fit together.

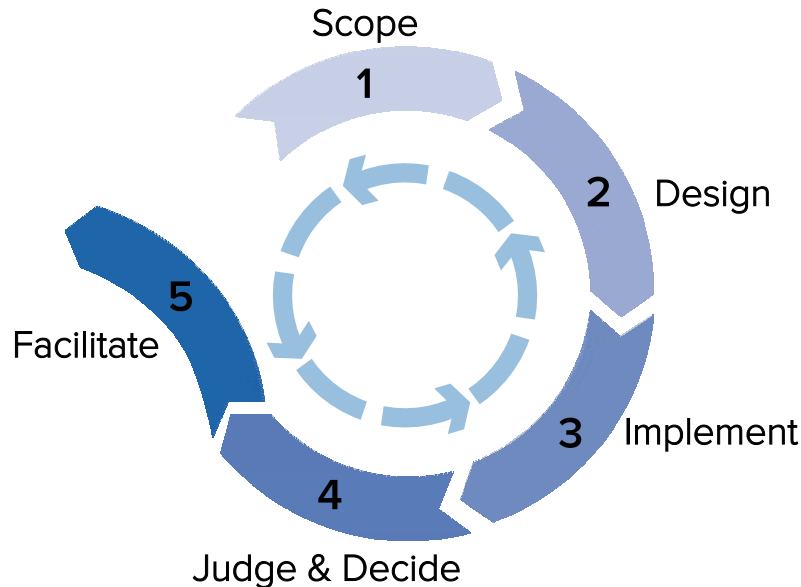
The craft of managing and evaluating a portfolio of innovations and the practical craft is still emerging. Thankfully, innovation teams at SITRA (the Finnish Government’s Innovation Program), the Regional Innovation Centre UNDP Asia-Pacific, and Clime-KIC in Europe have embraced the challenge and are developing a diverse set of portfolio-oriented practices. They include the following:

- Four practices of **Portfolio Management** to assist changemakers to conceptualize, plan and manage, learn from, and assess and continually change the interventions.
- A 4-step **Portfolio Sense-Making Protocol** to guide a process of reflecting on the strength and learnings of a portfolio.
- A **Systemic Design** approach called “transition pathways” that makes creating and learning from a portfolio of experiments central to addressing complex challenges.

PART 4

Steps

There are a dozen ways to organize the tasks involved in prototype evaluation. This Guide divides them into five broad steps.



Keep three things in mind when considering these phases.

1. The process must unfold in **real time**. The pace of the evaluation process should match the pace of the larger social innovation process in which the evaluation is embedded. It might unfold over several days during a week-long “design sprint,” or over several months during a multi-year innovation lab to find ways to improve the stock of affordable housing.
2. The process is often **iterative**. It is typical for groups to jump back and forth across steps and tasks. A group building an on-line survey in Step 2 (Design) may uncover new questions that they did not consider in Step 1 (Scope) and then during a check-in during the Step 3 (Implement) conclude that they need to interview a critical stakeholder before proceeding further.
3. The process should be **customized**. The language, tasks, and techniques should be customized to the realities of specific social innovation contexts (e.g., urban or Indigenous, public versus private) and methodologies (Human Centered Design, Lean Start Up, etc.).

4.1 SCOPE THE TEST

The first step is to establish the broad parameters for evaluating the prototype. This must occur before prototype teams discuss which methods they will use to gather and analyze feedback. Scoping involves five distinct, but interrelated tasks:

- Confirm the Focus
- Identify Key Stakeholders
- Develop Major Questions
- Finalize the Evaluation Team
- Establish Constraints

The sample canvas below illustrates how a prototype team might document its responses to these tasks.

Prototype Evaluation Scoping Canvas

The Focus	Users	Major Questions								
Focus of Test (parts or all of solution)	Team participants Decision-makers Others	1. 2. 3. 4. 5.								
Focus of Test (parts or all of solution)										
Type of Test (Guerilla, Small Scale, Other)	Evaluation Team	Constraints								
Type of Test (Guerilla, Small Scale, Other)	<table border="1"> <thead> <tr> <th data-bbox="527 1316 836 1339">Name</th> <th data-bbox="844 1316 966 1339">Role</th> </tr> </thead> <tbody> <tr> <td data-bbox="527 1350 673 1402">Team Participants</td> <td></td> </tr> <tr> <td data-bbox="527 1413 673 1444">Evaluator</td> <td></td> </tr> <tr> <td data-bbox="527 1455 673 1518">External "Specialists"</td> <td></td> </tr> </tbody> </table>	Name	Role	Team Participants		Evaluator		External "Specialists"		Timeline Resources Other
Name	Role									
Team Participants										
Evaluator										
External "Specialists"										

TASK: Confirm Focus

The first task is to confirm the “it” to be evaluated and the general type of test required. Three questions must be answered:

- What type of prototype is being tested (e.g., a simulation of a collaborative granting process)?
- What parts of the idea will be tested (e.g., all of it, parts of it)?
- What level of test would the team like to employ (e.g., a guerilla test or small test)?

Prototype teams may need a bit of time to settle on the answers to these questions. This is particularly true a) if the team is not completely clear on what the proposed solution is meant to achieve, b) if the prototype has a lot of features or parts and/or c) if some team members feel it is premature to test their ideas. Answering these questions will enable the team to ‘get on the same page,’ and thereby lay the foundation for the evaluation process

Table 11 – Types of Testing

	Description	Suitability	Key Features
Guerilla Test	Simplest, lowest in cost, takes the shortest amount of time.	Quick and scrappy feedback on low-fidelity, rapid prototypes.	Heavy emphasis on gathering stakeholder reactions.
Small Test	Requires new data, low-to-moderate investment, longer time.	Gets feedback in higher fidelity, field prototypes or when a lot of feedback is required by many stakeholders.	More sophisticated sampling and methods. Methods tailored to interactive prototypes.
Definitive Test	Requires higher level of investment in systematic design of ideas in field conditions. Highest level of confidence in test results.	Pilot projects or demonstration projects. Inappropriate for prototypes.	Clear success measures. Longer term design. Typically, an external evaluator.

TASK: Identify Stakeholders

The prototype team needs to identify the stakeholders of the solution that is being tested. Stakeholders are in the best place to provide feedback on the solution, so it is important to identify them clearly and prioritize them as sources of data.

Each prototype will have its own unique set of stakeholders. Still, four broad (sometimes overlapping) types tend to apply to all prototypes: user/beneficiaries, implementers, enablers, and experts.

As the Table below shows, each category of stakeholder can offer a different type of feedback, critical to get more fulsome understanding of the merits of a promising idea.

Table 12: Archetypical Stakeholders of Social Innovation Prototypes

Stakeholders	Description	Type of Feedback	Examples of Stakeholders	
			Collaborative Granting Process	Residential Roof-Top Windmills
Users/ Beneficiaries	Those who are meant to directly use and/or benefit from the proposed solution.	Information on the relevance, desirability, and effectiveness of an idea, as well as issues related to how it is used.	The individuals, families, and groups who receive various programs and services.	The homeowners who would buy micro-windmills in the expectation of reducing their energy bills and/or reducing GHG emissions.
Implementers	The people and/or organizations meant to manage and/or carry out the delivery or implementation of the proposed solution.	Information on the feasibility, viability, and effectiveness of the proposed solution.	The social agencies that provide services to Indigenous people in the city, and senior managers of the public, philanthropic, and corporate funders who invest in these agencies.	Firms that produce, sell, install, and service the micro-windmills.
Enablers	People or organizations that provide various critical supports to the prototype, but are not involved in the day-to-day work (e.g., policy makers, funders, community leaders).	Information on the viability of the proposed solutions, and possibly insight into their relevance, effectiveness, and feasibility.	Leaders from the Indigenous community and the social service sector, senior decision-makers from funding institutions.	The municipality that regulates land use and residential property, the Department of Energy regulator, and the power companies that who might purchase the surplus power generated by the model.
Experts	People with experience, knowledge, and expertise relevant to the challenge that the solution aims to address and/or the solution itself.	Information on all aspects of the proposed solution, based on the stakeholders' experience, research, and similar case studies.	A coordinator who managed a similar process in another city. A researcher from a post-secondary institution that researched the topic. An Indigenous leader with experience in "circle processes."	The director of the clean energy program of the local college. A financial analyst with expertise in residential utility programs. The leader of a company that builds residential homes.

As with every phase and task described in this Guide, prototype teams are encouraged to create their own stakeholder categories that best fit their context.

TASK: Develop Questions

The foundation of a prototype evaluation is major questions to which the prototype team is seeking answers. They influence methods and indicators that eventually will be used to test the prototypes.

Each prototype team must develop questions that are meaningful to them. However, as the practice of prototyping has advanced, a core set of “starting point” and/or “high level” questions have emerged:

- To what extent is this promising solution likely to be **effective**?
- To what extent is the proposed solution likely to be **feasible** to implement?
- To what extent is the proposed solution likely to be **viable** in our current context (e.g., policies, culture, regulations, networks, resource flows, authority and decision-making processes)?
- To what extent is the proposed solution likely to be **supported** by or **desirable** to key stakeholders?

These questions are only a start. Groups almost always adapt them in various ways:

- Prototype teams tend to **customize** the questions in order to reflect how they apply to a specific prototype. (e.g., “For us, ‘effective’ means the extent to which this solution can dramatically reduce GHG emissions.”)
- Prototype teams often **add** additional domains of questions. (e.g., “We think an entire category of questions should explore different features of ‘environmental sustainability’.”)
- Prototype teams often **sharpen** their questions over time as they learn more about their prototype and how people react to it. (e.g., “At first we focused on the general idea of ‘systemic viability.’ Now we know that one of the challenges we face is getting through departmental red tape. So let’s ask more precise questions about that.”)

Finalizing a preliminary list of questions is iterative work. It usually begins with brainstorming a number of possible questions, then prioritizing, editing, and sharpening the list to a manageable number, often between 3 and 7.

TASK: Select the Evaluation Team

The fourth task when scoping the evaluation of a prototype is to decide who will do the following:

- Select and design methods for getting feedback.
- Gather and analyze the data.
- Summarize and document the findings.

The team building tasks requires answers to three questions:

- Who will be on the team?
- What roles will they play?
- What is the likely amount of work that the evaluation will require from the team members?

In most cases, the members of the prototype team will play some role in the evaluation team. They may contact and engage with stakeholders to provide feedback, and then share what they have learned, and may even design the evaluation methods themselves and analyze and summarize the results.

For more sophisticated prototypes, particularly field prototypes, evaluators inevitably will have to play a greater role in the design and implementation of the evaluation. The prototype team's questions will be sharper, the methodological options for answering them will be more numerous, and the team's expectations for robust feedback will be higher. While prototype team members can still participate in the process, the evaluator will have a greater role shape where and how this happens.

TASK: Establish Constraints

The last task in the scoping process is to establish the factors the evaluation team should take into consideration when developing and implementing methods to answer their questions. This will help the team make practical choices about how to design the feedback loops.

There are (at least) three types of constraint to consider:

- **Timeline** – the key milestones around which the evaluation must be designed (e.g., when people need the evaluation, key meetings).
- **Resources** – the financial, technical, and human resources available to assist in the design and implementation of the evaluation.
- **Miscellaneous Factors** that might affect the overall approach (e.g., “Stay away from on-line surveys as this group of people has limited access to wifi.”).

A prototype team may identify other constraints or factors that shape the testing process but fall outside these categories.

Once the prototype team has completed these five tasks, and produced a roughly accurate Prototype Evaluation Canvas, they can hand off the work to their newly-designated Evaluation team to begin Step 2, Design.

4.2 DESIGN THE DETAILS

In the second step in the process, the evaluation team designs the methods for getting feedback on the prototype. This requires that they undertake the following tasks:

- Select methods/techniques for gathering, analyzing, and sharing the data for each question.
- Assign leads and roles in the development and implementation of the evaluation.
- Identify key milestones around which the workplan should be organized.
- Surface additional things to consider in the design.

The following worksheet is one way to document your evaluation team’s responses to these questions.

Methods Design Worksheet

Major Questions	Methods/Technique				Leads & Role	Key Milestones	Things to Consider
	Data Source	Data Gathering	Data Analysis	Data Sharing			
1.							
2.							
3.							
4.							
5.							

TASK: Select Methods

A prototype may be used to test an impressive number of proposed solutions. Likewise, a wide array of evaluation methods and techniques (and no end of ways to combine and adapt them) may be used to answer a prototype’s unique questions, within its specific constraints. How does a prototype evaluation team choose which methods to use (See Appendices A)?¹¹

The Evaluation team needs to embrace the principle of bricolage (see p. X) when selecting the methods and technique available to them to answer their major questions within the their time, expertise and resource constraints.

¹¹ See the Appendix on Methods.

TASK: Develop Instruments

The Evaluation Team must build on the general questions and methods selected in the previous phase and task and create the more tangible instruments for gathering, analyzing, and synthesizing the data is more involved.

There are plenty of guidance available for the design and implementation of all the methods summarized in the previous section, (Step 2, Task 1, p. X), for example, how to construct surveys, focus groups, and interviews.

However, prototype evaluation teams still need roll up their sleeves to put something together that works on their specific project. What is the best sampling strategy to use? How long should we make the on-line survey? What can be done to ensure that we do not overly influence the stakeholders we intend to interview? At this stage in the process, “The devil is in the details.”

Prototype evaluation teams may need to develop, test, and refine their tools several times throughout the testing process.

TASK: Establish Leads & Roles

The prototype team must decide who will complete each task, with what resources, and by when.

The product of these efforts can be a simple to-do list, with a place for dates and names. Alternatively, it can be something more sophisticated, like a project plan or “RACI” Matrix that specifies who is to be “Responsible, Accountable, Consulted, and Informed” in the process.

4.3 IMPLEMENT THE DESIGN

There are three sequential tasks in this phase that can be completed in one or in several iterative cycles:

- Implement the Design
- Check In & Adapt
- Analyze & Document

TASK: Implement

The evaluation team “jumps in” and starts to gather and analyze data using whichever technique(s) they settled on in Phase 2.

TASK: Check-In & Adapt

The evaluation team needs to set aside time to check-in with each other to see how the data gathering is going, get a sense of early findings, and, if necessary, to make mid-course adjustments to the scope or design. Team members may discover that adjustments to their questions, methods, and/or logistical arrangements are in order.

TASK: Analyze & Document

The Evaluation Team must analyze the data they have gathered and then synthesize the findings for the prototype team to review and discuss. The format of this synthesis will be determined by the method used to gather the data. For example, the format of the results of a closed-ended, on-line survey will differ from the notes taken during a pre-mortem exercise.

Here are some of the key points for the synthesis to cover:

- Confirm the questions that were explored.
- Describe the techniques used to gather the data and from whom.
- Describe the limitations of the data gathering (e.g., “We were unable to interview as many of Type A stakeholders as we desired.”).
- Summarize the findings, ideally question by question.
- List the questions or concerns that emerge from the findings.

In the spirit of fast-moving experimental processes, it is not necessary to present the synthesis in the form of a conventional, comprehensive report. Your prototype team simply needs to present its findings in a format that is real time and coherent. It might take the form of something as simple as a PowerPoint slideshow, a canvas, poster, a memo or even a short Prototyping Report Card.¹²

12 Source: IDEO Design Kit. Retrieved from: https://design-kit-production.s3-us-west-1.amazonaws.com/Design+Kit+Method+Worksheets/DesignKit_prototypereportcard_worksheet.pdf

Prototype Name _____

What is it?

BEFORE PROTOTYPING – Your Learning Plan

Top 3 learning questions this prototype is testing:

Key Metric for Success

Ex. number of people who show up, qualitative feedback in exit interview

Testing Method

Ex. live tests, role play, storyboard

Assumptions

What would need to be true in order for this to work? Ex. Resource availability, law, or policies

AFTER PROTOTYPING – Your Report Plan

What We Learned

What answers did we find to our learning questions? Did we find out anything about our assumptions?

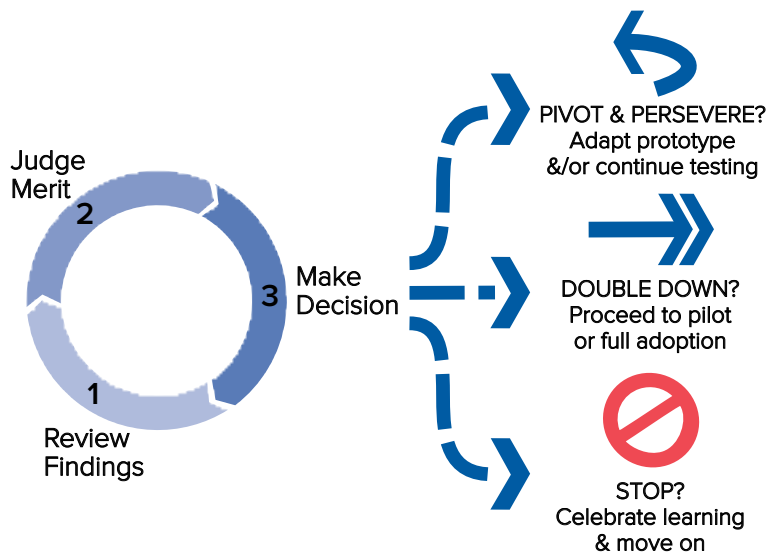
Iterations

Based on our learning, what do we need to change? What are we taking forward from this prototype? what do we need to learn next?

4.4 JUDGE & DECIDE NEXT STEPS

The fourth step in the evaluation process is comprised of three tasks:

- Review the Findings
- Judge the Merit of the prototype, and
- Make a Decision about the future of the prototype.



Prototype teams tend to work on all three tasks concurrently, often in one meeting.

TASK: Review Findings

The prototype team needs to discuss the synthesis of findings compiled in Step 3 (See p. X) and to make sense of the results.

TASK: Judge Merit

Based on their discussion of the findings, the prototype team needs to draw some conclusions about the overall merits of the proposed solution they have prototyped. They should:

- be clear about the criteria they are using to judge the idea (e.g., effectiveness, ethical, etc.).
- assign the prototype a rating (e.g., “poor,” “good,” “excellent”) for each criteria.
- document why they rate the prototype the way that they do.

Making these points explicit will inject valuable structure into what otherwise can be an iterative messy process, so that the team’s judgment inspires confidence, and action is taken on the team’s decision or recommendation.

TASK: Make a Recommendation or Decision

This entire evaluation exercise comes down to this moment: the prototype team must decide what to do next with the promising solution that they have been testing. There are (at least) three main options from which to choose:

- **Pivot & Persevere** – use the feedback to adapt and upgrade the proposed solution, and engage in a new round of testing.
- **Double-Down** – go the next step in the experimental process (e.g., a rapid prototype to a field prototype, or from a field prototype to a pilot or demonstration project), or jump ahead to adopting the prototype or even scaling it more broadly.
- **Stop** – celebrate what has been learned from the process, stop working on the solution, and move on to explore other options.

The team might be able to decide the future of a prototype by itself. They might be making a recommendation to others who have greater authority or capacity to make the final call (e.g., a grassroots leadership team, a senior manager, a funder). In either case, the team's objective is the same: make a recommendation or decision!

4.5 FACILITATE FOLLOW UP

The fifth and final step of the prototype evaluation process focus on tasks to facilitate follow-up action on the decision or recommendation made in Step 4. This requires them to:

- Articulate Findings
- Engage Stakeholders
- Broker Transition to Next Steps

TASK: Summarize Findings

Prototype Teams need to communicate the findings of assessment process to innovation stakeholders. The intent and content of the communication will depend on the nature of the decision that has been made and the audience. It may include a combination of learning briefs, videos, posters, formal reports to community or funders and in PPT presentations.

TASK: Engage Stakeholders

The Prototype Team will want to actively engage the stakeholders of the proposed solution to share findings and preferred next steps in ways that increase the chances that they will support it through the next step in its journey. Again, the options are diverse, and can include (in)formal meetings, presentations, workshops and even opportunities to ‘experience’ the prototype through a site visit or simulation.

TASK: Broker Transition

Prototype Team may conclude that the success of the next phase in the development of their promising solution requires one or more ‘transitions’. The most typical ones include:

- A new team organizations, networks, and institutions with the commitment and credibility required to sponsor and drive the next round of innovation.
- A new group people with the talent, knowledge, and commitment to undertake the hands-on work of developing and testing the proposed solution.
- Additional resources for the next round of testing experimentation or adoption.

Brokering the transition of a prototype is highly entrepreneurial work. It requires that a team draw and build upon its networks and relationships and seek out opportunities to shepherd the innovation towards larger scale impact.

Conclusion

Those eager to make progress on complex societal issues are increasingly turning to prototyping to develop and test their ideas.

This Guide offers high-level guidance on how to approach prototyping by exploring the following elements of a testing process:

- A general description of the niche for prototyping in social innovation.
- The two purposes of testing prototypes.
- The half-dozen criteria against which to test prototypes.
- Three options for assembling an evaluation team.
- Twelve principles to guide the testing process.
- Five key steps – with two dozen tasks – around which to carry out the process.
- Several tables that summarize a variety of prototyping techniques, evaluation methods and sampling strategies.
- An appendix of resources with links to many more for further information and inspiration.

Social innovators are encouraged to apply and adapt this guidance in ways that most accurately reflect their unique context, prototype(s) and skills.

They will also need to treat this Guide as a ‘snapshot’ in time. The field of social innovation and the practice of evaluating social innovation prototypes are dynamic; they evolve quickly as the stakes for making progress on society’s most vexing challenges rise. Social innovators – and the evaluators that support them – should be prepared to substantially upgrade the content of this Guide to keep pace with that evolution.

Appendices

APPENDIX A: RESOURCES

PROTOTYPING

Methodologies That Employ Prototyping

Hassan, Zaid. Social Labs Revolution. Retrieved from: <https://social-labs.org/author/hassan6610/>

A comprehensive exploration of the importance of employing experimental approaches to addressing complex challenges, and the role of prototyping in that process.

IDEO. Human Centered Design Toolkit. [Design Kit: The Human-Centered Design Toolkit | ideo.com](https://www.ideo.com/design-kit)

A very accessible and action-oriented set of resources that reflect the organization's experience in employing prototyping as part of a human-centered design methodology.

MaRS. Living Guide to Social Innovation Labs. Retrieved from: <https://mars-solutions-lab.gitbook.io/living-guide-to-social-innovation-labs/>

A practitioner-oriented set of resources on establishing and running a social innovation lab with a very good section on prototyping.

Social Movements & Innovation Lab. Planning & Building Prototypes. Retrieved from: <https://socialmovementsinnovation.org/tools/planning-and-building-a-prototype/>

One of the world's leading social innovation organizations with multiple resources on prototyping. Has an extra emphasis on experimenting in the public sector.

Developing & Testing Prototyping

Development Impact & You. <https://diytoolkit.org/>

An international development-oriented organization with several practical tools on experimenting with new ideas.

Lean Startups for Social Change. <http://www.leanchange.net/blog/>

A webpage with a variety of resources inspired by the lean start-up methodology - an approach developed in the private sector but adapted for use in social innovation and change initiatives - primarily organized around prototyping.

Marvel. The Ultimate Guide to Prototyping. <https://marvelapp.com/blog/prototyping-101-ultimate-guide/>

A webpage with a variety of resources inspired by the lean start-up methodology - an approach developed in the private sector but adapted for use in social innovation and change initiatives – which is primarily organized around prototyping.

NESTA. <https://www.nesta.org.uk/>

One of the world's leading social innovation organization with multiple resources on prototyping, with an emphasis on experimenting in the public sector.

Service Design Tools. <https://servicedesigntools.org/>

An open-source website with scores of tools to assist with prototyping.

Stevens, Emily. (2021). Career Foundry. A Complete Guide for Prototyping. <https://careerfoundry.com/en/blog/ux-design/design-thinking-stage-four-prototyping/>

A high level description of the prototyping process based on a 'design thinking' approach.

PART II: EVALUATION

General Resources on Evaluation

Better Evaluation. Retrieved from www.betterevaluation.org

The most comprehensive, accessible and continually updated web-based resource on evaluation ideas, practices and tools in English.

Center for Evaluation Innovation. <https://www.evaluationinnovation.org/publication/evaluating-social-innovation/>

An excellent website for complexity-aware evaluations, including a resource on evaluating social innovation. It has a special focus on assisting Grantmakers to better use evaluation in their work.

Developmental Evaluation Companion. <https://mccconnellfoundation.ca/the-developmental-evaluation-companion-now-available/>

A 2021 summary of developmental evaluation, an approach to evaluation that supports the development, testing and adaptation of innovative responses to complex challenges.

Resources on Specific Evaluation Principles

Principle 1: Focus the Assessment

Prioritize & Eliminate Questions. Better Evaluation. https://www.betterevaluation.org/en/resources/tool/prioritize_eliminate_questions

A simple worksheet to help people map, assess and then choose amongst the various evaluation questions that they might have.

Principle 2: Be Agile

Better Evaluation. Unboxing Evaluation Through Developmental and Agile Approaches. <https://www.betterevaluation.org/en/blog/un-boxing-evaluation-through-developmental-and-agile-approaches>

An excellent blog that compares developmental and agile approaches to evaluating prototypes.

Principle 3: Integrate a Social Justice Lens

Equitable Evaluation Initiative. <https://www.equitableeval.org/>

A compelling and accessible integration of many social justice-oriented approaches to evaluation.

Using a Social Justice Lens in Advocacy Evaluation. <https://www.evaluationinnovation.org/publication/using-a-social-justice-lens-in-advocacy-evaluation/>

Principle 4: Embrace Bricolage

Bricolage Methods Principle. Blue Marble Evaluation. <https://bluemarbleeval.org/principles/operating-principles/bricolage-methods-principle>

An example of how bricolage thinking is employed in interventions that seek to work at the global level.

Bricolage. A Pluralistic Approach to Evaluating Human Eco-Systems Interventions <https://onlinelibrary.wiley.com/doi/10.1002/ev.20460?af=R>

A thorough exploration of how a bricolage approach can be used at different stages of an evaluation in two case studies.

Principle 5: Seek The Right Level Of Evidence

NESTA. Standards of Evidence. <https://www.nesta.org.uk/feature/innovation-methods/standards-evidence/>

A thorough review of a more traditional approach to employing the standards of evidence to assess social innovations.

Principle 6: Get Smart about Sampling

Better Evaluation. Sampling. https://www.betterevaluation.org/en/rainbow_framework/describe/sample

A high level review of the sampling options available for testing prototypes with stakeholders.

Principle 7: Employ Mixed Method

Better Evaluation. Conducting Mixed Methods Evaluation. Retrieved from: https://www.betterevaluation.org/en/resources/guides/conducting_mixed_method_evaluations

A very strong and instructive summary of mixed methods by a well-known international development agency.

Principle 8: Be Culturally Responsive & Safe

Better Evaluation. Cultural Competency. Retrieved from: https://www.betterevaluation.org/en/evaluation-options/cultural_competence_evaluation

A general introduction to the concept of culturally competence and safety.

Cabral, L. Using Cultural Brokers on Evaluation Teams. Blog. November 28, 2011. American Evaluation Association 365. Retrieved from: https://aea365.org/blog/linda-cabral-on-using-cultural-brokers-on-evaluation-teams/?amp%3Butm_source=feedburner&%3Butm_medium=email&%3Butm_campaign=Feed%3A%20aea365%20%28AEA365%29

An interesting model for increasing cultural responsiveness of evaluations.

Principle 9: Attend to Ethics

Common Good Design. <https://medium.com/common-good/a-tool-for-considering-ethics-in-human-centred-design-ac365de61880>

A practical approach to ensuring an ethical approach to testing prototypes.

Better Evaluation. Ethics in Evaluation. https://www.betterevaluation.org/evaluation-options/ethical_guidelines

A summary of general resources on how to integrate ethics into evaluation.

Principles 10: Counter Your Biases

Beer, T., Coffman, J. (2014). When Shortcuts Cut us Short: Cognitive Traps in Philanthropic Decision-Making. Washington, DC: The Center for Evaluation Innovation. <https://www.evaluationinnovation.org/publication/how-shortcuts-cut-us-short-cognitive-traps-in-philanthropic-decision-making/>

Accessible introduction to the role of biases when making decisions in the social sector and ways to counteract them.

Principle 11: Think in Horizons

Board of Innovation. What is The Three Horizons Model and How Can you Use It? <https://www.boardofinnovation.com/blog/what-is-the-3-horizons-model-how-can-you-use-it/>

A straightforward 'business-oriented' description of the three horizons framework.

Three Horizons: A Pathways Practice for Transformation <https://www.ecologyandsociety.org/vol21/iss2/art47/>

An adaptation of the Three Horizons framework for initiatives that seek social and systems transformation.

Principle 12: Zoom in on Prototypes, Zoom out on Portfolios

A Tale of Four Elements: Nurturing a Circular Economy Portfolio. <https://undp-ric.medium.com/the-tale-of-four-elements-nurturing-a-circular-economy-portfolio-be6f8d5ac45d>

Systems Change: A Guide for Adapting Portfolio Approaches: A Methodological Guide for Understanding and Addressing Complex Development Challenges. <https://www.undp.org/publications/system-change-guidebook-adopting-portfolio-approaches>

The United Nations Development Program in Asia is organizing and evaluating its innovations using a portfolio approach. Brent Welsch's Systems Change Guide is a very useful tool to guide this work.

Resources on Steps

Step 1 - 3: Scope, Design & Implement the Test

Qualaroo. A Step by Step Guide: Testing Your Prototypes. <https://qualaroo.com/blog/step-by-step-testing-your-prototype/>

A list of simple questions, organized by key steps in the prototyping process.

Step 4: Judge and Decide Next Steps

Better Evaluation. Rubrics. <https://www.betterevaluation.org/en/evaluation-options/rubrics>

A basic introduction to the use of rubrics in evaluating interventions.

Upsocial. Analysis Standards of Social Innovations. <https://innovations.upsocial.org/en/analysis-standards-social-innovations>

A comprehensive effort to apply high level rubrics to social innovations.

Step 5: Facilitate Follow Up

Better Evaluation. Reporting Findings. https://www.betterevaluation.org/en/rainbow_framework/report_support_use

A list of ideas and techniques to share evaluation findings.

Better Evaluation. Strategies for Improving Evaluation Use & Influence. https://www.betterevaluation.org/en/blog/strategies_for_improving_evaluation_use_and_influence

Seven common-sense strategies to design evaluations in a way that their findings will be used.

APPENDIX B: SUMMARY OF PROTOTYPING TECHNIQUES

A sample of prototypes techniques employed in social innovation processes.

Table: Examples of Prototypes Techniques

	Technique	Description	Example
Lower Fidelity Prototype	Sketching	A processing and depiction of ideas on a sheet of paper or on-line to make them more tangible in the form of a graphic representation or concept map.	Use a big sheet of butcher paper to draw a rough version of a traditional 'snakes and ladders' game. It introduces prospective mentors to the effects of early life trauma on children's behaviour. It also shows how to provide mentoring in a way that builds the resiliency of their mentees.
	Lego As Serious Play	A process where social innovators use Lego bricks and characters to build and share different ways of addressing a challenge and to ask others for their feedback.	The participants of a collaborative initiative to address homelessness use Lego bricks and characters to demonstrate where and how they can increase access and a sense of inclusion on the part of the different people on their 'continuum of services'.
	A Wireframe	A set of sketches that depict the different screens that users will see when using an application, and how they can interact with it. Used primarily for mobile applications or web applications.	Software designers use wireframes with hypothetical data to illustrate how small-scale agricultural producers might get real-time, transparent updates on the market prices for their goods. This will enable them to choose the farmers markets to which they want to journey before setting off in the morning.
	Story Board	A visual narrative of an idea from beginning to end, with each frame or board representing a different element or phase of a solution.	A group creates a story board of how residents in a city's public spaces can intervene when they see outbursts of racist comments or behaviours.
	Video Prototype	The video presentation of an idea or a simulation to illustrate how it might work, or a graphic representation of an idea.	A group puts together a video of a proposed affordable housing development. The video includes interviews with prospective tenants and high-level sketches of the proposed facility.
Higher Fidelity Prototype	A Mock-Up	A mock-up (unlike a functional prototype) is a representation of the real idea, most often to avoid having to build it first and make expensive changes. A 'full-scale' or 'life-sized' mock-up is used to test a prototype in the real world.	A group of urban activists interested in making a low-activity street more lively create a temporary installation there. It comprises café tables, extended sidewalks, flower gardens and crosswalks. They then invite people to come 'visit' the location.
	A Simulation or Walk through	A facilitated process of working through the proposed tasks, steps and contexts of a promising solution in an experiential way.	People from foundations and Indigenous-led community agencies walk through a rehearsal of a proposed collaborative granting process, in order to surface ways of improving it prior to launch.
	Role Playing	People play certain roles in a skit or presentation in order to represent how an idea or process would work out in the real world, and to surface insight and empathy into the experiences of participants.	A team is exploring ways to use mediation as an alternative to adversarial legal processes for assisting families working through divorce or separation. The team employs role playing to demonstrate to lawyers, judges, counselors and families how the model might work at different stages of the process.
	Wizard of Oz	A type of role-playing process in which one person plays the role of the 'user' of a promising solution, following a 'script' and sometimes using artifacts that represent different parts of the solution. A second person, the 'wizard', performs the various tasks that simulate the behaviour of the final product or process.	A group is interested in creating an on-line service that will help racialized persons to get real-time responses to questions about their rights and legal options after bearing with the racist behaviours of landlords. The group carries out a series of interactions between those posing questions and those answering them to see which questions might be answered through standardized responses and which might require interaction with a knowledgeable person.
	Agent-Based Modelling	A computer-aided process for simulating the actions and interactions of different agents (e.g., people, organizations) in a system, as well as to anticipate reactions and behaviours in response to an intervention.	A group is interested in using blockchain technology to help small-scale producers of clean energy track their reductions in carbon emissions and use that data to apply for tax credits. They model the reaction of all the participants in the process (e.g., producers, energy regulators, tax office, etc.) to see how it actually might work.

APPENDIX C: SUMMARY OF METHODS

A summary of eight categories of methods and how they might be adapted to test a promising solution with innovation stakeholders.

TRADITIONAL QUALITATIVE METHODS: innovation stakeholders share their reactions to a prototype in verbal, written or electronic form.	
Surveys	Gathering the opinions of stakeholders through the use of an on-line or paper survey.
Interviews	One-on-one conversations with people that allow an opportunity to explore issues in more depth.
Focus Groups	A facilitated discussion with a group of 6-12 participants to explore questions related to a promising solution. The discussions are taped (audio or visual) and/or captured in real time (e.g., flip chart, laptop).
VISUAL METHODS: innovation stakeholders use visual and artistic media to share their reactions, feelings, and ideas	
Rich Pictures	Innovation stakeholders use visual media (e.g., diagrams, mind maps, sketches, symbols, cartoons, painting, collages of images or pictures) to communicate their thoughts and feelings about a proposed solution
Photography	Innovation stakeholders use video and/or photo images to capture people's experiences of a prototype, followed by researcher-driven semi-structured interviews with participants to describe the interpretation and meaning of the photos.
Card Visualization	Innovation stakeholders brainstorming their responses to questions posed about a prototype, write or draw their responses on individual paper cards or post-it notes, which are then posted on a wall or board, and then have a facilitated discussion about the similarities and differences in the feedback.
DIALOGICAL METHODS: innovation stakeholders share their reactions to a prototype in structured conversations.	
Fishbowl	A facilitated discussion with 15-50 people to explore one or more topics. A small number of participants (3-6) in an inner circle discuss the question(s) while a greater number of people in an outer circle listen to their conversation, with arrangements for inner and outer circle participants to exchange places to continue the dialogue.
Peer Input Process	A structured process through which a prototype team member shares their prototype with 3-30 people for feedback on a specific question or two related to the prototype.
Critical System Heuristics	A series of questions that encourage people to identify the intended beneficiaries of an intervention, how they are to benefit, and who has the power – and lack of power – to determine the criteria for success and whether an intervention proceeds further or is shut down.
GAMES-ORIENTED METHODS: Innovation stakeholders interact with – and react to – a prototype using one more of the features often used in social games (e.g., roles, rules, objectives).	
Pre-Mortem	Innovation stakeholders draw on their experience and intuition to anticipate the ways in which a promising solution might go wrong. They then rate the likelihood and consequences of each train of events, and the ways the prototype can be improved.
Devil's Advocate	A process in which one or more innovation stakeholders deliberately assumes an opposing viewpoint or puts forward a contrary proposal to generate new insights, challenge stagnant thinking, and increase the rigor of debate and level of understanding.
Red-Blue Teams	A process where one team identifies the benefits of an idea and its application and another team to point out its critical limitations.
Dragons' Den/ Shark Tank	In imitation of a popular television program, proponents of an innovative idea meet with real and/or hypothetical investors to "pitch" their idea for funding, partnership, and support, who in turn provide feedback on the merit of their ideas.

EXPERT-BASED METHODS: tap into the skills, knowledge and expertise of people deeply knowledgeable about a particular challenge.	
Expert Panels	A facilitator guides the discussions of a small, diverse group of experts to explore, discuss, and debate a proposed solution – its strengths and limitations, its overall merit or worth, and ways of improving it.
Delphi Technique	A prototype researcher solicits opinions and ideas from a group of experts over several rounds of discussion, synthesizing and sharpening the feedback and questions in each subsequent round.
OBSERVATION METHODS: have users or participants in a simulation of the prototype record their experiences and perceptions in real time, and review and analyze this record afterwards.	
Non-Participant Observation	A person observes and documents how innovation stakeholders react to or experience a prototype, but without actively participating in the group's activities.
Participants	Innovation documents their feelings, observations and insights in real time (e.g., on their phone, a diary, flip chart).
After Action Reviews	A type of participant observation in which people experiencing a prototype in field conditions (e.g., a simulation, role play, walkthrough) review and reflect on the process immediately afterwards. They surface insights about the merits of the prototype, how it might be improved, and their own support for it.
SECONDARY RESEARCH: Social innovators collect and review existing research on similar ideas or prototypes.	
Rapid Review	A semi-structured process to identify and assess secondary research sources, organized by theme, to get a rough sense of current knowledge about a particular topic or idea.
Umbrella Review	A structured process to locate, assess, and synthesize the findings that emerge solely from systematic reviews and meta-analyses of a question or topic.
Systematic Review	A more detailed, systematic, and reproducible review of secondary sources to answer very specific research questions and to analyze and assess the results critically.
TECHNOLOGY-ORIENTED METHODS: use technology to automatically gather, analyze, and report on prototype-related activities.	
Mobile Data Collection	The use of mobile phones, tablets, keypads, laptops or PDAs for programming or data collection from participants in a research and evaluation either through their inputting of data and/or in the mobile devices tracking of their behaviour.
On-Line App Testing	A variety of software options designed to test prototypes of on-line applications for laptops, phones and PDAs.

APPENDIX D: SUMMARY OF SAMPLING STRATEGIES¹³

A summary of three major categories of sampling strategies that social innovations might draw on to test their prototypes with social innovation stakeholders.

TYPE	DESCRIPTION
PROBABILITY SAMPLING: use random or quasi-random options to select the sample, and then use statistical generalization to draw inferences about that population. To minimize bias, these options have specific rules on selection of the sampling frame, size of the sample, and managing variation within the sample.	
Multi-Stage Sampling	Cluster sampling in which larger clusters are further subdivided into smaller, more targeted groupings for the purposes of surveying.
Sequential	Selecting every n th case from a list (e.g., every 10 th client)
Simple Random	Drawing a sample from the population completely at random.
Stratified Random	Splitting the population into “strata” (sections or segments) to ensure distinct categories are adequately represented before selecting a random sample from each.
PURPOSEFUL SAMPLING: study information-rich cases from a given population to make analytical inferences about the population. Units are selected based on one or more predetermined characteristic. The sample size can be as small as one (n=1). To minimize bias, this cluster of options encourages transparency in case selection, triangulation, and the seeking out of disconfirming evidence.	
Confirming & Disconfirming	Cases that match existing patterns (to explore them) and those that don’t match (to test them).
Criterion	Cases that meet a particular condition.
Critical Case	A case of particular importance or that can make a strong point.
Homogenous	Cases that are very similar to each other.
Intensity	Selecting cases that intensely exhibit a particular phenomenon.
Maximum Variation	Contains cases that are as different from each other as possible.
Outlier	Analyzing cases that are unusual or special in some way, such as outstanding successes or notable failures.
Snowball	Asking initial informants to identify additional informants, creating a snowball effect as the sample gets bigger and bigger.
Theory-based	Selecting cases according to the extent to which they represent a particular theoretical construct.
Typical Case	Developing a profile of what is agreed to be average or normal.
CONVENIENCE SAMPLING: use samples of people that are readily available and that may not allow credible inference about the population. Convenience options are:	
Convenience	Based on the ease or “convenience” of gaining access to a sample from people who are readily available
Volunteer	Sampling by simply asking for volunteers.

13 Patton, Michael Quinn. 2002. Qualitative Research and Evaluation Methods. 3rd Edition. Thousand Oaks, CA: Sage Publications.