SOCIAL INNOVATION LAB GUIDE

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ACKNOWLEDGEMENT

"MANIFESTO"

This Guide to a Social Innovation Lab is offered as a resource to peers, colleagues, practitioners, leaders from all sectors, and concerned citizens – all who have and/or will participate in change-making processes. One hope for this work is that these ideas on social innovation and these recommendations for new practice will result in a greater sense of agency for those who work on what often seem like impossible aspirations for a different, better world. Probably our greatest hope is that these ideas help to transform the impossible into the possible.

EXECUTIVE SUMMARY

Scientists and activists concerned about the future of human society and the planet have pointed to the urgent need for what they term sustainability transitions (Clark 2001; Raskin et al. 2002). In other words, due to the complex, systemic and interrelated nature of the serious social, economic and environmental problems confronting us, we need entirely new forms of solutions. Clearly, we humans must learn to think differently about our complex world and to work together in unusual and very strategic new ways. We need to more fully see and understand the systems within which we all exist so that we can learn to identify and create conditions for social innovation.

Since 2007, the team led by Dr. Frances Westley at the Waterloo Institute for Social Innovation and Resilience (WISIR), in collaboration with many colleagues, including those within the Canada's Social Innovation Generation (SiG) partnership, has been generating and sharing new knowledge about how significant change happens in the world. WISIR's interest in the possibility of processes that catalyze real and durable innovation has driven a number of years of exploring the potential of 'Labs.'

There is as yet no established orthodoxy about what a Lab is, and the term is applied to a plethora of processes and organizations, often with markedly different goals and employing distinct methods and approaches. For the purposes of this Guide however, we define a Lab as a process, one that is intended to support multi-stakeholder groups in addressing a complex social problem. As such, we see Labs as part of a rich history in process design: it includes both 'whole systems' processes (e.g., Future Search) and 'design thinking.'

The interest in the social sector in the idea of Labs – however broadly defined – offers an opportunity: can we push on the limits of existing processes to develop something tailored specifically to focus on complex problems and to build strategies for transformation in systems? This led to our team's efforts to design and test a process that can effectively support social innovation. We call this process the Social Innovation Lab.

The Social Innovation Lab emphasizes not only imagining high potential interventions but also gaining system sight, redefining problems, and identifying opportunities in the broader context with the potential to tip systems in positive directions. It is a three-step process of developing, testing and instigating innovation strategies. It requires the right starting conditions, an investment in research and skilled facilitators. It also makes use of computer modeling to prototype interventions in complex systems. Like other processes for convening multi-stakeholder groups working on complex challenges, it is best suited to the early stages of making-change.

The Guide begins with an overview of the history and thinking behind this new process. This is followed by a detailed set of step-by-step, practical recommendations for the design and delivery of a Social Innovation Lab. The final sections of this guide hold a collection of relevant resources that include overviews of complexity and social innovation concepts to help develop a common understanding by convenors/participants, descriptions of other lab processes, further information on the research and on activities in the workshops, and an exploration of the use of computer modeling in the Social Innovation Lab.

This methodology is the result of WISIR's current knowledge on the dynamics of complex systems. It also represents lessons learned through consultations with lab process leaders from around the world, in particular Christian Basson of Denmark's Mind Lab, Banny Banerjee of Stanford University's D Lab, Luigi Ferrera of Toronto's George Brown's Institute Without Boundaries and

Brian Boyer of Helsinki Design Lab. Their contributions were invaluable to our research and a number of these lab examples are described through the Guide. The process of developing and testing this Lab process was supported by generous grants from the Rockefeller Foundation and the J.W. McConnell Foundation. Lastly, it is also the product of experience from two processes in which WISIR was closely involved and that provided opportunities to test individual elements of the methodology described here. The "New Solutions for Youth Employment Lab" was conducted in 2014 in New York City. It was supported by the Rockefeller Foundation and delivered by the MaRS Solutions Lab. The "Ontario Tender Fruit Lab" was also conducted in 2014 and delivered by the MaRS Solutions Lab. Support for the Tender Fruit Lab was provided by the J.W. McConnell Family Foundation. More information on both these "Labs" can be found at the MaRS Solutions Lab website.

We offer this methodology with a humble appreciation of both the complexity of the challenges we are, collectively, seeking to address, as well as the complexities of the processes we design in our attempts to address them. We hope that the Guide provides the spark that encourages others to use, test, refine, and continue to build upon the design we have proposed.

"Complexity science embraces life as it is: unpredictable, emergent, evolving and adaptable - not the least bit machine-like. And though it implies that we cannot control the world the way we can control a machine, we are not powerless, either. Using insights about how the world is changed, we can become active participants in shaping those changes."
- Getting to Maybe

Summary of the Social Innovation Lab

Step 1: Initiation - determines that a Social Innovation Lab process (SI Lab) is the most appropriate for the problem focus, there are then three additional major steps, with key activities within each:

Step 2: Research and Preparation – this step includes months of investment in various ethnographic research activities to deepen the "design brief" by focusing on investigation to help clearly identify and frame the question (Research In) and also exploration across scales and across a diversity of stakeholders, i.e gathering stories and
examples from the very local and specific context of innovation to broad policy contexts (Research Out). This critically important research enables lab leaders to identify and then orient lab participants. Information surfaced during this step also becomes early input of data into software capable of generating models of the system as well as
depicting possible new scenarios; this technology will provide support throughout the Lab Workshops.

Step 3: The Workshops – a series of three (3) workshops, each running approximately two and a half (2.5) days. The series of three, spaced workshops, with time between for reflection, research, and broader consultation efforts, would be most effective. Each has a specific focus:
Workshop One: Seeing the System
Workshop Two: Designing Innovation
Workshop Three: Prototyping Strategies

After the Lab: Taking action involves any necessary follow-up, the roll out of strategies by those best positioned in the system to be effective stewards, and on-going evaluation of impact across scales in the system. Because social innovation unfolds in a complex context, no matter how successful the prototyping stage unfolded, the roll out should be viewed as an experiment.

PROLOGUE
- Joeri van den Steenhoven
(MaRS Solutions Lab)

Testing a Lab Model

"Translating words into deeds is typically a serious challenge, but it seems you guys have been a real catalyst." Such feedback after running a social innovation lab with people that were largely strangers before the lab started, is why I believe this approach can be so valuable. However, while the field of innovation labs is growing, this approach is still very much under development. And as a field, we need more rigor to ground and test the approach. That comes with becoming a mature infrastructure for social innovation. That is why I am so thankful we have been able to help test of a new lab model.

Over the past year we had the privilege to work with the Waterloo Institute of Social Innovation and Resilience (WISIR) to prototype a social innovation lab model. Professor Frances Westley and her team developed this model based on extensive research on different kind of labs, but also by going back to some of its theoretical foundations, from the work of Eric Trist on systems thinking in the 1960s to Tim Brown's design thinking. They wanted to test it on some real cases and approached the MaRS Solutions Lab to work with them on that.

Testing the WISIR model allowed us to explore our own approach to what labs are and develop some our own methods. In a time that was most formative for us, as we started in 2013. MaRS Solutions Lab is a public and social innovation lab that helps to tackle complex social and economic challenge that require systems change. What we recognized in the WISIR model was a combination of design and systems thinking. When convening diverse stakeholders, it is crucial to have them understand the problem from not just different institutional perspectives, but also from the user and system perspective. And that is what this model also is about.

In our view, real change that helps solve complex social challenges can only be achieved when three elements of a system are being innovated. First, when present solutions do not work, we need to develop new solutions. As it is impossible to predict what works, we need to experiment. Through prototyping, we can get evidence what works, even before implementing it in the field. What works can be brought to scale. It must be noted though that a combination of solutions is needed. One magic bullet solution does never exist. The goal of a lab is to develop an adaptive change strategy that tests multiple solutions, which together could solve the challenge. These solutions can best be characterized as interventions that each solve a crucial part of the problem or create the right inventive towards that.

Second, we need to innovate the way the system behaves. This means changing how the system is being governed, funded and/or incentivized. It can require changing public policy, but also organizations changing their strategies. It is about creating the conditions for new solutions to become accepted and replace the old ways. Building the support system around new solutions to make them sustainable and bring them to scale. That starts with framing the challenge in a way that it creates a sense of urgency and a desire for action.

Third, we need to build the capacity of the people and organizations involved. Simply saying they need to change will not work. We need to build a movement, starting with the innovators that pioneer new solutions. They are deeply passionate, committed and willing to take risks. But for systems change, we can not just rely on that small group. We need to also engage the early

adopters, who see the need to innovation but require some guidance and a safety net. And beyond that the early majority, the people who will only innovate when we can show evidence and offer support to help implement it.

What WISIR's social innovation lab model provides, is the start of the process of systems change. It helps to convene stakeholders and help them understand the challenge from user and system perspectives. It helps to create a common change strategy and early prototypes of interventions. It helps to frame the challenge and build momentum for action. It helps to find the innovators and build their capacity to more effectively address the challenge.

All of this is crucial to the success of a social innovation lab., and core to the value that social innovation labs bring. The thoughtful way the model is constructed gives a strong fundament to the work of labs, which is much needed. I advise every lab practitioner to learn from it. And to conclude, let me share two of the many lessons we learned from testing this lab model:

First, when you have completed this model, you have only just begun. The model helps to convene a diverse group of stakeholders and bring them to the starting line. The real innovation and impact will only come after, once interventions are being implemented. And when we learn if they work, or not. Despite the enormous efforts and energy put into this stage, you should realize this is just the beginning. But without a good beginning, nothing will change or you will make the wrong changes.

Second, as every challenge is different, adjust this model to the challenge. Do not just follow it step by step. We had intensive team discussions on all elements of the

model. About if, how and when in the process to apply each element, and why. Even in the two tests the model was applied differently. For instance, where in the first test the steps were done consecutively, we did them the second test more in parallel. We also developed our own tools to add to the model, or to translate the model into group exercises. That can be done in different ways. On a higher level the model provides a path from research to workshops that probably remains the same, but make your own translation of the model the more specific you get.

Joeri van den Steenhoven is founding Director of MaRS Solutions Lab in Toronto, Canada. During the WISIR test he was Project Lead and main facilitator in the Rockefeller youth Emloyment Lab and Ontario Tender Fruit Lab. Before he was CEO of Kennisland, one of the leading social innovation labs in Europe that he co-founded in 1999.

"

...in the context of changing the system dynamics that created the problem in the first place, a social innovation is any initiative (product, process, program, project or platform) that challenges and, over time, contributes to changing the defining routines, resource and authority flows or beliefs of the broader social system in which it is introduced.

– FRANCES WESTLEY

Every innovation has two parts: the first is the invention of the thing itself; the second is the preparation of expectations so that when the invention arrives it seems both surprising and familiar – something long-awaited.

– EDWIN LAND

"

SOCIAL INNOVATION
Creating Transformational Change in a Complex World

We live in an increasingly complex world. Less than 150 years ago, during the great waves of migration from Europe to North American, family members separated by the Atlantic might not hear from each other for years. Today, we can communicate with our friends and loved ones, instantly, wherever they are. We can see their faces as clearly as if they were in the same room and we can travel to see them, no matter where they are, in a matter of hours, not days. We can send pizza to striking students in Egypt or in Madison and have it delivered in time for their lunch.

All knowledge is at our fingertips; all communication instant. And yet we also live in a world where we feel helpless to influence the forces that threaten our future; global warming, global epidemics, global economic crashes seem to be driven by complex dynamics that are almost possible to understand, never mind control.

Closer to home, we experience, in the course of a generation, waterways that we used to swim in now too degraded to support life, the disappearance of the shadfly that used to herald the beginning of summer, the spiraling of allergies and mental illness in those we know. We worry about the deterioration of our innovative health system, the impoverishment of our schools, the challenge of realizing our values of compassion and equity when it comes to our aboriginal populations.

In the face of these mounting challenges, the concept of social innovation has recently captured the imagination of practitioners, governments, foundations and universities around the world. However, the definition of social innovation ranges broadly, including the creation of any new product or program with social application (associated with social entrepreneurship), to those activities which have both a profit making and a social change goal (associated with the notion of social enterprise).

Our research at the Waterloo Institute for Social Innovation and Resilience has led us to focus on social innovation as about fundamental system change. We define social innovation in the context of changing the system dynamics that created the problem in the first place. A social innovation is any initiative (product, process, program, project or platform) that challenges and, over time, contributes to changing the defining routines, resource and authority flows or beliefs of the broader social system in which it is introduced.

This definition highlights two important points – social innovation is about profoundly changing or transforming a system rather than adapting or improving it, and it is about impacting a system across all scales, affecting not only specific groups, organizations and communities but the whole system at the very broadest level (changes in culture, laws, policy, economy, etc.,).

It is important to recognize that this definition of 'social innovation' is used to describe the full process of transformation, from the beginnings of a good idea or initiative right up to broad social change. We are concerned not only about the need for new ideas to address our most intractable problems but also how the system in which the problem arose needs to shift to make room for those new ideas. It's only by focusing on both – the idea and the matching of that idea with the right opportunity context – that we have the best possible chance of achieving broad, sustained impact.

How is it that broad impact might be possible? Although the nature of complex systems makes intentionally intervening to change them extremely difficult, paradoxically, it's in these same qualities that we also see the very possibility of change. Like the systems themselves, the momentum for social innovation is

emergent; the right elements, brought together at the right time, can be transformative.

Complex systems are unpredictable and can disrupt even the best-laid plans, and yet this emerging pattern of events, trends, ideas etc., also presents a constantly shifting landscape of opportunities for change. Critical thresholds, which are characterized by breaks in the normal state of the system (this might be an economic crisis, a change in political power, a grassroots shift in beliefs, etc.,) represent real windows of opportunity for change agents.

Complex systems are not subject to the laws of cause and effect, so that sometimes a large effort will produce little or no result. Sometimes however, a small effort at the right time (e.g., a critical threshold) will create a ripple effect and a cascade of changes that produce a large result.

Complex systems are shaped by the interaction between scales so that what's possible at one scale (e.g., a community) is shaped by what's happening at another (e.g., in the broader culture). The effect can be dampening or constraining but it can also be amplifying and the relationship can go in either direction - change comes from the top down and from the bottom up. Lastly, it's important to recognize the role of our own role in any system. Not only are we a part of the system but our perception of it is shaped by the perspective we bring when we attempt to analyze it. If we can perceive a system we are in fact part of it, so that, effectively, we must change ourselves and the rules and relationships in which we engage in order to change the system.

What then, is a Social Innovation Lab? We define Labs in the social sector, as opposed to those associated with science, as a highly designed and expert facilitated process clearly intended to support multi-stakeholder

groups in addressing a complex social problem. Such processes have been around since the 1960s and the most effective ones, such as Future Search, Appreciative Enquiry and Scenario Planning, represent part of any change agent's repertoire. We place the kinds of processes that are commonly referred to as "Labs" within this broader field. A Social Innovation Lab is one such process, one that aims specifically at transformation of systems, and whilst the methodology described in this manual has unique qualities it both draws from and benefits from this rich history.

PROPOSAL
A Social Innovation Lab

In order to realize the promise of social innovation, we need a particular multi-stakeholder process that takes the most effective elements from those that already exist, but then also integrates knowledge about complex systems, system transformation, agency, and the re-engagement of vulnerable populations. The methodology proposed in this guide attempts to realize this goal: we refer to it as a Social Innovation Lab and it can serve a specific role for those embarking on the journey of social innovation.

It is important to note that social innovation is a process, not an outcome. While workshops and labs can play a role, they are not a panacea. A lab of any kind signifies the coming together of a group of people in complementary roles in order to experiment with finding novel solutions. It could therefore be argued that all labs work best in the early stages of any deliberate attempt to create change.

One of the strengths of many lab-like processes is the identification of common concerns, a kind of sense making particularly necessary after some crisis or abrupt transition. It could be argued as our systems become more complex, these moments become more common. Complexity engenders surprise; we find ourselves grappling with events that are unanticipated and seem to come from nowhere. Before we can react, we need to make sense of what we are experiencing: What is happening? Why is it happening? What does it mean? In complex systems, arriving at this understanding is best done collectively, by the people motivated and with the means to act in the face of complexity.

In the later stages of systems change, change agents work to broker new partnerships, match initiatives to opportunities and build the networks of resources and influence that can attract much greater resources to the most promising initiatives. These activities are less attuned to convening Labs and other kinds of multi-stakeholder processes. The Social Innovation Lab is instead a process that supports the designing of interventions and strategies that have the best possible chance of reaching these later stages of systems change.

While the design of the Social Innovation Lab is based on social innovation theory and on the assumption of complexity dynamics, it stands on the shoulders of other Lab and multi-stakeholder processes that have been shaping our capacity to respond to intractable problems in the last 50 years.

ANTECEDENTS
to Social Innovation Labs

Lab processes are certainly an important element in the suite of emerging and evolving practices that can support the urgent need to tackle big social and environmental challenges. It's clear that effective labs hold great potential yet also true that these processes often fall short of their ultimate change goals. Nor are lab like processes a new idea. Although it may be argued that both connectivity and complexity are intensifying, those determined to act assertively and creatively to address these challenges have been proposing new forms of collective decision making and action since the early 1960s; new forms proven better able to govern our responses to social and ecological issues than the electoral process.
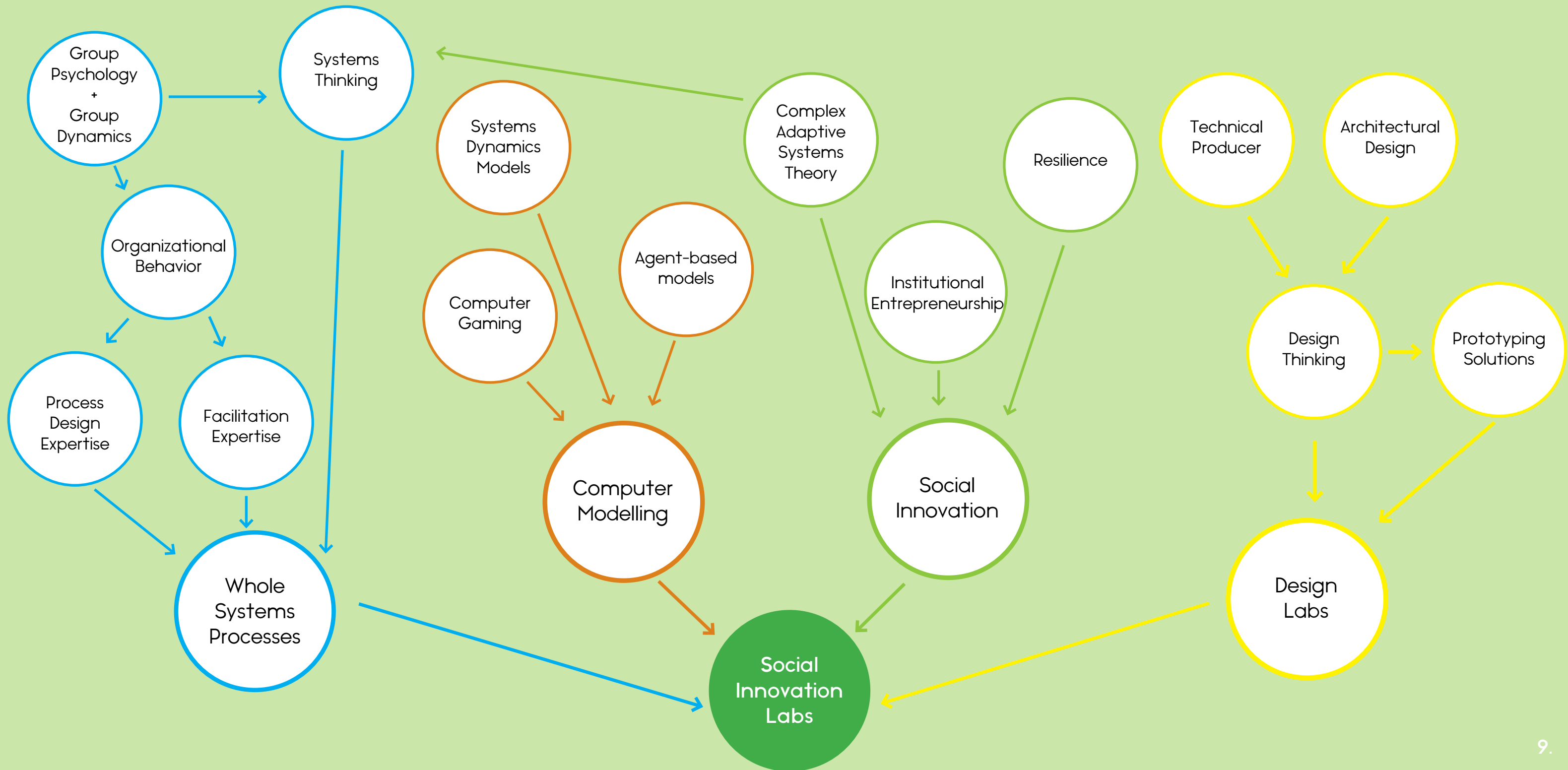
WHOLE SYSTEMS PROCESSES

The issue of groups self-organizing to accomplish tasks important to the members of the group developed alongside a growing understanding of the nature of complex systems in the twentieth century. In the mid twentieth century, the Tavistock Institute in London was developing a theory on group dynamics and change, based on psychoanalytic interpretation. (Bion, W. R., 1961, Experiences in Groups. Tavistock , UK). This work was profoundly influential, giving rise to the very well known notions of group psychology, group therapy and group dynamics. At this same time, in the USA, Kurt Lewin, one of the other fathers of group psychology, was experimenting with a similar approach at the National Training Labs (NTL). Over time, the approaches for learning and group change identified at NTL became the basis of organizational design and development and NTL established a major training facility for the first consultants specializing in process design and group facilitation.

These approaches were integrated with the emerging field of open system thinking. Between 1946 and 1953, in small inns in the American countryside, the Macy Foundation brought together a star-studded group of intellectuals including Ross Ashby, Julian Bigelow, Heinz von Foerster, Ralph Gerard, Molly Harrower, Paul Lazarsfeld, Kurt Lewin, John von Neumann, Walter Pitts, Leonard Savage and Norbert Wiener, Gregory Bateson, Margaret Mead and guests including Erik Erikson, Claude Shannon and Talcott Parsons. In an unusually collaborative environment, experts in fields as disparate as anthropology, psychiatry, social relations and zoology discussed and ultimately advanced thinking on group processes for effective communication and teamwork, and the effect of such processes on the possibility of system change.

In the late 1950s and early 60s, Eric Trist, a social scientist working at Tavistock, advanced this thinking further into a theory of change for whole social systems. Trist was the first to address the notion of whole system problems or "mega-messes" as he termed them (1963). Trist felt that we acted like systems in creating large system problems, but we acted like individuals in trying to solve them. If we were to find a solution to the broad problems confronting us, we needed to respond as a system, or in other words, "get the whole system into the room". With colleague Fred Emery he developed a process that became known as Future Search. This 3-day process was designed to facilitate collective problem solving and collective governance in complex systems.

By engaging a cross-functional, cross-hierarchical sample of individuals and organizations interested in a particular "mega-mess", a representation of the whole system was brought into the room. In a process designed to take advantage of the understanding of group dynamics, the people involved in a future search re-create the past, analyze the present and together imagine a better future. Differences are "parked" in favour of working on the "common ground." Action plans allow subgroups to move forward, past the workshop into action.

The Future Search process, one of the first robust whole system approaches, was tried in many different cultures and in many different problem contexts. It stimulated a variety of other approaches to complex problem solving, including Appreciative Inquiry, Deliberative Dialogue, World Cafes and, most recently, Theory U type processes (see Appendix 2).

These processes are heavily dependent on securing the right participation, and may sometimes fall short of anticipating opposition and constraints in implementation. However, they are based in the breakthrough thinking about group dynamics, processes and psychology of the mid-20th century and have proved very powerful in building a new sense of community and accelerating action through collaboration. Most recently, these processes have been extended to create Change Labs, notably associated with the work of Reos Partners. Among other things this involves an extension of the process beyond the workshop gatherings.

DESIGN LABS

While whole system processes drew heavily on the knowledge of process design, or how to orchestrate a particular type of outcome through the sequencing of different structured activities, a new form of design thinking has recently entered the debate about how to best stimulate new approaches to complex and intractable problems and how to best govern complex problem domains. This approach has originated in the discipline of design – architectural, technical, and creative.
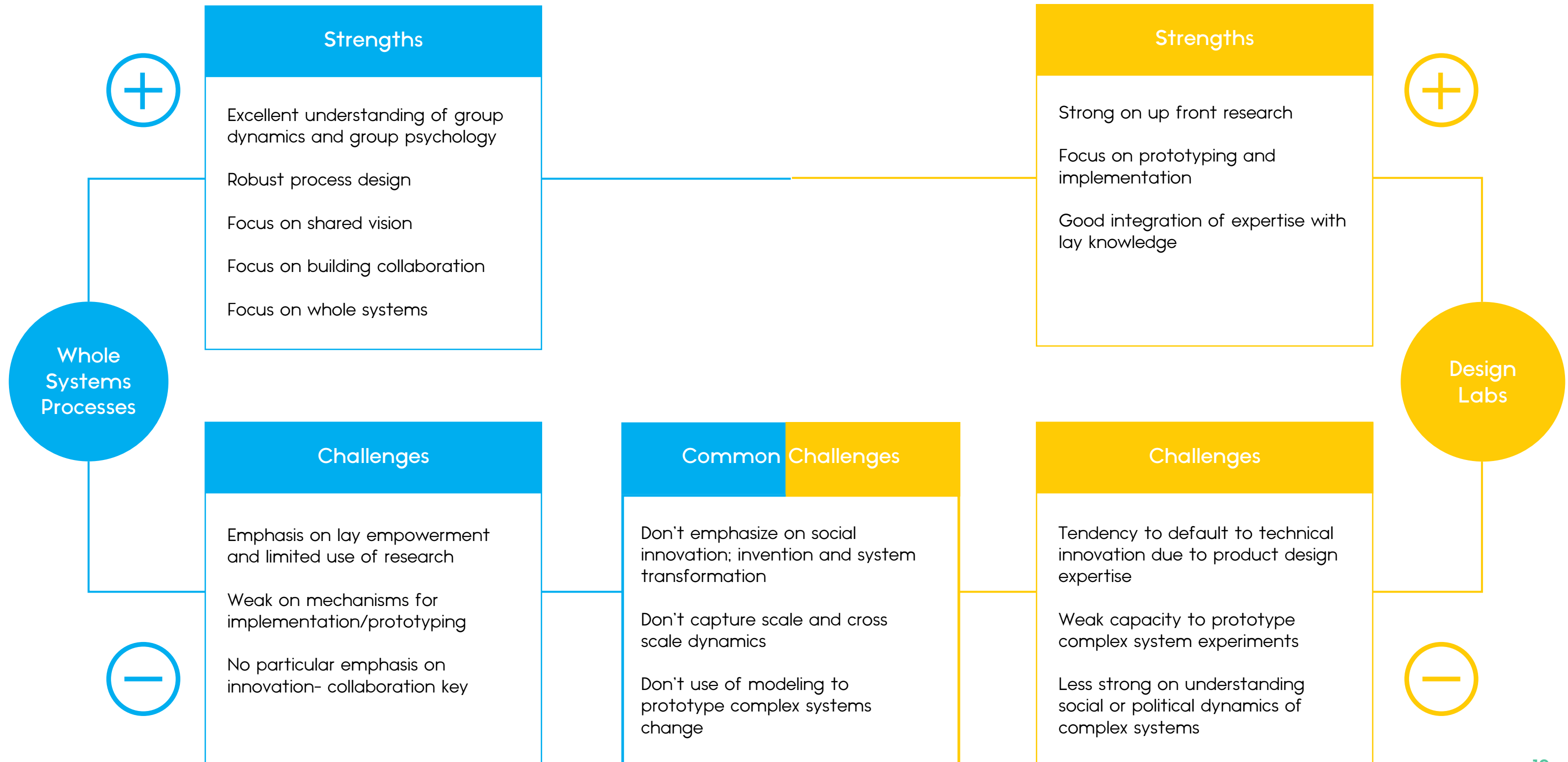
While humans have been designing objects and technologies since the Stone Age, design became a field of study and expertise sometime in the late 19th, early 20th century. Throughout the 20th century, the concept of design was largely used to refer to the creation of physical objects or spaces. In this discipline, the term process design may have originated with automated assembly lines, but took on significance in the creation of continuous process systems, such as those in chemical plants. These more complex process designs developed in parallel with the capacity of computers to model and simulate interactions between numerous components through time. Then in the mid 2000's, a number of well-known designers, including Canada's Bruce Mau and IDEO's Tim Brown, stepped out to make the claim that "design thinking" could be used to talk about "massive change" or breakthrough thinking in complex problem domains.

Design thinking adds precision about the design process (emphasizing the importance of collecting good data in advance, the importance of a clear design brief and how to construct it, and the notion of rapid prototyping) and adds the specific focus of breakthrough thinking for innovation. Designers have a distinct capacity for identifying the fundamental rules and relationships that make up the essence of an original design, and are able to translate these into different contexts and functions.

A number of different groups have organized processes to assist others to use design thinking to creatively address complex problems. Among these are Institute Without Boundaries, Helsinki Design Lab, Stanford D-Lab. The processes involve a research-intensive front end, a charette-like process for integrating interdisciplinary thinking, and the use of design techniques for thinking through solutions. While these processes have demonstrated real success at visualizing solutions that have a technical component (building, structure, technical system), efforts are currently being made to extend them to social systems such as the organization of the public service.

SUMMARY
of Strengths & Challenges relevant to Social Innovation

Whole Systems Processes

Design Labs

Strengths

Excellent understanding of group dynamics and group psychology

Robust process design

Focus on shared vision

Focus on building collaboration

Focus on whole systems

Strengths

Strong on up front research

Focus on prototyping and implementation

Good integration of expertise with lay knowledge

Challenges

Emphasis on lay empowerment and limited use of research

Weak on mechanisms for implementation/prototyping

No particular emphasis on innovation- collaboration key

Common Challenges

Don't emphasize on social innovation; invention and system transformation

Don't capture scale and cross scale dynamics

Don't use of modeling to prototype complex systems change

Challenges

Tendency to default to technical innovation due to product design expertise

Weak capacity to prototype complex system experiments

Less strong on understanding social or political dynamics of complex systems

COMMON ELEMENTS
for both types of processes

Whole Systems Processes
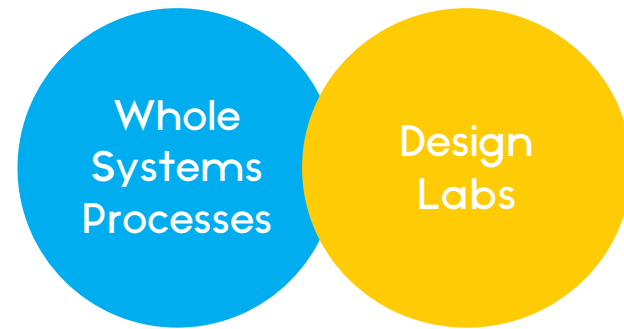
Design Labs

Each Whole System Process or Design Lab has a unique approach that it takes to design, research and experimentation. However, there are a few common elements that hold promise for all Labs, including a Social Innovation Labs.

1.

Co- creation of solutions -
cross sectors, silos and with a goal of citizen engagement. Processes will include a carefully chosen group of decision makers, representing a variety of viewpoints and including those capable of implementing solutions. The greater the diversity, the greater the potential for innovation. However, diversity also requires very careful process design to allow diverse participants to come to break through solutions together.

2.

Specialized physical environment -
A space conducive to creativity, a physical space correlated with creativity, signals a complete departure from routine to the participants. This "bounded space" also can significantly help to manage the sense of risk associated with departing from role.

3.

Clear process design and expert facilitation -
Expert facilitation of a clear process design provides all participants with a sense of where the lab is going and how the work they are currently doing (researching, sense-making, or prototyping) will fit into broader system change. Facilitation is not to stifle creativity or to be overly directive, but used to provide direction and momentum, while ensuring that participants are all able to effectively provide their analysis and creativity to the Lab.

4.

'Unfreezing' -
These processes are "sense-making" – participants come together to understand what's happening and why. To do so, they need to let go of their preconceived ideas about the problems that exist and the best solution(s) to them. This not only builds the sense that change is necessary, but creates an openness to novel responses and approaches.

COMPUTER MODELLING

Simulations have the potential to give new insight into how systems function and how they might transform. With the advancement of computing they have become increasingly powerful tools for understanding complexity, testing ideas, and prototyping interventions.

The earliest simulations occurred far before there were computers. In perhaps the first simulation Georges-Louis Leclerc, a french naturalist, computed the value of the constant pi by throwing a needle repeatedly on a board with horizontal lines on it. Pi was the probability of a throw landing on a line when the lines were located twice the length of the needle apart (Goldsman et al. 2010).

Much later Stanislaw Ulam and John von-Neuman pioneered computer simulations, while working on the Manhattan project in the 1940s. They were studying the problem of nuclear detonation for World War II (Goldsman et al. 2010).

Ulam and von-Neuman's foundational work found wide application. With advances in processing power, cost, size, availability, and ease of use, simulation has become integral to an expanding array of problems including the design of new materials (Curtarolo et al. 2013), studying industrial processes (Borshchev and Filippov 2004), understanding climate and weather (Kendal and Henderson-Sellers 1997), and setting monetary policy (Helbing and Balietti 2011).

System dynamics models and agent based models Two approaches to simulation have particular relevance in lab like processes: system dynamics models and agent based models. They each have an established tradition of being used in workshop processes, well developed literatures, and particular features that make them well suited to studying how social systems transform.

Systems dynamics modeling comes out of the cybernetics tradition. Cybernetics emerged to study feedback loops in WWII and was applied to understanding a wide range of technical, social, and management systems.
Jay Forester developed system dynamics at MIT in the 1950's. It became a particularly prominent branch of applied simulation (Radzicki and Taylor 2015). Forester studied engineering and then began to apply the methods he learned to social and management problems. System dynamics models model systems using feedbacks, stocks, and flows to represent dynamics over time.

Perhaps the most famous system dynamics model is the Club of Rome model which illustrated the risk of population expansion and resource constraints and played an important role in informing the emerging environmental movement in the 1970s. Other models in this tradition include numerous models of corporate management, the early model of urban dynamics called Urban Dynamics, and World1 and World2 models of the world's socio-dynamics (Radzicki and Taylor 2015).

While systems dynamics models are models of a single integrated system, agent based models (ABMs) model many interacting agents. They are models of many interacting non-linear sub-systems. Each agent follows a set of decision rules and the agents often interact over time and space (Borshchev and Filippov 2004).

As with system dynamics models, there are numerous examples of agent based models that have given insights into how systems function. Many of these illustrate how patterns at an individual level can create unexpected system level properties.

One of the first ABMs was Schelling's model looking at segregation in neighbourhoods. In the model, no individual discriminated against others. They merely displayed a small preference to live in familiar

surroundings. The result at a systems level was radical segregation (Schelling 1971; Schelling 2006). Among other insightful models: Craig Reynold built a model that showed how the complexity of bird flocking behaviour could emerge from agents following just three simple rules (Reynolds 1987). Robert Axelrod's model of the iterated prisoner's dilemma showed how cooperation could emerge over time even where incentives rewarded cheating (Axelrod 1981), and Joshua Epstein and Robert Axtell's, Sugarscape model gave insight into how income inequality emerged (Epstein and Axtell 1996).

While scientific models of social and political systems give practical insights into systems and can even help to guide policy makers, they are unwieldily to use. They can take years to develop, and the majority are run only once by the researcher who created them (FitzJohn et al. 2014).

These distinct types of models have their own advantages and disadvantages. Both SD and ABMs give practical insights into how systems function. SD models can be simpler to build, and easier to understand and validate than ABMS but they also have disadvantages. SD models cannot capture the same level of detail and complexity as ABMs (Goldsman et al. 2010). Furthermore, a designer must understand global interdependencies to build a SD model, but this is not needed for ABM model (Goldsman et al. 2010). Finally, in ABMs it is possible to trace individual trajectories and thus to link micro and macro scales and to look at distributions. In studying poverty for example, it is useful to see not just how many are poor but what are the distributions and what are trajectories of those who get stuck in poverty, and what factors would let them escape.

Games

Games are on the other side of the spectrum. They may not model practical problems, but are easy to use and engaging to interact with. They must captivate audiences or they will not be used. They often may be played in groups and provide immediate feedback.

Board games go back to the early traditions of simulations played out on bits of paper without computers. Some board games like the physical enormous, Buckminster Fuller World Game (The Buckminster Fuller Institute 2015) or, the table top game, Monopoly (Pilon 2015) are designed to illustrate real world dynamics.

Computer games integrate engagement with sometimes advanced computer simulation. Computer games are known for compelling graphics, and multiplay online games let many players all over the world play online together and explore a common world (Indvik 2012). Games like Sim City, Second Life, and Minecraft make it possible to build whole cities, lives, or structures (Hale and Stanney 2014). Others like Democracy II (Positech Games 2015) simulate in detail the impact of particular policy decisions.

The disadvantage of games is that they typically focus on entertainment value rather than practical problems. They may or may not offer insight into particular problems. Furthermore, as with scientific models, the model dynamics are typically inflexible so they give little insight into how innovations could change the structure of a system.

Using Simulations in Facilitated Processes

The history of simulation in science illustrates that models and simulations can support rapid prototyping and sensitivity testing, and can make it possible to play with scenarios.

Numerous systems change processes use system mapping and prototyping to help participants to understand and engage with systems. If it is handled well, simulation and visualization can play a powerful supportive role. Encouragingly, a number of groups have explicitly built simple models as tools for thinking with. For example:

The Conservation Breading Specialists (CBSG) brought together policy makers, biologists, people in the field and others in species protection meetings, to work together to save species. As part of these workshops, they developed a tool that let policy makers make decisions in simulation and understand the effect those decisions could have on particular species. These proved remarkably effective for increasing decision maker's understanding and as a tool to support decision making (Lindenmayer et al. 2000). Another example is John Robinson's research group at UBC, which developed visualization software to be used with members of the public and decision makers to understand the implications of their own actions, beliefs and values. The models don't provide right or wrong answers, but they can reveal contradictions within a persons own choices and beliefs. The city of Vancouver used the models to host public sessions to engage with people about trade offs in environmental decision-making (Pecha Kucha Night Vancouver 2010). .

Unfortunately, our capacity to build models that explore how sophisticated systems behave under different circumstances often outstrips our capacity to develop models as tools for thinking with. Few simulation technologies leave their interface open and clearly explain their limitations so that designers and decision makers can modify the assumptions or the inputs as part of thinking though their response to a problem. Even fewer make these capacities so accessible that groups can use them constructively to build and explore models together.

SOCIAL INNOVATION LAB

This guide proposes a new process that integrates the best approaches from whole systems processes and design thinking with social innovation tools and methodologies. The goal of the Social Innovation Lab is to effectively design for innovation on complex, social problems (such as, addressing food system challenges or supporting distressed families). It emphasizes, not only imagining high potential interventions but also, gaining system sight, re-defining problems, and identifying opportunities that can be exploited to tip a system in positive directions.
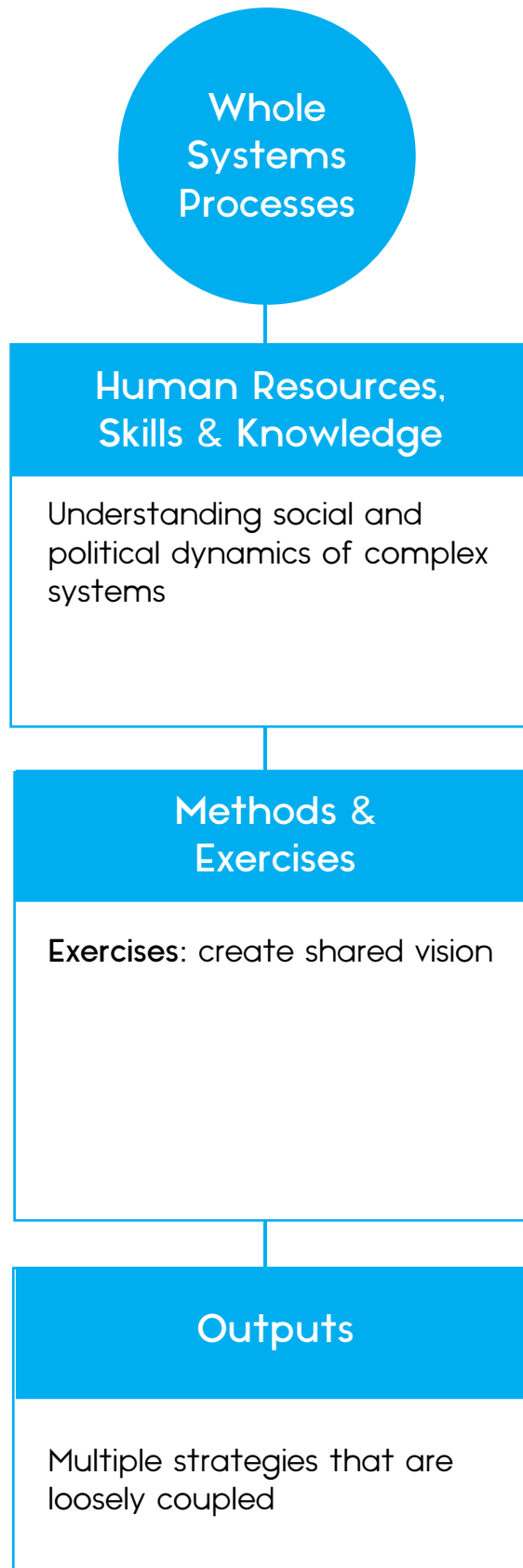
The processes employed in the Social Innovation Lab have an intentional focus on maintaining the complexity of the system and on designing interventions that can move across scales to achieve broad impact. This directly addresses one of the barriers that prevent systems change; that while individuals working in systems have deep knowledge of those systems including alternative approaches that do and do not work, those alternatives rarely move across scales to drive cultural, economic or policy change and so rarely fulfill their potential. The system remains "stuck" because the richness and complexity of real systems is not integrated into the strategies for change.

Although they share some similarities with other Lab processes, a Lab focused on Social Innovation should have some specific characteristics. A Social Innovation Lab should include the following elements:
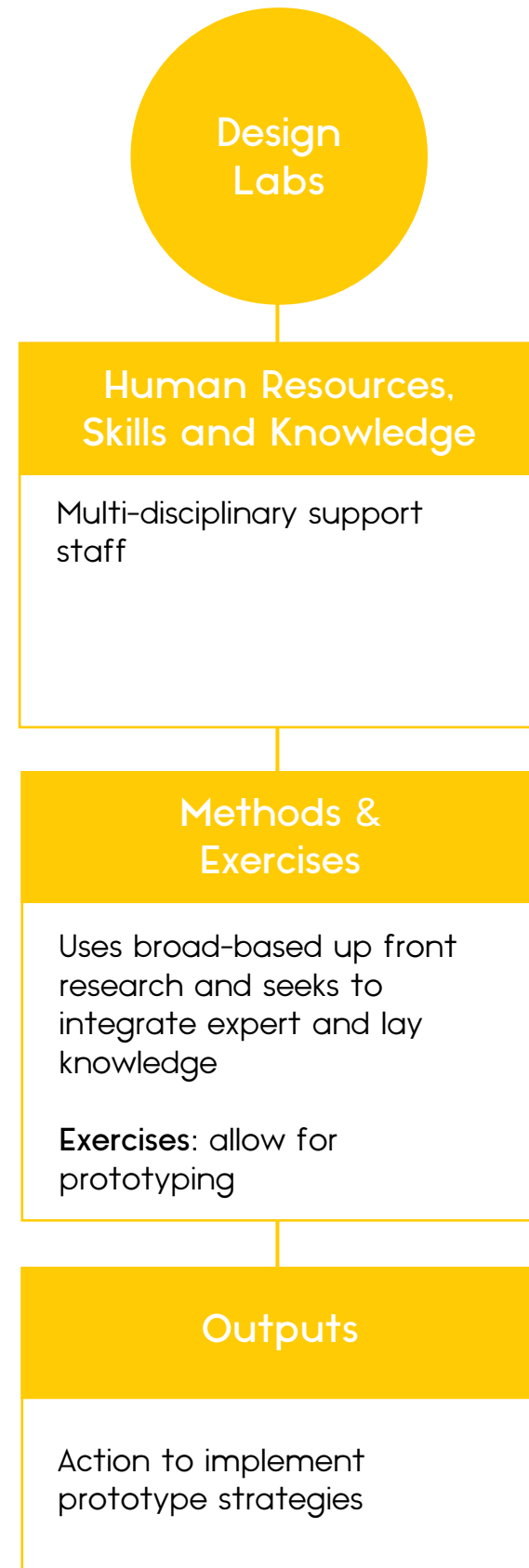
1. Hold a deliberate intent to transform. Rather than adapting to intractable problems, interventions are designed to fundamentally shift the rules and relationships that shape and govern the system being targeted.

2. Take advantage of transitions and thresholds. (e.g., an economic crisis, a change in political power, a grassroots shift in beliefs, etc.,). These are moments when convening a Lab can have most impact. SI Labs should also support participants in understanding and identifying other opportunities like this because they offer the possibility of more rapid transformation.

3. Be focused on innovating not just inventing. While good ideas are a necessary part of the change process, they are not sufficient - good ideas must be matched with relevant opportunities. The Lab process may surface new ideas, but it should also surface interventions that could allow many existing good ideas to scale their impact.

4. Pay attention to cross-scale dynamics. Lab participants should be looking for gaps where they can bridge between bottom up and top down initiatives. By paying attention to activities, trends, initiatives etc., at different scales, change agents can identify relevant opportunities (and barriers) for innovation.

5. Catalyze a range of potential innovations. By stimulating a range of activities, ideally at different scales, a Social Innovation Lab can create ripples within a system. Only the most promising initiatives will eventually attract resources and achieve broad impact, but collectively these experiments have the potential create momentum for change and it's not possible to know ahead of time which of them will have the most impact.

Elements that should be part of the design of a Social Innovation Lab:

Elements Drawn from:

Whole Systems Processes

Human Resources, Skills & Knowledge

Understanding social and political dynamics of complex systems

Methods & Exercises

Exercises: create shared vision

Outputs

Multiple strategies that are loosely coupled

Elements Drawn from:

Design Labs

Human Resources, Skills and Knowledge

Multi-disciplinary support staff

Methods & Exercises

Uses broad-based up front research and seeks to integrate expert and lay knowledge

Exercises: allow for prototyping

Outputs

Action to implement prototype strategies

Elements Drawn from both:

Whole Systems Processes / **Design Labs**

Human Resources, Skills and Knowledge

Clear process design and expert facilitation

Specialized Physical Environment

Methods & Exercises

Used early in the change process

Exercises: reframing the problem and unfreezing

Elements Unique to:

Social Innovation Labs

Human Resources, Skills & Knowledge

Knowledge of Social Innovation and related fields

Methods & Exercises

Computer modeling to prototype changes in complex systems

Exercises: see and manipulate cross-scale interactions and generate multiple interventions and locate these a elements in a process of complex system transformation

KEY STEPS
in the
SOCIAL INNOVATION LAB

A Social Innovation Lab strategically brings people together at a time when persistent problems, disruptive changes or a crisis demand that stakeholders come together to make new sense of the situation. It is about bringing the right people together to engage in:

• Sense-making, (understanding what is happening and why) which in turn infuses a situation with meaning and the motivation to act;

• Identifying the new emerging patterns, programs, initiatives, ideas that could transform the problem domain;

• Identifying the opportunities to shape or influence new partnerships, resource flows and protocols that could support such transformation.

To do this, the lab uses a variety of tools and processes drawn from the rich history of whole system processes and the newly emerging design labs, while adding elements unique to facilitating social innovation. This Social Innovation Lab process facilitates the development of interventions that could allow innovations to have broad impact: It allows for the richness of complex systems to shape decision-making; it includes a suite of tools for exploring and imagining systems as a group; and, it uses techniques for creating and/or identifying pathways for innovations to cross scales.
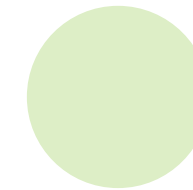
STEP 1.
Initation
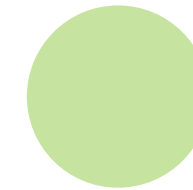
STEP 2.
Research + Preparation
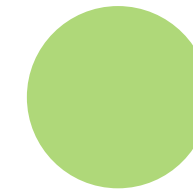
STEP 3.
Workshops

After the Lab

STEP 1.
Initiation

Confirming what the 'conveners' want and need/ Matching needs to processes

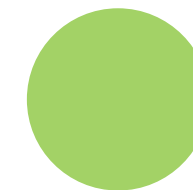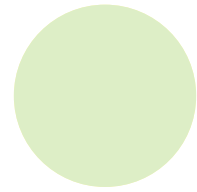As people express an interest in deploying a lab process, it is important for due consideration to be given to the suite of processes available. Depending on the nature of the problems to be addressed, the intended outcomes and available resources, different kinds of processes may be more or less appropriate. Those convening and delivering the proposed Lab should carefully explore their options and decide together on the right process for their needs and goals. The Social Innovation Lab process is designed specifically to address complex challenges that require investment in processes that support the design and implementation of interventions capable of achieving system-wide impact.
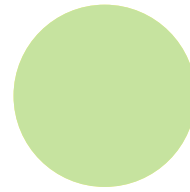
STEP 2.
Research + Preparation

Recruiting participants / Conducting Research, including setting the challenge brief / / Working with modelers / Preparing logistics.

Recruitment

Identifying and successfully recruiting participants in the Lab process is a critical success factor. In addition to deepening participants understanding of the system and fostering a degree of general openness to transformation, the Social Innovation Lab is also designed to bring together particular people and foster relationships that can directly support the propagation and development of innovations. Participants should have the capacity to act on their experiences in the Lab and work towards the implementation of the ideas it generates.

Research

The Social Innovation Lab draws on a variety of research activities at first focused on deepening and refining the "challenge brief"- a well-defined convening question and brief are critical first outputs of the research - and then on exploring system dynamics across scales and from a diversity of perspectives. Interviews with stakeholders for these purposes will involve gathering stories and examples from the very local and specific context of innovation to broad policy contexts.

Building Models

Computer programmers (i.e., the modeling team) will work closely with the research team during the preparation phase, sharing research and access to expertise in order to build the core elements of the model. This process would be similar to system mapping and include both the different features within that system (stakeholders, relevant variables, etc) as well as the relationships (dynamics) between them. Modelers will also have to make decisions about which existing models are going to be integrated into the Lab model.
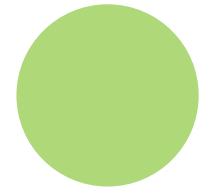
STEP 3.
Workshops

Designing and delivering workshops / Conducting
additional research / Building model

Workshops

Participants to workshops are selected for their
experience and expertise; the lab would convene a
customized team of activists, innovators, policy makers
etc. particular to the focal problem/design brief, and
who would actually work on parts of the strategies they
develop.

Each workshop will vary slightly based on the topic
and the research that goes into it. The first workshop
will be designed to first engage participants in broad
and deep understanding of the system in which
they are concerned, opening up new possibilities for
interpretation. In these early stages we will draw heavily
on some of the whole system thinking, to create the
experience of unfreezing problem perspectives and
surfacing diversity.

In the central part of the workshop phase we will use
tools and methods associated with social innovation to
begin to understand the breadth of possible innovations
and the opportunities for grafting these to the current
system, or shifting the current system to accommodate
the innovations.

We will then enter the prototyping phase, which is
inspired by design thinking. However we will introduce
a modelling component, to allow participants to try out
their ideas in a simulated system. Finally, depending
on the nature of the idea, we will enter the final roll out
phase, which will take these ideas out into the world.
We will deal with each of these, in turn, in greater detail
below.

Additional Research

Most of the 'heavy-lifting' for the research is done
before the workshops are convened, but new questions
and potential areas of enquiry will emerge through the
process. The Lab faces a choice about whether to have
participants conduct this research themselves – talking
to colleagues etc. – or whether the research team can
respond to these additional questions.

Models

Discussions and insights from the first workshop will
shape the building of the basic model, which will be
modifiable so as to reflect the specific and nuanced
discussions held later in the Lab. As the lab develops
a suite of potential interventions, the modeling team
will be able to program the interventions into the model
and adapt existing interventions as the Lab revises the
design of those interventions. Potential innovations
will be as easy as possible for programmers to add,
and very easy for Lab participants to implement once
they're using the model.
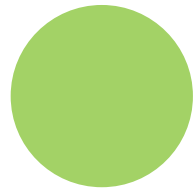
After the Lab Field Testing, Taking Action and Follow-Up

It is worth restating that while workshops and labs can play a role in fomenting social change, they are not a panacea. Processes of this kind are perhaps best suited to the early stages of any deliberate attempt to create change. In the later stages of systems change, after a Lab process, change agents work to broker new partnerships, match initiatives to opportunities and build the networks of resources and influence that can attract much greater resources to the most promising initiatives.

Activities that involve the Lab team at this phase are entirely dependent on decisions taken about the role of those who have convened and facilitated the Lab. Popular use of the term Lab makes little distinction between a Lab as a defined process (as described in this Guide), a Lab as on-going activity which includes both workshops to design as well as supports for implementation; and, a Lab as a permanent unit or organization that is involved in a range of activities related to social change. The Social Innovation Lab process, like others, drives towards stimulating action; the question here is the extent to which this action is centrally coordinated and facilitated, and by whom.

In the Social Innovation Lab, ideally the participants themselves can facilitate this phase, and the organization(s) that commissioned the lab can invest the resources necessary to ensure that experiments continue and continue to be evaluated. For this to work the communications with lab participants has to have been clear, and the research and other Lab outputs will have to be designed cognizant of their later use

by participants. Lab research and workshop outputs will likely see a second life after the lab process itself in making the business case for the support of post-lab prototyping.

There are of course many scenarios where on-going support for teams working on prototypes is necessary. A central team or organization can be useful if additional workshops are required, and if support is needed for prototyping. If Lab conveners would opt for this scenario, Lab facilitators would do well to integrate additional meetings into the initial proposal as momentum can be quickly dissipated by any delays in securing the resources to convene post-lab meetings.

Support for the lab process

The Social Innovation Lab draws from design labs the idea that social innovation requires a marriage of expert and lay knowledge. In the research phase, well-trained qualitative researchers are paired with those that can create compelling media content (e.g., graphic designers, videographers) and complex systems modelers. In the workshop, process designers, facilitators, as well as some topic related content experts should be involved. In the prototyping phase, modelers who can support the whole system modeling process need to be involved. For these experts to work well together as a team, guide the group on their lab journey and to set the conditions for an effective Social Innovation Lab process, they should be familiar and comfortable not only with their own areas of expertise, but also with the concepts related to social innovation. Some of the concepts central to this process include: The innovation cycle; Transformation of systems

through cross scale interactions; Alternative basins of attraction; Building/reducing resilience; Reengaging marginal/vulnerable viewpoints; and, agency and system entrepreneurship. A more detailed discussion of these concepts can be found in Appendix 3.

Evaluation plays a significant role in the Lab process. A complex systems approach poses a particular challenge to evaluation however because attribution becomes so difficult – how do we know that our efforts, not some other changes, are responsible for the outcomes we're seeing? By aiming to fundamentally change systems rather than, for example, the experience of only those that move through a particular program or service, the Social Innovation Lab creates a particularly knotty version of this attribution challenge. The innovation strategies are prototyped and then implemented with the explicit intention that they be adapted in response to a changing context. It is highly recommended that evaluators experienced working with this approach be contracted to support evaluation of the Lab's impact.

In addition to evaluating the impact of the Lab (described above), evaluation can also serve the Lab's facilitators and conveners in making real-time decisions about the design of the process. Developmental Evaluation is an approach to evaluation that can be used to support the on-going development of the Lab – that is, generating findings that are used when making strategic changes to the Lab's design.

STEP 3:
The
Workshops

What follows is the design of a three-workshop process. It is presented as a facilitator's agenda and includes descriptions of specific exercises, along with the goal of each exercise by way of a rationale for the particular sequence of steps. To support facilitators in responding to the complex dynamics of the process they run, the agenda includes key 'transitions' that describe critical aspects of what the group should have achieved before moving onto the next set exercises.

The design of these workshops are offered based on our effort to integrate elements of whole systems processes and design lab approaches, with gratitude to those who have contributed to their development. In addition, we have introduced elements of process specifically geared to social innovation in complex systems, including deliberate efforts to "see" the system in which the problem has arisen, to identify the criteria for an innovation in the context of this problem domain, and to identify points of leverage. Finally, from a social innovation perspective, it is desirable not only to design an innovation but to anticipate the pattern of opportunity and resistance that the system is likely to have to any innovation, so that strategies for implementation can be richly connected to the complexity of that system.

We have designed a set of processes that can, ideally, be carried out as three 2.5 day workshops, interspersed with time to consult with colleagues and stakeholders about the process itself. Recognizing the time pressures that can come with asking participants to dedicate significant amounts of time, and the novelty of the use of computer models, we have also included a description of an alternative workshop process that requires only one full day and does not require computer models. These dramatic changes are not without some significant trade-offs, which are discussed alongside the alternative agendas.

WORKSHOP 1:
Seeing the System

TOTAL TIME: 16 hours 45 minutes
(not including breaks and meals)

DAY 1

TIME	ACTIVITY
Late Afternoon 45 mins	Introduction/ Orientation
45 mins	Issue Identification
45 mins	Timelines
45 mins	Discerning Patterns

DAY 2

TIME	ACTIVITY
Morning 3 hours	Data Engagement
Afternoon 2 hours	Seeing the System
30 mins	Shadow Exercise
1 hour	Paradoxes & the Horns of the Dilemma

DAY 3

TIME	ACTIVITY
Morning 4 hours and 30 mins	Learning Journeys
Afternoon 2 hours	Creating the Multi-Scale Journey
45 mins	Wrap-Up & Close

WORKSHOP 2: Designing

TOTAL TIME: 13 hours 45 mins
(not including breaks and meals)

DAY 1

TIME	ACTIVITY
Late Afternoon 45 mins	Review of Workshop Process
2 hours	Existing Innovations Café

DAY 2

TIME	ACTIVITY
Morning 2 hours	Expanding Possibilities
45 mins	Using Computer Model
30 mins	Promising Ideas
Afternoon 1 hour	Selecting Ideas
2 hours & 45 mins	Bricolage – Building the Desirability, Feasibility, Viability of Ideas

DAY 3

TIME	ACTIVITY
Morning 2 hours and 30 mins	Comparing & Linking Innovations
1 hour	Outstanding Questions & Planning Data Collection
Afternoon 30 mins	Wrap-Up & Close

24.

WORKSHOP 3:
Prototyping

TOTAL TIME: 13 hours
(not including breaks and meals)

DAY 1

TIME	ACTIVITY
After Dinner 2 hours	Exploring Opportunities & Constraints

DAY 2
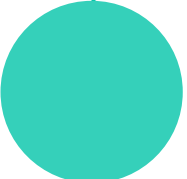
TIME	ACTIVITY
Morning 3 hours	Anticipating System Response
Afternoon 3 hours	Prototyping Ideas with Computer Model
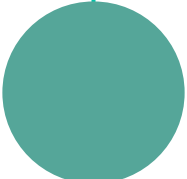
DAY 3
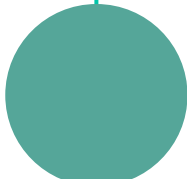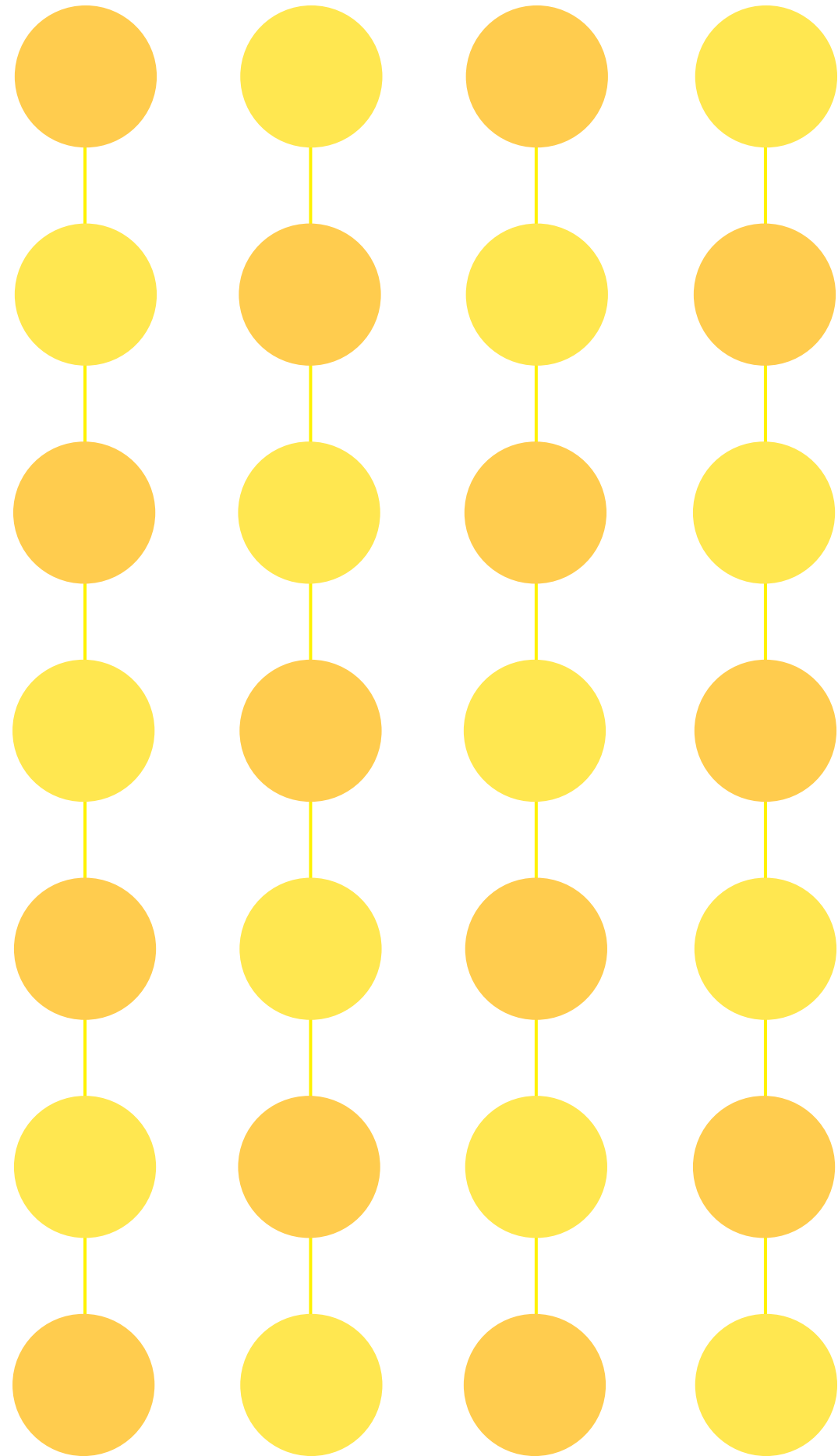
TIME	ACTIVITY
Morning 4 hours and 30 mins	Action Planning & Final Report Out
Afternoon 30 mins	Wrap-Up & Close

WORKSHOP 1:
SEEING the SYSTEM

DAY 1

WORKSHOP 1:
Seeing the System

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
Late Afternoon 45 mins	Introduction/ Orientation	Introduction to the workshop goals and processes. Participants to introduce themselves. Traditional ice-breaker and introduction techniques are appropriate.	Orient participants to the workshop goals, expectations, and agenda. Allows participants to get to know one another.
45 mins	Issue Identification	Participants are given some time to themselves to write down the concerns or issues they have about the focal question / problem. These are presented in round robin form, ensuring every participant has an opportunity to speak. Facilitators winnow and cluster the issues as they are introduced, to create broad categories of concerns and then label these.

This is an exercise in divergence and convergence. Participants need a process that will allow them to converge fairly quickly on a few categories of concerns. The details of the individual concerns should not be lost in the process.

This is a good moment to break for dinner. | Get concerns immediately on the table, and allow every participant to feel 'heard.'

The issues/concerns can also be revisited later in the process when innovation designs are being developed to make sure the concerns are addressed. |
| 45 mins | Timelines Part 1 | This exercise works in conjunction with the next.

Three time lines are introduced – Personal, Regional (or could be organizational), National/International. Participants are asked to make notes about what they see as milestones on each of these timelines and then post them on the timelines. This exercise works best when the each timeline is drawn on a single, very long piece of paper, and when the three timelines can be hung on the same wall, one under another. | Time lines are an effective way to open up thinking about how the focal problem has been addressed in the past and is also a deepening of introduction as participants can expose their own history with the problem. |

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
		Note: This exercise is taken directly from the Future Search process. Future Search resources provide extensive descriptions of their process.	
45 mins	Timelines Part 2: Discerning Patterns	Groups look for patterns within and across timelines. Report backs	Allows for some processing of the nature of their joint perception of the focal problem in history and of the expertise and experience each brings to the table.

WORKSHOP 1:
Seeing the System

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
Morning 2-3 hours	**Data Engagement**	Having surfaced their own concerns about the focal problem, it is time to engage some of the data collected from other stakeholders. This is an intensive exercise. The participants are presented with semi-processed video and/or transcriptions from interviews. The extracts are almost "raw" data, and should allow participants to get a clear sense of the personal thoughts and views of different stakeholders outside the Lab. Ideally, the data will be themed sufficiently to allow for different groups of participants to work on different theme areas. They then work to surface patterns. During reporting out, facilitators will work to create synthesis across the patterns identified.	To broaden participant's perspective on the issue. This is a key part of the unfreezing" of the first stage of the workshop. As the number of participants in the workshop is relatively restricted, and as they will, in general be "insiders", deeply engaged in the content of the focal problem domain, we need to bring other voices into the room.

Transition – Ideally the previous exercise combined with activities from the first day will result in a sense of discovery and a feeling of having enlarged (both individually and collectively) the perspectives on the focal question and related issues.

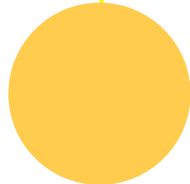|			
Afternoon 30 mins	**Seeing the System Part 1: Management Dials**	In this exercise, participants are asked to identify the variables that determine how the current problem domain is being managed. They should be variables over which they feel they have some control or capacity to influence. These can be described as dials – things that can be increased or decreased to secure certain outcomes in the problem domain. These may be clustered into different subsets if the participants are engaged in quite different parts of the system. Questions can help them brainstorm ideas, asking things like "what has driven change in the past?" and "what words do you	This exercise (parts 1, 2 and 3) let's participants "see" the system they are working on, while at the same time identifying it as manageable, as being created by human activity.

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
		use to describe the health of the system?" Participants should be reminded of the patterns they discerned from external data. **Output**: list(s) of 5-7 system variables or management dials. These will be used as the basis of the system descriptions in the next two exercises. There are a number of effective techniques designed to allow participants to explore and describe the dynamics within a system. The shortened workshop design includes one such option. See also techniques associated with Whole Systems Processes (Future Search and Scenario Planning).	
45 mins	**Seeing the System Part 2: The Dominant System**	Next, the Lab tries to describe the system as it currently is. This short written description is an attempt to characterise the dominant system, and should use the variables from the previous stage. The description should ideally be no more than 1-2 sentences. During this stage and the next, it is important participants be grounded in the realities of the issue on which the lab is focused. This is a second opportunity to introduce elements of the research on different perspectives (audio or video etc.), with the goal of helping connect participants with the lived experience of those affected by the issue. If time allowed, site visits (Learning Journeys) relevant to the issue are a powerful option. Wherever possible it should be an immersive experience rather than one of reading reports or	They characterise the current system and an ideal system. This helps surface participants' frustrations with the current system and hopes for a different system.

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
		second-hand accounts. This "grounding" can happen before participants begin developing their descriptions, or afterwards as a "test" of the descriptions once they've been written. In the case of the latter, time would need to be given for revisions. If sub-groups within the Lab have been working on different sets of variables in the previous exercise, then here they may work on different ideal descriptions (see next exercise). However, once these are reported out, facilitators should encourage participants to discuss their different descriptions: how are they different? How are they similar? Try to use the system variables as a source of comparison.	They characterise the current system and an ideal system. This helps surface participants' frustrations with the current system and hopes for a different system.
45 mins	**Seeing the System Part 3: the Ideal**	Having characterized the current system, attention turns 180 degrees as participants attempt to write a similar description for an alternative or ideal system. In many instances, this description will be almost a direct opposite of the current system. Suggesting this can provide a starting point for participants. We now invite participants to reflect on the identity of the ideal system(s) and develop some minimum specifications ("min specs") for that system. Min Specs are expressed as a set of simple rules or principles, and they encourage participants to think of their ideal system in a coherent way without being overly specific. It's important to distinguish between principles (e.g. client-centred services) and practices that are an expression of that principle (e.g. multiple service providers co-located in single building).	The contrast between current and ideal systems is critical for the next exercise. Imagining ideal futures is an energizing experience, and this exercise taps into that energy. Min specs help to set goals for the Lab's work that give enough of a sense of direction without over specifying.

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN

It can be helpful to give each description – current system and ideal - an identity, which will become an efficient shorthand for the group.
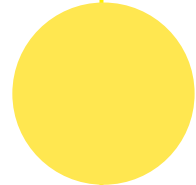
Transition – There should be a feeling of strong identification with both the current and the ideal descriptions. During this transition, we will move to a very individual exercise – the shadow exercise, to prepare for recognizing the enduring tension between the dominant (current) and ideal system. These define two horns of the dilemma – two attractors which are in tension and which define innovation space.

30 mins

Shadow Exercise

This begins is an individual exercise.

Participants are introduced to the notion of shadow or nemesis. They should three columns on a piece of paper. They are then asked to describe, as emotionally as possible, the characteristics of someone who "makes them see red." They should create a list of descriptive words. (E.g., pedantic, aggressive, insensitive, repressed). In the next column they write the word that is the antonym of the words they wrote in column 1. (E.g., if they wrote "pedantic" as one quality in the first column they might write "easy-going" in the second). This second column is generally a good description of themselves, or a reflection of their ideal self. In the third column they write words that they feel the person they are describing (their "nemesis") would use to describe these qualities. (E.g., "pedantic" might be described as "thorough" or (detail oriented). Participants should then reflect on the situations in which the values/character traits in column 3 might be particularly useful.

This is a preparatory or softening up" exercise to allow people to experience the importance of paradoxes – it allows participants to recognize the inherent tendency to see the world in black and white terms, where everything is either good or bad.

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
60 mins	Horns of Dilemma	This exercise mimics the previous shadow exercise.	The Horns of the Dilemma exercise allows participants to identify criteria for assessing an innovation's potential for impact. (Innovations that don't reconcile these paradoxes are less likely to have broad impact as they will experience significant resistance-if they are too grounded in the ideal - or limited novelty - if they grounded in current realities)

This exercise mimics the previous shadow exercise.

Participants take their description of the dominant system and turn it into a positive statement.* The revised statement and original statement of the ideal system are then seen as alternatives and will be placed on the "horns of the dilemma." It can be useful to turn the paradoxes into questions that take the form "How can we continue to have (value(s) from dominant system) while at the same time having (value(s) from ideal system)?"

*It may be necessary to do this in a step-wise fashion. First, they identify the values or characteristics implicit in their descriptions of the dominant system. (These are often framed in negative terms — commonly this might include characteristics like "bureaucratic" or "unfair."). They then take the list of characteristics and turn each into a positive, creating a positive statement about the dominant system.

For an explanation of the concept of Horns of the Dilemma, and their relevance to innovation, see Resource Bank #3

DAY 3

WORKSHOP 1:
Seeing the System

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
Morning 4 hours and 30 mins	**Learning Journeys**	In this exercise we will introduce the concept of the learning journey as a way to understand and personalize the goal of social innovation (transformation of circumstances for a particular set of individuals). There are a variety of ways for the participants to delve more deeply at this moment into the personal reality of those in the system who interact with it, and the opportunities and constraints they face around change. Depending on the issue and the location, we will either bring participants into several settings where they can interview individuals involved in transactions affecting the vulnerable individuals. Alternatively, focus groups can be brought in for a discussion. For an interview guide and tips, see Resource Bank #3	This exercise should be visceral / immersive experience for participants, ideally taking them out of the workshop setting. It should provide them with a different perspective on the challenge and ground them in the realities of it Provides input data for the next exercise.
Afternoon 2 hours	**Creating the multi-scale journey**	Using the data collected from the Learning Journeys, participants will create a map of the experience of those most affected by the problem domain. Participants should quickly identify the steps in the journey. (E.g., for food, this might be the value chain – farm, to packing, to distribution, to retail. Participants should add detail as necessary) We then search for points in the journey where the experience falls outside of what is tolerable for the target individuals. (For some problems, it can be useful to think of variances in quality, quantity, time and cost – i.e., at what point in the journey are costs	This mapping exercise allows participants to pinpoint the most promising points of intervention ('leverage points'), at each scale in the system. Additionally, participants often find it informative to hear the particular concerns of other stakeholders along the journey.

simply too much? Participants can add additional criteria if desired. For challenges associated with individuals, e.g., mental health, participants should think about moments where the system seems incoherent – it doesn't make sense, is confusing, it seems impossible to manage etc..). Not all problems will be appropriate for this exercise. Ideally, to benefit from the journey analysis there needs to be a target population, e.g. youth at risk, the homeless, individuals suffering from chronic disease, unemployed youth etc. It can be done with a system –say a sustainable urban environment, but it is still better to identify a group of individuals for whom innovation will produce a discernable/measurable change of experience.

The interactions that trigger a variance will then be analysed. Who are the actors/stakeholders involved? Specific roles are best. ("Teacher" rather than school"). Participants should then describe what constrains or drives the particular behaviour of each stakeholder. These drivers and contraints should then be traced up through the system – they should keep asking "why."

Finally, participants should discuss potential intervention points (scales) at which an intervention could have most impact in tipping the system. E.g., should they intervene at the level of a school? A school board? A ministry of education? Or, cultural attitudes to education, learning, children etc.?

For example of the output from this exercise, and a diagram that illustrates the 'journey' see Resource Bank #3.

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
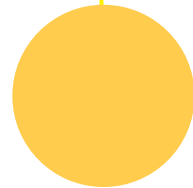
45 mins — **Wrap-Up**

Some closure and looking forward to next workshop.

Exploring existing innovations will be a key element in the second workshop. These can come directly from the Lab team and research, or participants can be asked to bring information about promising innovations with them. The kinds of examples brought should include:

- examples of innovations from other regimes / domains that offer something interesting in terms of reconciling paradoxes relevant to the lab

- examples of (niche) innovations from within the domain (i.e., promising ideas that have not reached scale)

- examples of interventions that create pathways for innovations to scale (move between scales).

GOAL RELATIVE TO OVERALL DESIGN

The Horns of the Dilemma exercise allows participants to identify criteria for assessing an innovation's potential for impact. (Innovations that don't reconcile these paradoxes are less likely to have broad impact as they will experience significant resistance– if they are too grounded in the ideal – or limited novelty – if they grounded in current realities)

Transition – Ideally by the completion of the workshop we will have a sense of the criteria for a transformational innovation (Horns of the Dilemma) and, as well, some ideas about key leverage points in the system (Multi-scale journey). This sets the stage for a more in-depth analysis of the kinds of innovations currently under development and how those might be engaged/tailored to meet the needs for transformation of the current system.

This is a key point of convergence. Where significant differences in opinion remain about the very broad terms and goals of the Lab's work, facilitators should consider revisiting earlier exercises (or trying alternatives) before proceeding to the central part of the SI Lab process (Workshop 2). Note that social innovation theory is rooted in complexity theory. This means that the understanding of the system and of innovation space is an emergent process. We have outlined the above sequence as a set of interlocking steps/exercises, designed with the intent of moving participants through broadening their understanding of the system, identifying its impact on the target population, and identifying innovation space and intervention scale. However, it is possible that participants will choose to focus on different aspects of the system, or that some will move very quickly to identify ideal interventions where others will need to revisit the system dynamics numerous times. Facilitators need to be prepared to respond to different emergent threads.

WORKSHOP 2: DESIGNING

WORKSHOP 2:
Designing

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
		In this second phase of the workshop process participants will switch gears from system appreciation and analysis to identification of promising alternatives or clusters of alternatives to be re-designed to increase their impact (to render them more desirable, feasible and viable).	
Morning 45 mins	Review of Process	There should be some kind of brief road map/review of the process results from the first lab, including "Horns of the Dilemma" and Leverage points (from the journey map).	
2 hours	Café-like intro to preferred innovation ideas	This is an opportunity to show case existing innovations. As an icebreaker –re-entry strategy, this can be done as a poster session where participants circulate and discuss the innovation or innovation clusters and their rationale relative to the criteria and leverage points identified in the last workshop. The kind of examples brought in will include: • examples of innovations from other regimes / domains that offer something interesting in terms of reconciling paradoxes relevant to the lab • examples of (niche) innovations from within the domain • examples of intermediate projects that "bridge" between niche and regime	We begin the second part of the SI Lab with an exploration of existing innovations that seem interesting and promising to the Lab's work. This exercise helps to reinforce two key aspects of the Social Innovation Lab: • There are two parts to every innovation – the invention and the preparation of the system to allow the invention to scale • The creative energy of the Lab is not being marshaled to

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
		Potentially, after hearing about a number of "preferred" innovations, some voting could be held to discuss front-runners. This will be reviewed in the morning.	invent something entirely new, but instead to combine and adapt existing ideas so that they can have broader impact. (See earlier chapter "Towards A Social Innovation Lab").

WORKSHOP 2:
Designing

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
Morning 2 hours	Expanding Possibilities	In this step participants would be introduced to some radical thinkers/artists in their problem domain, by way of expanding thinking. Short presentations and Q & A	To avoid a rush to solutions, and to keep divergence alive for longer, this is a good time to introduce both other ways of perceiving (artist) or radical ways of doing (innovators).
45 mins	Using Computer Model	This is the first chance for participants to use the model. The session is deliberately quite short as the model will likely still be in development. Modeller and/or lab facilitator briefly introduce the model, what it is, and demonstrate how to use it. The specifics of this exercise will depend largely on the nature of the model being used, but it should include the following elements: participants should get to use and/or play with the model directly, there should be an opportunity for them to provide input data to the model, the model should prompt them to consider system dynamics (how different variables affect each other) and, lastly, any participant interested in additional input / work with the model should be offered options to do so. Ideally, the model should include some potential innovations that the participants can implement in the model. The modeller and/or facilitator should close with a brief explanation of how the model will be used in the final workshop.	Gather participant input into the model Familiarize participants with using a computer model Explore system dynamics and the potential impact of different interventions (Potentially) Encourage further divergence in thinking about potential solutions

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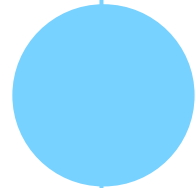
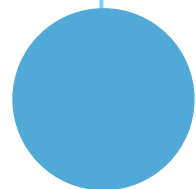| TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
30 mins	**Promising Ideas & Selecting Round 1**	Participants are invited to review the list of innovations from the previous evening. They are going to be asked to choose an innovation that they expect they would commit to working to see implemented after the Lab closes. There will be an opportunity to refining the ideas and for participants to realign their interest. First, anyone who has an idea that is not on the list is invited to briefly explain their idea and add it to the list. Secondly, participants sign up to work on an idea. Ideally, working groups should have a minimum of two people. Facilitators should look for opportunities to cluster or combine ideas with only one or two participants. At this stage, participants could be working on developing one cluster of related ideas or several (preferable). This will in part be determined by how many participants there are and whether, in the first lab workshop, they have been working on the same or different parts of the system.	Surfacing participant's ideas and beginning to select those that warrant further discussion. Building participants' investment in and commitment to the ideas is key.
Afternoon 1 hour	**Assessing Ideas & Selecting Round 2**	Each working group should assess the transformative potential of their ideas. This will be expanded in the next exercise. Any groups that choose to reject or dramatically change their idea based on their assessment should report out to the group. All participants should be encouraged to switch groups at this stage if they so wish. Facilitators should encourage groups to see this exercise as a way to screen out ideas – all the ideas may have merit, but some will have a better chance of reaching broad impact	This exercise makes explicit criteria for assessing the ideas participants want to move forward, and keeps the focus on transformative ideas. It also allows participants to change or reject their ideas, or to move to a different group.

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
		than others.	The participants should be designing the interventions in a way that includes careful consideration of how the intervention "fits" (or not) with the broader context and the landscape of barriers and opportunities it creates.
		To assess transformative potential, each group should discuss the desirability, feasibility and viability of their idea.	
		For desirability, consider: how does it address concerns surfaced in workshop 1 (day 1)? How would it change aspects of the journey described in workshop 1 (day 3)?	
		For feasibility, consider: is this a feasible idea in the current social / political / cultural climate? Is this the right time for this idea? How does it reconcile different 'Horns of the Dilemma'?	
		For viability, consider: what supports / resources are needed in order to implement this idea? Once implemented, how would this idea attract or re-allocate resources?	
2 hour and 45 mins	Bricolage – Building the Desirability, Feasibility, Viability of Ideas	This exercise enacts the notion of bricolage – the recombining of elements in a design. Building on the previous exercises and using the insights and outputs from workshop 1, each group will now redesign and refine their idea to increase it's desirability, feasibility and viability. They should be encouraged to add and combine different elements from the existing innovations as a good starting point. Explore different configurations – how do the different elements fit / work in concert together? What elements can be included / changed? What cannot be changed?	To assess and increase the transformative potential of the proposed ideas.
			Here we are also setting up the questions that participants (or the Lab) can research before the next part of the SI Lab, regarding the absorptive capacity/ receptivity of the current system.

Groups should be encouraged to work iteratively – working through a couple of versions of the design so as to incorporate insights from each discussion (e.g., discussion of feasibility might suggest changes that affect the desirability of the idea). Each group may be at different stages of the development… some ready quite early to advance the design quickly, others cycling back to the their analyse to entirely rethink their idea.

The discussions of feasibility and viability can benefit from broader input, and so the exercise could be organized around exploring the economic, political, legal/policy, cultural context of the current system in plenary, and then discussions in small, innovation specific groups- or the conversation could be in the innovation specific groups with sharing about similarities and differences. Additional questions to consider… Feasibility – what laws, policies, beliefs etc., might this idea bump against? What are the implications of this? Viability – if successful, from where would this idea draw resources? Who would loose out? What are the implications of this?

Transition - Ideally by the end of this sequence, several related or alternative social innovations, which could address the key points in the dominant system will have been developed so that they have "legs"- i.e., they have the potential for broad impact. Teams should be prepared to present the following morning.

WORKSHOP 2:
Designing

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
Morning 2 hours and 30 mins	Comparing and linking innovations	Participants present back ideas as fully developed as possible. Discussion of links, combinations, pros and cons/fixes. Again, facilitators should reinforce the idea that the design work from the day before was also an evaluation/screening of the ideas. They should 'normalise' the rejection of ideas and opportunities should be provided for participants to move to different groups. It can be helpful to acknowledge that all the ideas are likely 'good' but some may be timelier than others. (They are particularly 'feasible').	The point of this exercise is to find similarities between the different clusters of innovations, and to compare these again to innovation criteria, transformed system ideal, and the anticipated impact on the innovation journey.
1 hour	Identifying uncertainties and data collection opportunities	Participants should review their ideas and identify major questions that remain unanswered and require additional data / input from others. The Lab faces a choice about who should be responsible for gathering this data. Ideally, participant teams will do this, but the Lab could also. Questions to prompt participants about missing data: What aspects of these innovations seem problematic when considered in the light of the current context? How could these ideas be tested? Who could provide a useful perspective?	This exercise prepares participants for some additional data gathering they will need to do before the next workshop.
1 hour	Wrap-Up		

45.

Transition: This is a key point at which most participants have organized into working groups. Participants at this point have good ideas about the preferred innovations that they want to work on as part of the Lab, and after the Lab processes concludes. They should also have plans for how these ideas might be tested with colleagues or other stakeholders. (In these conversations, they should pay particular attention to trying to anticipate barriers and opportunities for rolling out their innovation).

Some variance in the clarity of each group's work is to be expected – some may have quickly moved to interventions where others need to circle back to systems analysis. Where a significant number of groups do not yet have a good sense of their work, facilitators should consider revisiting exercises from the workshop (or trying alternatives) before proceeding to the final part of the Lab process (Workshop 3)
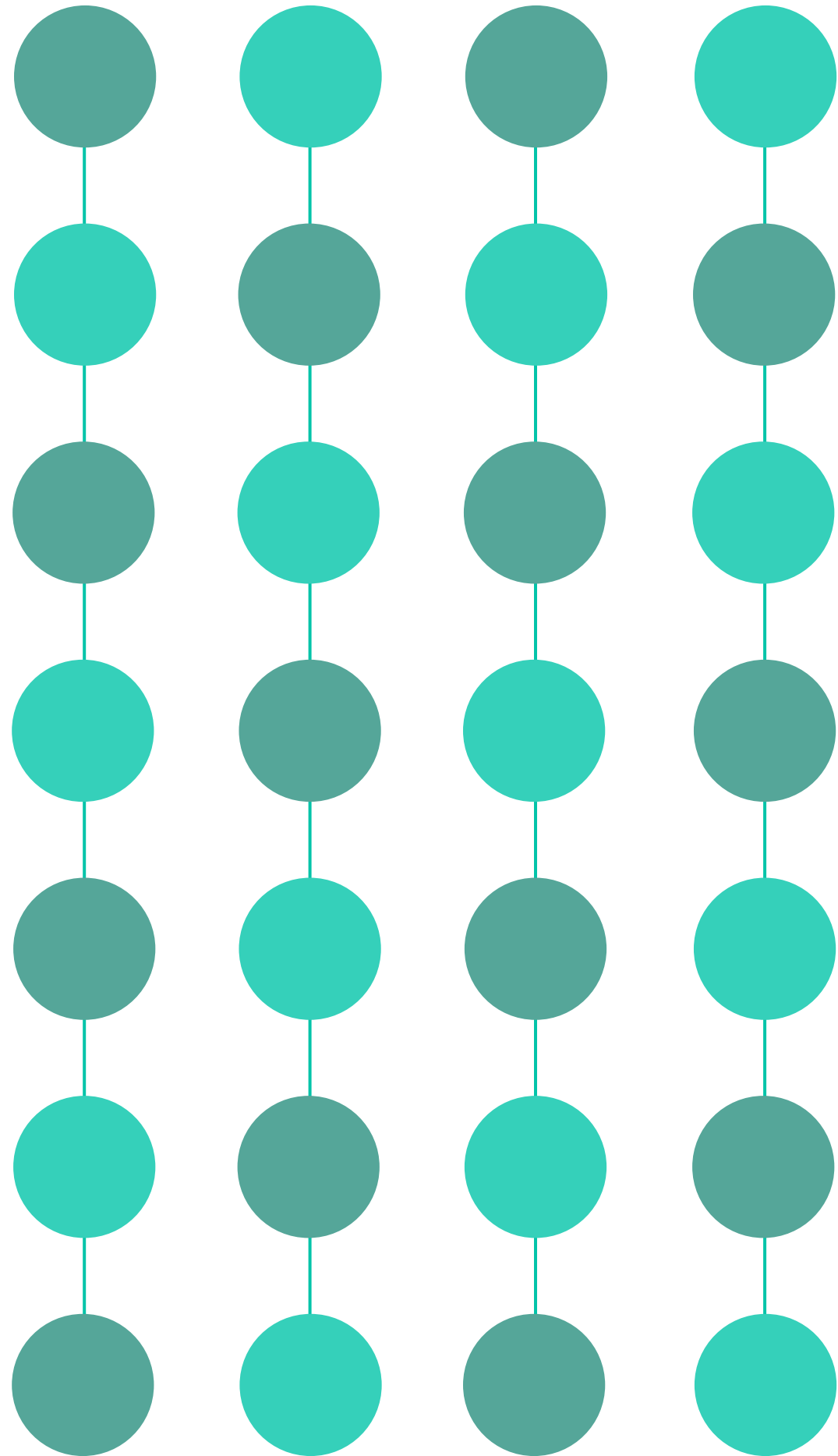
WORKSHOP 3: PROTOTYPING

DAY 1

WORKSHOP 3:
Prototyping

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
Late Afternoon/ Evening/ After Dinner 1 hour	Re-introduction: Participants share stories of opportunity & challenge	Here we ask participants to share stories in dyads/triads and then share larger list of opportunities and constraints related to proposed changes. The conversation is deliberately open and expansive – 'what is the biggest opportunity (opportunities) to be leveraged in addressing these issues?' These are then shared in plenary or group could move into a collective mind-mapping exercise. Depending on the size, other techniques, including mind mapping might be used to surface common opportunities and challenges – using classic categories of technical, social, environmental, cultural, economic, political.	Change for participants to reconnect to the focal question and refresh their thinking about the system(s) they are working to change.
1 hour	Exploring/ Sharing/ Integrating New Data	The structure of this exercise depends whether participants were tasked with trying to answer questions identified at the conclusion of workshop 2, or if the Lab was responsible for this. Either participants will need to share their work with team members, or the Lab will need to present / provide data to the teams. Teams should use their discussion to populate a 'poster' that describes their idea. The poster should cover 4 points: the problem they are addressing; the intervention / innovation they are proposing; the impact (e.g., how it would change the journey described in workshop 1); the opportunity context (what opportunities is it leveraging?)	Participants to reconnect to their idea – refresh their thinking about the system they are working to change, and their proposed innovation – and to introduce data collected since workshop 2.
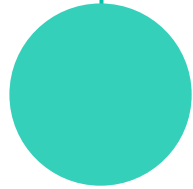
TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
30-45 mins	Poster Session	Participants circulate, reviewing the full suite of innovation ideas being proposed through the Lab.	Chance for the group to be reminded of all the innovations being proposed. Ideally, this is a particularly interactive, social experience.

Transition – We need to leave this exercise with key opportunities and challenges that can be addressed in working groups.

WORKSHOP 3:
Prototyping

TIME	ACTIVITY	DESIGN
Morning 2 hours	**Sensitivity Testing: How Will The System Respond To This Innovation?**	This exercise makes use of different 'lenses' to examine the barriers and opportunities faced by each group's innovation. Small groups will discuss each innovation using a different 'lens' and provide feedback to the team that has designed the innovation.

Facilitators should remind the group of the trend map and exercises on barriers and opportunities from workshop 1, and ideally post the large map and small group work flipcharts back on the wall.

Participants should self-select into one of the 6 groups – social, cultural, political, technical, economic and environmental. (Different lenses or combinations are possible). Each group should review the large trend map, and the causal flow map for their lens (see workshop 1 for details), and generate a list of questions or considerations relevant to their lens. They should be encouraged to think of the lens as a mind-set, one that suggests a particular set of values, ways of thinking etc. For instance, a group using the 'political lens' might be concerned with political will and elections, but they might also think about rights and responsibilities, conflict and co-operation, coalitions, power and the way control is exercised.

Once they have a list of questions / considerations, each group will go around to each innovation in turn and explore them through the lens they have chosen. What does this reveal about the innovation, and about the barriers and opportunities it will face? What unintended consequences are revealed? What critical considerations need to be taken into account?

GOAL RELATIVE TO OVERALL DESIGN

Having built an innovation which participants feel is promising, it is time to evaluate its impact on the current system and the current system's impact on it.

Each working group should have been thinking about barriers and opportunities throughout the design of their innovation and this exercise is an opportunity to provide more / different perspective about how the system will respond to this innovation.
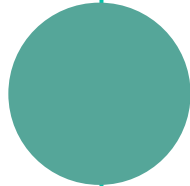
TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN

Whilst the groups should be encouraged to look at the innovation through their lens, it's likely that each participant will 'see' things that are apparent because of their own expertise and experience – these additional insights, suggestions, cautions etc. are extremely valuable and should be encouraged once they have thoroughly explored the innovation through a particular lens.

The specific method for providing feedback will depend on the overall group size and/or number of innovation teams. Feedback can be written on post-it notes or innovation teams can elect one member to remain with their innovation to receive the feedback directly.

Transition – Go from identifying possible strategies that can influence current context and allow greater support for the innovation, to searching for hidden desirable or undesirable consequences of this kind of system intervention.

3 hours | **Sensitivity Testing: Part 2**

Using the modelling capacity, participants working in groups can test the impact of particular strategies on the system as a whole – modifying strategies in response to "system" feedback. The specific protocol for this exercise will be heavily dependent on the nature of the model used. Suggested elements include:

Spend the minimum amount of time possible explaining the model and let participants begin interacting with it as quickly as possible.

- Spend the minimum amount of time possible explaining the model and let participants begin interacting with it as quickly as possible.

In an effort to "prototype" before actual intervention, the model of the system can be used to explore possible, unforeseen impacts of a particular strategy associated with the innovation.
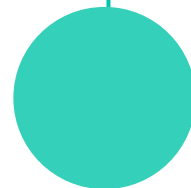
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TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
		• Short rounds of bounded challenges – e.g., trying to move one indicator and ignoring the effects and trade-offs - help participants quickly familiarize themselves with the model and encourage playful competition amongst groups. • Ideally, facilitators should be able to prompt groups to reflect on specific system dynamics during the first rounds of games. • Once in free play, participants should cycle between prototyping (using the model) and discussions of the design of their innovations. • Playing the interventions out under different scenarios can be particularly powerful.	
1 hour and 30 mins	Re-designing Proposed Innovations: Building Strategies For Success	Participants upgrade the designs of their innovations based on their analysis of opportunities / barriers and use of the computer modelling.	To incorporate ideas from the previous prototyping exercises.

Transition – By the end of this day, there should be a list of key strategies that will need to be part of the social innovation strategy.

DAY 3

WORKSHOP 3:
Prototyping

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
Morning 4 hours and 30 mins	**Action planning and Final Report Out**	Based on the choice of strategies, what are the next steps in the roll-out and how will the work be integrated? Ideally participants will volunteer to work on particular strategies – time lines can be created as to how soon which aspects can be accomplished, plans will be made on how the group can continue to integrate their efforts and what kinds of communication are needed. The final report out can include invited guests, or even an expert or VIP panel to provide feedback. This is one mechanism to broaden the engagement in the Lab and build momentum for the ideas being developed. Presenting to an external audience can also provide additional motivation for participants.	This is the closing activity of the workshop. It should provide participants with real concrete interventions, even in their nature as experiments, and a timeline for execution. Here the key decision of the facilitator consultants needs to be how long and to what extent these on-going activities will involve the consultants.
1 hour	**Wrap-Up & Close**		

ALTERNATIVE WORKSHOP AGENDAS

WORKSHOP 1 Alternative: Seeing the System

TOTAL TIME: 11 hours
(Original: timeframe: 16 hours 45 mins)

Changes are highlighted with a dotted box

DAY 1

TIME	ACTIVITY
Late Afternoon 45 mins	Introduction/ Orientation
45 mins	Issue Identification
45 mins	Timelines
45 mins	Discerning Patterns
1 hour and 30 mins	Data Engagement

DAY 2

TIME	ACTIVITY
Morning 45 mins	Paired Walk
Afternoon 2 hours	Creating the Multi-Scale Journey
Afternoon 2 hours	Seeing the System (Alternative Process)
1 hour	Brainstorming (Additional Exercise)
45 mins	Wrap-Up and Close
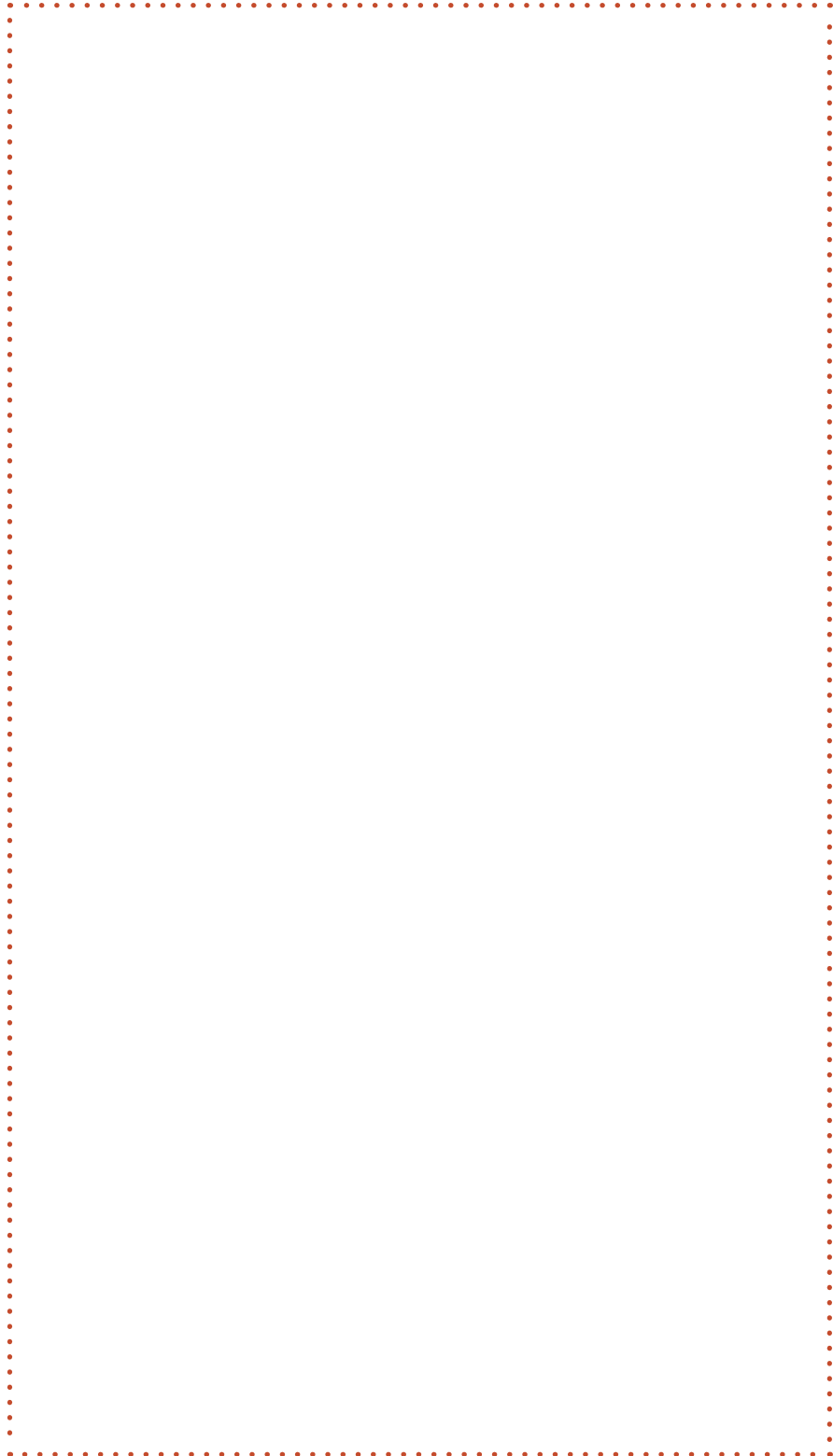
WORKSHOP 1 Alternative:
SUMMARY OF CHANGES

Summary of Changes: Reduced time and alternative process for data engagement; alternative process for "Seeing the System;" no "learning journey"; some re-ordering of exercises; brainstorming exercise added

Cons of alternative agenda:
• Lose time to engage with outside perspectives (data engagement, learning journey), which will likely reduce the capacity of the workshop to 'unfreeze' participant's ideas / thinking.
• Lose the visceral experience of the Learning Journeys – an important personal but also shared experience. Learning Journey's are a powerful way to challenge participant's own ideas about how a system works.
• "Seeing the System" – as a criteria for assessing innovations, wicked questions offer a safe guard against existing solutions and avoid the 'pendulum swing' so common in our thinking. (Solutions that are the direct opposite of existing approaches and fail to engage with the 'hidden' virtues of those existing approaches). The process of developing paradoxes taps into the energy participants experience when imaging ideal futures, whilst the outputs (the paradoxes) offer a useful point of convergence – participants feel a strong sense of common ground and that they have collectively made 'progress.' Importantly, and in contrast to other exercises that help groups converge, this method honours the complexity of the system and captures the richness of the conversations that have taken place.

Pros of alternative agenda:
• Alternate process for "Seeing the System" – the opportunities and barriers provide a list of criteria for strengthening any innovation (it is not a list of criteria for an innovation); and this process also allows time for participants to spend time imaging potential solutions – this is often a particularly energizing experience, allows participants to voice their ideas without locking the Lab into using them, and helps foreshadow the coming workshop.

DAY 1

Alternative:

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
Late Afternoon 45 mins	Introduction/ Orientation		
45 mins	Issue Identification		
45 mins	Timelines Part 1		
45 mins	Discerning Patterns		
1 hour and 30 mins	Data Engagement	The goal of the exercise remains similar, but the method employed has changed. Importantly, this method removes some of the sense of 'discovery' that comes with participants interpreting data rather than the research team. The Lab team should create a number of personas that the participants can use to create role-plays about different aspects of the focal challenge. Working in groups, each participant reads an in-depth profile of a key stakeholder, which should ideally include direct quotes. Each group can then role-play specific scenarios developed by the Lab team. After the role plays, participants should	To broaden participant's perspective on the issue

discuss what the role-plays revealed to them about the different experiences, concerns, and constraints of different stakeholders.

The personas should be drawn from research interviews conducted before the Lab, and should include any stakeholders not represented in the Lab group. Each group could have different configurations of stakeholders and different scenarios to ensure a broad range of perspectives are included. Scenarios should be drawn from across scales – from the experiences of those directly affected by an issues e.g., a personal with mental health and a scenario in a health care setting, to those working on within the system but directly affected by the challenge e.g., a policy maker.

Alternative:

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
Morning 45 mins	Paired Walk	The time constraints change the goal of this exercise. Participants go for a short walk in pairs. Pairs can be assigned or self-organizing, but facilitators should encourage participants to walk with someone they don't know and whose perspective might be very different to their own. Facilitators can suggest a discussion question, or leave the conversation entirely open. The act of walking, and being outside can be a good source of energy.	To help build relationships amongst Lab participants and broaden their perspectives
2 hours	Creating the Multi-Scale Journey		
2 hours	Seeing the System Part 1	Trend Mind Map - 45mins Working in plenary, ideally standing at a large sheet of paper or whiteboard, participants are asked to identify the external trends they think are shaping the focal challenge. The paper or whiteboard should be divided into 6 categories — social, cultural, political, economic, technical and environmental. Facilitators should transcribe trends as participants identify them, but participants should decide if the trend is entirely new or connected to an existing trend. If time allows, asking for concrete examples of each trend can be useful to help comprehension. Critically, any trend a participant believes is important goes on the map — this is not a discussion between participants, and facilitators should resist debate about the nature and/or validity of each trend's influence. Contrasting trends are fine.	The goal of this exercise (all three parts) is for participants to collectively make senses of the system(s) they are working to change. The 'sense-making' covers different scales and ensures participants are thinking about cross-scale dynamics.

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN

The map should look particularly full and complex once finished, with lots of trends, some connected and some not.

If time allows, participants can vote with stickers on the trends they think are most significant. The voting provides a visual representation of the group's thinking.

See Resource Bank #3 for an example of a mind-map of trends.

This exercise is taken from the Future Search process. Future Search resources contain additional information on its use for that process.

Seeing the System Part 2

Causal Flow Maps – 45mins

Participants should self-select to do further analysis of one of the 6 categories of trends. The task for each group is to chart each causal step between a broad trend identified in the previous exercise and the specific manifestation of that trend in the actions / behavior of individuals. It can be useful to start by a) selecting what seems to be the most significant or important trend (the plenary votes can help in the choice) and b) listing the different manifestations of that trend. The group can then identify the intermediary causal steps. Facilitators should encourage groups to expand each step they identify, asking 'what else is causing or influencing this behavior?' and to keep asking questions so that the analysis expands and moves between scales. In doing so it is likely the group will surface other important trends. Flipcharts can be useful in creating this map.

See Resource Bank #3 for an example of a causal flow map.

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
	Seeing the System Part 3	Identifying Opportunities and Barriers – 30mins Using their causal flow maps, each group should identify potential barriers and opportunities to innovation on the focal challenge. The barriers and opportunities might be at any scale (from individual behavior to broad trend), and they might even be events (e.g., a coming election). During a report out, facilitators should capture the barriers and opportunities they have been identified on separate flipcharts.	To understand the forces that will potentially increase or decrease the chances of an innovation achieving broad impact.
2 hours	**Brainstorming (Additional Exercise)**	Participants brainstorm potential innovations the Lab might take on. They should be encouraged to pay particular attention to how different trends come together and how this could potentially influence the design of any successful innovation. Table groups might start with a reflection on the previous exercise and identify some qualities that should be part of any potential innovation. Individual participants can then brainstorm specific ideas. Facilitators should encourage participants to include existing innovations in their list of ideas. Voting can be a useful way to gauge the group's interest but there is no need to narrow down potential ideas at this stage – in fact, it should be discouraged. These ideas can provide guidance to the Lab team on any additional research required before the next workshop. The innovations can also be used for the review of existing innovations at the beginning of workshop 2.	Allow participants to start thinking about potential 'solutions'. It allows participants to voice their 'pet' ideas – those they already had in mind before the Lab – and this can allow for novel / different ideas to surface in the process.

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
		This is often a high-energy exercise, and good close to the workshop as it foreshadows the kind of work (creative rather than analytical) that will be the work of workshop 2.	
2 hours	Wrap-Up and Close		

WORKSHOP 2 Alternative: Designing

TOTAL TIME: 9 hours 30 mins
(original timeframe: 13 hours 45 mins)

Changes are highlighted with a dotted box

DAY 1

TIME	ACTIVITY
Late Afternoon 1 hour	Existing Innovations
45 mins	Review of Workshop Process
30 mins	Existing Innovations Café

DAY 2

TIME	ACTIVITY
Morning 1 hour	Selecting Promising Ideas
45 mins	Bricolage - Building the Desirability, Feasibility, Viability of Ideas
Afternoon 2 hours & 30 mins	Comparing & Linking Innovations
30 mins	Outstanding Questions & Planning Data Collection
30 mins	Wrap-Up & Close
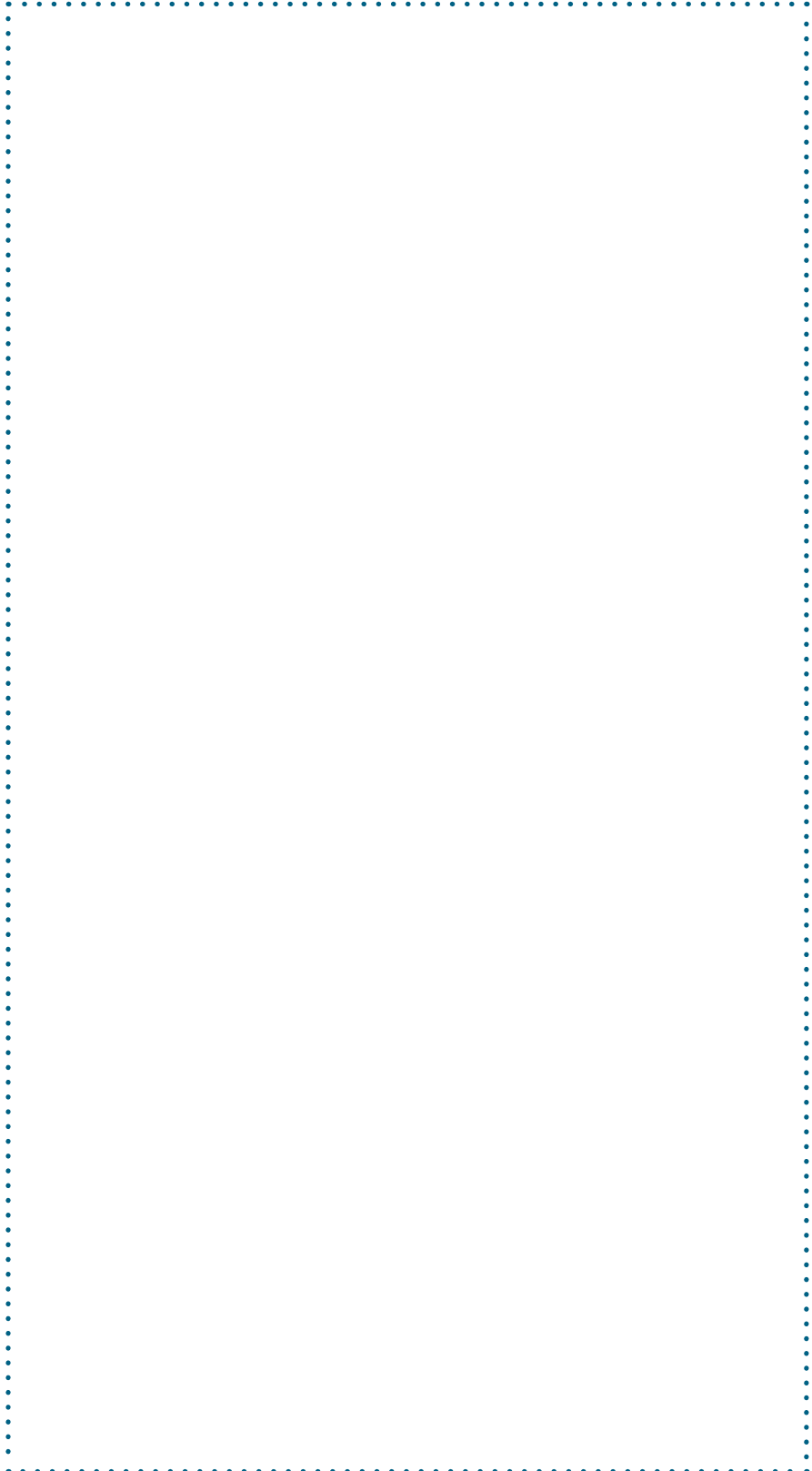
WORKSHOP 2 Alternative:
SUMMARY OF CHANGES

Summary of Changes: Shorter time for exploring existing innovations; no "expanding possibilities" or Computer modeling; less time to identify outstanding questions

There are no new or different exercises for this alternative agenda. The time shaved from two exercises (the existing innovations and identifying research questions) will affect the level of detail that can be achieved and quality of the analysis. The reduced time for planning data collection may decrease the likelihood that participants complete the work before the next workshop. (Alternatively, the Lab team could complete the work, however this will require considerable capacity and may reduce the participant's sense of 'ownership' over and investment in their ideas). More problematic for the goals of the workshop and the Lab process overall is the removal of the exercise to "expand possibilities." This is a critical opportunity to push the quality of ideas produced by the Lab and to challenge the participants to develop truly novel and innovative responses. Furthermore, hearing from people with radical and interesting ideas is often one of the goals and part of the expectations for those participating in a Social Innovation Lab.

WORKSHOP 3 Alternative: Prototyping

TOTAL TIME: 8 hours 30 mins
(Original timeframe: 13 hours 30 mins)

Changes are highlighted with a dotted box

DAY 1

TIME	ACTIVITY
After Dinner 1 hour	Re-introduction: Revisiting The System- Barriers and Opportunities for Innovation
1 hour	Exploring / Sharing / Integrating New Data
30 mins – 45 mins	Poster Session

DAY 2

TIME	ACTIVITY
Morning 2 hours	Sensitivity Testing
1 hour and 30 mins	Revisting Innovation, Building Strategies for Success
Afternoon 2 hours and 30 mins	Action Planning – Steps for Moving Forward
30 mins	Wrap-Up & Close
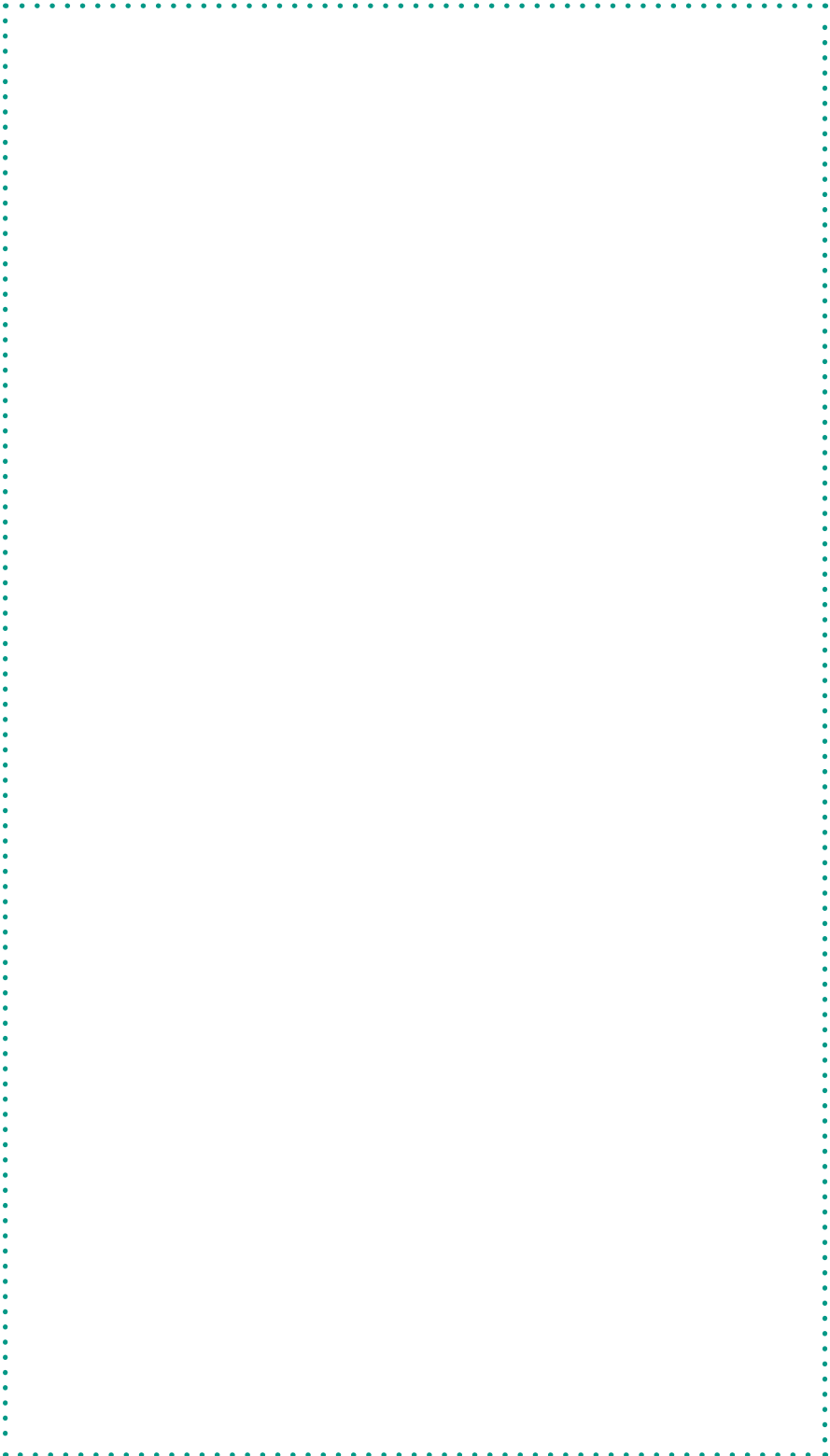
WORKSHOP 3 Alternative:
SUMMARY OF CHANGES

Summary of Changes: Shorter time for exploring existing innovations; no "expanding possibilities" or Computer modeling; less time to identify outstanding questions

The primary goal of this workshop is to prototype the impact of the proposed innovations on the system and to anticipate (and attempt to mitigate) the impacts of the system on, and in response to, the proposed innovations. Computer simulations offer the possibility of bringing both large amounts of data and expert knowledge in the service of Lab participants. They also allow participants to rapidly play out different scenarios. Without the modeling, it is particularly challenging to do this.

The more time given to action planning, the more specific the plans and the more likely they are to be realised. The transition from proposed action (the Lab) to realized action is fundamental to the successes of the Lab.

DAY 1

Alternative:

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
Late Afternoon/ Evening/ After Dinner 1 hour	Re-introduction: Participants share stories of opportunity & challenge		
1 hour	Exploring/ Sharing/ Integrating New Data		
30 mins	Poster Session		

DAY 2

Alternative:

TIME	ACTIVITY	DESIGN	GOAL RELATIVE TO OVERALL DESIGN
Morning 2 hours	Sensitivity Testing: How Will The System Respond To This Innovation?		This is a final moment of caution – a chance to pause, check assumptions etc., – it should be constructive (not too disruptive) and grounded (rather than abstract or theoretical).
1 hour and 30 mins	Re-designing Proposed Innovations: Building Strategies For Success	Participants upgrade the designs of their innovations based on their analysis of opportunities / barriers. They should include strategies to mitigate key barriers and exploit key opportunities	
Afternoon 3 hours	Action Planning and Final Report Out		
30 mins	Wrap-Up and Close		

LAB PROCESS
in ACTION

STEP 1: INITIATION

The goal of the initiation phase is to establish the intended outcomes of the proposed process and match these to an appropriate process design, and secondly, to set an initial description of the challenge to be addressed. This initial description, ideally expressed as a question, will guide the first round of research in the following step in the Lab process.

Social Innovation Labs often involve a 'client' who provides support for the process, through a combination of covering costs, providing insights about the challenge and in some cases acting as a convener (i.e., using their social capital to secure the participation of key stakeholders). The client might be a single organization or a group, it might include individuals directly affected by the problem, or it could be a foundation, a government or government department, or any other organization. Critically, any proposal for a Social Innovation Lab should stem from a concern with a particular problem, and from there an assessment can be made about whether a Social Innovation Lab is actually the best process for meeting the client's goals.

Those considering delivering, convening and/or funding a Social Innovation Lab should ask some of the following questions in order to clarify their intended goals and establish the extent to which they are best served by a Social Innovation Lab:

- Has a problem been clearly identified as complex (impact is recognized as very hard to achieve – there is no clear solution – outcome will be a process/strategy/intervention rather than a product or thing)?
- Is there a 'client' or 'convenor' for the lab process who feels significant ownership over the problem and strong motivation – who ideally holds a lot of social capital?
- Is there confusion and dissention around what is going on and why, combined with a sense that business as usual is no longer an option?

- Is a key transition at hand (a 'crack' in the system is appearing) eg a noticeable shift in culture, political changeover, economic instability, etc.?
- Does there exist a collective sense of urgency among likely participants in seeing innovation within a certain problem domain?
- Do innovations (i.e., experiments with alternative approaches) abound in the problem domain but none of them have been successful at catalyzing positive transformation?

If the answer is no to any of the questions above, other types of lab processes be might be considered:

- If the motivation for the process is creating new partnerships and strengthening collaborations than a whole systems process is best.
- If the goal is to create a shared vision of the current or future state of a domain, by putting aside differences, a whole systems process is best.
- If the problem is clearly understood and interest lies mainly in action planning, whole system processes, a design lab or even traditional strategic planning may be best.
- If the outcome is imagined as a single 'technical' solution, that is, probably a product, program or a design for a technical system (transportation system, information system), a design lab is best.
- If the problem is the translation of a set of innovative values from one domain to another, a design lab may be best.

When is any type of lab process not an appropriate choice?
- There doesn't exist a strong interest or sense of ownership of the problem
- There is limited capacity or interest to invest significant time to the process
- There is no flexibility to explore or change the focal question / challenge

STEP 2: RESEARCH & PREPARATION

The Research and Preparation is divided into two phases, with four streams of parallel activity: 1) research 2) networking 3) inputs to modelling 4) logistics

	Phase 1: Research In	Phase 2: Research Out
Research Outputs	Convening Question Challenge Brief	Broad range of outside stakeholder perspectives presented in compelling ways
Computer Model Outputs		Additional products used during workshops
Networking Outputs		Basic working model
Logistics Outputs	An initial list of contacts within the domain	A comprehensive list of contacts Participants invited Workshop materials completed Venue selected

Phase 1: Research In

Outputs and Aims
1. To produce a detailed challenge brief that captures the core challenges the client would like to solve, which are typically interrelated and inseparable.
2. To produce a "Convening Question", supported by the challenge brief, which will be used to invite participants into the workshops.
3. To provide an initial understanding of the problem domain that researchers can use to design the Research Out phase.
4. An initial group of key stakeholders who support the Lab and are potential participants. They are interviewed as part of the research and ideally provide additional names and contacts either for further research and/or as potential participants.

Research
When asked to provide the most important challenge they face or the most important question they want answered most people will not respond with a 'true' answer rather they will provide the answer that corresponds to the task their organization is currently dealing with couched in the language and frames that the organization has generated. Often these are several steps removed from the fundamental problems and challenges. Thus, the brief that a client begins with, which is essentially a statement about the requirements that they think need to be met, often needs to be fleshed out and probed in order to identify deeper issues and driving forces behind the challenges they face. The client of the Lab should be prepared (and willing) to work with other stakeholders to change and reframe the brief for the Lab.

Problems in need of social innovation are typically complex meaning that they are deeply embedded in the systems they inhabit and that changing just a single element of the problem will not provide a solution but rather frustration and unintended consequences. The aim of the interviews conducted at this stage is to explore the different perspectives on the problem, in depth, in order to help them produce an elaborated brief that captures the complexity of the challenge while elaborating some of the tensions that are inherent to it. From the point of view of the research team, an additional aim is to get a sense of the larger system surrounding the challenge so that they can start to decide what stakeholders should be involved and what information should be gathered.

Method
The method for achieving these goals is primarily a set of qualitative of interviews – perhaps no more than 10 - followed by a meeting where interviewees help to formulate a new challenge brief. The interviewees should have a deep knowledge of the challenge, and, ideally, strong networks that can be accessed for potential participants and/or additional interviewees for later in the research process. Ideally, some of those interviewed may be potential participants themselves, but this is not essential.

Although a Lab researcher drafts the brief, it should be a close reflection of the ideas and perspectives of the interviewees themselves, and ultimately it should feel like a document they have produced. After the round of interviews, a meeting is held where the interviewees collaboratively set a revised challenge brief. This meeting needs to be carefully facilitated by the research team so that important perspectives that emerged in the interviews are not completely lost but at the same time, it

is the participants who drive the decisions about how the challenges are framed.

The brief serves as the basis for recruitment of participants, and as part of the invitational material sent to them. This brief will not "answer" questions of interest to participants, but will instead surface the tensions that participants will be struggling with through the lab process as well as a limited amount of additional data to provide some context.

In addition to the brief, a convening question should be developed which will clarify the primary problem the lab will be solving. The question helps to set the boundaries of challenge, and which system(s) the Lab will be focused on. The creation of a well-bounded convening question is critical to the lab process itself. There will always be pressures to create a broad convening question that can appeal to a wide range of potential participants. Questions that are too broad impose heavy process costs during the lab itself however, as participants face a harder struggle to find common ground and the edges of the creative 'space' in which they'll work. The broader question, the more time will likely be needed for the workshops.

"Wicked Questions" are a useful tool for developing convening questions: they do not have obvious answers or solutions embedded within them, and, critically they contain paradoxes or trade-offs that reflect the messy contradictions of a variety of perspectives. An example of a wicked question is, 'How can we produce stone fruit in Ontario in an environmentally sustainable manner that keeps farms viable and gives consumers affordable, accessible and healthy food?'
This phase in the research requires only a limited amount of data collection, and it is entirely possible for a single senior researcher to manage the production of the brief. The leader of the research team should ideally be involved in conversations with the lab client so that they have a sense of both the formal and informal framing behind the initial question posed by the client. Having a sense of the stated and implied "interests" of the client will be key in developing a convening question that will continue to have client support and generate the breadth of research needed to create a wide variety of future research outputs.

Building Networks
During the Research In period the research team will be working with a core group that will include people who will eventually be participants in the lab process. They will likely be recommended directly by the client. Research interviews should be conducted in a way that is respectful, engaging and informative for the interviewees. As a goal all interviewees, including those who do not ultimately participate in the lab itself, should feel the interviews and the lab process are valuable and have the potential to make transformative change. Not only does this help "sell" potential participants, it will also help to engage them in recruiting participants, ensure their willingness to be involved in additional research and leave open the possibility of their support for prototypes developed in the Lab.

Phase 2: Research Out

Outputs and Aims

1. Identify, collect and present information, perspectives and other material that will provide fuel for understanding the problem/system and for generating solutions during the workshops
2. Build a basic computer model that can be tailored to the specific ideas discussed and developed in the workshops
3. Establish a comprehensive list of stakeholders who can be interviewed, invited to participate and/or support the goals of the Lab
4. Recruit participants, select venue and prepare invitation materials

Research

The aim of the research out phase is to gather the information that will be needed to complete the rest of the Lab process. This involves creating a good understanding of the whole problem domain and the primary interacting factors that give shape to the system. It is important to surface different perspectives on the system and the core problems from all of the affected stakeholders and to explore a range of alternative states for the system and different ways of arriving at them. What does a desirable outcome look like from a range of different perspectives and ideologies and where is the common ground? Moreover, what are the forces pushing the system one way or another and what opportunities might exist to change the direction it's moving?

The aim of this research is NOT to define the problem or to suggest solutions to Lab participants. Information needs to be presented so as to allow participants to make sense of it collaboratively, which means treading a very fine line between editing the data too much, so that participants are being led by the nose, and not editing it enough, so that it comes across as meaningless walls of information.

The Research Out phase may be quite lengthy (3-6months) as there may be limited opportunities for data gathering once the first workshop has begun and as such it is very important to be well prepared. Depending on decisions about the amount of work that participants can be expected to complete between workshops, a small amount of research may continue alongside the workshop stages and contribute new research products into the process as needed.

Method

Research at this phase will still consist mainly of interviews but also statistical information, historical trends, census data, newspaper archives etc. as necessary. Based on the interview data gathered in the Research In phase, the team should be able to begin identifying information that is likely to be important for the workshops. Examples include key stakeholders (organizations, individuals, interest groups), influential agents, important long-term trends and drivers and key interactions between them. The team will share their observations at a meeting together with the computer modelers and come up with a list of research tasks. The modelers will identify the kinds of models that might be useful and the data they would need to create them.

The aim of interviews at this phase is to collect a broad range of perspectives on the system, problem and possible alternative states. Good questions for evoking such responses may include for example: "How do you see the problem developing over the next time period?" and "What kind of solution would you like to see?" The research team will use qualitative interviews to guide its investigation so that new leads and key elements of the system can be identified in an iterative way. Other types of data will be gathered on a case-by-case basis from whatever sources are available. Survey data might also be appropriate for representing the views of large stakeholder groups.

There are several key elements that are typically involved in social innovations that should begin to emerge at this point including cross scale interactions, vulnerable populations, potential traps and windows of opportunity, social innovators and institutional entrepreneurs, and other emergent properties. (These concepts are outlined in more detail later in this Guide).

Presenting the Data

The most difficult and important task at this stage lies in coding and editing the gathered material for presentation back to the group. The team must approach the data with an open mind and be prepared to identify the key trends based on patterns that are surfaced through coding. Once key patterns, perspectives etc. are identified, the team should select snippets of raw data from interviews that best convey these points, but with an emphasis on providing food for thought rather than finished interpretations. A broad range of different information media would be ideal, including videos, written quotes, audio files, tables, graphs and also potentially presentations from key figures. This should then be edited into a package to be delivered to participants.

The aim in presenting the data is to give workshop participants insight into the full complexity of the problem – the diversity of perspectives on the problem, the different needs of stakeholder groups, the tradeoffs between different alternative states and the forces pushing in one direction or another. Well-presented data should have the power to surprise participants, introducing them to aspects of the problem domain they had not considered, but the researchers should also be surprised by how participants are able to see things that they could not, even after the lengthy data gathering process.

The data must be collected with how it is to be presented in mind, and the research process should be aligned to support this. For example, interview data could be collected with video, photographic and written presentation in mind, and this presentation should be built into workshop elements in a way that provides enough time for participants to process the material.

Additional Research Outputs

The research out process provides an opportunity to delve deeply into a challenge, and if well connected to the workshop design, a number of additional outputs can be created. Descriptions of existing innovations are a common example. These can be collected through desk research, but as with the primary research outputs describe above, all research outputs must be packaged with their use in the workshops explicitly in mind. Research products that are too "thick" to be assessed during the workshops or too distant from the work they are doing within the workshops will be ignored or rejected by participants.

Key figures, innovators/community leaders whose perspectives are particularly important may also be identified through the research in order to present their point of view or with a view to encouraging their ongoing participation throughout the rest of the lab.

Network Building
As was the case with the Research In phase, the Research Out phase also includes an element of network building. This phase is going to be more outreach oriented and it is vital that the perspective of the ultimate end user be brought front-and-centre and that if possible they are included amongst workshop participants.

Computer Modeling: Evaluation, Interviews, Engagin Experts
Selecting the Right Models
Before beginning to build models, it is important to decide whether the topic is appropriate for modeling or not. Is it too big or too small? Are there pieces of it that could work, but the whole is too vague? Is it too general? Too specific? The topic needs to also be scoped to the resources of the programming and research team available. Some topics would be appropriate to a large team, some to a single programmer.

Interviews for parameter setting
Just as the modelling puts the full capacity of technical modelling in the hands of participants, the contribution of experts puts expert knowledge at the disposal of workshop participants in a way that they can control and draw on as the need arises. The models serve to translate their insight and bring it into the conversation so it becomes something participants can play with.

Brief interviews with a range of people who understand particular features of a system play a central role in informing the development of models. Using interviews lets qualitative researchers understand how experts understand a system. It is among the fastest and most effective way to get insight into which relationships and numbers matter, and how to put them in context. Interviews provide a way to bring in more people in a more flexible way. They make it possible to focus the attention of some contributors on particular technical questions that inform the models. We have interviews before and after the workshop, and ask a number of people to be available at particular points during the workshop to answer questions.

Engaging experts in the modelling process
Experts can both point the researchers in the right directions to find specific information, and can work with programmers to help in rapidly prototyping a simulation or visualization. In building models, in particular, it is essential to decide which features to include, how they relate to one another, and what reasonable parameter values might be. The group can make decisions, but expertise plays a tremendously useful role in informing those decisions. They can also assist in supplying suggestions for validating the model (e.g., providing sources for historical data), and in saying whether a particular simulation would be useful or not. (A fuller discussion of the role and use of models within a Social Innovation Lab is included in the Appendix.)

Logistics: Invitations and Materials

In parallel with the research activities, preparations should be made to begin inviting potential participants. Ideally, the small group engaged during the research in phase can act as an advisory group to help in this process.

Objective: Selection and invitation of participants

Expertise required/ Participants required	Selection team with some client representation and with facilitator(s) to help the process of identifying and securing invitations. Members of the selection team should ideally have enough social/ political or positional capacity to (nearly) guarantee participation of those invited.
Goal/ Output of Activity	To select a group of participants (probably in the 12 to 18 person range) who will represent a diversity of viewpoints, skills, hierarchical position and other relevant categories of diversity (gender, ethnicity, age, education, function). Among them should be those with enough social/political or positional capacity to support the roll out of selected innovations.
Methodology/ Rationale (process design)	Important to have a structured process – good idea to use a cross scale, cross functional/diversity category grid to identify individuals. Important to have some fall back nominations so that there is easy substitution for those who drop out.
Alternative Tools or Processes	It is possible to go larger- up to 35 or so, but this will slow down the interaction processes, as will be working with 5-7 working groups who need to report back at each stage of the workshop itself – the choice is between inclusiveness and agility and will depend on the nature of the challenge, the importance of general buy-in or of a broader diversity of perspectives and knowledge.

Network building in the Research Out phase is a dance between inclusion and exclusion of both ideas and people. The tradeoff is between understanding opportunities for systemic change and the radicalness of the alternatives presented. For ideas, the tension is between having clear pictures of the system as it is, and exciting alternatives as to what the system could look like. For people, it the tradeoff between having participants and conveners powerful enough to make change happen, and thinkers creative enough to push beyond tinkering with the existing system towards pushing transformational alternatives.

Objective: Identification of workshop locale

Expertise required/ Participants required	Process expertise – an understanding of what the space will be used for- not presentations but small group work and plenary sharing.
Goal/ Output of Activity	Create a space that allows for creative thinking, very separate from work spaces. Ideally with white board walls and plenty of soft lighting, windows and a separate space for breaks and eating. Depending on the size of group the space should be expandable.
Methodology/ Rationale (process design)	If the space is not custom built (i.e. a standing lab facility) then the spaces need to be visited. An unsuitable space will have a measurable impact on creativity and innovation of the process
Alternative Tools or Processes	Workshops can be held in any environment that has the following: • A large enough space to accommodate round tables with 5-7 people per table with room to spare • Wall space; 3 walls, ideally with white boards, but if not, suitable for hanging flip chart paper so not interrupted by multiple doors, free of paintings etc. • One wall of windows and ideally, access to the out of doors for breaks. • An "island feel"- away from the workplace and interruptions.

Objective: Preparation of Materials

Expertise required/ Participants required	Workshop facilitator/ Process designer/ Researchers
Goal/ Output of Activity	Clear instruction sheets to help guide participants in the workshop through each exercise/ stage in the workshop A facilitator's guide with any notes and anticipated challenges attached to the exercises Presentation / flip charts, including one of basic philosophy/approach; ground rules for interactions Research materials from the research phase – processed for presentation to or work with participants
Methodology/ Rationale (process design)	Depending on the number of working groups, they may be more or less self-facilitated. Instruction sheets aid this, as do ground rules. These include: • Appointment of a timekeeper, recorder and reporter for group work • Attention to ensuring full participation within the groups (self facilitated) and reporting when problems occur • Managing time and staying with task. The presentation of the data gathered in research is an important material impact. Ideally time can be spent on working with/interpreting materials, so these should be left relatively open ended
Alternative Tools or Processes	If the group is very small, it may be facilitated by the lead designer/facilitator, in which case materials not required. However, the interpretation of research materials requires considerable prep and forethought

RESOURCE BANK

RESOURCE BANK 1:

Initiation Phase

The goal of the initiation phase is to establish the intended outcomes of the proposed process and match these to an appropriate process design, and secondly, to set an initial description of the challenge to be addressed. In order to do so, facilitators and the Lab's 'client' need to develop a common understanding of a) social innovation and its associated concepts, and b) the range of potential processes that might be used and or adapted.

The following pages provide an overview of these terms, and can be a reference during the initiation phase.

Elements of Complex Systems and Social Innovation

In considering a Social Innovation Lab, those involved should recognize and understand that complex systems have particular dynamics:

- Complex systems are nonlinear (sometimes a small effort will produce a large result and vice versa).
- Complex systems are structured by cross-scale dynamics- change at any scale may be amplified or dampened by dynamics at other scales.
- Rapid change can occur at critical thresholds- thresholds, which are characterized by breaks in the normal state of the system (might be an economic crisis, a change in political power, a grassroots shift in beliefs, etc) represent windows of opportunity for change agents.
- Momentum for social innovation is emergent; the right elements, brought together at the right time, can be transformative.
- Agency matters and can operate at any scale; however, while good ideas are necessary they are not sufficient – they must be matched with relevant opportunity in the current system context.

In considering a Social Innovation Lab, those involved should recognize and understand that 'social innovation' is a term used to describe the full dynamic of transformation, from good idea/initiative to broad-based institutional change:

- New ideas/initiatives can be adaptive, helping the current system to stay resilient or they can be catalytic/transformative, disrupting and potentially transforming the system.
- Ideas/new actions emerge and potentially become attractors for resources, other ideas, new values, routines, technologies – these can be thought of as innovation regimes.
- Social entrepreneurs introduce and build the good idea; system/institutional entrepreneurs work to expand, translate and leverage moments of opportunity in the system for these ideas to be more fully experimented with and accepted.
- To be transformative, such bundles of innovation (innovation regimes) need to effectively connect to other levels or scales in the system – for example, this could mean attracting resources from and/or beginning to be noticed, accepted, influential at a higher level of the system.
- Moments of disarray, collapse or disorganization (critical thresholds, mentioned above) at higher scales offer the possibility of more rapid transformation.
- This entire sweep of transformation, from good idea to system change, can often only be seen in retrospect.
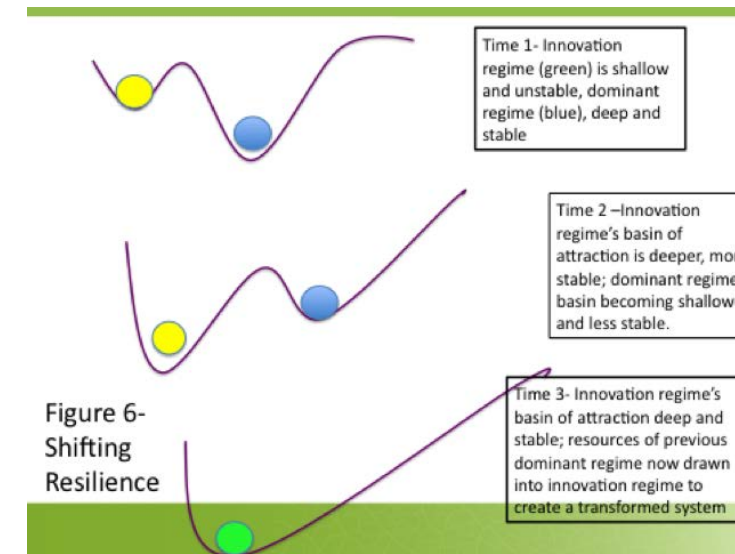
Concepts of Social Innovation

Those designing a process aimed at catalyzing social innovation should be aware of the following concepts.

Innovation Cycle: The lifecycle of a social innovation has four general phases: 1. An idea is born (as the result of creative destruction or release within a system, organization or regime); 2. An idea is developed (there is a reorganization/exploration of newly-available or uncommitted resources); 3. An idea is launched as a product, process, or organization (exploitation – success means a need for organization etc.), and; 4. The innovation becomes established (the innovation in stabilized, scaled, bureaucratized and becomes the norm). Although we can see these four phases in the story of most social innovations, it is not an easy, regular, predictable process, but one that requires the work of committed agents (systems entrepreneurs, see below), looking for opportunities and working to shift system conditions, collect and connect resources and people to help an innovation grow. The shift from one phase to another is called a critical transition – which is difficult, and innovations can easily become trapped in one phase, never to grow or achieve the desired impact. To achieve each transition, concerned and committed agents must overcome resistance to change, attract and/or build new leadership capabilities, create new and different kinds of social relationships (social capital investments), and requires external resources and supports such as funding.
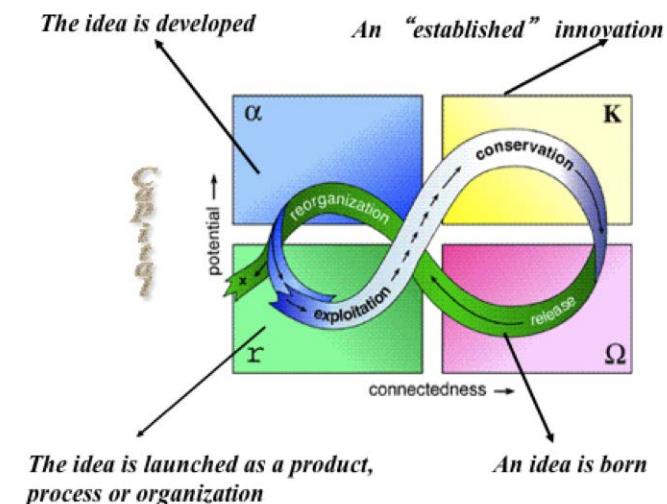
Building/Reducing Resilience: Resilience is a relative measure of the ability to withstand and adapt to internal and/or external shocks or disturbances, to evolve and learn in response to these shocks and disturbances, while still maintaining core relationships and identity. An individual, community, organization or system can display resilience. As a system, community or person loses resilience, they become less able to survive crises, and on the system-level, can actually shift to a new equilibrium or basin of attraction. One of the key goals of building a society's capacity for continual social innovation, is to on the one hand keep a healthy system resilient (adaptation) or, on the other, to transform an unhealthy system. In the process of the latter, change agents may need to work to further undermine the resilience of the unhealthy system.

Alternative Basins of Attraction: Basins of attraction comprise a set of conditions that collectively create a degree of stability or equilibrium – these are the factors (values, authority, resource and information flows and relationships) that maintain and reinforce a system. A basin may be impediments to change if they are deep enough, but system entrepreneurs work to destabilize current basins and shift into an alternate, more innovative basin. There is also the risk of falling into alternate undesirable basins if our current system loses resilience – basins are neither good nor bad inherently but are the factors that contribute to a system's staying power.

Figure 6- Shifting Resilience

Time 1- Innovation regime (green) is shallow and unstable, dominant regime (blue), deep and stable

Time 2 –Innovation regime's basin of attraction is deeper, more stable; dominant regime's basin becoming shallower and less stable.

Time 3- Innovation regime's basin of attraction deep and stable; resources of previous dominant regime now drawn into innovation regime to create a transformed system

Institutional/System Entrepreneurship: Successful social innovations – those that have a broad, lasting impact at the system level - require a variety of actors, working together or separately, and even over different times. Among these are inventors, sometimes called social entrepreneurs, individuals who initiate or create innovative programs, products or processes. However, equally important are institutional entrepreneurs, sometimes also called system entrepreneurs – weaver, impresario, alchemist, system theorist, researcher, organizer, and pattern-shifter. These individuals or network of individuals actively work to change the broader social system through reorganizing the patterns that they identify in political, economic, legal or cultural realms, in order that a particular social innovation can flourish. These 'pattern shifters' are unique agents – they can see the system; they notice rhythms and patterns, they can identify opportunity and have certain deep understandings and trusted relationships to effectively connect innovative ideas and initiatives with the broader contexts. In this way, they significantly make a difference in helping change strategies reach full potential and to have as much positive impact as possible.

Reengaging Marginal/Vulnerable Viewpoints/Populations: One of the principle goals of social innovation is to re-engage vulnerable populations in mainstream economic, social and cultural institutions. This is not just as recipients of services or "transfer entitlements" but as active participants and contributors to the social innovation process/cycle. On the one hand, better integrating excluded groups (such as the poor, mentally ill, or physically disabled) helps build a system's resilience as the stress of supporting the excluded (or defending against them) reduces the resilience of the whole. On the other, their inclusion in the social innovation cycle may actually

help create novelty, bringing different viewpoints into the process of innovation, which is largely the result of recombining elements (bricolage) in new ways. Therefore, we exclude these voices at our own peril, losing the diversity of their experiences, expertise and perspectives on the system. The social innovation process benefits and is benefited by the inclusion of marginalized or vulnerable groups.

Exemplars of Multi-Stakeholder Processes
A Social Innovation Lab has specific and distinct goals and intentions. During the initiation phase, it can be useful to consider other processes, and if they appear a better 'fit', before committing to a Social Innovation Lab. The following are short examples of some of the best known processes and organizations associated with complex problem solving.

Future Search: Future search is a tested and successful whole system process. Its a highly facilitated three day planning meeting that focuses on quickly moving people to action for positive impact on a shared, desired future. It brings diverse groups of people into dialogue- those with resources, expertise, formal authority and need. It focuses on mutual learning, voluntary action, cooperation and follow-up that can last for long periods of time. Key principles are:
• Get the "whole system" in the room. Invite a significant cross-section of all parties with a stake in the outcome.
• Explore the "whole elephant" before seeking to fix any part. Get everyone talking about the same world. Think globally, act locally.
• Put common ground and future focus front and center while treating problems and conflicts as information, not action items.
• Encourage self-management and responsibility for action by participants before, during, and after the future search.
• Urge full attendance - Keep part-time participants to a minimum.
• Meet under healthy conditions - This means airy rooms with windows, healthy snacks and meals, adequate breaks.
• Work across three days (sleep twice) - People need "soak time" to take in everything that happens.
• Ask for voluntary public commitments to specific next steps before people leave.

Future Search has been successfully implemented across multiple countries and cultures for over fifty years. http://www.futuresearch.net/method/whatis/index.cfm

Exemplars of Multi-Stakeholder Processes

Reos Partners are a highly regarded, international consultancy firm that accepts contracts to design and implement a lab process on behalf of clients. Reos' Change Lab is a multi-stakeholder effort to address a particular complex challenge in a given social system. The lab process varies depending on the challenge and the system. Teams of diverse participants are convened by a client(s), and expertly supported by Reos to deepen their shared understanding of current realities, clarify a shared intention, and create new realities.

Reos states that they help these teams produce four types of practical results:
• They construct new insights about their system (including their own role in it) and new high-leverage options to shift it.
• They form new and stronger relationships within their team and with other stakeholders.
• They build their capacities to work together and to lead and effect change.
• Out of these insights, relationships and capacities, they take actions—they execute new initiatives, policies, and enterprises—that address their challenges.

Reos Partners has been involved in a number of high stakes contexts, including reconciliation in South Africa and the future of energy in North America. http://reospartners.com/

MindLab
MindLab is a cross-ministerial innovation unit in the Danish national government that involves citizens and businesses in creating new solutions for society. It is also a physical space in Copenhagen – a neutral zone for inspiring creativity, innovation and collaboration. MindLab is instrumental in helping the ministries' key decision-makers and employees view their efforts from the outside-in, to see them from a citizen's perspective. They use this approach as a platform for co-creating better ideas.

MindLab's methodologies are anchored in design-centred thinking, qualitative research and policy development, with the aim of including the reality experienced by both citizens and businesses into the development of new public-sector solutions. Their work is based on a process model that consists of seven phases: project focus, learning about the users, analysis, idea and concept development, concept testing, communication of results and impact measurement. Problems that MindLab has broached include reducing government red tape, youth employment, gender equality, and climate change. http://www.mind-lab.dk/en/

The Institute without Boundaries
The Institute without Boundariesis a Toronto-based studio that works towards collaborative design action and seeks to achieve social, ecological and economic innovation. Founded in 2002, the Institute consists of a post-graduate program that teaches collaborative design strategy to professionals from diverse backgrounds, a research division that develops projects attached to curriculum and a commercial division that delivers professional design consultation based on Institute methods.

The Institute without Boundaries' process is implemented by students through the college's curriculum. They work on projects that have been submitted from the external community. Its inaugural project, the Massive Change Project, examined the role of design in addressing social, environmental and economic progress. The next project, World House, explored the design of shelter that protects our global home while creating advanced residences that promote inclusion, sustainability, affordability, and technological and environmental responsiveness. Its next project will focus on city systems. http://www.institutewithoutboundaries.com/

d. School at the Stanford Institute for Design

At the Stanford Institute for Design, or d.School, higher education is built into the lab process. Courses in design are offered to graduate and professional students from any department at Stanford University. Students are encouraged to frame problems in the field, to build empathy for those who are experiencing the problem and to work collaboratively, in a classic iterative process, to design a possible solution. These processes are supported and facilitated by the design experts at d.School. A variety of videos and tools that have been developed at d.School and stories about how they have been used are posted online.
http://dschool.stanford.edu/
Other Examples For more examples and descriptions of labs around the globe, please refer to the document, "Labs: Designing the Future". It is available here http://www.marsdd.com/wp-content/uploads/2012/02/MaRSReport-Labs-designing-the-future_2012.pdf

Other Examples

For more examples and descriptions of labs around the globe, please refer to the document, "Labs: Designing the Future". It is available here http://www.marsdd.com/wp-content/uploads/2012/02/MaRSReport-Labs-designing-the-future_2012.pdf

RESOURCE BANK 2:

Research Phase

Qualitative Interviews:

The principle challenge in producing a detailed challenge brief lies in building enough trust between interviewees and the researchers that the former will be willing to talk honestly and openly about the challenges of their organization. People working with the problem in a day-to-day way are often very focused on the task that is immediately in front of them which will already carry implicit understandings about the problem and evaluations about the best solutions. They may be reluctant to move beyond these understandings and evaluations as this might imply criticism of them or the work of their organization. Moreover they will have a way of talking about the problem and framing it that is often laden with jargon that can be a real barrier for interviewers to understand what there real concerns are. Finally, individuals who have received media training, which most politicians have, are skilled at avoiding questions and talking about themselves and their own experiences.

Because of these challenges, researchers involved at this stage will have to have very strong qualitative interviewing skills. In particular they must be good at quickly establishing trust and a rapport between themselves and the interviewee and have the ability to encourage interviewees to talk openly about their personal experiences and views on a problem. Useful techniques in doing this include:

- Approaching the topic from a neutral standpoint – allow the interviewee to engage in a description of the work that they do and their relationship to the problem. Emphasis on descriptive not analytical, if they slip into latter they are likely to be more rehearsed.
- Attending – a key skill is to listen carefully for moments during a neutral description when an interviewee's energy levels change, they become more animated or emotional, these often indicate issues that are important to explore further and may be pointing toward more fundamental problems.
- Give the interviewee space to talk – try not to interrupt them or make them feel like you are leading the interview, make note of items you wish to return to later.
- Do not push them if they seem uncomfortable, perhaps try to return to the subject later in the interview, sometimes they may come back to it when they are ready themselves.

Ultimately the interviewers are trying to elicit a more nuanced picture of the problem from interviewees. One in which there is some awareness of the interacting causes involved in shaping the problem and of the different solution possibilities. There are several key elements that are typically involved in social innovations that should begin to emerge including e.g.: Cross scale interactions, vulnerable populations, potential traps and windows of opportunity, social innovators and institutional entrepreneurs, emergent properties which are outlined in more detail in other documents.

Typically, interviewers will not be asking interviewees directly about these elements but rather focus on the individual's personal experiences that may indicate that such elements are at work. Examples of questions that do this are: Where has support/opposition to your work come from? Who are the key individuals/organizations that you interact with? How has your works/ideas changed over time? A full list of questions can be found in the SiG primer (http://sig.uwaterloo.ca/highlight/a-primer-on-sig-case-writing-draft).

Sense-Making During the Research Process

During the research phase of the Social Innovation Lab, researchers will need to make sense of the data they are collecting before they begin to develop resources for the workshop phase of the Lab. System maps can be a useful form of sense making. The following map was created by the research team for the "New Solutions for Youth Employment Lab" delivered by the MaRS Solutions Lab and Waterloo Institute for Social Innovation and Resilience in 2014.

This broad map of the employment system focuses on the core hiring tension between worker productivity, ongoing cost per worker and recruitment cost per worker. The core hiring tension is largely within the purview of a company and there are a variety of different strategies that can be selected that fall within these three goals. Alongside this there is an innovation system that connects companies to broader workforce dynamics and to individual workers. A variety of other subsystems connect the core hiring tension and the broader innovation system.
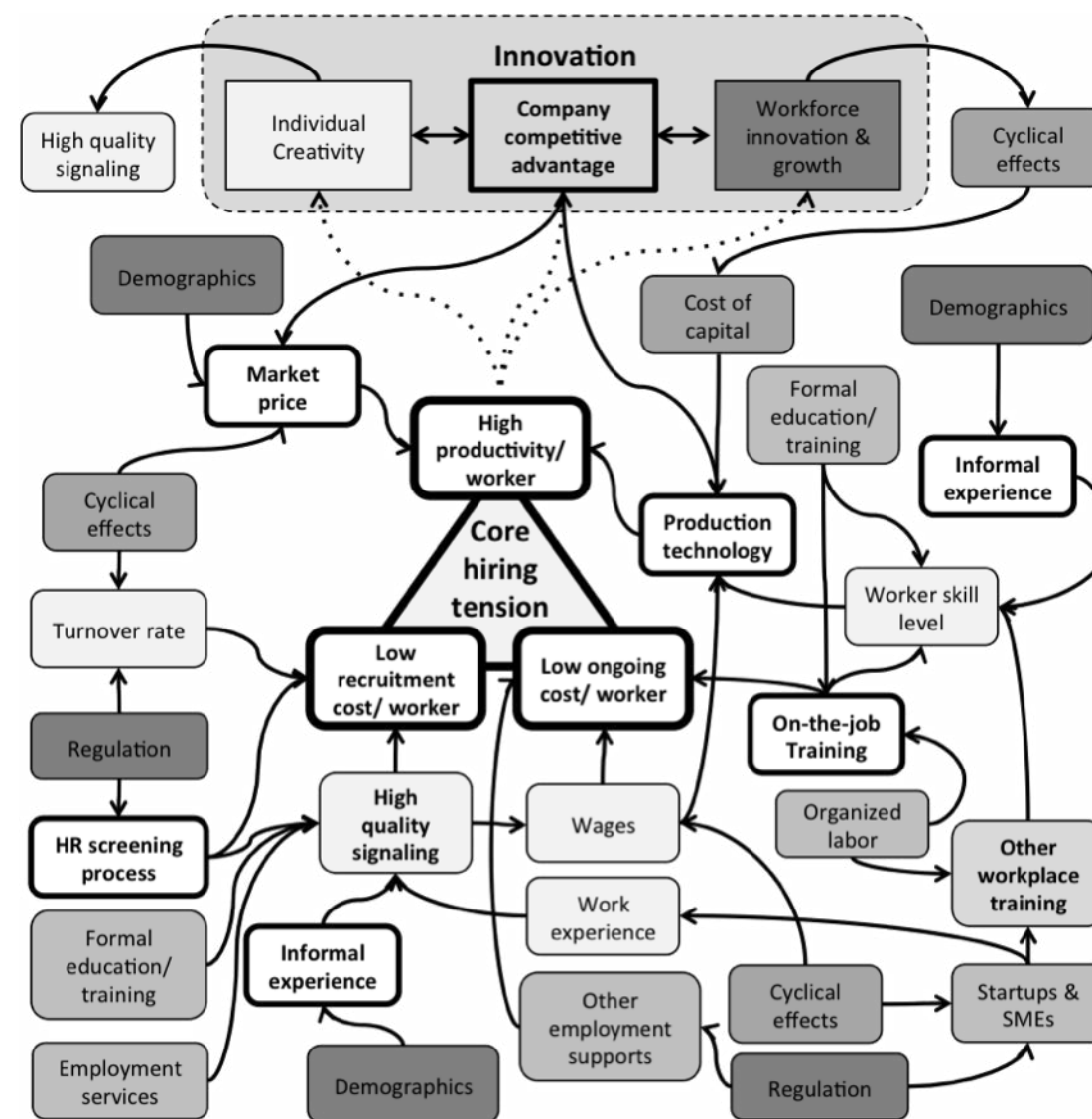
Refining the Challenge Brief
In 2014, the Waterloo Institute for Social Innovation and Resilience partnered with the MaRS Solutions Lab to deliver a Lab process. It shared elements of the Social Innovation Lab methodology proposed in this guide, particularly the research process. The Challenge Brief created for the Lab serves a useful example of this kind of document. It includes a core ("convening") question, and a series of key tensions. The development of the core question also illustrates the necessary flexibility required in the initial framing of a Social Innovation Lab.

The ultimate goal of the lab was to develop initiatives to increase the market share of healthy and sustainable food within the Ontario food system. Our initial question centred on food safety as a barrier for small and medium enterprises, however, the initial round of interviews indicated that while food safety was an important issue, it is not the only barrier and needed to be considered in the context of other challenges. Critically, the need to focus on a particular food/value chain became apparent. From the initial question (How can we create the conditions for small-scale producers, processors and retailers to enter the food system and scale (that is to introduce and scale innovations into the system) while maintaining food safety and security?) the convening question became "How can we innovate in order to help the soft fruits industry respond to recent economic losses and longer term decline, while also promoting food that is healthy, sustainable, safe and affordable, in order to pave the way for a positive change in the Ontario Food System?"

Note: the Challenge Brief also included appendices titled "Key Facts, Arguments and References" and "Definitions" which are not included here.

The Ontario Food Lab on Soft Fruits: Challenge Brief

The soft fruit industry in Ontario is in a state of upheaval. Revenues from soft fruit sales have dropped by 51% since 2004. About 30,000 on-farm jobs and 8,700 food processing jobs have been lost as the result of the closure of six processing facilities.[1] This decline is not a result of decreased demand – consumers are actually buying more fruit, up 24% since 1991.[2] Moreover, consumers are increasingly selective. There is a burgeoning demand for organic and local fruit.[3] Unfortunately, these new demands are largely being met by increasing imports, while exports are declining and value added processing is being carried out abroad.[4] This trend hurts Ontario's food industry and in the long term, is economically and environmentally not sustainable.

Yet, while the changes in Ontario's soft fruit sector pose challenges, they also create opportunities. With appropriate interventions, it may be possible to rebuild this sector to reflect the new demands of our 21st century food system. Potentially this could have many positive spin offs, like more jobs, a better environment, healthier living and increased tourism. Our expectations around food are evolving; today, the public needs its food supply to be healthy, safe, sustainable, reasonably priced and reliable, not just abundant and filling. The current food system favours some of these demands but seems to neglect others. Clearly, the present situation is unsatisfactory; to meet the needs of the future we must reconcile these different, seemingly conflicting demands and find ways to ensure that food can be affordable and sustainable, safe and local, healthy and attractive. And we need everyone in the sector - from producers to processors, retailers and consumers - to make that happen.

These changes in Ontario's fruit industry represent a chance to reimagine our entire food system. We see opportunities to increase organic products, improve farming practices, grow local brands, harness technological and logistical efficiencies and help consumers eat more healthy food. By meeting these opportunities and finding new and innovative solutions to the current challenges, a revitalized soft fruit industry could act as a beacon for the entire Canadian food system.

The Ontario Food Lab on Soft Fruits is developed to help reimagine and change the Ontario soft fruit industry along the entire value chain. It is a new approach that intends to convene key stakeholders to generate a strategy and interventions for system change. The lab is founded on the belief that it is only by sharing unique insights and acting in collaboration that we can create a food system that meets the demands of all Ontarians. This Food Lab is an initiative from MaRS Solutions Lab, the Waterloo Institute for Social Innovation and Resilience, JW McConnell Foundation, Ontario Trillium Foundation and Greenbelt Foundation.

We invite you and other crucial stakeholders to participate in the Ontario Food Lab on Soft Fruits to explore the challenges and opportunities, design interventions to address them, and create a strategy for implementation. According to our research and interviews, the soft fruit industry is poised for innovation and eager to embrace change. We hope this lab can be a catalyst to turn this energy into real transformation.

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[1] Metcalf 2010
[2] Agriculture and Agri-Food Canada 2010 http://www5.agr.gc.ca/resources/prod/doc/horticulture/cdn-fruit-ind-2011_eng.pdf
[3] OMFRA http://www.omafra.gov.on.ca/english/crops/organic/faq.htm
[4] Deloitte and VineInd 2010 http://www.vinelandresearch.com/get.asp?t=doc&id=13

Core Question:

"How can we innovate in order to help the soft fruits industry respond to recent economic losses and longer term decline, while also promoting food that is healthy, sustainable, safe and affordable, in order to pave the way for a positive change in the Ontario Food System?"

Issues:

This section sums up the key issues our research has identified within the Ontario soft fruit industry. Typically these issues arise because of the difficulty in reconciling the different demands being made of the system. For each issue identified here we include a brief description that describes how that issue poses a challenge in terms of our key values, and then present in the appendix a bullet point list some of the key arguments and facts that inform the debate.

As a reminder our core values are: **Sustainability, health, safety** and **affordability**.

Labour / Employment Practices

How can the sector balance the needs and rights of employees with the need to be competitive?

The fruit and vegetable sector is labour intensive and deeply affected by minimum wage increases. The reliance on migrant workers by the Canadian horticultural industry has increased by a third in the past decade, from 18,500 to 24,000. This increase coincides with declining availability of local labour in these sectors as well as the need to lower production costs in order to compete in the global market.[5] Canada's migrant worker programs today draws both praise (as a best practice among international standards) as well as criticism for unjust labour practices associated with them.

Modernization in Farming

How can incentives encourage modernization in established farms, and support growth of new farms?

Ontario fruit producers have not modernised and are perceived to lag behind competitors from other regions (esp, British Columbia and the US). Product / varietal mixes have not kept pace with changing consumer tastes, and less labour-intensive production methods have not been adopted. Insurance programs provide important protection for farmers, but reward existing business models / crop selections. New and small farms are adept at developing new products and customer bases, but these new, successful farmers, struggle to access land and financing to grow their businesses.[6] In addition Ontario is lagging behind other countries with respect to the technical logistics around storing, handling and transporting tender fruit in order to maximize the value of the produce.[7]

Environment

How can agricultural production support environmental restoration and climate adaptation, and maintain overall levels of production and high yields?

Modern agricultural practices have increased yields significantly, reducing the cost of food whilst meeting growing demand for food from population increases. These practices have a significant environmental impact, however. Non-conventional practices can reduce the carbon footprint of production (e.g., nitrate fertilizers), improve soil quality, and reduce impact on species. Furthermore, alternative land use planning can protect prime agricultural land, and support different species' adaptation to climate change.

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[5] Toronto Star 2012
http://www.thestar.com/news/investigations/2012/02/08/foreign_workers_fill_agricultural_labour_shortage.html
[6] Personal communication YT
[7] Cartner-Whitney & Miller (2010)

Processing

How can we reconcile the economic and environmental opportunities of regional processing, while maintaining efficiency along the supply chain and prices that consumers will pay?

Many small and medium-scale farmers are poorly served by the food processing sector. Actual food storage, processing and distribution channels are geared towards large-scale and centralized production and sale. Critics of regional production and processing (and decentralization of the agri-food system) point to a potential decrease in efficiency without economies of scale.[8] How can the supply chain interact with the value chain to enable positive change?

Economies of Scale

How can SMEs supply accessible and affordable food?

Large enterprises are dominant within the Canadian food system more generally and within soft fruits as well.[9] These large operations are critical in making food easily accessible and affordable for consumers due to their ability to leverage economies of scale but also pose challenges for small and medium enterprises. Can new approaches help smaller operators work more effectively with large retailers?

Local and Organic

How can the sector provide local and organic food, affordably and at a high volume?

There is a wealth of evidence indicating a strong demand for local and organic food among consumers but this does not necessarily translate into a change in buying behavior due to the premium cost of many of these products. Retailers often lose money on organic sections in stores and carry them primarily to benefit from a positive effect on the image of the store.[10] Local food often does not have to be more expensive but is seasonal, which may be at odds with consumer expectations of reliable year-round availability.

Product Differentiation

How can products be differentiated without confusing customers and burdening suppliers?

Consumers are increasingly demanding a greater diversity in the food they buy, with opportunities for farmers who can establish a unique value proposition for their product. For example, studies indicate a consumer willingness to pay a premium for products that carry trusted organic labels such as USDA Organic[11]. However, too many labels can also lead to over saturation and confusion among consumers and may impose additional unwanted regulatory burdens and costs on suppliers.

Food Safety and Traceability

How can food safety regulations and practices be both efficient for producers, processors and retailers of all sizes, and still provide traceable, safe food?

Food safety is *the* primary concern for consumers[12]. In response to these concerns, as well as increased pressure for traceability and accountability all along their supply chains, retailers have pushed for suppliers to use certified food safety protocols. The standardized and verified protocols used by Gov't and private standards agencies are an efficient choice for retailers,[13] but their design reflects the capacity, resources (and risk profile) of large organizations.[14] SMEs struggle to comply with these regulations, and processors in particular point to compliance as a major (and often prohibitive) cost to their businesses[15].

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[8] SustainOntario, 2012 http://sustainontario.com/2012/07/04/11208/news/multiplier-effect
[9] SIAL Canada
http://www.sialcanada.com/sn_uploads/fck/Media_Kit__Data_on_agri_food_sector_in_Canada__EN.pdf
[10] Personal communication SD
[11] Loo et al. 2011
[12] Personal communication PFCO
[13] http://www.conferenceboard.ca/cfic/research/2013/pathwaytopatnership.aspx
[14] See Metcalf Report 2010
[15] Personal communication with a Provincially inspected abattoir. And, Metcalf 2010

RESOURCE BANK 3:

Workshop Phase

Workshop #1: Paradoxes, Horns of the Dilemma (a.k.a. 'System-Level Wicked Questions')
The purpose of the wicked questions for the participants in a Social Innovation Lab is to frame the space in which they will attempt to describe the system dynamics and search for innovations.

Wicked questions are those questions which:
- Do not have an obvious answer
- Contain the embedded assumptions we hold about a situation
- Contain a paradox or tension that demands an innovative response. *(From Zimmerman et al., Edgeware)*

System level questions are those that are broad enough to encompass the experience of many partisan perspectives, and so invite a discussion among stakeholders of the dynamics of the system, how it works and how it could change. Like wicked questions, system level questions are most robust if they are arrived at through discussion and exploration of system dynamics.

Most problem domains (homelessness, poverty, food security, urban sustainability) are defined by a series of paradoxes, or oppositions sometimes referred to as the "horns of the dilemma". We may for example, feel everyone should have a home, but at the same time value private property. There are some enduring paradoxes in most human societies – such as individualism vs. the collective good, or the value of expertise vs the importance of self-help. We are prone to emphasize one "horn of the dilemma" by defining one as positive and the other (the opposite) as a negative. So, if we believe in care as a property of personal relationships we see the formal care system as "bureaucratic" (hence community vs. bureaucracy) or if, on the other hand we see personal relationships as prone to whimsy, we define the formal rules of the bureaucracy instead as ensuring fairness and justice and see the opposite horn as arbitrary (hence, justice vs. arbitrary solutions). Innovation, however, is stimulated when we define both horns in terms of their positive value (just rules and personalized relationships; private property and shelter for all, individual choice and dependable exchanges in the social interest). In more simple industrial terms, value is added to the car industry when cars can be both safe and sporty – value is added (and market growth is correlated with) the reconciliation of the apparent opposites that have long defined an industry. For this reason, wicked questions are best posed as a paradox that demands reconciliation of perceived opposites, both seen as valuable. This is likely to be most stimulating to the creative mind.

In highly complex problem domains, there will be many paradoxes. But those with expertise and experience in a problem domain are likely to agree on those that are most dominant. So, for example, in complex organizations managers often struggle with enduring tensions between such values as:
- Integration and specialization
- Deliberate and emergent strategy
- Creativity and order
- Customization and mass marketing *(Discussion of horns of the dilemma drawn from Hampden-Turner, Charles, Charting the Corporate Mind)*
- Increasing productivity/growth while cutting costs

We should be aware of solutions masquerading as questions. Very often we narrow the question too quickly. To allow participants in our program to explore a variety of innovation spaces, we want to keep the question *(Discussion of avoiding the pitfalls of poor questions drawn from The Thinkers Toolkit.)*:

• Quite broad in its definition
• Clearly a question and not a solution masquerading as a question
• Framed as a need to reconcile two opposing values, both defined as positive
• Tied to the realities of the problem domain

For example, one enduring dilemma in the debates around food security and sustainability is the need to reconcile the value of eating locally grown foods, while ensuring that there is a vibrant global food market. We value both, but they seem paradoxical.

Workshop #1: Learning Journeys

The purpose of the Learning Journey is two fold: firstly to provide an immersive experience for Lab participants, and secondly to provide input data for the Journey Mapping exercise which comes immediately afterwards. A sample instruction sheet for participants, which provides some guidance on how to approach the interviews, is included below. For Lab facilitators, the primary challenge is in selecting appropriate destinations for the Learning Journeys. Whilst taking participants on site is preferable to bringing guests to the workshops, or to meeting in a 'neutral' location, facilitators will also need to consider the mix of organizations / people who act as hosts.

Ideally you will have access to individuals who are affected by the policies and procedures governing this problem domain. So for example if you are interested in youth at risk, you will have the opportunity of talking to some individuals who are either in that system or were in the past. These individuals will generally interact with multiple agencies and people representing those agencies so you should also aim to interview individuals from those organizations as well. Some of these might be 'frontline' staff, whilst others might be more removed, and operating at a different ('higher') scale: a policy maker for instance. For the purposes of the Journey Mapping exercise that follows the Learning Journeys, the goal is for the Lab, collectively, to be able to describe a) the steps in the system, i.e., the "journey" through the system as it unfolds, b) as many interactions between people / orgs as possible and at different scales, particularly those that are problematic for the people involved c) what was happening to those individuals? Under what constraints were they operating? What was driving their behavior?

The following is a sample instruction sheet for a Learning Journey that took place as part of the Graduate Diploma in Social Innovation.

"We often imagine we're walking around with a spotlight on our heads, shining our light on the world and discovering things we don't yet know. For most of us however, it's a projector not a spotlight, and instead of shining a light we project what we already know onto to what we think we see."
- Adam Kahane, Reos Partners

Purpose of a Learning Journey:
To mindfully experience a part of a system, to observe with a systems lens and explore perspectives different than your own; to try to identify elements of social innovation, including relevant opportunities and barriers.

During the Visit:
- This learning journey is an opportunity to observe part of a system from another perspective. To experience the system through the eyes of others; to understand what it means to them; to explore and challenge your own assumptions; to uncover constraints and opportunities at every scale of which you might not be aware; to engage in disciplined observation. Not to find facts; not to give advice; not to solve problems.
- You will have time to de-brief once you are back at the campus so try to stay focused on gathering data rather than sense-making.
- Observe carefully. Look, listen, use all your senses. Pay attention to both the visible and the invisible.
- Access your own curiosity and ignorance; cultivate a childlike sense of wonder. Ask open questions that bring out stories and feelings, rather than only facts.
- Remember that whatever unexpected things happen, these are all a part of the Learning Journey.

After the Visit:
Once you are back, you will have approximately 90mins to eat lunch, de-brief your learning journey and prepare for short report outs.
- Find somewhere to sit down with your group. Sit quietly for a few minutes and then journal, in a stream of consciousness, your observations and thoughts: What did you see? What did you hear? What did you feel? Focus on the data, rather than on your interpretations. TAKE THIS TIME TO RECORD YOUR OWN IMPRESSIONS BEFORE JUMPING INTO THE GROUP DISCUSSION.
- Put some of the pieces of data, elements of relationships between variables, causal connections, or associations that revealed constraints or opportunities, cracks or inconsistencies on separate post-its.
- Working as a group, try to place the post-its you have gathered into some kind of mind map that tells the story of your learning journey. Continue to discuss what for you were the highlights and one person should be prepared to report back on one or two INSIGHTS that really stood out for your group.

Workshop #1: Journey Mapping

Below is an example of the "Journey Map" for troubled young men. The key points of 'variance' – those places where the system appears most frustrating, challenging or opaque for the young men – are the points to explore in more depth.
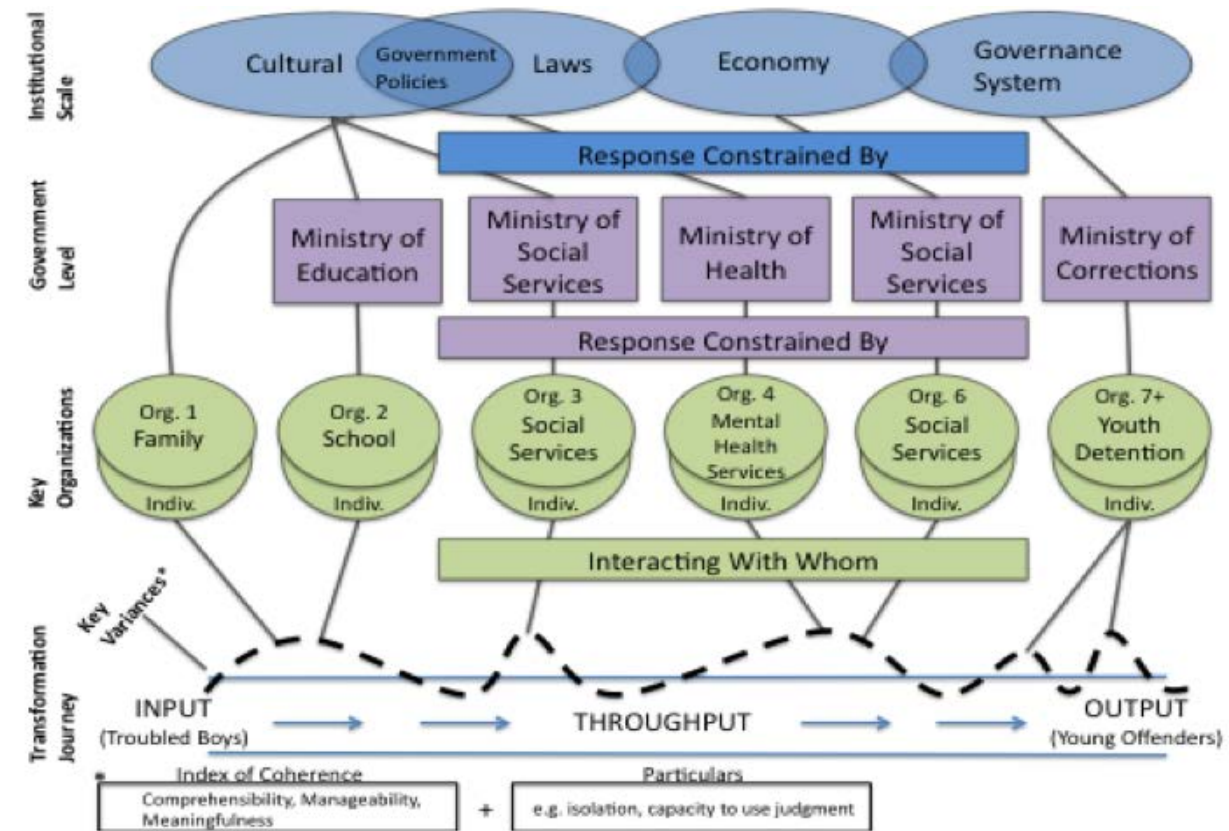
The key to this exercise is to have the participants keeping asking questions that force them to consider the drivers and constraints at different scales - why are the individuals involved at one of these points of variance (you might call them "pain points") behaving in this way? What's driving their behavior? What's constraining their decisions.

Copied below are notes from a similar exercise from the Ontario Tender Fruit Lab – in this instance, Lab participants had identified the time it takes to access new varieties as a key 'variance' ('pain point') in the journey of tender fruit.

From the same Lab process, the diagram below is an electronic version of the causal flow mapping one of the groups of participants completed. The group was a combination of social and cultural trends (from above), and decided to map the trend "less / decrease in consumer skill (with food handling and preparation)."
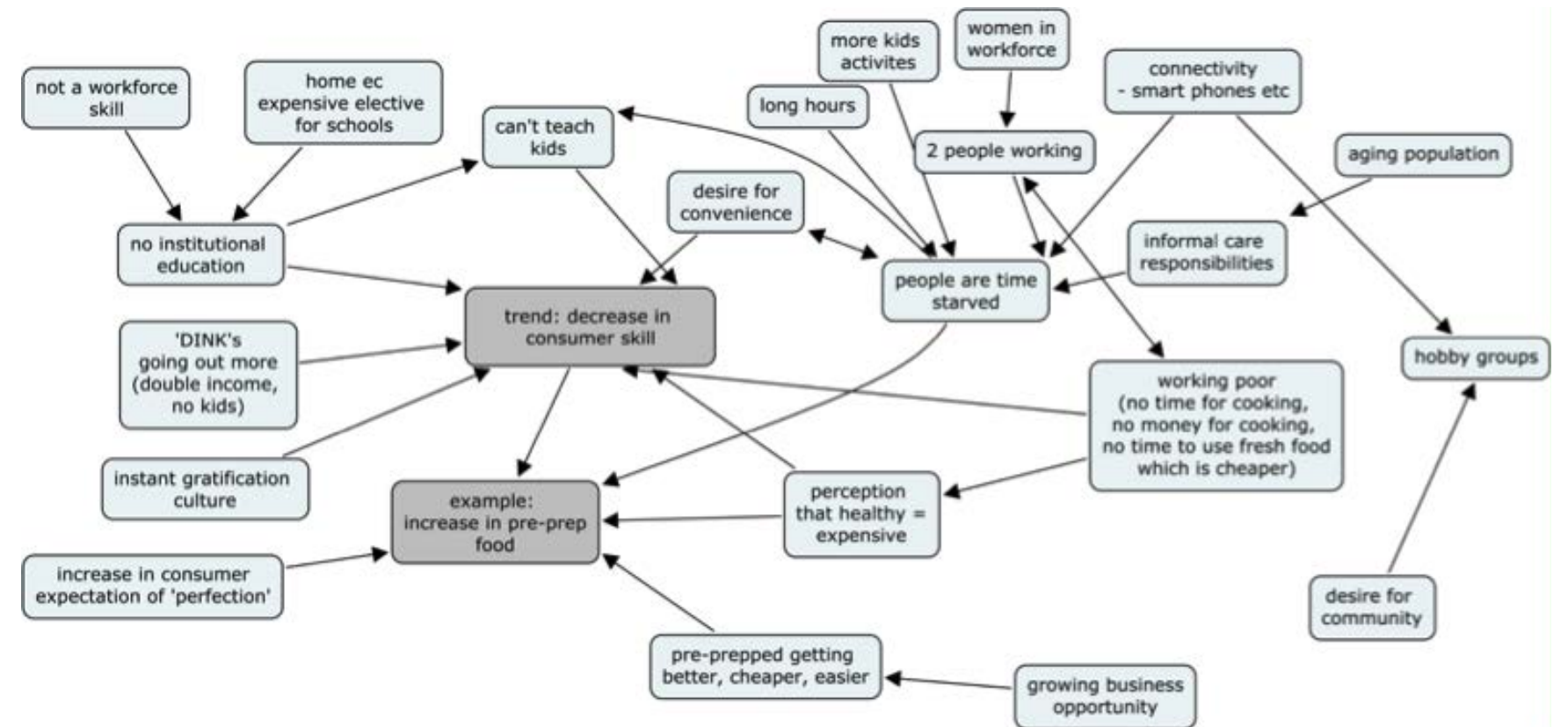
RESOURCE BANK 4:

Computer Simulations & Models

Introduction

Developments in computer simulations have radically increased the power of simulation and visualization. At the Waterloo Institute for Social Innovation and Resilience, we are experimenting with using simulation models to prototype and explore the implications of particular social innovations in social innovation labs.

Once lab participants have developed a shared understanding of the system and a notional sense of possible innovations, models can help to make those ideas concrete, to extend them, and to give participants the opportunity to explore the implications of their innovations. The models can support rapid prototyping, sensitivity testing, and can make it possible to play with scenarios.

This resource bank includes a discussion of how and why we use simulation models and what they are, followed by a general description of how we use them within a typical workshop. It concludes with a case study of a how we used models as part of the New Solutions for Youth Employment Lab in 2014. Note: the ways the models fit into the flow of a typical workshop is described in earlier sections of the guide.

What Models Are

Models are computer implementations of some of the logic that describes the behavior of a system. We use them in social innovation labs to give teams the chance to begin to play with complex systems.

The models and visualizations always play a dual role: representing a particular system or problem and building intuition about the dynamics of systems. Even simple, toy, dynamical systems models display complex behavior such as non-linear effects, cascading impacts, and cross-scale dynamics. The goal in developing these models is not to develop a rigorous formal model, but simply to put the ideas that we do have about how particular systems function in the service of a group exploring possible innovations in that system.

The simulations need not be overly sophisticated, so long as they have enough pieces right to inspire the participants to take their thinking further. Trust in the models is built by giving the participants the ability to modify model parameters and explore the implications of their proposed innovations.

What Models Are Not

We have found it important to emphasize that the models are primarily tools (or even "toys") for thinking about the problem. They represent particular ways of seeing a system.

The Social Innovation Lab focuses on prototyping within complex problem domains and the lab participants identify new and untested innovations. By definition there is not complete data about possibilities that have not yet been implemented. Although during development we invest every effort in selecting the right elements to include, building accurate models, and populating them with good data, the models:

- Do not provide the truth
- Are not complete research tools
- Are not fully validated, and
- Are not typically predictive.

If particular participants have questions about the models, we have found it useful to offer them the opportunity to work with the modelers to explore the details of innovations in the model and look for improvements in the data and/or logic. Where members of the group do not agree on reasonable parameter ranges, it is possible to run two or more scenarios to explore the differences. We have also explored more formal methods to help participants understand how changes to the model effect outcomes and to validate hypotheses including sensitivity testing, calibration, and visualization of uncertainty surfaces. What is most important, however, is that the models help participants to imagine the implications of particular innovations. Even simple and imperfect models can serve that purpose.

Models can illustrate a wide range of alternatives. The models themselves cannot, however, tell us which is better. Furthermore, models are only one of a range of tools Social Innovation Labs use to enrich the lab process. Labs use a range of research aids including videos, images, improvised skits, infographics and data sets. In practice the same team develops a range of different tools and the different tools supplement each other.

Why Model?
The core purpose of using models, in social innovation labs, is to explore the implications of social innovations. The models do not generate the innovations, Lab participants do. However once participants have an idea, the chance to play with it can help them to carry the idea forward.

Models serve as tools for focusing the discussion on the kinds of questions that shape systems, gaining insight into the system and one another's perspectives, and prototyping alternatives and strategies for implementation. Ultimately, the goal of our work in modeling is to put the full potential of technical modeling in the hands of lab participants and to make expert domain knowledge available in a way that is engaging and accessible.

To focus the discussion - We've found that a model helps to hold the group's attention focused on a particular innovation. Whereas without the model, participants will bring in alternatives and consider a number of related ideas at the same time, once a group is looking at a model, the model suggests a particular kind of inquiry. Rather than "we'd have to consider (this other factor)", people ask what happens if we tried this or that variation, or what response a given stakeholder might have.

Once their attention is focused in a particular way, it can surface questions. While the model will not provide answers to all the questions, it will answer some and the other questions can inform further work.

To learn about the problem - Playing with the models can help the group to understand the dynamics of a system. It can help the group to build intuition about the dynamics, and can let them highlight things they don't understand or ask unstructured questions.

Even fairly simple models make it possible to get a sense of the scale and kind of responses typical of a system. It can also put data in context, and suggest constraints that may be hard to overcome.

Just as important as learning about the problem, is understanding the impact of differences between perspectives. Models give the participants the chance to learn about how different assumptions about the system shape the system's behavior.

To identify alternatives and explore implementation - We typically begin using models after the group has identified possible social innovations. Where possible, we use the model before they have narrowed too tightly the design of the interventions. The models give insight into how the innovation might play out.

The models put a prototype of an innovation into a toy model of the system that captures some of the central dynamics. Seeing the innovation in simulation can give the group the chance to explicitly characterize the distinction between alternatives. Participants can see new angles to the problem and suggest revisions. The model can highlight new angles. It may be that a particular policy, for instance, does not address the question of interest directly enough.

The model gives participants the chance to see how the innovation could play out over time. This can highlight unexpected effects like shifts in other variables, or political pushback. In some instances, the model will reveal these effects, but in many cases the model serves to prompt analysis from participants – their own knowledge and experience will suggest effects and consequences that need to be considered in the design of their innovations.

Playing the simulation can also suggest the kinds of things a particular innovation will not be able to address and this can suggest further innovations. Once participants see a prototype play out in simulation, the group will often come up with variations on the innovation that could do better. Models not only help draw out alternatives, they can also offer a means to explore the distinction between alternatives.

Features of Effective Models for Social Innovation Labs

WISIR has been prototyping different ways of building models for Social Innovation Labs, adapting existing software as well as developing customized platforms. The following features are critical to the production of any model used in a Social Innovation Lab.

Changing Dynamics

Existing models rarely have the capacity for participants to shape the fundamental rules and relationships of the system on which the model is built. i.e., the relationship between variables is built into the model. In a Social Innovation Lab, potential interventions are specifically designed to change these kinds of relationships. Therefore, different policies or scenarios should be able to show outcomes (i.e., increases or decreases in variables) as well as allow participants to see the result of a change in the relationship between variables. For example, if participants in a Lab on poverty reduction introduced a "basic income" into the model (this is a government guarantee that all members of society are provided a certain income) the model would be able to show both an increase / decrease in poverty levels as well as a showing a new relationship between poverty levels and employment rates.

Visually Compelling and Intuitive

Effective data visualization can allow models to convey complex information in ways that let participants easily engage with it. In addition, data visualizations can be a powerful tool in illuminating particular aspects of a system – conveying differences in scale (size) for instance, or revealing relationships that might not be immediately obvious.

Democracy 2 is one example of how a complex system map (Image A) can be presented in a visually compelling way (Image B).
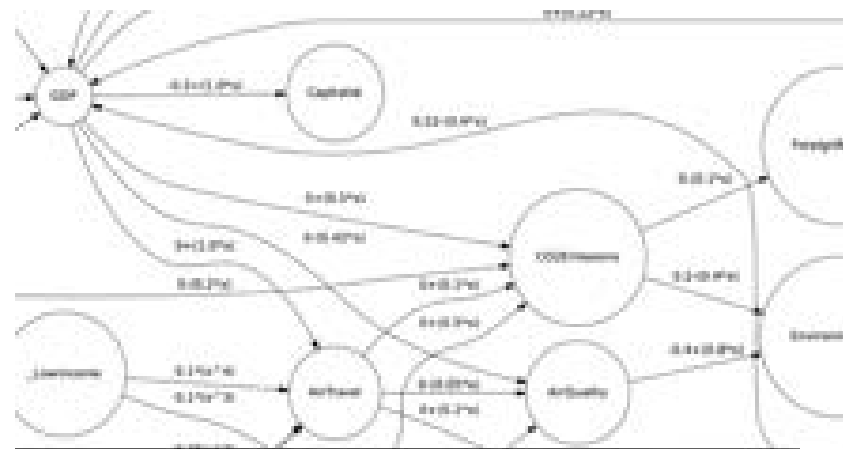

Image A

Image B

Game-Like Play

A number of principles of game design can help to make the model more engaging and useful for participants. These include building in an end goal or wining condition, giving regular feedback that shows users how they are doing, providing natural interface, providing a level of challenge that is enough to be engaging but not so much as to be discouraging, and adding elements that encourage play, exploration, and fun. This kind of game-like interface can engage participants more fully and for longer. It also has the potential to put them in an open and creative state of mind where they will be able to consider more creative a

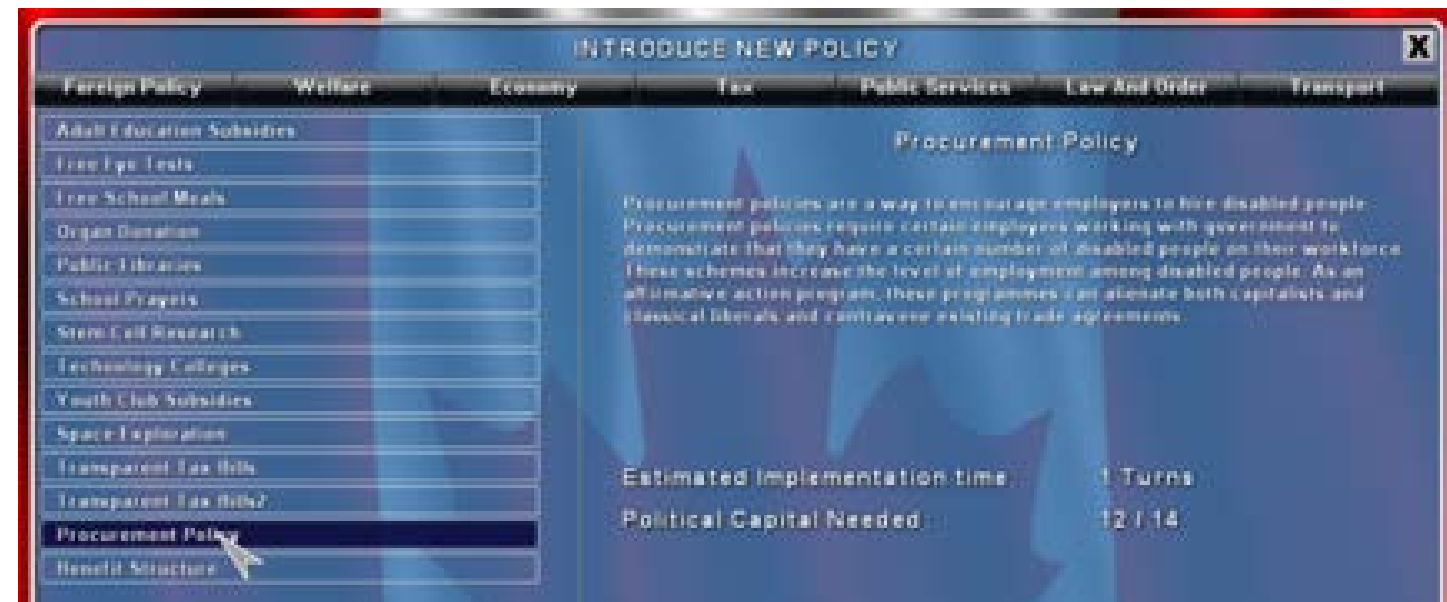In image C, below, a participant playing Democracy 2 chooses a newly developed policy.

Image C

Ownership and Interactivity

While the model is one way to introduce expert knowledge into the lab process, it should also reflect the participant's understanding of the challenge the group is working on. Participants should feel some ownership over the model and have the capacity to debate and then adjust key variables within the model. This allows the model to better represent the participant's understanding of the system, as well as allowing them to play out different scenarios. Additional technology can make this process more tactile, and more immersive for participants. In the example below (Image D), from a prototype model related to resource development in Northern Ontario, the model is projected onto a smart board and a participant is able to adjust a number of key variables that govern the model.

Letting people take over the model is particularly important. We offer opportunities for workshop participants to engage with the programmers in building the model to:

- Use the concepts and frame developed in the lab for the model. The variable names and relationships should come from the understanding the group builds of the system.
- Elicit details about their insight so the new variations reflect their vision. This can take time and can be much easier when one or more individuals spend some time explaining a concept to the modelers in detail.
- Offer an outlet for anyone who has concerns or questions about the models to deal with them directly in a way that is constructive rather than taking away from the group discussion.

Image D

One useful strategy is to include one or more participants in the process who are reasonably comfortable with equations/data within a domain area, but not perhaps with programming. These people can direct the modeling team to make a model that explores a particular story and then explain it themselves. This really gives the group ownership of the process and breaks one of the initial barriers.

Even finding fault in a model can engage a participant in thinking about the problem in a highly specific sense. Mistakes can serve as a rhetorical device to bypass thinking about whether to think about something. Once something is wrong, the pressure to say so is strong. If the models are not obviously wrong in some way, they sometimes don't pull users into engaging with them as quickly. A model that is wrong, corrected and fixed, seems in our experience to build trust and be quite engaging.

Once modeling becomes part of the language, people seemed to become comfortable with even quite notional models. The immediate advantage this offered was that it let whole groups start talking very quickly about possible futures, because they were directly in front of them. From one option, it became very natural to jump to another. Building fast models then could bring other alternatives into the discussion. Just writing the revisions on or with the models can make an idea concrete enough that people are willing to start putting out their thoughts about it.

Case Study: New Solutions for Youth Employment Lab
In beta-tests of the social innovation lab methodology, we have used computer simulations in two lab processes – one focused on Youth Employment in the US, and one focused on the future of the soft fruit industry in Ontario.

The Youth Employment Lab Model
Our focus in developing the employment lab model was to engage participants in a particular pattern of questioning. The model itself offered insight into how the system worked, but the central focus was on what insights it would stimulate lab participants to come up with.

We used an agent-based model to explore what was happening for young people in the employment system. We wanted to see distributions, and what happened for individuals. For instance if 10% of people couldn't get jobs because they lacked particular skills, that is quite different than if 10% of the population can't get jobs for structural reasons (e.g., there aren't jobs in the regions where the unemployed live). In the second case, if those without jobs improved their skills and got jobs, it would simply push others out of the employment system.

The model was a model of young people looking for jobs, and employers selecting employees. It modelled the employment journey from pre-employment, through the point of hiring, to employment. Both employers and employees made choices that shaped who had access to what opportunities.

The model was 'played' over 10 turns and each turn represented one year. (The model ran for ten years). The model contained 100 young people in the employment system, aged from 18-25. Whenever one young person aged out of the model, another entered. In each time step young people without a job looked for jobs, and employers selected employees. Individual young people had particular locations, histories, capacities, credentials, and barriers. Employers had a set of jobs available and a set of criteria for hiring and retaining staff.

The participants in the lab sat in tables with 5-7 people each. Each table had one computer and played as a team. Teams had a chance to play one intervention in each of the ten turns. The interventions they could play were structural changes in the model. They interventions were based on participant's ideas and included things like getting more kids through high school, offering childcare, and providing supportive hiring. Once teams played an intervention, they could see visually the effect on the system in plots and a display of the state of young people and employers. (E.g., Young people could be long-term unemployed, short-term unemployed, recently employed, employed long term). The display included a spatial dimension – showing the location of each young person and employers.

The Interventions

- Mobility: make it more likely that those from other regions can access entry level jobs
- Childcare: offer support to those with family care responsibility. This lowers reservation wage, increases productivity, and increases retention
- High school: increase the high school completion rate
- Skills transfer: increase the transferability of skills between the two sectors, service and manufacturing
- Supportive hiring: bias towards hiring those with long term unemployment
- Job requirements: reduce requirement for high school in entry-level jobs
- Relocation: moving employers into that region

Discussions prompted and facilitated through use of the Model

- How big is the employment impact? For which populations?
- How long does it take to have an effect?
- When does the intervention breakeven?
- What are knock-on effects of the intervention, the unintended consequences?
- Who would be impacted by these effects and how might they react / push-back?
- Where are there synergies between interventions?
- Does the time ordering of interventions matter?
- What barriers still exist?
- Are there intervention points we are missing?

Image E below is a screen capture of the model. The interventions, which can be played with differing degrees of impact, are listed across the top of the dashboard. The grey box on the left (with red and blue circles) gives a spatial representation of young people – where are they located in this model of a community, and what is their employment status. The different graphs show different indicators – costs of the interventions and impacts on productivity for employers, employment status for different populations of young people etc.
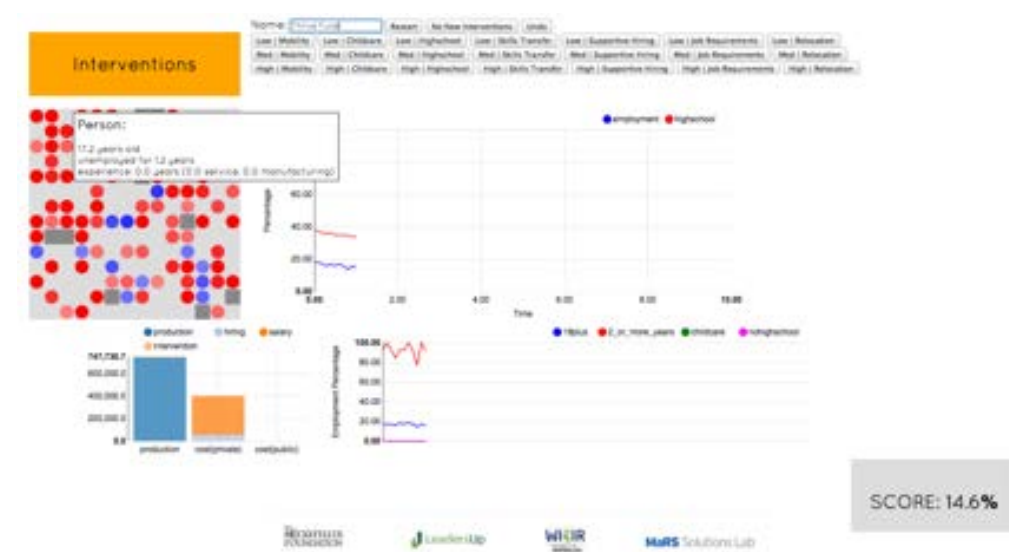

Image E

References:

Desai, A. (2012). Simulation for policy inquiry. New York, NY: Springer.

Soderquist, Chris, (2007). In: Holman, P., Devane, T., & Cady, S., Eds. The change handbook: The definitive resource on today's best methods for engaging whole systems. San Francisco: Berrett-Koehler.

"Software Survey: Simulation — Back to the Future / October | Volume 38 | Number 5 / Public Articles / ORMS-Today / IOL Home - INFORMS.org." Accessed July 21, 2012. http://informs.org/ORMS-Today/Public-Articles/October-Volume-38-Number-5/Software-Survey-Simulation-Back-to-the-future.

Swain, J. J. (2001, February). Power Tools for Visualization and Decision-Making. "OR/MS Today - February 2001 - Simulation Software Survey." Accessed July 21, 2012. http://www.orms-today.org/orms-2-01/simulation.html.

Additional Resources:

Aldrich, Clark. Learning by Doing: A Comprehensive Guide to Simulations, Computer Games, and Pedagogy in e-Learning and Other Educational Experiences. 1st ed. Pfeiffer, 2005.
———. Simulations and the Future of Learning: An Innovative (and Perhaps Revolutionary) Approach to e-Learning. 1st ed. Pfeiffer, 2003.
———. The Complete Guide to Simulations and Serious Games: How the Most Valuable Content Will Be Created in the Age Beyond Gutenberg to Google. 1st ed. Pfeiffer, 2009.
Balint, Peter J., Ronald E. Stewart, Anand Desai, and Lawrence C. Walters. Wicked Environmental Problems: Managing Uncertainty and Conflict. 1st ed. Island Press, 2011.
Becker, K., and J. R. Parker. The Guide to Computer Simulations and Games. 1st ed. Wiley, 2011.
Bremer, Stuart A., ed. The Globus Model: Computer Simulation of Worldwide Political and Economic Developments. Westview Pr (Short Disc), 1987.
Desai, Anand, ed. Simulation for Policy Inquiry. 2012th ed. Springer, 2012.
Farley, Robert, and World Politics Review. Teaching Crisis Decision-Making Through Simulations. World Politics Review, 2012.
Haas, Timothy C. Improving Natural Resource Management: Ecological and Political Models. 1st ed. Wiley, 2011.
Iuppa, Nick, and Terry Borst. Story and Simulations for Serious Games: Tales from the Trenches. Focal Press, 2006.
Jones, Owen, Robert Maillardet, and Andrew Robinson. Introduction to Scientific Programming and Simulation Using R. 1st ed. Chapman and Hall/CRC, 2009.
Law, Averill, and W. David Kelton. Simulation Modeling and Analysis. 3rd ed. McGraw-Hill Science/Engineering/Math, 1999.
Michael, David, and Sande Chen. Serious Games: Games That Educate, Train, and Inform. 1st ed. Course Technology PTR, 2005.
Reeves, Byron, and J. Leighton Read. Total Engagement: Using Games and Virtual Worlds to Change the Way People Work and Businesses Compete. 1st ed. Harvard Business School Press, 2009.
Shaffer, William R. Computer Simulations of Voting Behaviour. Oxford University Press, 1972.
Squire, Kurt. Video Games and Learning: Teaching and Participatory Culture in the Digital Age. Teachers College Press, 2011.