Challenge-Led Innovation

Organising for Systems Innovation at Scale

GRIFFITH UNIVERSITY | GRIFFITH CENTRE FOR SYSTEMS INNOVATION

To be alive in this moment in time is to be innovating by necessity.

But we don't need more innovator heroes.

We need to organise many diverse innovations across institutions and geographies.

We need innovation ecosystems directed towards addressing our most pressing challenges.

We acknowledge the traditional custodians of the lands on which we live and work. We pay our respects to their Elders past and present. We also acknowledge that Aboriginal and Torres Strait Islander peoples were forcibly removed from their lands and sovereignty was never ceded. We recognise their continuing connection to lands, waters and communities.

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Author: Ingrid Burkett

Supported by: Joanne McNeill, Rena Frohman, Athanasia Price

Also acknowledging helpful input + contributions over the years of testing this framework from our colleague Alex Hannant + the many partners who have help us test, refine + continue to iterate its development.

This is our thinking at this moment in time and we reserve the right to continue to develop + change our thinking as we learn our way forward.

Contents

Why this Booklet?

We live in extraordinary times in which we are facing both existential crises and exponential opportunities. The status quo is not an option in any context as we face massive challenges like climate change, housing crises and growing inequalities.

A great many people are working hard innovating pathways towards addressing these challenges but progress is slower than we need.

This booklet is for those who are seeking to accelerate innovation towards addressing complex challenges.

Our team at Griffith Centre for Systems Innovation have been experimenting with and evolving a **Challenge-led Innovation Approach** (based on Mission-oriented approaches developed by Mariana Mazzucato at IIPP and others internationally).

We are using this approach to guide the way we work internally and engage with our systems innovation partners. We've facilitated intensive Re:Treats, worked with government bodies, businesses and civic organisations, and engaged deeply with others exploring this work. We have a bias for developing and testing HOW such approaches could be applied to respond to both local and global challenges rather than getting too caught up in the what and why of such approaches (though we will introduce some foundations that provide insights into our orientation to the what and why).

We are openly sharing our learnings to date to spark conversations and innovation in both practice and thinking amongst those exploring how we work and to learn together to address complex systems and challenges.

We see this booklet as a first step in a longer learning journey. It provides an overview of:

- the principles and processes that sparked our evolution of a Challenge-led Innovation framework.
- examples of our learnings from other system innovators who are experimenting.
- an adaptable process to help guide the learning journey.
- learning tools and canvases to catalyse thinking, practice, and further adaptations.

Introducing Challenge-led Innovation

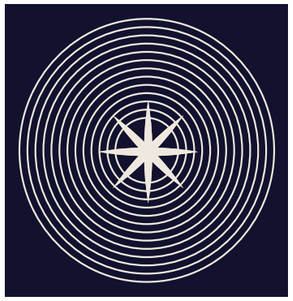
There has, over the last decade, been a shift in the framing of innovation. From one that emphasises the need for increasing rates of 'entrepreneurship' and centres the role of the private sector as a key driver, towards one that focuses on the direction of innovation, the need for a cross-sectoral approach, and the role of innovation in responding to growing global challenges.

Some of this shift has been led by those interested in developing 'Mission-oriented Innovation' and fostering national innovation strategies so that governments once again play a 'market shaping' role in relation to investing in and fostering innovation. We've also observed an increasing focus on the practical role of innovation in addressing systemic challenges such as climate change, biodiversity loss, growing inequalities and political / democratic instabilities. This has led to many explorations of 'systems innovation' across sectors, disciplines and fields.

Our approach to Challenge-led Innovation draws on both the growing 'Mission-oriented Innovation' and on the 'systems innovation' approaches. The former has its origins in attempts at transforming government innovation policies. The latter is much associated with civic or hybrid government and non-government sector initiatives which aim to address complex challenges that affect people and places, or that are associated with planetary crises. All of these will require more than government intervention and action.

Common Attributes of Challenge-led Innovation

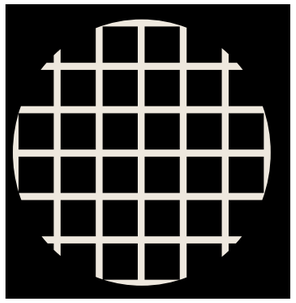
Using various mechanisms to focus, align + direct innovation across diverse fields + sectors towards addressing the key issues of our times.



Holding **BOLD AMBITIONS FOR INNOVATION** to move towards future states that provide fundamentally better outcomes for people, places, and the planet.

INTENTIONALLY USING A RANGE OF LEVERS to incentivise, enable, and sustain multiple innovations across and within the chosen systems context.

Contributing to **RETHINKING THE FUNDAMENTALS** of how current systems and structures work, and support cultures that are open to new paradigms and possibilities.



Providing spaces and **PLATFORMS THAT ENABLE DIVERSE ACTORS** and stakeholders to convene around shared goals, harnessing their collective intelligence, and acting in ways that have potential for 'better outcomes', meaning they are also often 'novel'.

Establishing and maintaining mechanisms that **ENABLE COHERENCE** (such as networked governance and information flows) and connect innovations in ways that make the whole more productive than the sum of the parts.

> To solve the massive crises facing us, we must be innovative - we must use collaborative, mission-oriented thinking while also bringing a stakeholder view of public-private partnerships which means not only taking risks together but also sharing the rewards. We need to think bigger and mobilise our resources in a way that is as bold and inspirational as the moon landing - this time to the most 'wicked' social problems of our time.
>
> Mariana Mazzucato, 2020

Diversity Rules!

Although there is no singular methodology, we see Challenge-led Innovation approaches as sharing a number of key attributes which are outlined in the figure here.

By putting forward our approach to Challenge-led Innovation we are sharing the work we have undertaken over the past few years and aim to inspire conversations about how we might 'diversify' this growing field.

Many current examples start with a focus on governmental leadership. This is understandable, but it may mean other sectors are not stepping up to engage in the processes to the same extent or that they don't have the capacity to share their learnings publicly. We need more experimentation around models that are not led by or begun from governments.

We are interested in exploring what Challenge-led frameworks could achieve if actions started from within civic movements, and/or social enterprises, and/or business communities. This would necessarily still involve fostering cross-sector engagement, but would likely look quite different to those led by government. If we are to activate systemic shifts, we need genuine cross-sector initiation and engagement.

Although the majority of examples are published from the 'minority world', with the UK, Europe, North America dominating, we know systemic change initiatives are growing in the majority world, in South Asia, in First Nations contexts and in South America. They are, however, not yet recognised for their contributions to transformative agendas. We will not make change at a global level unless this field develops to reflect a greater diversity of contexts. We need cross-cultural as well as cross-sector innovation. It is imperative that a diversity of cultural perspectives are supported to enable this field building to proceed.

While we've begun exploring Challenge-led Innovation with some of our partners in various contexts, including in culturally diverse contexts, we recognise this needs much greater investment and focus internationally.

An Emerging Typology of Models

Emerging Models	Core Focus	Benefits	Challenges
Top Down Alignment	Better alignment of drivers + policy innovations for achieving progress on ambitious goals. Starts with governmental strategy	-Wider collaboration in innovation across levels, departments, disciplines + sectors - increases impact focus + accountability	-Requires massive internal culture shifts, changed priorities, governance, legal, financial + behavioural shifts
Sectoral Consensus	Energising + coordinating focus across sectors - usually focused on specific goal areas (eg. health related goals)	-Cross-sector participation by design -Cross-sector actors develop equal stake in success	- Real sharing across sectors is hard - especially around data + shared risks/rewards
Place-based Democratised Innovation	Democratising innovation + engaging multiple stakeholders (including citizens) in co-creating innovation	-City / Region wide innovation cultures + narratives (large potential spin-offs) -Local investment into innovation = less leakage	- Multilevel work can be slower, requires compromise (which can dilute progress) + governance can be hard
Design-Led Engagement	Using strategic design to reframe from siloed responses to highly engaged deep learning	-Deep participation -Grounded, relatable missions -Action first to grow momentum + buy-in	- Delaying high level buy-in can be risky - Measuring benefits of engaged design process can be hard

Based on MOIN 2021 Case Book developed by IIPP, 2022 Available at: https://tinyurl.com/3353av5n

Typologies of Diversity

As the field grows around the world, we are seeing the evolution of different approaches and models. For example, there is no 'one way' to start a Challenge-led Innovation initiative. It is important that the approach reflects what is needed or effective in a particular context. Each of the emerging models involves particular benefits and challenges both in terms of how it is organised and in what it can achieve.

The table on the previous page outlines some of the key approaches that have emerged over the last decade. The top-down model still dominates but it will not suit every context, and we have a hunch that it's not the approach that best creates diverse and deep participation.

Common to all these models and systems innovation initiatives more generally is the idea that cities, regions, nations and societies should leverage innovation to achieve ambitious goals. The goals serve as a directional and unifying force for joint action and innovation. Where they differ is around questions of leadership, participation, governance, integration and the role of measurement. We do not advocate for the adoption of one or other model. Rather, **we advocate for greater diversity that reflects what is needed and what could work for different contexts.**

An Evolving Framework

In this booklet, we provide our evolving framework that could be useful across all these models, and could help surface alignment and assumptions. Underpinning our approach is that depending on the context, one or other model may be more applicable. And in some cases combinations or evolutions of models may work better.

We summarise this framework in what we call a 'Challenge-Map', which is outlined on the following page. The map also includes an example 'Impact Map' which relates to the hypothesis of each project that ultimately seeks to contribute to a Challenge.

We have found that mapping the territory in which you are seeking to generate change can become a critical part of creating a shared vision across multiple sectors and stakeholders.

It is, however, important to remember that 'the map is not the territory' and that the process of mapping is often more useful than a static map.

If it is to be useful this mapping should continue over the course of the life of an initiative rather than happening once.

We recommend finding a way to engage actors and stakeholders, and share the mapping as a process rather than producing static representations of the map as an output. Mapping should be kept collective, alive and iterative!

To help make sense of this booklet we've broken it into three sections.

> **Part One** sets out some foundations we've identified as important to Challenge-led Innovation.
>
> If you want to jump straight into the mapping process, we suggest you skip to **Part Two.**
>
> The final section, **Part Three**, focuses on what we have learnt about the conditions needed and how to get started on a Challenge-led initiative.

> *When [Fredrick] Jameson said it's easier to imagine the end of the world than the end of capitalism, I think what he was talking about is that missing bridge from here to there. It's hard to imagine a positive history, but it's not impossible. And now, yes, it's easy to imagine the end of the world because we are at the start of a mass extinction event. . .But I would just flip it and say, it's hard to imagine how we get to a better system. Imagining the better system isn't that hard; you just make up some rules about how things should work. . . but the story of getting to a new and better social system, that's almost an empty niche in our mental ecology. So I've been throwing myself into that attempt. It's hard, but it's interesting.*
>
> Kim Stanley Robinson, 2020

Challenge + Impact Map

Directional Goal

Provides a **direction of intent + ambition**

- Goals that **set the direction**, orientation, and intent for + of action
- Goals are direction-setting **not** destinations because we are working with complexity
- They should be framed as a direction that will require enormous collective effort
- There should be broad agreement on the importance of the direction, though not necessarily on how to get there
- They are the most stable of the mapping elements - **our course towards them will necessarily change over time**

Challenges

Coherent fields of action + innovation that create momentum towards the goal

- Systemic field of action needed to create momentum towards the directional goal
- Framed as action-focussed fields for diverse innovation across a number of actors + sectors
- Systemic in nature + transformational in ambition - not solvable by one body or technology or actor or sector
- Challenges can be directional in themselves as well as means towards the directional goal
- Specific enough to generate inspiration for action + broad enough to engage learning + diverse participation

Portfolios of Projects

Sets of coherent innovation / learning activities that provide part of the learning needed to achieve a challenge

- Coherent combinations + orchestrations of actions + innovations
- Form a rich set of interconnected bottom-up + top-down learning projects
- Involve diverse participants who are often cross-sectoral + multi-level
- Portfolios require some form of governing or convening to ensure coherence

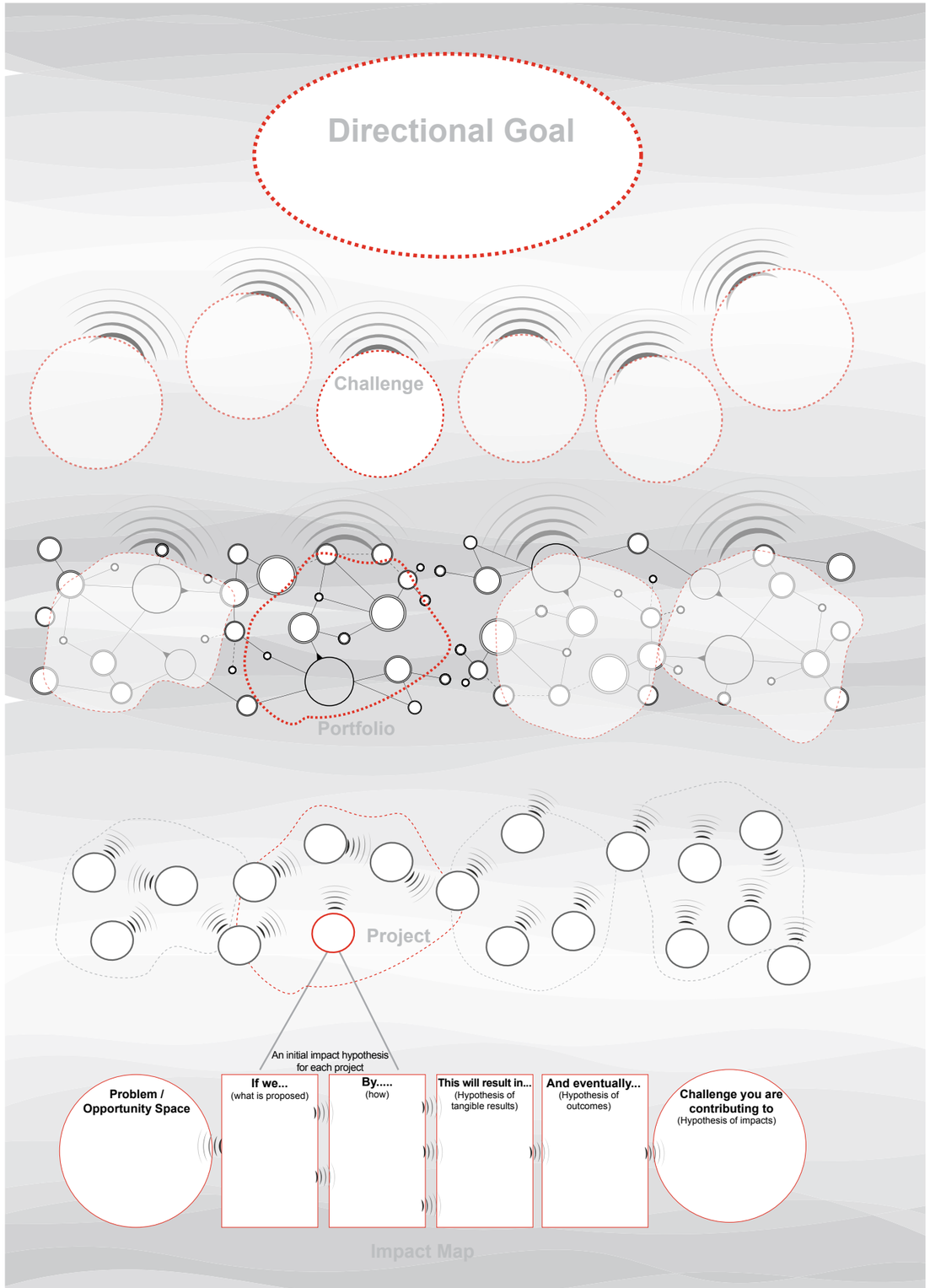
Impact Projects

Intentional, time limited innovation / learning projects that design, test, iterate elements of 'solutions' needed to achieve a challenge

- Projects are innovation spaces - where we learn, test, try, iterate towards what works
- Set up as 'hypotheses' which we can design, experiment, iterate + develop 'solutions'
- Run in parallel with other projects so that systemic interactions can also be examined + tested
- Projects can be learning platforms or rehearsal spaces for systemic change: coherence ≠ aligned or coordinated

Project Impact Hypothesis Maps

The visible and transparent version of a working hypothesis about how a particular project (set of actions) will create momentum over time towatds the direction of a particular challenge. These should be iterated + dynamic over time including in implementation.



Direction of Travel

The travel is directed towards the goal - however the focus is mostly on the challenge + more specficially on projects + portfolios. This is an innovation journey - so in many respects the learning shapes the speed + route of the travel. On the journey we need to be open to both the constraints of the territory AND to novel pathways along the way, which may change not only the journey but the ultimate destination! We can use our directional goal to orient + constrain where we put our energy on the journey + that in turn will influence the direction of travel.

Innovation relies on sensemaking + signals rather than indicators + targets

Innovation is built on practice-based evidence. We hypothesise our way forward, test, learn and iterate. So at each level we need to devise ways in which we can make sense of what we are learning, + what signals indicate that this learning is nudging towards the challenge ultimately creating momentum towards the directional goal.

Our Orientation to the Map

There are at least two orientations to this map and to the mapping process. Our approach aligns with the second orientation.

1. Planning + Strategy:
we could see the map as a planning artefact, whereby we outline each dimension for the purposes of strategising action. This turns the map into a managerial artefact. This is perhaps the dominant interpretation of maps such as this, however we think this orientation has significant limitations in terms of innovation in the context of complexity (though it can be helpful in more complicated contexts).

2. Learning + Systemic Capability:
we approach the map as a navigational learning framework. The map and the mapping process help us to visualise relationships and grow our capability to 'see' both the dynamism and complexity of experiments that could encourage learning that nudges us along the way towards the directional goal. From this perspective the mapping process is not a 'one-off' and the map is more like a dynamic chart, as navigation of learning in the context of constraints, continues. The map should be alive and changing, and ultimately it remains a hypothesis about how we learn to generate change in complex, adaptive environments.

Challenge and Impact Map, 2020, Griffith Centre for Systems Innovation

Part One:

Foundations

Our foundations

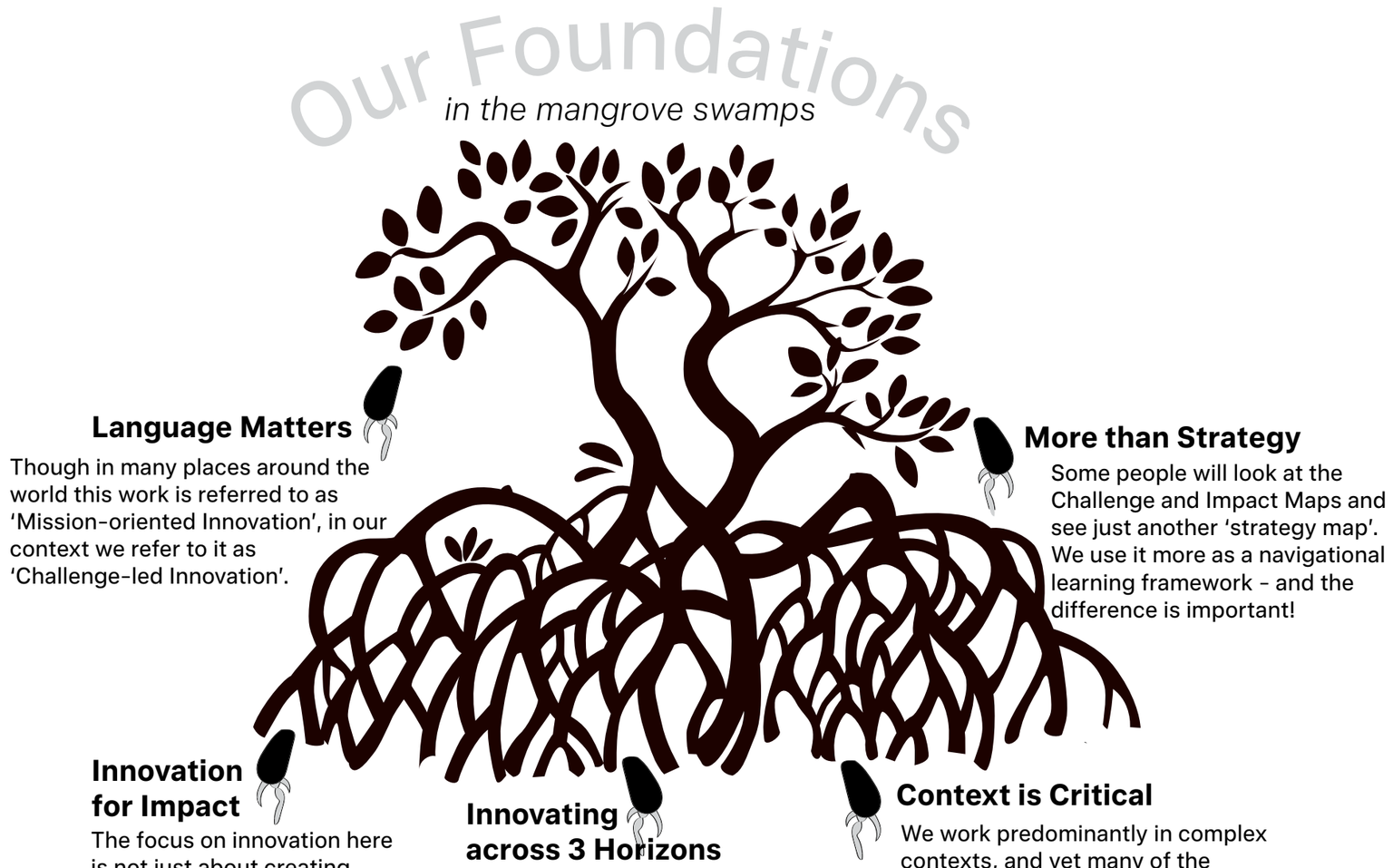
Griffith Centre for Systems Innovation (GCSI) is located on the lands of the Yugambeh language group in Logan, Queensland, Australia. This country is traversed by rivers and extends to the sea. The banks and estuaries of the rivers are flanked by mangrove forests. This is the context in which we have worked with and explored Challenge-led Innovation over the past five years. And it is an appropriate metaphor for this exploration. While the foundations are built on ground that shifts over time, there is a shape, a strength and a richness from the life that grows out of the mangrove swamps.

Over this time, we have come to see context as central to the whole idea of Challenge-led Innovation. This first part of the booklet explores five key foundations that have shaped the Challenge-led Innovation approach from our context.

Language Matters

The 'innovation' we focus on at GCSI is related to ways in which we can begin to address complex social, economic, environmental and cultural challenges within local, regional, national and global contexts. We have been influenced by the work of many luminaries around the world who are similarly grappling with how we inch forward towards tackling complex challenges at all these scales. But perhaps none have inspired us more than Mariana Mazzucato and her Mission-oriented Innovation frameworks.

As we engaged with Mission-oriented Innovation in various contexts, it became clear to us that the language of missions was deeply problematic in the Australian context. This is because of the negative connotations of the term 'missions' with Australia's colonial past. So whilst we acknowledge and celebrate the work undertaken by Mariana Mazzucato and her colleagues at UCL IIPP under the banner of 'Mission-oriented' Innovation (and the many other researchers and practitioners who have also explored this territory), we have taken a stance to refer to this growing 'field' or 'ecology' of practice in a way that better resonates in our Australian context - we use '**Challenge-led Innovation**' as our reference point.



Foundations for Challenge-led Innovation, GCSI, 2023

Innovation for Impact

Innovation lies at the heart of creating change - whether that's creating incremental shifts towards better outcomes, or generating more profound and transformational social or economic changes. When we talk about innovation we're asking these questions:

- What is 'innovation' when profound social, political, environmental and economic crises are increasing?
- How can we as individual innovators or single organisations contribute to addressing enormous challenges?
- What are the governing frameworks that can help direct our efforts and ensure that we have an eye on our common futures not just growth of personal wealth or maintaining organisational 'empires'?

Innovation is not just about creating 'new' value, it is about creating better value. It is about creating better futures.

We define innovation with the following characteristics:

- it involves an intentional process responding to a challenge, problem or opportunity;
- it holds the intention of finding a way forward that makes a positive difference to the original challenge; and
- it ultimately has the purpose of creating a positive impact directed towards regenerative, just and better futures.

Implementation is key!

We see the innovation process as incorporating framing, learning, experimenting and development stages.

Innovation is not just about coming up with great ideas - it requires us to constantly test the assumptions underpinning those ideas, making sure the ideas will actually create better outcomes, and testing the ideas in practice so we can learn about whether and how they work. And then repeating this testing because the implications emerge as we progress.

The diagram on the next page broadly outlines innovation cycles and elements from framing and discovery to design, learning and development. Importantly, real impact requires implementation - otherwise all we are left with is more great ideas that never translate into reality!

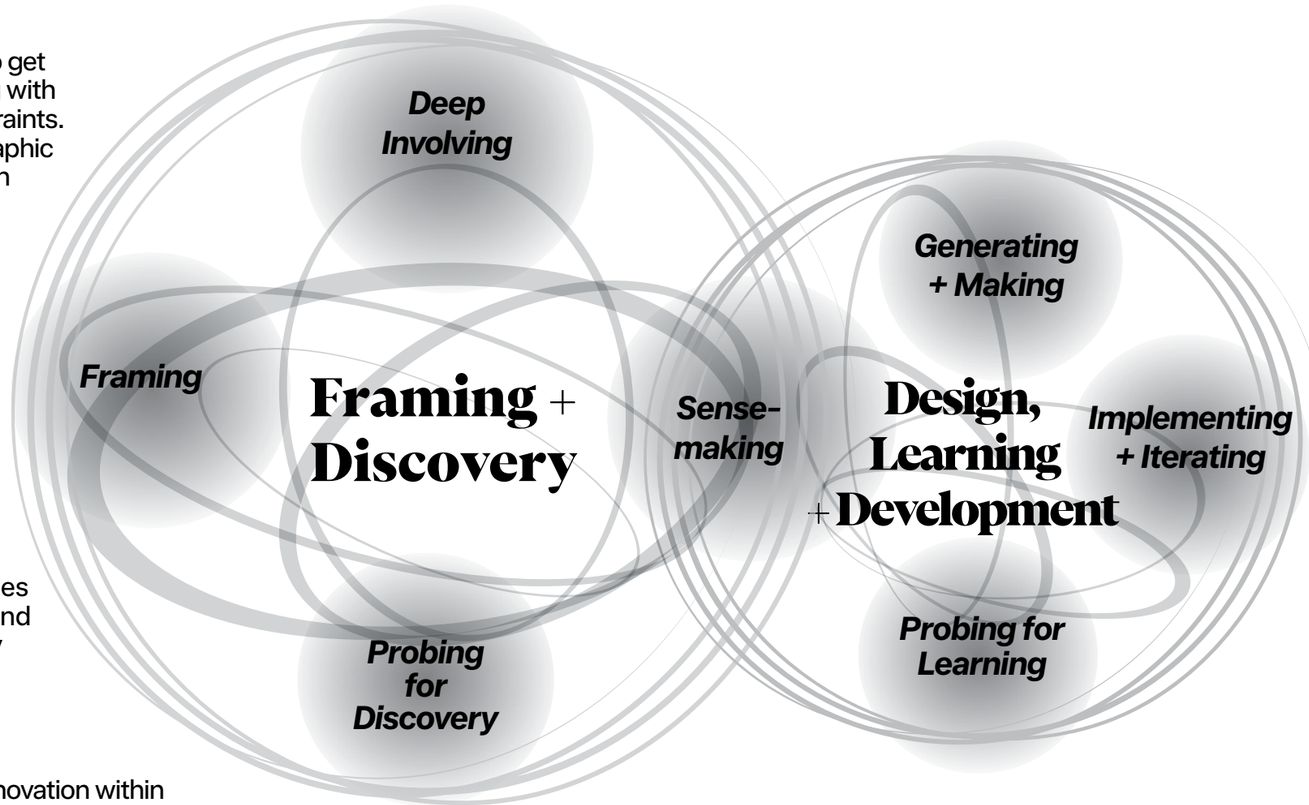
Innovation Cycles + Elements

Deep Involving
Innovation is not desk-work – it requires us to get deeply involved in understanding + engaging with context, experience, perspectives and constraints. We do this through action research, ethnographic and anthropological enquiry and immersion in context/s.

Framing
Problem / Opportunity Framing should constitute the first half of any design or innovation process – it enables us to actually define what it is that we are designing for, and helps us to really make sense of the actual problem/s or opportunities we are focusing innovation on.

Probing for Discovery
Probing (testing, trying and learning) enables us to question our assumptions in action, and then learn to see the situation with not only new eyes, but new hands!

Sense-making
Making sense of the context, the nature of innovation within context is a process that sits across the two big innovation cycles and connects them. Sense-making is emergent and ongoing throughout and beyond innovation cycles.



Generating + Making
'Making' ideas turns them into something beyond ourselves, that can be engaged with and shaped by others. Innovation requires turning ideas into learning towards design and development.

Implementing + Iterating
Innovation needs to result in the development and enactment of something – whether product, service, process or policy. The development process is one of continuous iteration and refinement (even into and beyond implementation!)

Probing for Learning
In learning how to make something better we probe how, when, why something works, and what limits it has. Probing for learning involves prototypes, tools for learning through using and doing.

Innovation Cycles and Elements, GCSI, 2023

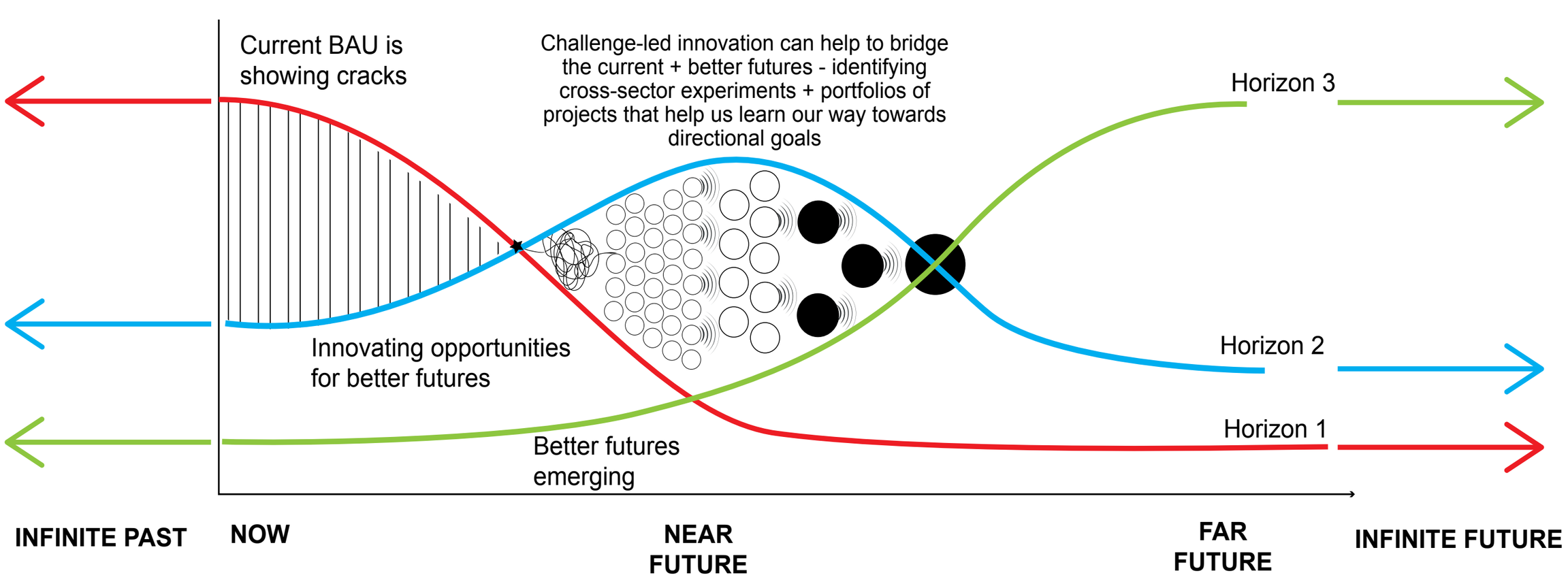
Innovating across Three Horizons

The Three Horizons framework, developed by Bill Sharpe (et al., 2016) at the International Futures Forum, helps to make visible the present, the near future and the further away future so we can "open up linear views of change" and engage with ways "to think about the future that recognise deep uncertainty but respond with an active orientation" (Sharpe, 2020). The Three Horizons framework can help get clearer on WHAT next steps we could take now in order to innovate transitions towards the different near (second horizon) and far (third horizon) futures. It can also help us visualise HOW we could act now towards different futures through identifying potential 'stepping stone' initiatives.

But we think more granularity is needed, across a range of dimensions, if we're going to shift what we learn from this into directed action. And it is this insight that has led us to explore how we could extend the framework through adding Challenge Mapping.

The challenge mapping process introduces this perspective - bridging the space between the first and third horizon and helping to identify and shape second horizon 'stepping stone' projects, initiatives and actions that could help with probing across the transition towards broader systems innovation.

In terms of the Challenge-led Innovation process, the Three Horizons framework helps us acknowledge we are working in a moment in time. Orienting ourselves temporally can enable us to think about what our next steps are, what we can learn from our past, and how we can imagine the present and futures in terms of horizons. We've also extended Sharpe's Three Horizons to incorporate the infinite pasts and futures enabling us to see time much more cyclically and so understand the ebb and flow of innovations over time. We also think this is critical in a context where there is much to learn from First Peoples - not only about their traditions but also how their knowledges could contribute to better futures.



Three Horizons and Beyond, GCSI, 2023 (based on Sharpe and IFF, 2016)

Context is Critical

Many commentators (starting with Nelson in 1977) use the Moonshot as an example of how diverse actors can work together to achieve ambitious goals. However, it is important to understand the context of this challenge before seeing it as an exemplar for others.

There are critical differences between challenges such as the climate crisis or increasing inequality, and the Moonshot. The latter is a technical challenge - yes, it's complicated, but with enough experts and resources, we can align all the actors towards parts of the goal and ensure that their contributions all work towards achieving the ultimate result. The action and innovation required to create momentum in relation to addressing issues like climate change, however, are more than technical or even technological. And the nature of challenges such as these are much more complex than they are technical.

This difference between complicated technical challenges and those that are complex is critical not only in terms of framing challenges, but also in how we organise responses and govern collective action towards them.

We have found Dave Snowden's Cynefin framework very helpful in helping to make sense of this difference (see below). The Cynefin framework helps us to remember how different domains of problems may require different responses. It is not about 'categorising' problems, but understanding the contexts of our responses.

If we are grappling with complicated, technical challenges, then we are likely to find the advice of technical experts can help us to make sense and progress towards the challenge. If, on the other hand, we are in a complex territory, where there are multiple, overlapping interdependencies between issues, then we can only inch forward by probing and testing our way.

The overuse and focus on the Moonshot as an exemplar has led to frustration and a sense that perhaps we just don't have the capacity to really address these more complex challenges. We don't think that is the case - but we do think it requires different ways of organising, governing, leading and collectively acting towards such complex challenges.

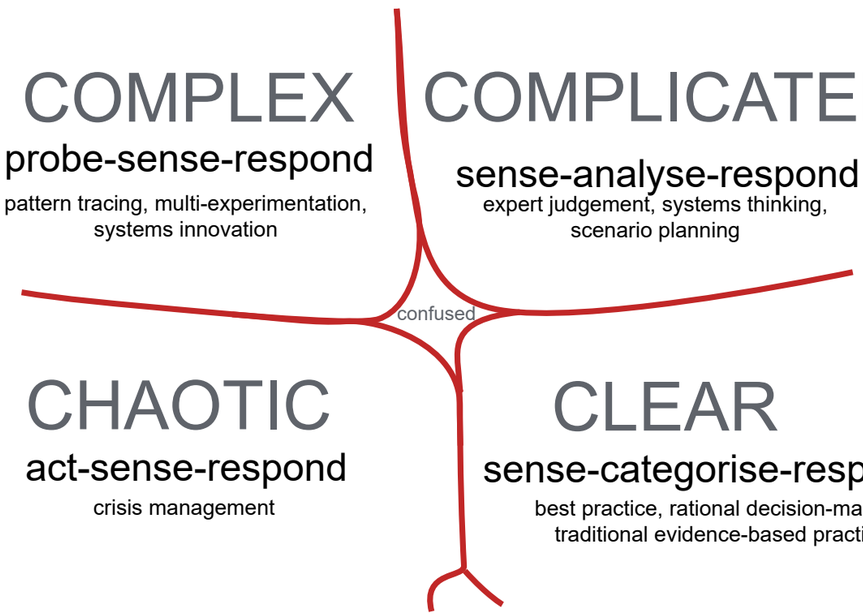
Some researchers have also proposed that we need to get better at identifying different kinds of challenges. For example, Wittman (et al., 2020) distinguish between what they call 'Accelerator' and 'Transformer' Challenges.

For technical challenges like the moon landing, which Wittman et al., describe as 'Accelerator Challenges', we can organise actions like governance, leadership, and project activities in very structured ways (see Theory of Action 1 on next page). For example, agreeing on the goal, aligning actions to this goal, and measuring progress according to targets and related indicators.

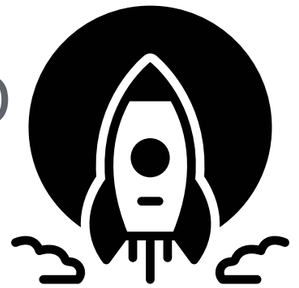
For complex or 'Transformer Challenges' where change requires fundamental shifts in human behaviour, values, norms and culture, we need to organise in ways that are less 'structured' and more 'networked' (see Theory of Action 2 on next page). Leadership may be distributed and coherence is more important than coordination.

We illustrate some of the differences between these challenges on the next page.

Eliminating Plastics from Oceans is a complex challenge - one that involves many interconnected, overlapping and intersecting issues, all of which require innovation to address, but which cannot only involve technical responses or 'expert' innovation.



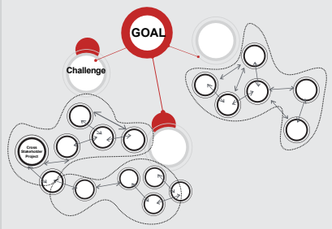
The Cynefin Framework, Snowden, 1999



The Moonshot was an immensely complicated challenge, which required the coordination of many elements, and the engagement of diverse technical experts. It remained, however, a challenge that, with the right expert advice, enough resources and coordination could be tackled within a reasonable timeframe.

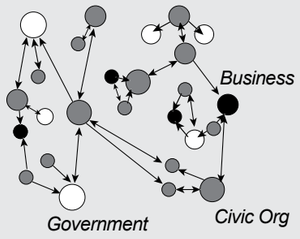
Typologies of Governing Challenges

Theory of Action 2: Networked



Contextual
Coherence
Loose collectives
May be more contextual goals

Network Governance



Coherent participation + interaction of multiple actors working with others on challenges that contribute towards achieving the goal

Metaphor: Nervous System

Distributed nodes of leadership + power consistent flow of shared information + decisions that influence directions towards the goal

Governing for Coordination

Transformer Challenges

Accelerator Challenges

Scientific / Technological Innovation + regulatory change towards a goal

Goal focused systems transformation focused on underlying efficiencies

Scientific / Technological Innovation to address a problem

Moonshot sits here

Problem focused systems transformation reliant on human, societal, behavioural change

More Complex

Engaging with human, societal, behavioural, instutional systems transformation

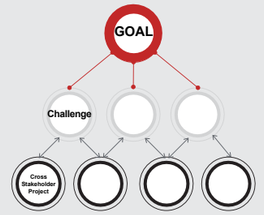
Governing for Coherence

More Complicated

Technological / scientific innovation + where expert-driven progress is possible

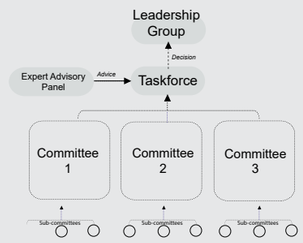
The Red Middle Diagram is based on Wittman et al, 2020, with a nod to the Cynefin Framework. The Structured and Network Based Theories of Action were developed by the Griffith Centre for Systems Innovation, 2022

Theory of Action 1: Structured



Planning
Alignment
Coordination
Collective Action

Hierarchical Governance



Coordinate to control activities for action + ensure results

Metaphor: Backbone

Backbone of organising parts + decision-making bodies support structured planning, action + reporting

> The challenge of putting a man on the moon was very different from that of solving most societal challenges. What has often been overlooked is that moonshot-like problems are well defined in terms of their goals and type of solutions, while ghetto-like problems are wicked in that problems are ill-defined, contextual and often contested at local levels… effective solutions to complex societal problems do not require technological innovation per se, but can equally be based on already existing technology, on new regulations, social innovations, behavioural change, or a combination of all these. Only in some cases can societal challenges be easily mapped onto particular scientific or technological challenges… More often, it is through a mix of technological, social and institutional innovations that complex societal problems are tackled.
>
> Wanzenbock and Frenken, 2020

More than Strategy

Because 'Mission-oriented Innovation' has been associated predominantly with innovation policy and strategy, various iterations of that framework have looked very much like strategic plans at scale. This may be fine if the 'mission' or challenge areas are complicated or single-sector focused, a 'lead agency' can take control and direct progress, where the 'objectives' can be set, and clear 'work packages' can be identified and allocated and where projects are identifiable and can be delineated. So, for example, a goal of finding a cure for cancer is highly complicated, but could be structured so that the map looks very strategic. But something like addressing growing inequality is much more complex, contested, hard to measure, and requires more than 'experts'.

At GCSI we are more interested in this type of 'problem' (or opportunity!), and so we are interested in how we could use Challenge-led Innovation to foster massive movements of innovation towards complex, multi-actor, multi-faceted directional goals. Here the usefulness of a Challenge-led map as strategy becomes tenuous at best and dangerously simplistic at worst.

For complex challenges, Challenge-led Innovation has some unique features that mean it can be much more than a strategy framework. It should help us:

- recognise and align work across sectors and fields that will be needed to advance action towards bold goals, creating focus around high-leverage areas for intervention to address complex issues;
- visualise and make sense of the multiple learning and innovation projects across sectors that are needed to enable diverse actors to organise around directional goals and complex challenges;
- create a sense of coherence across ecosystems, sectors and actors so that collective intelligence can be harnessed towards addressing challenges.

We believe the Challenge Map should be a living map, shifting and changing as the work develops.

Ultimately Challenge-led Innovation is an approach to systemic change. It can help us to map the ecosystems, the policies and other infra-structures that are needed to support such change.

As all change requires learning, the Challenge-led approach centres systemic learning as the foundation for innovation.

A Brief Foray into Measuring, Signals + Making Sense of Momentum

Measuring, signalling and making sense of how change is happening is an important, large and changing part of Challenge-led Innovation. While we won't go into this in detail in this booklet, we share three provocations to stimulate some thinking and discussion around this.

In innovation processes we are focussed on learning and design as the way to track and use feedback rapidly to iterate ideas in order to move forwards. However, the Challenge-led process involves more than direct innovation processes.

Therefore, the nature of how we measure and evaluate our progress towards achieving challenges and moving toward the directional goal requires a broader approach.

We need framing around:

- how we know we are progressing towards positive momentum aligned with addressing the challenge;
- what the indicators or signals for this momentum are; and
- how we make sense of movement towards our challenge so that we can change course as and when necessary.

When we work in (and especially when we innovate in) complex systems, measurement needs to be up to the task of looking not just at data - but actually making sure we are:

- collecting the right sort of data;
- able to engage in sense-making across the data in ways that helps build momentum; and
- recognising that different types of data will need to be collected for different types of challenges, portfolios and impact projects.

This is the space in which our provocations sit - challenging us to really think about the utilisation of measurement, and the changing nature of impact literacy.

> *In order to tackle the grand challenges of the 21st century, innovation policy needs to shift from the existing support-and-measure approach to a lead-and-learn approach.*
>
> Mariana Mazzucato, 2020

Provocation One:
We are Drowning in the Wrong Kind of Data

Data Abounds but are we collecting (and able to collect) the right kinds of data at the right level of fidelity in order to innovate towards achieving challenges?

Example: many 'collective impact' initiatives are aiming to create 'systems change' in relation to complex issues such as improving outcomes for children and young people in disdvantaged communities. However, they are often focussing on collecting data at aggregate levels, and are measuring population level changes. This raises three problems:

1. Improving outcomes for children and young people in disadvantaged communities involves an array of complex factors. If we are only looking at aggregate data or looking for shifts at a population level then there is a very real danger of wrongful attribution. We can very easily wrongly attribute shifts to specific activities or initiatives - without recognising the inherent complexities involved.

2. We may see (over time) improvements in population level data (for example, in educational outcomes), but this may not illustrate potential equity gaps or movements in a community (eg. new people coming in, or people shifting out of a community when their personal circumstances change).

3. Population level data is often presented in the form of percentages rather than in raw numbers. So we hear things like "100% of children from this particular grouping or background are ending up with xyz deficit". This can lead to stereotyping, and hopelessness. Numbers can provide more tangible, hopeful opportunities - if 100% means n=17 or even 52 or 75 - the opportunity to actually do something to iterate or adapt is much clearer. Innovation requires data that is tangible in order to help us learn and give hope that we may actually be able to iterate forwards!

Provocation Two:
There's no 'one right way' to measure innovation progress towards a directional goal when it's complex

Does complexity require different ways to monitor progress within and across innovation processes?

Example: Many attempts have been made to achieve ambitious goals in the housing space - think NRAS, Kiwibuild, Miljonprogrammet in Sweden. Some, like the Swedish example hit their target, but missed the mark on things like ensuring quality builds that addressed not just physically housing people, but contributing to their wellbeing. Others (like Kiwibuild) were abondoned when it was realised that the ambition could only be achieved if other elements were compromised, or because measuring the technical aspects did not reflect the impact intentions. What is clear from these examples is the need to adopt a 'bricolage' approach to measuring progress in environments that are complex - whereby we adopt methods that suit the context, the nature of the innovation, and the intent of the goal. In addition, we need to think not just about 'monitoring' progress, but also how we learn, and how we evaluate the actual outcomes achieved. Measurement under complexity is, by its nature not as simple as 'add measures and targets, then stir'.

"We need to think differently about measurement. We are very exercised by the question "What should we measure?" It's important, but it's secondary to the question "Why are we measuring?" If we measure to make ourselves accountable to others (to 'demonstrate our impact', for example) we become subject to Campbell's Law - the act of measurement corrupts the process it is intended to monitor. Instead, we should measure for learning - and use learning as the driver for performance improvement (rather than accountability). This is the appropriate reason to measure outcomes (or anything else). Measuring in a way that helps us to learn is partly about the effective capture of both quantitative and qualitative data and partly about deciding what to capture in any given context - ideally the data should be chosen by the people doing the work". Toby Lowe, 2019

Provocation Three:
Signals + Patterns are crucial in Challenge-led Innovation but under-utilised

Do we need a new type of 'impact literacy' to help us develop Challenge-led Innovation?

Two capabilities - **identifying weak signals**, and **recognising patterns** are increasingly seen as critical to Challenge-Led Innovation and could help with a new 'impact literacy'.

Sitra, the Finnish Innovation Agency, defines **weak signals** as the "signs or senses that indicate a particular phenomena has the potential to lead to greater change". They argue that weak signals have the following characteristics:

- *"Novelty: a weak signal is an indicator of something new or a new perspective on a known subject*
- *Surprising: a weak signal is surprising to its interpreter*
- *Challenging: a weak signal forces one to challenge existing assumptions and is therefore often difficult to detect or easy to overlook*
- *Significance: a weak signal describes something that may have an impact in the future*
- *Delay: a weak signal describes something that is not yet significant but requires time to mature"* (Mikko Dufva, SITRA, 2019)

These weak signals are often recognised indirectly in network narrative analyses for example.

Patterns refer to recognising and making visible connections between practices that emerge as we navigate towards our directional goal. Finidori et al (2015) propose that learning and growing new pattern languages within complex systems involves:

- *"Investigating and capturing interacting components of situations and systems, and formalizing tacit practices that have generative properties;*
- *Creating suitable media for the collective processing of knowledge about constructive responses to complex challenges;*
- *Rendering visible and accessible for iteration the feedback loops that support inquiry into the desired functionality of context-related systems;*
- *Allowing collective orientation of emerging systems, at the same time as facilitating the formalization, monitoring and iteration of the desired functions adaptively provided by a system".*

Part Two:

Challenge-led Approach + Mapping

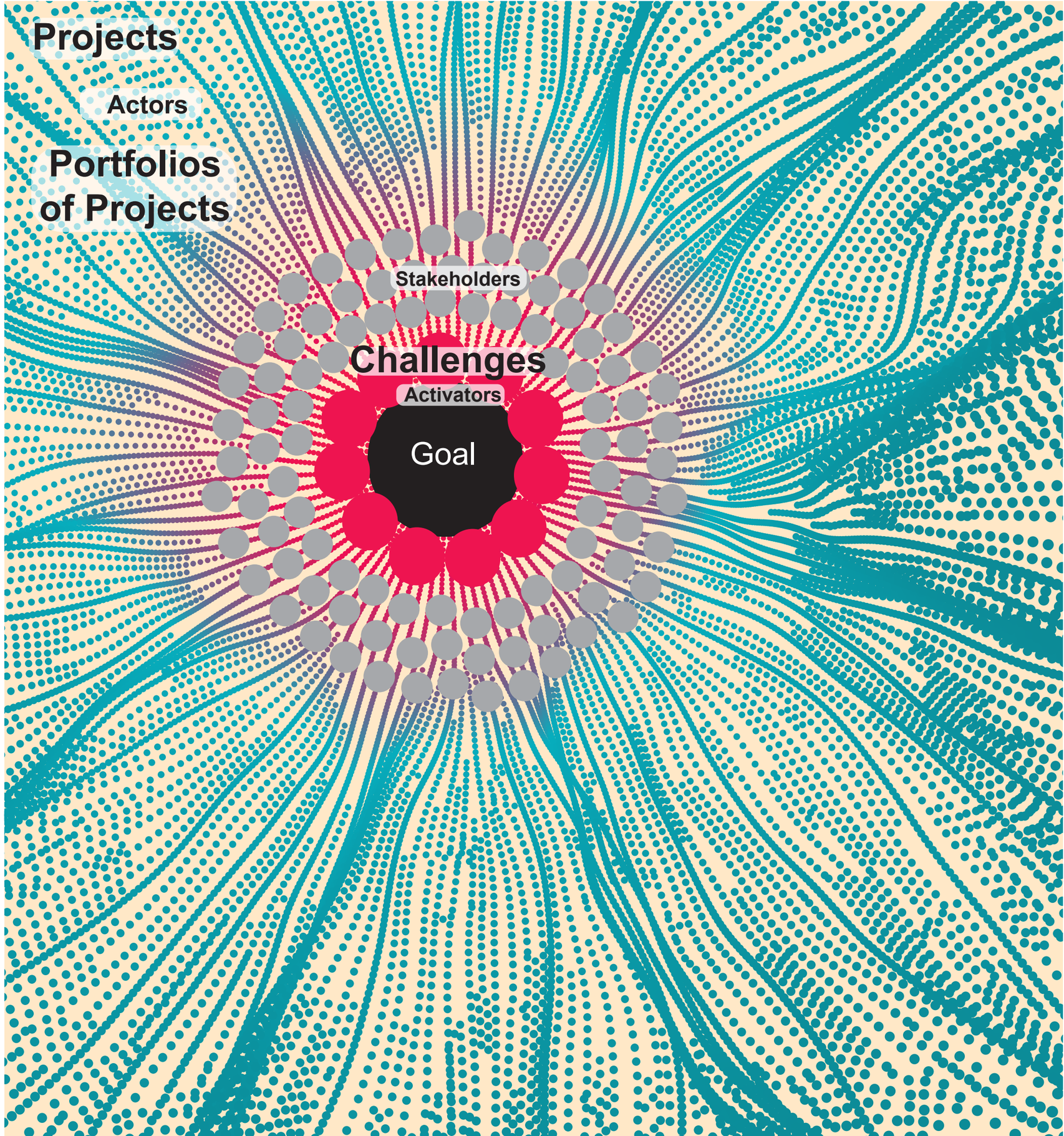
We can't do this Alone

The complexity of some of the challenges before us mean that singular actors, even those with many resources and much power, will not be able to achieve the change that is needed. It will take many actors joining together and many, many portfolios of projects to achieve goals such as the SDGs or to shift challenges like those related to the climate crises. This is transformation at a scale which is hard to comprehend or make visible.

This is why we imagined a super zoomed-out view of what this systemic way of working could look like in the image here. We think of this as looking down on the topography of a Challenge-led Innovation system - through the perspective of a river system, or a swamp (to go back to our context of living in a mangrove ecosystem!)

If we start at the centre with a directional goal, each of these could be navigated towards through many challenges or fields of action (see the map in Part One or further detail later in this section). And within those challenges, there are a variety of bodies / institutions, groupings who are activating these challenges. And then there's a range of stakeholders - those who have a stake in the challenges - who may align themselves with one or more challenges and may also be involved in one or more portfolios of projects, and/or they may be stewarding, or running specific projects.

Challenge-led Innovation helps us to name, visualise and engage in sense-making about just HOW we could organise at scale to navigate our way towards key directional goals.



From Mission-Oriented to Challenge-Led

When we first saw Mariana Mazzucato's Mission-oriented framework, we were both excited and intrigued. Excited, because here was a way of framing innovation for impact. As Mazzucato says "innovation has not just a rate but also a direction" (2019). Our intrigue started when we began to question how a target-driven, relatively linear strategic framework could work to address the sorts of 'missions' that proposed to focus on complex systems. Things have changed since then, but from the first moment we engaged, we wanted to be part of that change.

We began experimenting with a framework that envisioned complexity, focusing on generating signals towards 'directions of travel' rather than targets and hard goals. Our framing led us towards 'visiblising' - making visible the micro processes and practices that underpin the HOW of systems innovation.

Our Challenge-led Innovation framework is still a work in progress (and will continue to iterate as it is a learning framework).

On the next page you can see it has many similarities to Mazzucato and colleagues' original framework, but there are three significant distinctions:

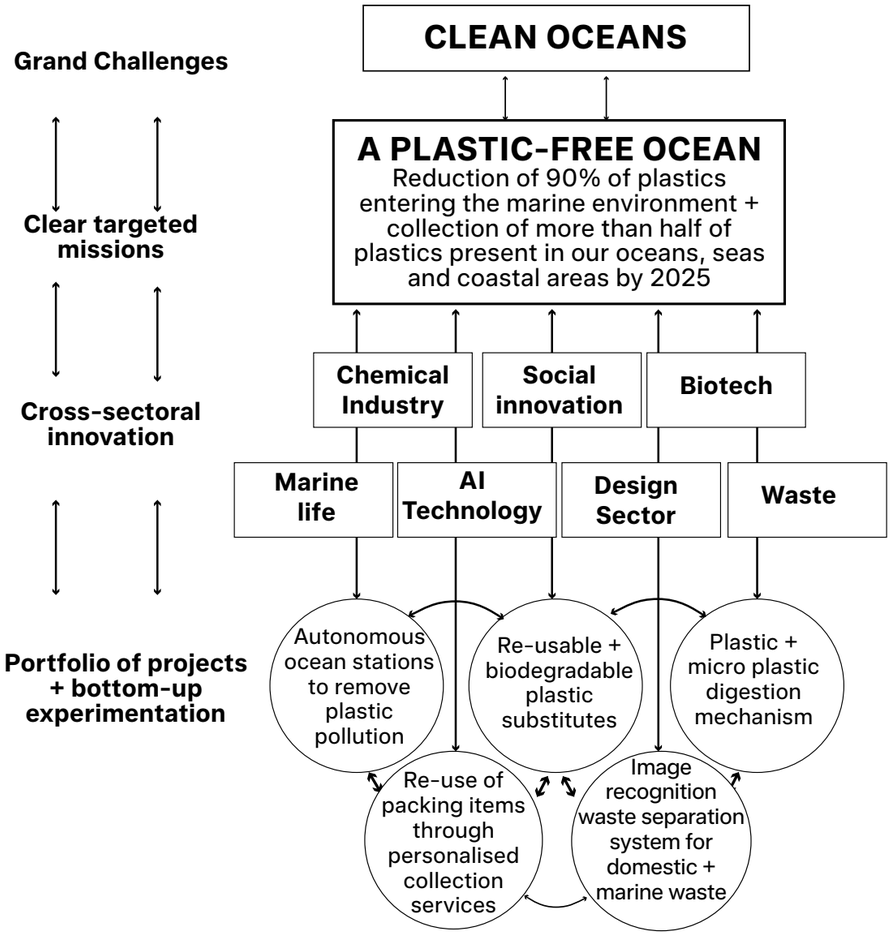
1. Framing language that differentiates 'technical' systems from 'complex human' systems by shifting away from 'moonshot missions' towards directional goals that require broader and deeper participation.

2. Shifting 'measurement' from downstream to upstream by moving away from targets which rely on lag indicators (which can be gamed - see Snowden, 2022) and tend to adopt a framing of quantitative scoring to demonstrate progress, towards sensemaking signals at the Portfolio level which we think more effectively reflect movement and a focus on learning.

3. Much less focus on the goals and challenges and much more focus on portfolios and projects as the engine rooms for a democratised approach to innovation.

The remainder of this section of the booklet dives into each part of the Challenge-led framework.

From Mission-Oriented to Challenge-Led



Mazzucato, 2018

Shifting towards navigational framing at the top level that creates a 'direction' for progress

Moving away from 'missions' language and placing 'challenges' below the directional goal + defines them as 'fields of action'. Moving away from targets and pre-determined outcomes towards learning infrastructures. Framing less as linear + more as complex systems innovation through learning questions

Sectors are not separately identified, but are, instead, embedded into both challenges and portfolios to emphasise the inter- + cross- + between sectoral + disciplinary nature of innovation towards directional goals

Portfolios as organising infrastructure for coherent learning across innovation projects where intersecting projects can create more than a sum of parts. In Challenge-led Innovation we start 'measurement' at this level + this measurement is framed around learning signals + lead indicators rather than targets + lag indicators

Projects as innovation infrastructure - where we can create learning hypotheses for particular aspects of a portfolio that need to be framed, designed + developed in order to move forward

Directional Goal

Provides the **direction of intent + ambition**

Challenges

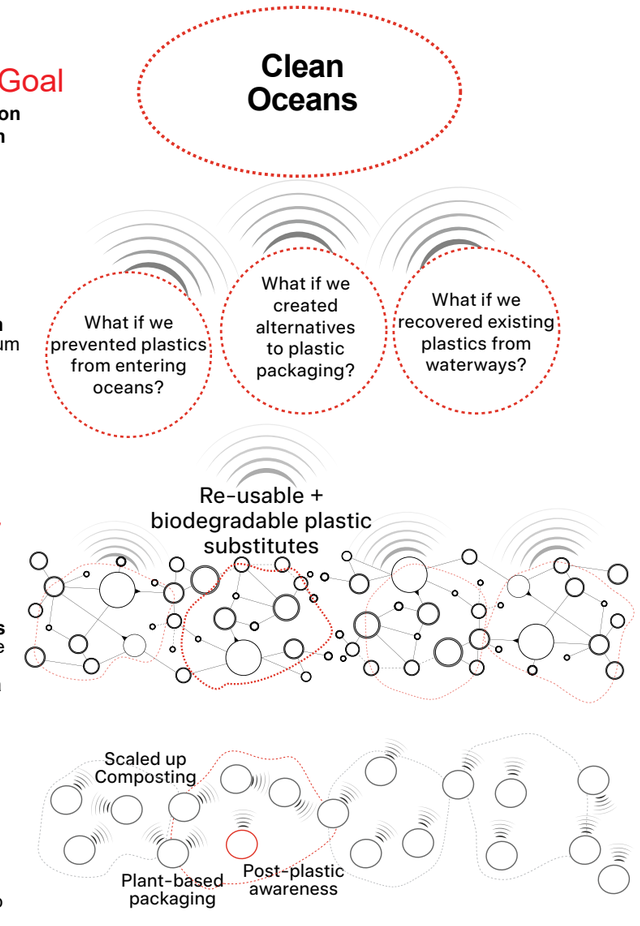
Coherent fields of action + innovation that create momentum towards the goal

Portfolios of Projects

Coherent sets of innovation projects that together provide part of the learning needed to achieve a challenge

Impact Projects

Innovation projects that design, test, iterate elements of 'solutions' needed to achieve a challenge



GCSI, 2020

Systems change is a strategic organizational response to a world where power and agency are more distributed and decentralized than ever (not sufficiently or justly, but radically and significantly more than at any time in history). This system worldview sincerely acknowledges the multitudes of sovereignty and freedoms of the actors that share a community of belief and fate. In this reality, coherence is a function of the compounded sensing, sense-making, learning, and innovation capacity of all actors across a system.

Indy Johar + Christian Bason, 2023

Where to Start?

Starting to organise systems innovation at scale usually means you are already working in a context where issues, opportunities or problems of a systemic nature are at play. Starting with understanding your context (which, in many ways shapes the nature of what you can do, the enabling conditions you have and need to grow, who you need to partner with, and how you could proceeed) is key to moving into a Challenge-led approach.

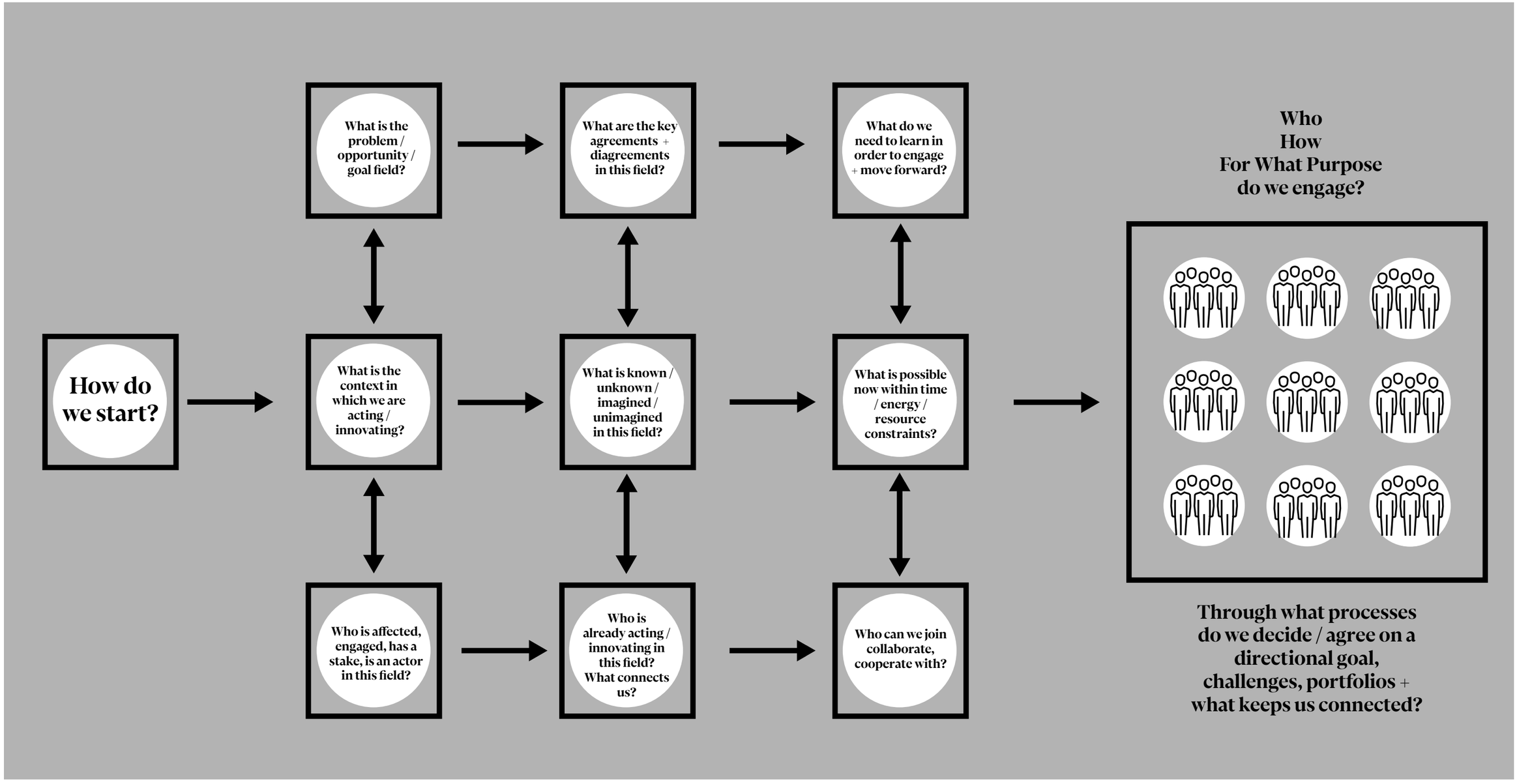
The diagram on the next page outlines some of the questions we have identified as useful to help with moving towards the most important decision - which centres around who, when, how and for what purpose do you engage (collaborate, co-create, coordinate with) other actors and stakeholders in the process?

As mentioned earlier, most Challenge-led Innovation approaches are still started by government - and in many ways that is because they have the political mandate, infrastructure, convening power and reach to be able to initiate but also, most importantly, to continue to host or hold the collaboration over time.

This is changing, but it should be recognised that the time, energy and resources needed to draw action together, though often invisible, is considerable and needs to be recognised as part of the process from the outset.

This is explored further in Part Three of this booklet - Cultivating Conditions. For the purposes of getting started however, ensuring that we start with senses wide open and sense-making front of mind means that we begin a learning rather than a leading approach.

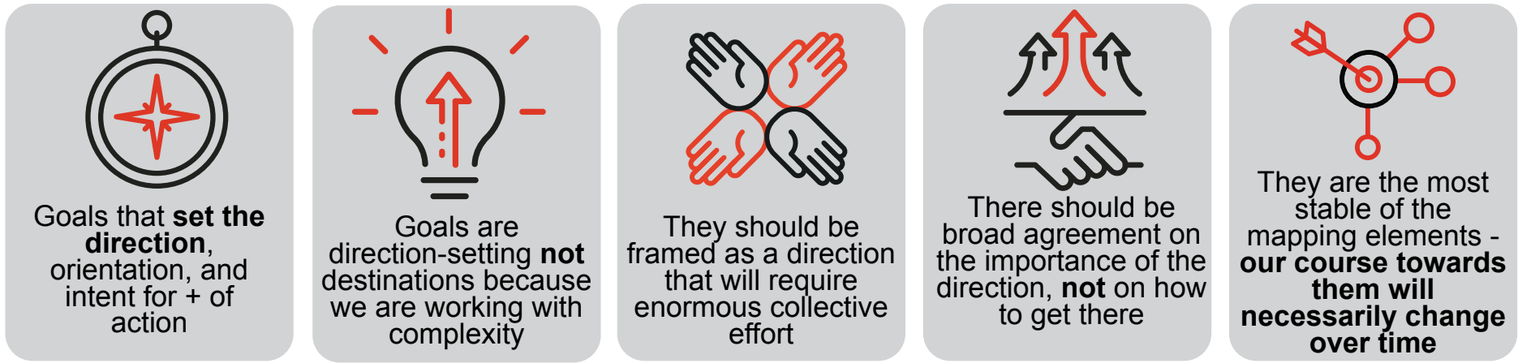
Start by Understanding your Context



Understanding your context for Challenge-led Innovation, GCSI, 2023

It's good to remember from the start, that innovation requires embracing probing, learning and iterating. The Challenge-led Innovation map is not meant to represent a static path, but a framing for how we might organise to take the next step in a direction towards bold goals.

Navigating towards a Directional Goal



The highest order on our challenge map is the 'Directional Goal'. It is the ambition, setting the orientation and direction of travel towards which the innovation process will contribute.

We refer to it as 'directional' because it sets the direction for all the other layers of the map. It is navigational and therefore is the most stable of the elements of the map (because innovation is necessarily about change).

Framing goals as 'directions' does not discount the need or urgency to reach them, but it does recognise the intent of innovation is to grapple with HOW we can generate impact within complex systems, where cause and effect are not clearly related. In complex systems targets and set goals are rarely helpful and can be dangerous - as Dave Snowden suggests "targets become an entrained pattern of expectation and people cease to question". We will return to the need to think about 'signals' that we are moving in the right direction rather than fixed targets in Part Three.

Starting with a direction means we open opportunities for diversity and innovation whilst maintaining a navigation process that enables us to notice opportunities even when we are working at the edges of our capacity to see a way forward.

Most directional goals are still set from above - in a top-down fashion. There are, however, many opportunities to explore different ways of building participatory or bottom-up approaches, or a combination of the two. Importantly, the approach to setting the direction not only shapes the journey, but also who sees themselves as part of this journey and ultimately, who becomes a contributor in navigating towards this directional goal. To mobilise the scale of change needed across interconnected complex issues, we need both more people and different kinds of people involved in defining the issues and designing how we propose to tackle them.

Examples of Directional Goals

Each UN Sustainable Development Goal (SDG) is an example of a Directional Goal - although they are most frequently articulated as destinations (for many reasons, including political and social buy-in).

Creating a Directional Goal can take many forms depending on the context you are working in. These examples from a range of sectors and organisations illustrate the importance of adapting the Challege-led Innovation framework to the context you are working in and the stakeholders you are working with.

1. Plastic-free oceans
2. Healthy Queensland neighbourhoods
3. Accelerating shifts towards regenerative and distributive futures
4. A connected, fair and regenerative food system for Victoria

Some questions to ask

- How will you go about setting and communicating a directional goal?
- Who sets it, how do people engage and participate in defining or engaging with it? What draws people in to the process of navigation towards this goal?
- What helps you navigate forward in terms of a purpose or direction?
- What are you aiming for - what's a goal that matches your ambition?
- Is your goal reflective of the enormous collective effort that will be required - and is it framed in a way that will invite participation from a diversity of people, organisations, businesses and actors?
- Is there a broad agreement around the importance of this goal? Does the framing of the goal bridge political and ideological differences?
- Is there a degree of timelessness in the way the goal is framed? Will it last the course given the ambition?

The starting canvas on the following page can be a way to explore particular directional goals, but the big question here is WHO sets the direction and HOW do they go about doing this?

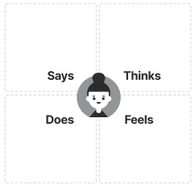
DIRECTIONAL GOAL STARTING POINT CANVAS

AMBITION

Start with the directional goal you have in the test space.

- ○ Take it up one notch in terms of ambition.
- ○ Take it up two notches in terms of ambition.
- ○ Highest notch of ambition.

COMMUNICATION OF INTENT



Think about what the directional goals might mean to actual or potential stakeholders. Perhaps engage in an empathy mapping process to get a sense of how you might communicate about possible directional goals with them.

If you have existing stakeholders or are keen to engage at scale with potential stakeholders you could get more sophisticated and perhaps engage them in a mapping of intent using methodologies like SenseMaker® (see: https://thecynefin.co/sensemaker/)

Top Down Alignment

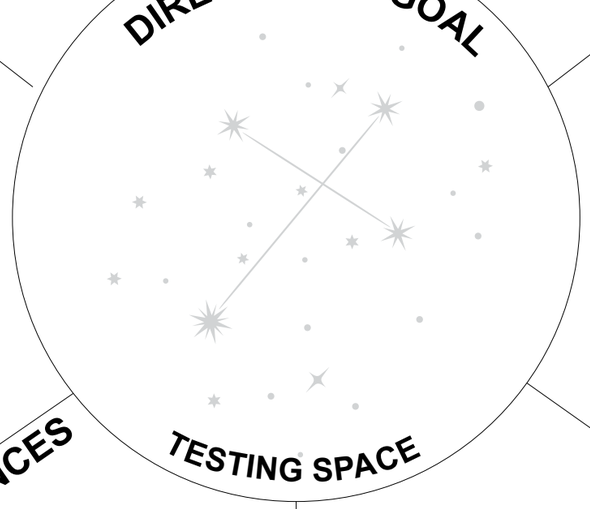
Sectoral Consensus

Place-based Democratised Innovation

Design-Led Engagement

Think about how the process for deciding this directional goal has or is starting. Which typology relates best to the process to date? Then outline the process that might be used for at least two other typology starting points (stretch your thinking about how to start differently!)

DIRECTIONAL GOAL



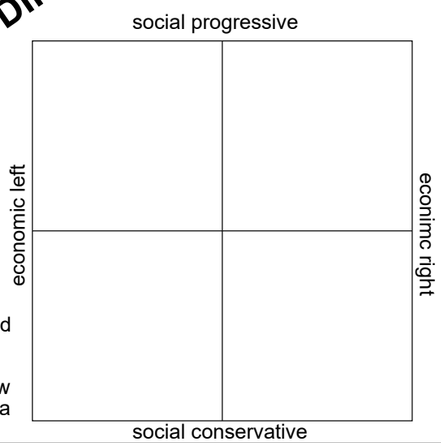
TESTING SPACE

COLLECTIVE EFFORT

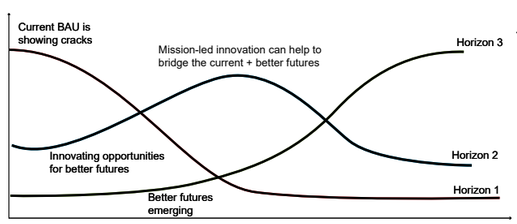
If you are to make progress towards this directional goal, roughly map out key actors + stakeholders who will need to participate.

BRIDGING POLITICAL + IDEOLOGICAL DIFFERENCES

Is there a broad agreement across stakeholders + authorising actors around the importance of this goal? Does the framing of the goal bridge political + ideological differences? Think about how this direction is/could be framed across a political / ideological matrix.



STARTING DIFFERENTLY



Is it 'of the moment'? What current norms / happenings / debates / values does it tap into?

Think about how the goal might evolve over three horizons- what may be reformed + transformed?

TIMELESSNESS + TIMELINESS

Directional Goal Starting Point Canvas, GCSI, 2022

Process Suggestions

The Directional Goal Starting Point Canvas provides opportunities for deep thinking and sensemaking. The Canvas can be used to stretch our imagination around designing a Directional Goal with other actors and stakeholders.

The centre is a TESTING SPACE, where we can play with language that seeks to inspire. Directional Goals need to have broad political buy-in, and inspire widely. They can be built from the ground up, or they can be politically decided, tested, refined and then adopted - or a combination of the two. So, we often begin with the STARTING DIFFERENTLY quadrant.

The MOIN typology outlined on page 6 of this booklet provides a number of starting points for structuring or organising Challenge-led approaches. If, for example, we start from a 'top-down alignment' approach, then our Directional Goal most likely is set politically - with the government seeking cross-partisan support for the Directional Goal. If it is sectoral, then participation from across sectors might be sought. In place-based approaches the Directional Goal is often either set democratically or at least tested that way. And in design-led engagement, the process involves framing the direction through the participation of various parties from across a defined system (see for example, Hill, 2021).

We then choose another quadrant in the canvas to focus on. No prescriptive directions or sequence follow here. We start with finding the questions and framings that are most appropriate for the context. Not all contexts will require all quadrants equally.

- AMBITION. We reflect on what we want to do. We rewrite + push boundaries to be BOLD.

- COLLECTIVE EFFORT. We identify the organisations, actors, ecosystems who will need to participate.

- BRIDGING POLITICAL + IDEOLOGICAL DIFFERENCES. We take our Directional Goal phrase and think about whether it would pass a 'pub' or 'bbq' or front-page test.

Would it resonate with a diversity of people? Would it resonate across the political spectrum? Would it make sense to people in different contexts - and would it inspire action and participation from a diversity of people. We ask how we might frame this from a socially progressive lens or a more economically conservative lens? We push ourselves to find a framing that could work to achieve broad agreement from diverse perspectives. Preferably, we would test this too.

- TIMELESSNESS + TIMELINESS. The Directional Goal is the most stable element. We apply the Three Horizons framework (see Part 1) to help us consider how the language stands the test of time while tapping into the present 'Zeitgeist'.

> *If destination is a known fixed point in time / space, direction is the act of riding flows we have no control over with intent.*
>
> Kevin Richard, 2021

Challenges or ‘fields of action’

As referenced earlier, this is where we have adapted Mariana Mazzucato’s language from ‘Missions’ to ‘Challenges’. By ‘Challenge’ we mean something that by its nature or character requires some kind of collective effort and engagement, and serves as an invitation or call to action to a wide variety of actors to participate in such an effort.

Challenges are coherent fields of action and innovation that require many actors and stakeholders to innovate and learn in relationship with each other in order to create momentum towards a Directional Goal.

Challenges are not focused on singular actors or organisations innovating on their own, but rather, draw together multiple actors in order to grow something akin to an innovation ecosystem focused on a particular field of action. The idea is that the innovative sum of the whole will be greater than each of the actors innovating alone.

Because challenges need to be a bit looser than a directional goal (because they are ‘fields of action’ which means they are dynamic), we have started to frame them more as ‘what if’ questions. This prevents them from becoming ‘fixed’ destinations, and also lifts our imaginative and curiosity gaze. Thereby we remain open to the nature of action needed and what signals we might look for to indicate momentum as we navigate using the Directional Goal.

Systemic field of action needed to create momentum towards the directional goal

Framed as action-focused fields for diverse innovation across multiple actors + sectors - potentially as ‘What If’ questions

Systemic in nature + transformational in ambition - not solvable by one body or technology or actor or sector

Challenges can be directional in themselves as well as means towards the directional goal

Specific enough to generate inspiration for action + broad enough to engage learning + diverse participation

Examples of Challenges

As an example we can return to the well-recognised ‘wicked problem’: ocean plastics.

Your Directional Goal might be: Clean Oceans

Working towards this direction will require wide support and innovations across diverse sectors and organisations (eg. technology, industries, government, civic society, education).

Three Challenges we might start to focus on (and there would be many more!) could be:

1. What if we prevented plastics from entering oceans?
2. What if we created alternatives to plastic packaging?
3. What if we recovered existing plastics from waterways?

Some questions to ask

When we start to think about the Directional Goal and the multiples of possible Challenges, we think about who else in the ecosystem is contributing work AND we focus on what WE can contribute towards the goal given our capacities, constraints and contexts.

We use a whole range of questions to catalyse imagination and creativity. Here are some of them.

What might be...

- aligned towards our goal?
- ambitious but achievable in a diversity of ways?
- specific enough to generate inspirations and focus for actions?
- broad enough to engage a diverse range of actors?
- systemic in nature - not solvable by one technology, one actor or one sector?
- differentiated and complementary (to/from each other)?

These questions and others have evolved into an ikigai diagram you can find on the next page. We use internal and external question petals to explore our framings and assumptions, and catalyse our imaginations.

PART TWO

Challenge Canvas

Challenges are coherent fields of action + innovation that could create momentum towards the Directional Goal

We can identify challenges using a variety of approaches - and it can be good to start with where we are now, and what might be needed to take the next step forward. We refer to this as the 'Challenge Ikigai' - as it helps us to identify which approaches may be most appropriate to our context at a particular point in time.

Starting points for how to develop challenges

Reflecting on Challenges

Are your challenges…

Aligned towards your goal…?

Ambitious but achievable in diverse ways…?

Specific enough to generate inspiration and focus for action…?

Broad enough to engage a diverse range of actors…?

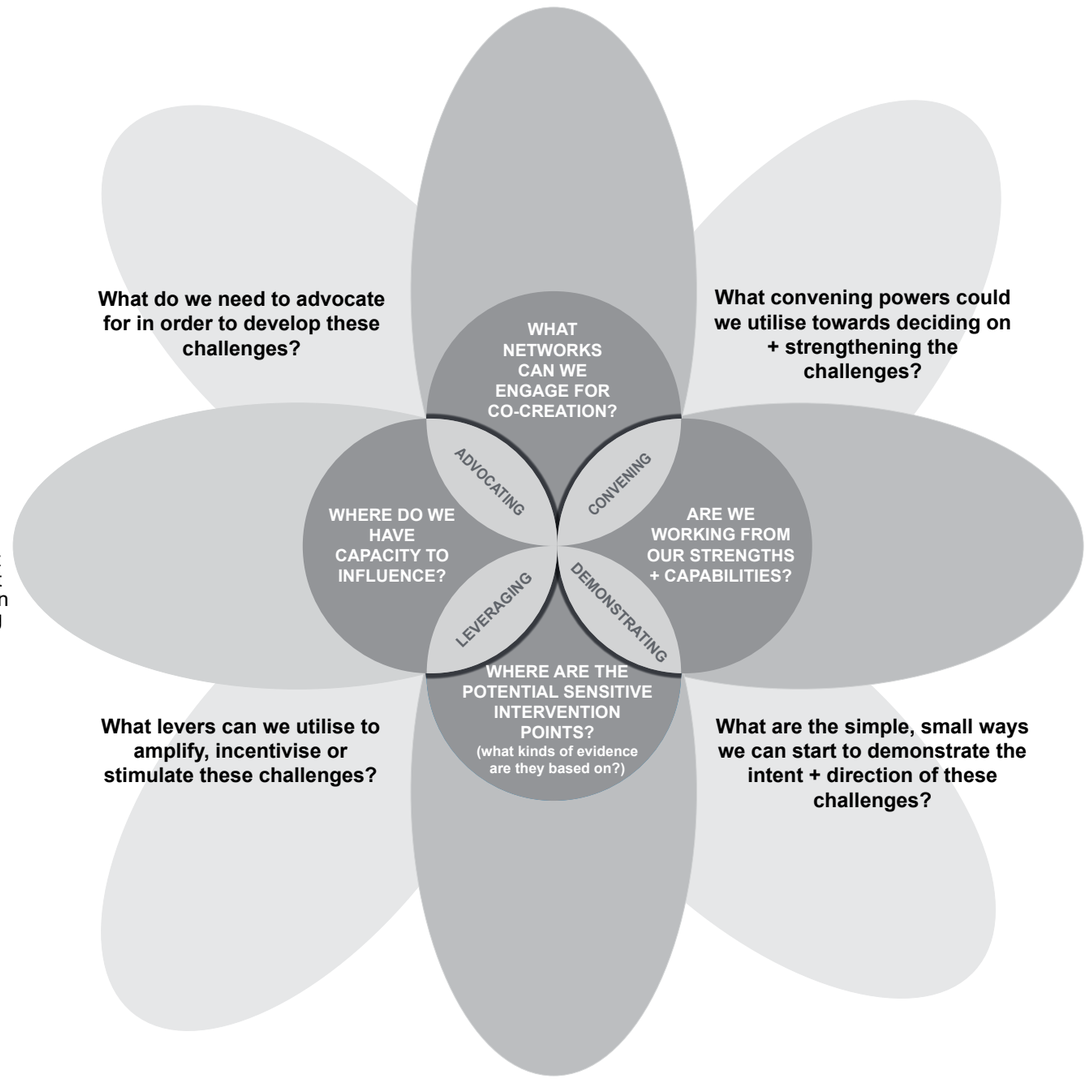
Systemic in nature – not solvable by one technology, one actor or one sector…?

Differentiated and complementary (to / from each other)…?

Is it helpful to frame the challenge as a 'what if' question?

What if.....

Challenges can be developed or refined by engaging / convening stakeholders + actors from across a system to collaboratively decide on challenges + commit to action accordingly

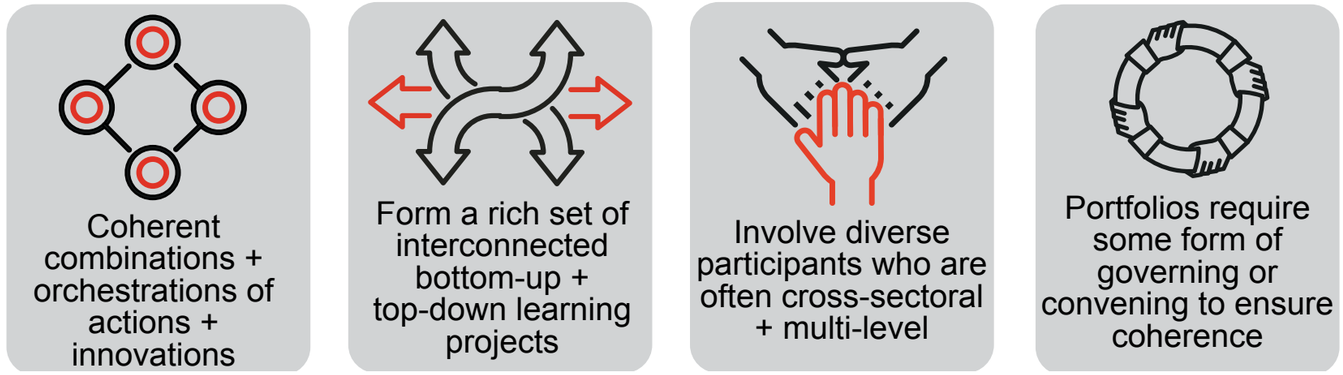


Challenges can be developed by starting with influencing capacity - by exploring where or at what points there is the greatest potential to influence action towards the goal + framing challenges around those points

Challenges can be developed by starting with existing capabilities + framing challenges around how those strengths could be effectively + intentionally amplified

Challenges can be developed using different kinds of evidence (especially practice-based evidence) + action research to examine where sensitive intervention points across a system could be & framing challenges around those points

Innovation Portfolios to Support Learning + Momentum



A portfolio is the drawing together in coherent interaction a range of diverse projects, activities, initiatives to maximise learning and momentum.

The potential for learning and innovation is much greater when projects are in relationship with each other than could be developed working at the individual project level alone.

When we organise using portfolios, we are also trying to address the problems we see with the business-as-usual 'confetti' of projects: fragmentation, projectification, and silos.

Too much energy is wasted through the 'projectification' of activity where singular, often under-resourced projects are tasked with overly ambitious outputs which are then supposed to culminate (along with other singular projects) in solutions to complex problems. The confetti model is rife in our current models of systemic change - from addressing wellbeing through single, narrow projects which slice up the complex reality of people's lives, to the ESG measures which focus on singular companies' outputs and assessments of contribution to complex issues like climate change.

Portfolios in the context of innovation, then, are a type of learning infrastructure. They support us to generate enabling constraints which reduce energy and speed up potential because individual projects can learn from adjacent or diverse innovations rather than trying to innovate in isolation.

A portfolio approach has the potential to:

- Explore, test and learn from a variety of diverse innovations that could help drive momentum towards achieving the Challenge;
- Spread the risk (because some of the projects will no doubt fail) AND, importantly to spread learning;
- Enable a variety of intersections between projects - leading to potential for exploring mutually reinforcing outcomes; enabling connectivity across path dependency so that systemic projects can develop; enabling complementarity, coopetition and multipliers to emerge across projects, and ultimately lead to maximum learning in the innovation process, which in turn could enable greater impact and more efficient trajectories towards regenerative and distributive futures.

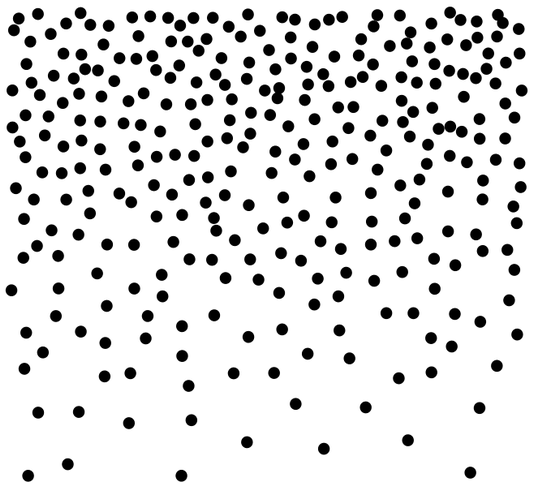
To generate better outcomes we want to move away from 'confetti' towards more 'spaghetti' approaches where there is a coherence between projects all working towards the same goal. Spaghetti approaches (and eventually 'Meatballs' - see visualisation on next page) emphasise directionality, reflexivity (reflection + learning from action) and coherence that generate potentials for multipliers and amplifications of impact.

In our metaphor, portfolios are 'meatballs' - clusters of ingredients that together create something that is bigger (more tasty!) than these individual parts. The key element in a 'meatball' is what holds it together...what is the purpose of clustering projects in a portfolio and what is the 'sauce' that keeps projects together so they can actually amplify, multiply and reinforce each other in practice?

The 'sauce' is often invisible from the outside, but it is what turns a set of projects into a clustered portfolio - it is the connective tissue, the liminal space, the interstitial fluid. It's also the diverse herbs and spices that are reflections of contextual differences that make each meatball unique! So, there's no one-size-fits-all recipe for portfolio convening - it's all about the purpose you are wanting to fulfill by bringing coherence to a cluster of projects.

On the following pages we share a number of tools to help you think about the various elements of designing Challenge-led Innovation Portfolios.

Confetti



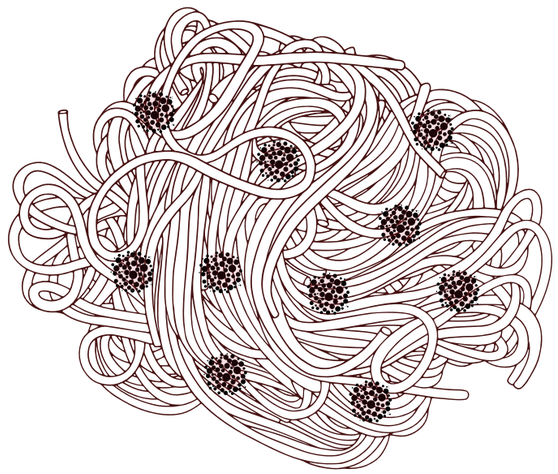
Focus: Creating as many projects + pilots as possible to respond to challenges.

Organising Approach: project management

Objective: Effective + efficient management of individual projects

Problem: there's very little coherence between projects + the expectations that funding + managing individual projects will somehow magically join together to 'solve' complex challenges is just that - magical thinking! The cumulative impacts that could or should be generated are missing

Spaghetti

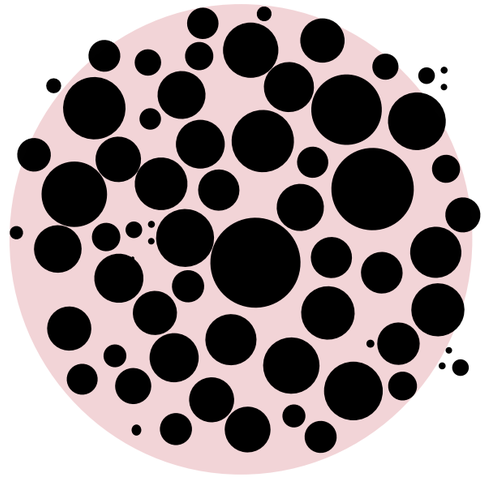


Focus: Recognising + growing connections between activities / projects + clusters of projects, both from a sense-making perspective + from a multiplication perspective. There are two parts...the noodles (enabling entanglements between clusters of activities) + the meatballs (clustering for coherence + multiplication across activities).

Organising Approach: Stewardship of coherence, effective use of constraints, recognition + embracing of entanglement

Objective: Fostering opportunities for collective sense-making + transformative impact

Meatballs +Sauce



Focus: Building coherence, relationality between + across projects / activities with the aim of increaing potential for greater sense-making + multiplication of outcomes

Organising Approaches: Convening, gathering + learning for coherence + sense-making

Objective: Intersecting outcomes, generating multipliers from related activities + learnings

From Confetti to Spaghetti, Meatballs + Sauce: Coherence for Innovation Portfolios, GCSI, 2022

Designing + Developing Innovation Portfolios

Designing an Innovation Portfolio in Challenge-Led Innovation requires thinking about multiple dimensions. And portfolio design is an ongoing, iterative process - it may take a while and a few iterations to really understand the connections between different activities and projects. Every portfolio starts with a number of Impact Projects, each with their own hypothesis of how they will contribute to the Challenges and eventually the Directional Goal.

We have found that Innovation Portfolios can benefit from the following ingredients (and you will no doubt want to add contextual 'sauce' to these to enhance the alignment to your particular context):

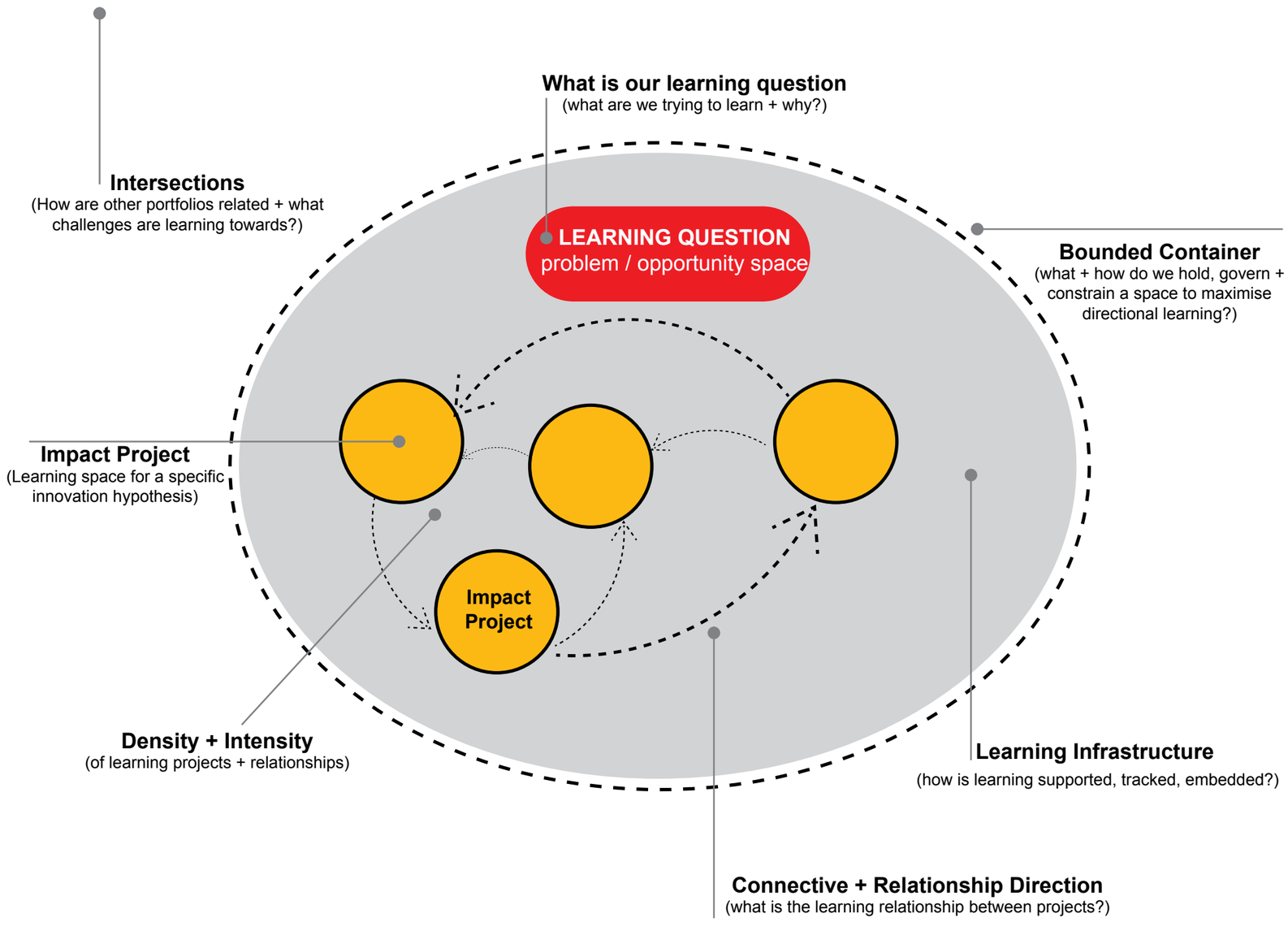
Learning Question: The question orients the projects towards your Challenges. Checking each project's connection to it helps identify if you're creating confetti or making spaghetti. It can also become an evaluative frame of reference for your portfolio. We find it useful to frame this question as a 'What If' question to reflect the level of ambition but make the action inclusive.

Learning Infrastructure: The supportive infrastructures that help you learn forward, which may be physical and technological, but which will also necessarily be relational and social. Is there current infrastructure that can be embedded, supported and tracked to monitor and share learnings or do you need to create new ones? The 'learning infrastructure' is explored further on page 38.

Connective + Relationship Direction: We share eight descriptions (see page 36) that could characterise the relationships between projects in a portfolio - mutually reinforcing; complementary; path dependency; adjacent impact; efficiency; extension; contradictory; or alternatives.

A Bounded, Constrained Space: Portfolios could realistically include endless projects so we need to consider what and how we hold, govern and constrain the portfolio to maximise learning.

Intersections: In life portfolios aren't neat and defined, they overlap. For example, an iniative to build solar farms in the regions could cross into a portfolio focused on developing regional economies as well as one focused on diversifying our energy mix. Consider how other portfolios are related and what other Challenges are learning towards.



Elements of Innovation Portfolios, GCSI, 2022

Relationships as Key to Innovation Portfolio Design

A portfolio approach in innovation focuses on relationships between activities or projects. The premise is that singular projects in the context of systemic innovation are relatively meaningless without an understanding of, or better still, an intentional connection to other related activities. In other words, if we are innovating directionally towards impact or change, we need ecosystems of activity in order to:

- effectively engage with the complexity of large scale change;
- ensure that we allow not only for success but for failure of individual projects;
- maximise potential for learning;
- create conditions that support efficiencies of energy, time and resources.

Organising projects relationally requires us to imagine how activities may connect, plus be prepared to intentionally 'rearrange' connections as we learn and generate data from within and across projects. Portfolios are thus also a form of relational infrastructure and of course, relationships are dynamic, so portfolios are not static over time, but evolving as we learn and navigate towards challenges.

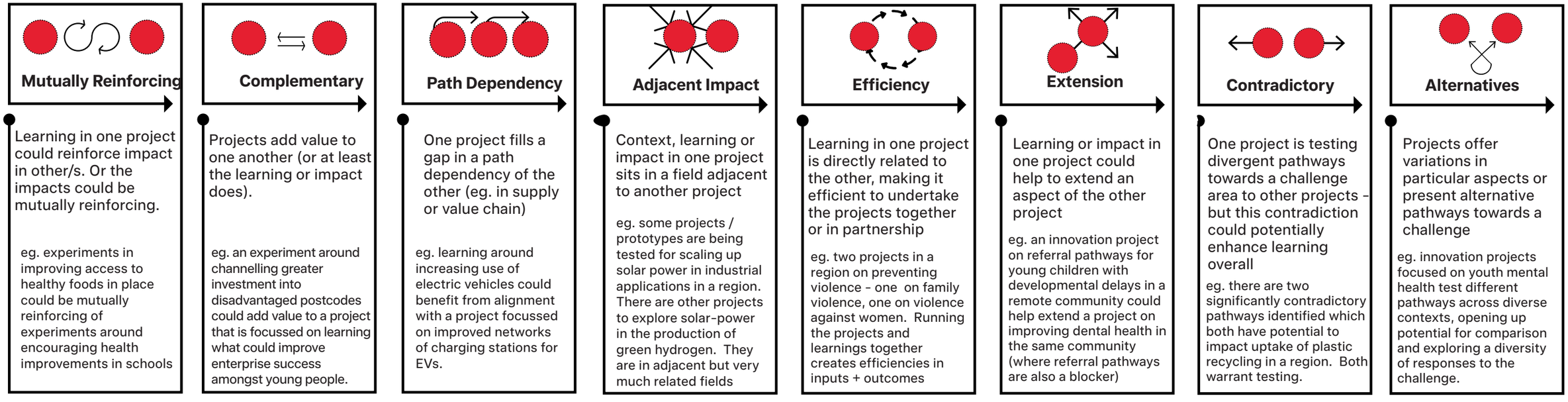
Starting portfolios requires us to make some sense of the types of relationships that might be important between projects - what Seppälä (2021) refers to as "composing a collection of intertwined initiatives (such as projects and experiments) that share a common intent in terms of creating impact and that enable us to make sense of things and learn in collaboration".

The composition process depends on the nature of existing relationships - but also the hypothesis about what kind of relationship may actually accelerate learning or deepen the innovation. Given innovation often requires some degree of tension, we need to find ways to learn across diversity and contention. The challenge is how we build these tensions into portfolios - or, enable diverse portfolios that do not agree on 'how' to be innovative but are generating diverse alternatives that answer the 'what if' question articulated through the Challenge.

So much change and innovation work also has a relational dark side which, though often hard and rough, is part of creating momentum towards Directional Goals. One of the challenges of working in complexity, and through 'networked' action is acknowledging the important roles conflict, competition, division and disagreement play in generating momentum.

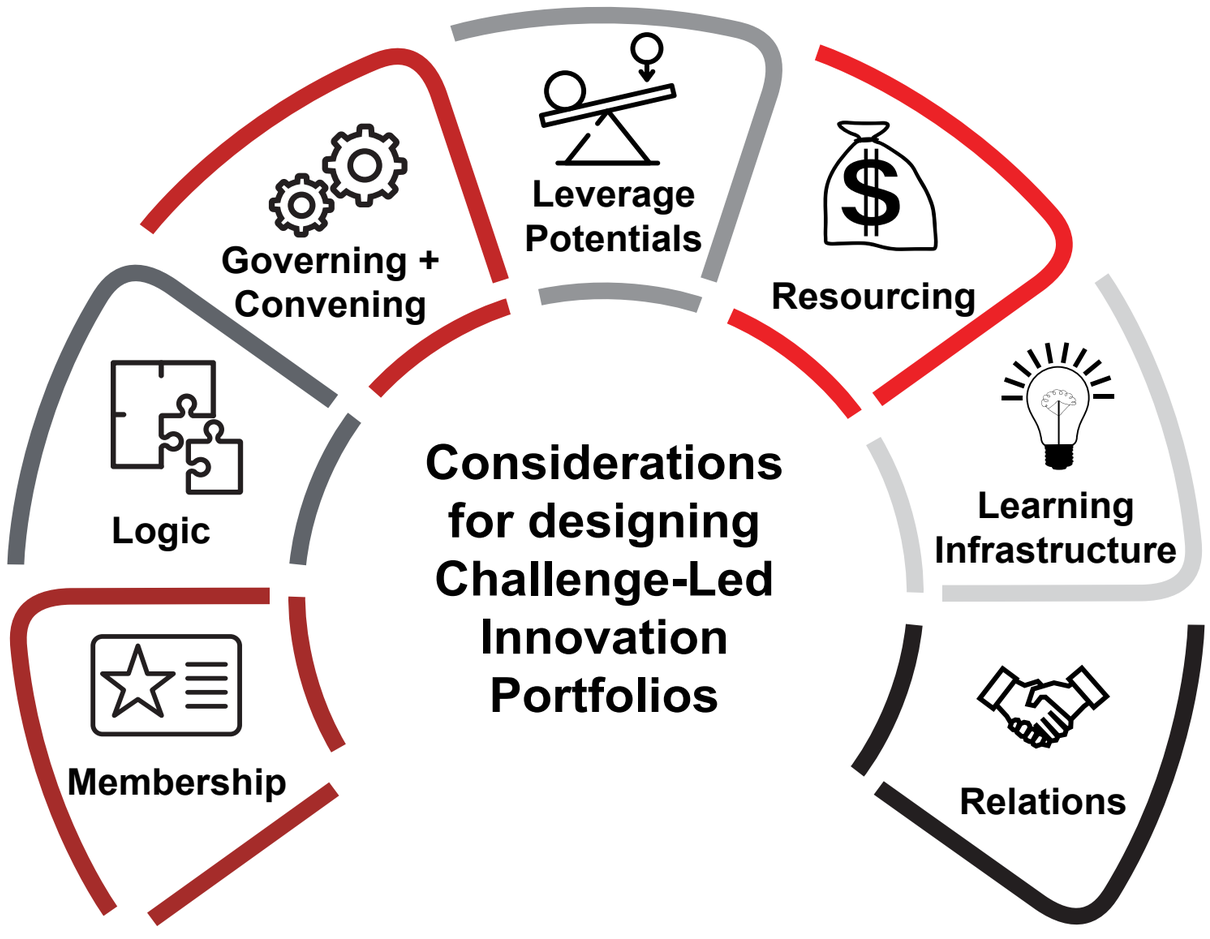
For this reason, there are divergent relational alignments that are possible and even encouraged within portfolios. The key organising principle in a portfolio should be coherence of learning that helps movement towards a challenge area, not necessarily agreement or collaboration on singular pathways.

Below we outline eight types of relationships we have seen or prompted in developing Innovation Portfolios. They are not the only types of relationships of course - so we encourage conversation about what other relationships could or should be considered in designing portfolios.



Eight characteristics of relationships between activities in innovation portfolios, GCSI, 2023

Further Considerations for Portfolio Design



GCSI, 2022 Based on Dierks, Minoz, and Pereverza, 2021, in Hanson and Bleckenwegner, 2021 Viable Cities, Swedish strategic innovation programme.

In addition to deciding which projects make up an Innovation Portfolio and why (membership + logic) other things you may need to consider in designing a portfolio include:

- **Governing + Convening**: Who + how will the portfolio be convened and/or governed? Ownership, co-ownership, stewardship + coordination? Who 'owns' or manages the overall portfolio as well as its component parts? Who has accountability in and for the portfolio?
- **Leverage potentials**: How can individual projects in a portfolio leverage learning across the portfolio? How can portfolios generate potentials for multipliers and opportunities within and across?
- **Resourcing**: How is the portfolio as a whole and the individual projects resourced (financially but also human, capability, space etc)?
- **Learning infrastructure**: How is learning across the portfolio supported and managed? What are the methods, mechanisms + structures needed to support learning?
- **Relations**: What are the relationships between projects in a portfolio and how are these maintained and/or evolved over time? How are the relations within projects maintained and/or evolved?

"How do we foster resilience in a problem space which consists of many diverse(shifting) frames? Finding linkages between frames and, where obvious linkages don't exist, catalyzing them by looking at them through different critical lenses."

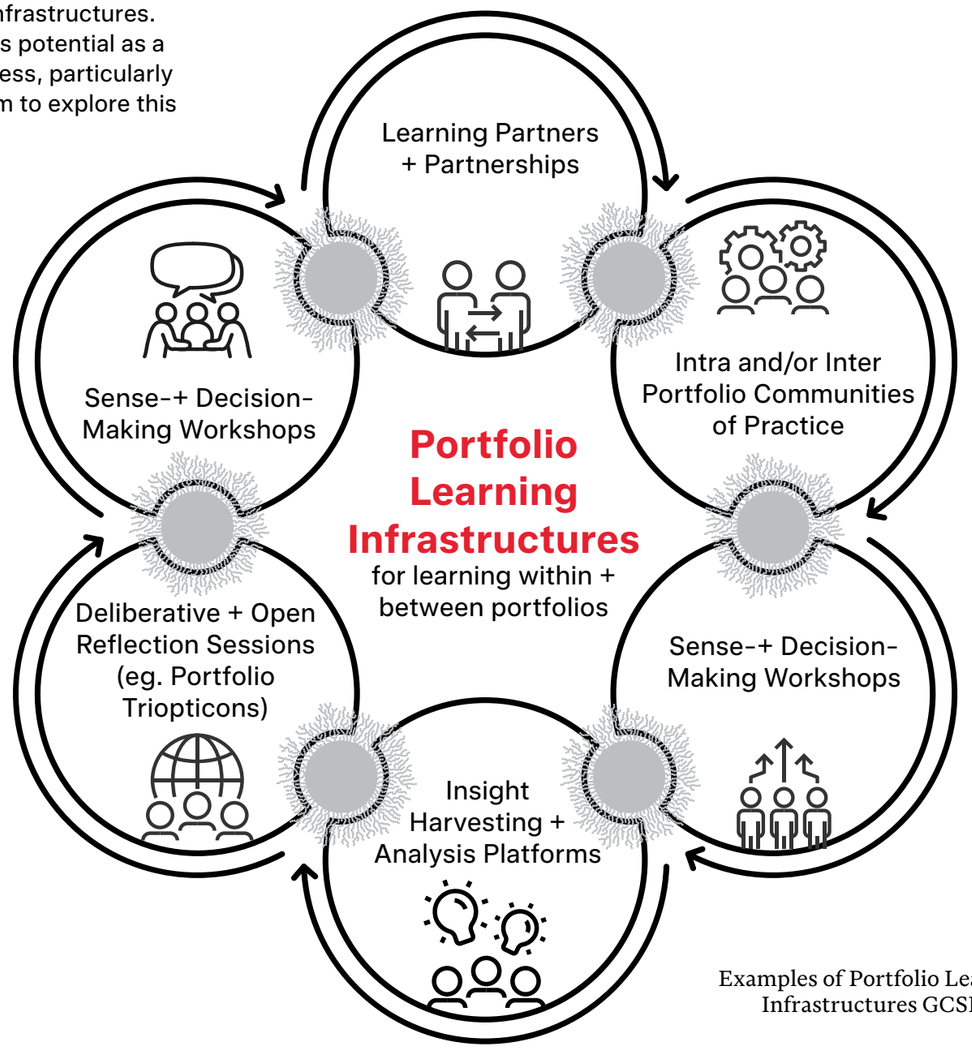
Ann Pendleton-Jullian in Blignaut, 2021

Portfolio Learning Infrastructures

The core process question for portfolios is how the learning is generated, shared and acted on so that there can be momentum in relation to the Challenge. Portfolios are essentially small ecosystems - that are in turn connected to other larger ecosystems of learning, creating, innovating and generation of momentum. The challenge is to organise portfolios in ways that 'enable' learning rather than 'govern' learning. Instead of trying to govern our way into learnings by setting up a plethora of coordinating bodies and meetings, our question is how can we organise so that learnings are enabled to 'flow' across portfolios?

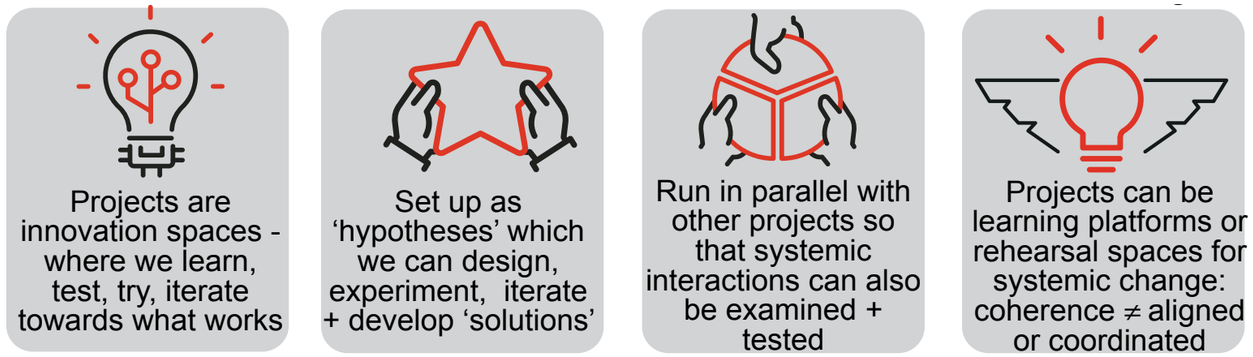
For us this question is still a work in progress, so our offer here is to open conversations by sharing some of what we have seen working elsewhere, and some of what we are exploring in our own work with innovation portfolios.

1. Some organisations such as the UNDP, Climate-KIC and Chora have developed and tested methodologies for Sense-making and Decision-making workshops within and across portfolios, which involve intensive multi-day process interactive sessions for sharing learnings and iterating portfolio and project work (see Seppälä (2021), Belle (2020), Quaggiotto (2020));
2. We have explored being a Learning Partner across portfolios, harvesting insights in real-time, feeding those back, supporting iterations of work and deepening innovation. You can read more about this work here: Partnering for Action Learning;
3. There have been suggestions and some early experiments with Portfolio Communities of Practice across the world, but our insights are that these are difficult to resource and that participation is variable unless the CoP has very active organisers;
4. We have seen early work on using insight harvesting and analysis platforms emerging in various contexts - but usually these involve proprietary and often expensive softwares. We have been testing an early stage manual and lite-touch version of such a platform for sharing updates about cross-portfolio work;
5. Perhaps the most ubiquitous and easily implementable infrastructure is a regular Work-In-Progress (WiP) meeting to share key insights and learnings within a portfolio. Structuring WiPs to maximise sharing and ensuring diverse participation is key to this low-tech learning infrastructure.
6. We have been exploring and participating in a number of promising 'deliberative' reflection processes which we think hold promise as portfolio learning infrastructures. Dave Snowden's Triopticon process holds potential as a long-form, dialogue-based learning process, particularly in surfacing diverse perspectives. We aim to explore this further over coming months.



Examples of Portfolio Learning Infrastructures GCSI, 2023

Impact Projects and Probes



Impact Projects and Probes in a Challenge-led Innovation map are defined as discrete arenas of activity AND learning that contribute towards achieving the Challenge.

At the heart of the innovation process, Impact Projects and Probes are the smallest unit of impact and innovation in the Challenge Map.

They are, in essence, the experimental learning container in which we are testing and iterating hypotheses for change.

In effect, if we are innovating in systems at scale we have a huge array of ‘known unknowns’ (not to mention all the ‘unknown unknowns’!). Innovation ‘probes’ are projects which create opportunities to probe, discover, test and learn our way forward in specific contexts around elements of what we think will help us move forward.

Impact Projects can happen at different scales, and they can work at different levels, but they are all exploring what it takes to move forward towards achieving the challenge, and heading in the direction of the goal.

In innovation processes, the ‘project’ addresses specific problems in specific contexts. Innovation often works out of ‘abductive reasoning’ where we are testing hunches about what could work to move forward. So - projects start with a hypothesis that proposes a specific set of activities that could address a problem, and anticipates (and then tests!) particular outputs and outcomes that could result from these activities.

We then test the assumptions underpinning the activities, outputs and outcomes, and we learn from putting the activities into practice - probing them, learning from our tests, iterating and then developing the ideas further.

Of course, if we are growing systemic approaches to achieving challenges, then at some point the innovation needs to turn into implementation! And so, our ‘map’ starts to grow into a combination of projects which are innovating with ‘unknowns’ and projects that are strengthening their implementation potential.

In transitioning to regenerative and distributive futures we will have a huge diversity of projects at different stages of development. Core to all these projects, however, is that learning and design is continuous as we are iterating new ways to create positive futures.

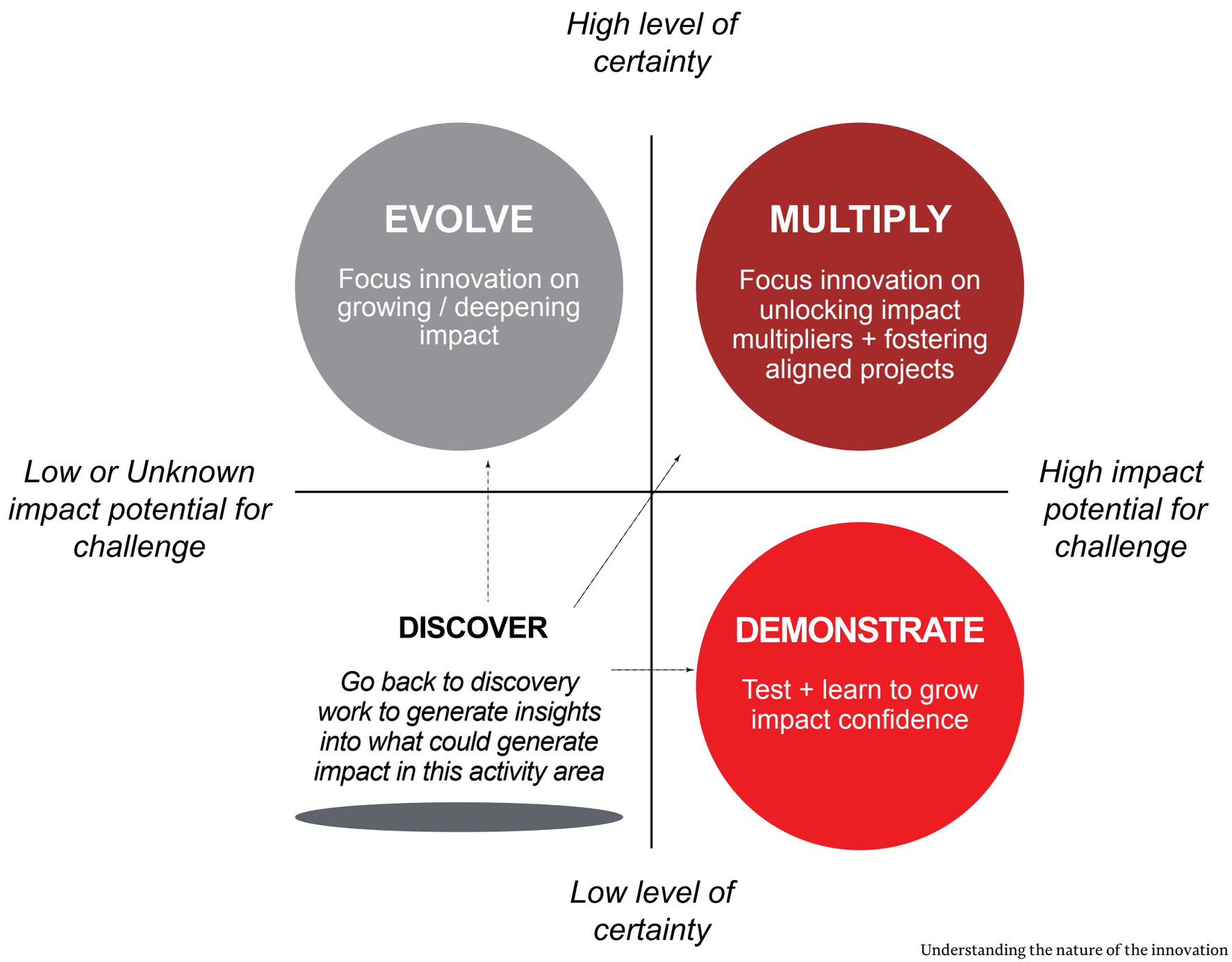
Innovation and learning are core to all change work - so even if we include established projects in our map, we will want to understand how to evolve, deepen or transform their capacity to generate impact. So, as we are developing our project ideas we think about what kinds of innovation are needed for different projects (see the matrix on the next page).

The matrix can give us a sense of the nature of the innovation we may need to engage with at the project level - whether we should focus on:

- early stage discovery work;
- testing and learning through a demonstration project;
- evolving an existing project to grow or deepen impact; or
- unlocking multipliers or fostering aligned projects.

There are always things to learn and innovate in this work - whether we are starting with existing projects or developing a whole new project in order to explore what it takes to direct progress towards a Challenge and ultimately a Directional Goal.

What is critical to this work is that it needs to be tangible - it’s not just about ideas, we need to turn ideas into real practice, and we need to build some degree of evidence around what is working and not working in practice.



Understanding the nature of the innovation required for an impact project, GCSI, 2020

Project Impact Mapping

Impact Maps are sometimes referrred to as a 'theory of change' - we refer to it as an Impact Map to signal we are working in the space of innovation.

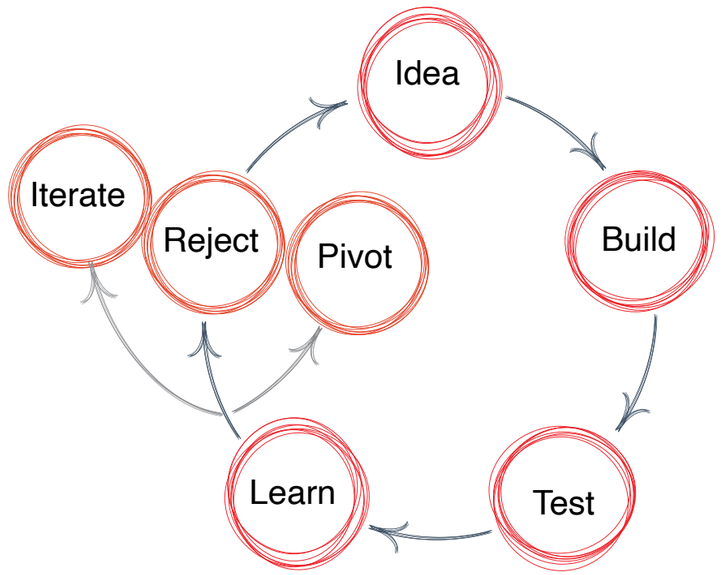
Whatever the type, size or innovation focus of a project, developing an Impact Map for each project helps to make visible our problem framing, our hypothesis or hunch about both what activities constitute the project, and our rationale for how we see it generating impact. The Impact Map is a framework that should be used as a 'hunch design tool' so that we can develop, test and iterate our hypothesis as we learn by doing.

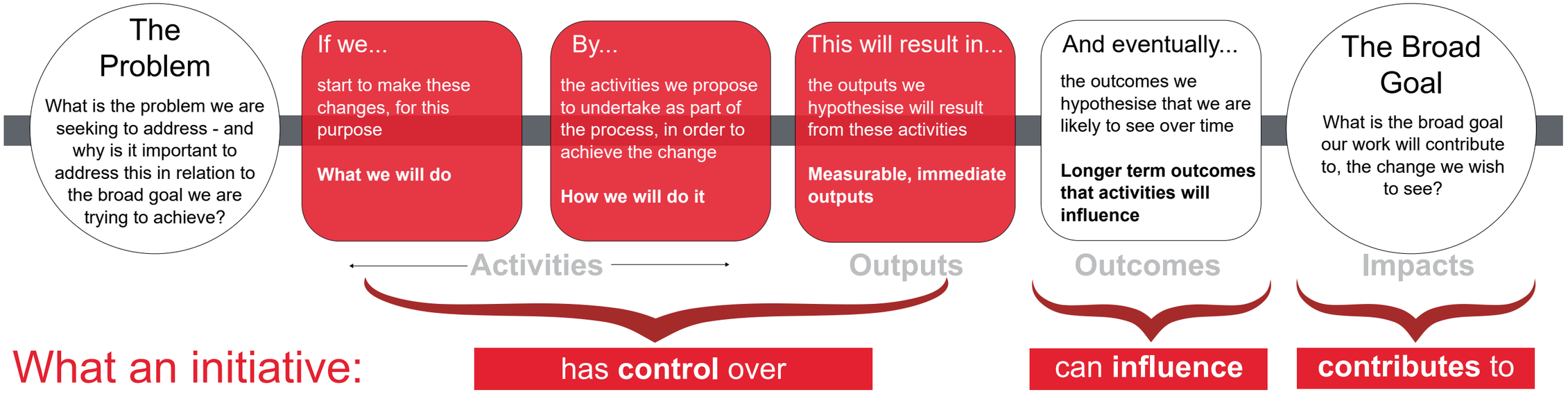
The project Impact Map starts with the problem or opportunity the project is responding to - at a specfic level. The Impact Map then sets out what the project is (what it will do), how it will work, and what it proposes to achieve in the process to address the problem or take advantage of the opportunity.

It is a way of making transparent the assumptions underpinning a project, and opening a project up to engagement. This enables everyone to see the 'innards' of thinking around how a project is supposed to contribute to addressing a challenge.

The diagram also includes the levels of control we have over the various elements of a project. What should be clear here is that projects are part of an ecosystem - they contribute to outcomes and impact but do not have direct attribution to these.

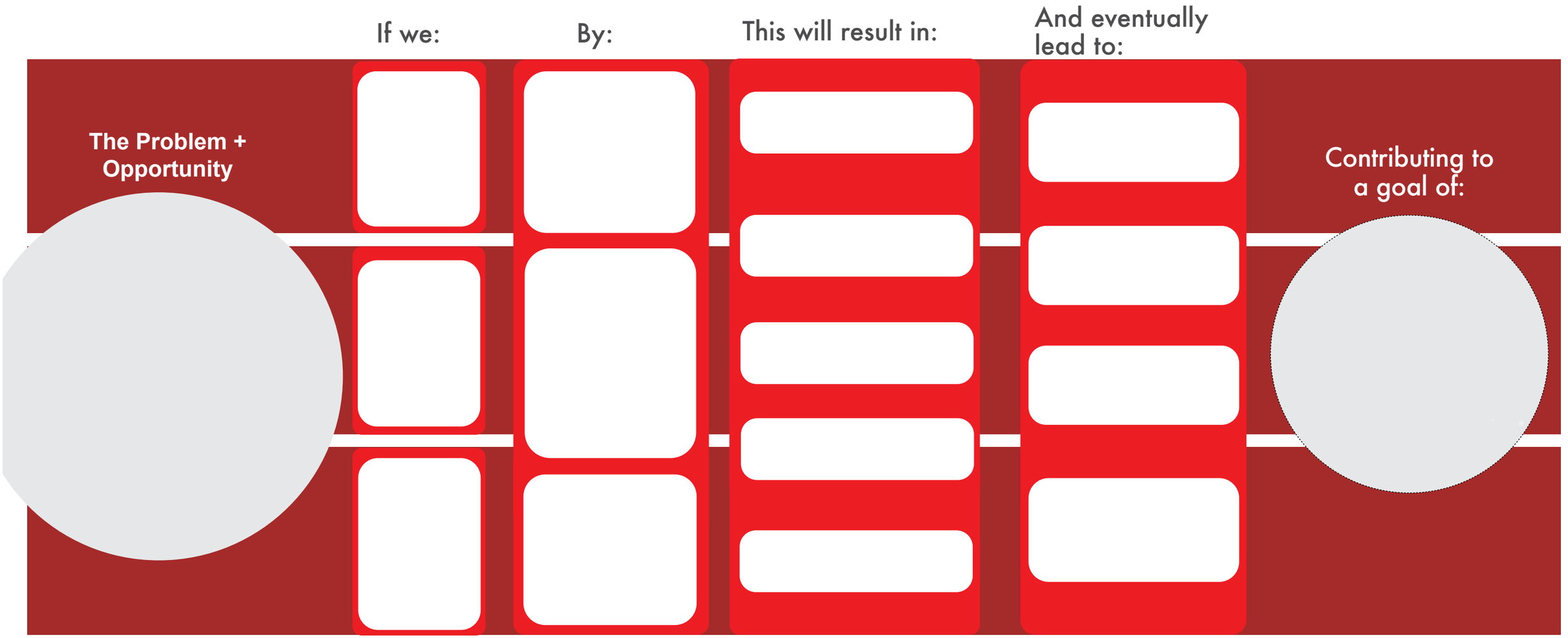
The Impact Map should be iterative - it evolves as learning evolves in the project. The hypothesis shifts as the learning develops across the life of the project - as depicted in the cycle here.





Project Impact Map Guide, GCSI, 2020

Impact Map Canvas



Assumptions:

What critical assumptions are you making about this impact map?

Process Suggestions

1. What are you proposing to do in response to the problem? Ask yourself, "If we start to make these changes for this purpose . . ." Add ideas to the "If We" section of the Impact Map.
2. How are you proposing to do this? Ask yourself, "What activities are you proposing to undertake as part of the process in order to achieve the change"? Add ideas to "By" section of the Impact Map.
3. What measurable outputs might you see from these activities? Add ideas to the "This Will Result In" section of the Impact Map.
4. What do you hypothesise could be the outcomes you would be likely to see over time as a result of these activities + other dynamic influences? Add to the "And Eventually Lead To" section of Impact Map.
5. What critical assumptions are you making about this work? Add assumptions below your Impact Map.

Project Impact Map Canvas, GCSI, 2020

Part Three:

Cultivating Conditions

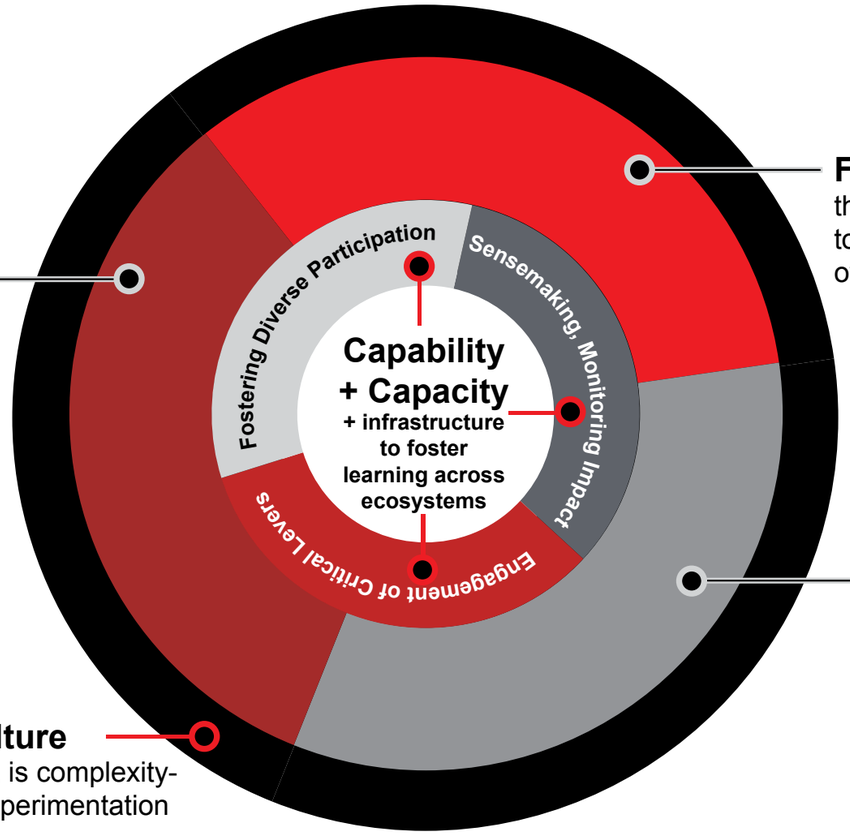
Considering the Enabling Conditions in your Context

Arguably, the real foundation for Challenge-led approaches are the enabling conditions that are present or can be generated in our specific contexts. These conditions include the infrastructures, resources, leadership and skills needed to start, implement and monitor Challenge-led Innovation initiatives.

The key elements of this enabling environment are outlined in the figure here - and this figure forms the basis of our Conditions Canvas.

What is important to remember is that **the conditions needed for innovation are never just right**. We never have everything we need perfectly aligned for innovating or implementing. Innovation involves complexity and ambiguity by its very nature - and so, every innovation initiative experiences difficulties in the process which require simultaneously doing the work PLUS creating the conditions for this work to continue and succeed. That means we need to literally generate and nurture the conditions whilst doing the work, or in other words, we work at two levels - **the Challenge level and the Conditions level.** At various times in the process different conditions will be more or less important, so we don't need to take on everything all at once!

When working with the conditions and infrastructures that will support a Challenge-led Innovation initiative, it is also important to be aware of and explicit about the level of scale we are working at / focusing on / designing for - we could be focusing on conditions at micro (project) level, meso (portfolios) level or macro (challenge) level. At each of these levels there will be different types of conditions that shape and support the initiative.



Clear Drivers + Narratives
that will attract diverse, cross-sector actors to participate

Flows of funding + investment
that can support + enable bottom-up + top-down R&D plus implementation over longer timeframes

Adaptive Governance Frameworks
that provide legitimacy to outcomes approaches, enable alignment, coordination + coherence in context

Leadership + Culture
that values outcomes, is complexity-informed + open to experimentation

Enabling conditions for Challenge-led Innovation, GCSI, 2021

The pathways to ambitious goals - and with that the necessary collaboration between private and public actors - must be aligned with mutual interests and common concerns...Previous economic good scholarship has not given sufficient consideration to the governance of collective goals and the therein embedded role of mutual - rather than private - concern. Putting the common good at the heart of governance empowers and encourages governments, business and civil society to actively shape markets, and to incorporate public value into the coordination required to meet common objectives.

Mariana Mazzucato, 2023

Leadership and Culture

The conditions for growing the sorts of leadership and culture needed for Challenge-led Innovation cannot only rely on strong political power and singular charismatic leaders. Yes, centralised power and decision-making plays a role in catalysing and structuring enduring Directional Goals, and in ensuring that diverse actors and sectors contribute to momentum towards those goals. However, what is also needed is the infrastructure for distributed power and the capacity to grow and share collective learnings and action. What is needed is as much about 'leadering' as it is about 'leadership'.

Further, there is a need for cultural conditions that foster experimentation, learning and subsidiarity of decision-making. This also means a recognition of complexity, a tolerance and acceptance of failure, and a thirst for learning our way forward.

Narratives and Drivers

Ambitious goals that require deep and diverse actions and innovations can be galvanised when there are narratives and drivers that engage stakeholders whilst also cutting across political and sectoral divides. Challenge-led Innovation focuses on engaging people around a narrative focused on the direction of travel (and importantly, taking the next best step in that direction), rather than securing agreement on how to get there or on what vehicles we should take.

The narratives and drivers need to be compelling enough to stimulate participation that enables us to try, test and learn our way forward rather than bickering about what the 'best scenario' of the future is or seeking to grow a consensus about whose ideas are more valid. Growing conditions which can operate within a 'tight-loose' narrative and present drivers in ways that engage even oppositional perspectives lies at the heart of the conditions that need to be fostered in Challenge-led Innovation approaches.

Centralised, Hierarchical Leadership

Political + **p**olitical:

hold power + use power

Centralised power + decision-making with often charismatic leaders who can tell a unifying story

Distributed Leadership

Distributed + Collective

distribute power + share learnings

Leadering - many leaders across the system ensuring the coherence of action

Adaptive Governance

In addition to leadership or leadering, Challenge-led Innovation needs a form of governance or governing that recognises the emergent nature of innovatIon. At its heart, governance focuses on guiding, steering and connecting people, decisions and actions towards certain goals. In the context of innovation, governance is focused specifically on how we engage in, share and make decisions about sense-making, learning and directionality in generating momentum towards some kind of goal or outcome. When we are speaking of innovation towards complex and bold goals such as those involved in Challenge-led Innovation, this governance needs to be able to traverse micro- and macro-contexts, vertical and horizontal layers, and intra- and inter-sectoral ecosystems.

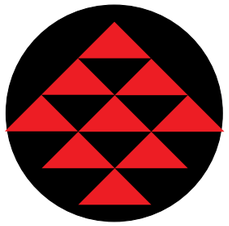
Innovating towards Directional Goals requires an approach to governance that is adaptive and 'good-enough' to foster momentum. Developing adaptive governance models for Challenge-led Innovation approaches is a 'work-in-progress', and globally many initiatives are proposing, testing and implementing new frameworks across goal and project levels.

The two key questions that have emerged from these experimental approaches to date seem to be:

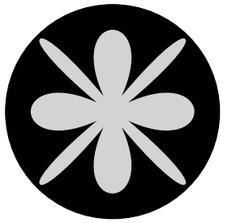
- How might we frame the governance of complexity in the simplest ways possible to foster coherence and momentum rather than assuming that complex challenges require equally complex governance models?
- How might we create multi-layered governance that is both 'fit for purpose' and 'fit for context', and through which we can value both 'tight' and 'loose' forms of governing to generate momentum towards Directional Goals, including switching between as needed / useful?

It is not a matter of throwing out all existing governance practice, but there is a need to adapt governance practices both towards how we respond to complex challenges and to do this in the context of uncertainty. In addition, governance in the context of Challenge-led Innovation needs to reflect the intent of this type of systemic change process - so 'one-size-fits-all' approaches are unlikely to yield fruitful or sustainable results.

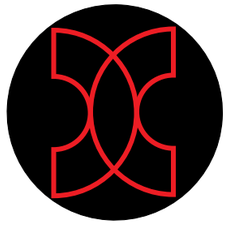
Framing the Governance of Challenge-led Innovation



DIRECTIONALITY
holding + growing a sense of direction + a directional goal that guides actors + stakeholders forward



ORCHESTRATION
playing a pivotal role in convening, steering, engaging multiple stakeholders + resources towards the directional goal



COLLABORATION
supporting the enablement + infrastructure for collaboration across multiple streams of action (that is likely to require new structures + processes)

EXPERIMENTATION + LEARNING
fostering capabilities, culture + infrastructure for testing, iterating + learning from intentional action + implementation

CROSS-SECTORAL
commitment to leverage capabilities, resources + efforts from diverse departmental, institutional, sectoral + disciplinary actors towards the directional goal + challenges

Source: based on Missions for Governance, DEMOS, Helsinki, 2022

Flows of Funding and Investment

The funding of Challenge-led Innovation will require not only public investment, but also a convergence of finance and investment that can support both top-down and bottom-up innovation at scale.

And this is not only about generating funds for the innovation itself. We also need to account for the investment to reorient institutions and infrastructures to support, govern and connect up the diversity of actors, stakeholders and sectors needed to actually accelerate momentum towards bold Directional Goals.

Some have argued this will require a wholesale rethink of our funding and investment systems. Andrew Haldane, the former Chief Economist for the Bank of England, for instance, argues that funding Mission or Challenge-led Innovation will require: reforms of taxation and regulation; growing institutions that can both catalyse and nudge innovation towards amibitious goals; and rethinking traditional vehicles of innovation such as the public/private limited company (Haldane, 2015).

Others argue that the State should reclaim its role as market shaper and steerer by directing public investment and its financial levers to catalyse broad investment in Challenge (Mission)-led Innovation (see Mazzucato, 2017 for example).

And then there are those who have a more micro-focus, arguing that we should ensure that funds flow into the innovation activity, by growing portfolios that can generate multipliers and spill-overs across funded projects (see for example, Gurciullo, 2021).

Creating conditions for Challenge-led Innovation involves thinking about how to resource, fund and stimulate investment into initiatives at various levels - including asking questions about who, how and for what kinds of returns and terms such investment can or should be sustained. We should also be aware of the risks involved in only funding or doing part of this work or doing it only half-heartedly.

In adopting challenge-led innovation approaches there are three big risks in terms of effectiveness:

Ambiguity + half heartedness leading to vague or incomplete pathways for reform

Tinkering + ***Incrementalism*** leading to maintaining the status quo as there are attempts to force new policy rationales into old processes, tools + mechanisms

Mission-washing leading to transformative narratives with status quo with only modest real changes

"Looking ahead, the trick will be to turn embryonic clusters of innovation and industry into actual ones, and existing clusters into super-clusters spanning an even greater range of industries and geographies. The key issue for government is how to enable and empower this mass flourishing of private sector activity and productivity. This, too, will require a new model of governance, with less command-and-control from the centre and more co-design with local businesses and other key anchor institutions, such as universities and colleges".

Andy Haldane, 2022

Capability + Capacity

Working with Challenge-led Innovation requires the development and honing of a variety of capabilities, but also the institutional infrastructures for cracking open capacities so that these capabilities can actually be applied and iterated.

Many organisations and institutions are seeking opportunities for 'training' and other forms of capability development, but far fewer are prepared to shift internal processes to create capacities for applying these new capabilities. Challenge-led Innovation must be a practice-based approach if it is to actually generate real changes.

We hope that by sharing this booklet we can encourage more instutions or at least people within institutions to open up their learnings and explorations about HOW to practice Challenge-led Innovation. There is no singular recipe book - but if we are able to share various practices, frameworks, applications and learnings, there is a chance that a thickness of collective capabiltiies will start to grow.

We have certainly been influenced and nurtured by the frameworks shared by various travellers along their journies - particularly Cassie Robinson's work on systems shifting, Dan Hill and the work of Vinnova around demonstrations in missions, UNDPs work in portfolio based innovation - and many others testing ways forward in practice.

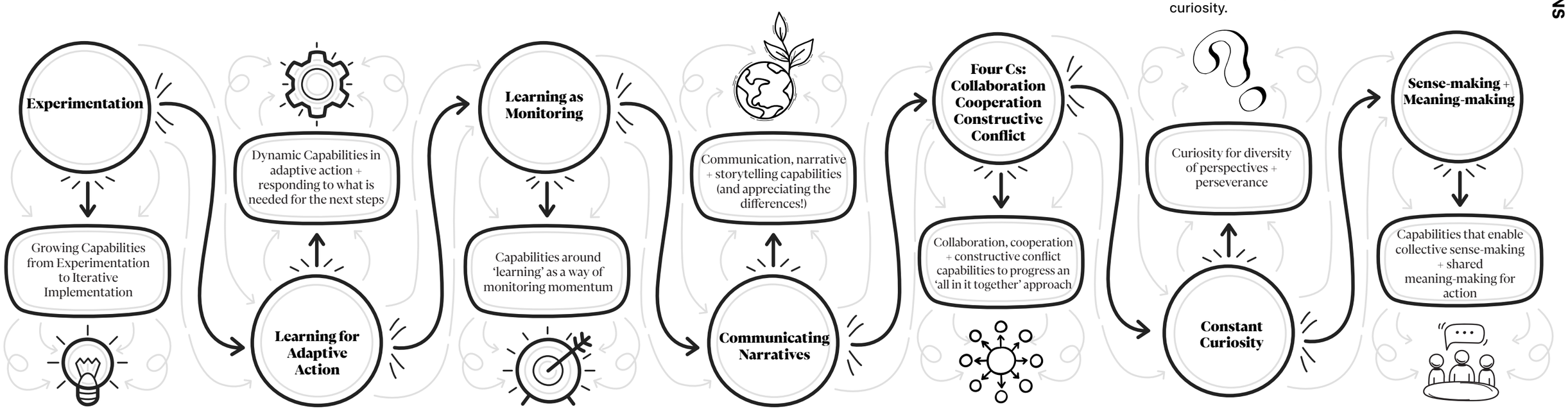
What is clear from our own practice and that of others around the world, is that capabilities in Challenge-led Innovation are dynamic, emergent and trans-disciplinary. They are both tangible and intangible, with the latter rarely featured in research but critical for practice. Perhaps most importantly, capabilities are nested across the 'levels' of the framework.

At **project** level are those innovation skills we are most familiar with - deep disciplinary and interdisciplinary knowledge, design and experimentation, iteration, testing and implementation.

At the **portfolio** level, there is a need to harness those capabilities more often associated with open innovation - where we are learning across projects. This requires capabilities of collaboration, cooperation, as well as construtive conflict.

Because Challenge-led Innovation requires a 'directional' approach to innovation, there are capabilities associated with monitoring, learning and structuring towards Challenges and Directional Goals. This includes not only monitoring and measuring, but also collective learning, sense-making and meaning-making capabilities.

Challenge-led Innovation requires collaboration, but also acknowledges the important roles of competition and conflict in the innovation process. This requires capabilities for working with and in different governance framings, including intentional inter-dependence relationships. Most importantly it requires working with emergence, ambiguity, risk-tolerance and constant curiosity.



Learning Spaces in Challenge-led Innovation, GCSI, 2023

> ...a problem is never solved and instead we need a whole set of interventions to shift to a just, regenerative society. A new type of 'emergence design' will be formed where designers are working directly on interactions and the elements that bring different people and relationships into being together with alternative intentions from which further innovations cascade. They will be deliberately designing more interdependence into new systems as a way for innovation to happen. Scaling will be talked about not as one design growing bigger, but as an intention diffusing more widely and its roots going deeper. Being humble will be less about co-design and welcoming other people's ideas, but more about designing the 'invisible' infrastructure from which imagination and creativity can grow, and opening up intentions so that others can build on them.
>
> Cassie Robinson, Cat Drew, Jennie Winhall, 2021

Capability + Capacity

The capabilities, mindsets, and agency that enable people to engage in innovation, organising, + stewardship activities

What capabilities could we develop to enhance the design + implementation of this CLI approach?

How could we capture, channel + harness learnings across projects, portfolios + the overall CLI approach?

Fostering Diverse Participation

Who is included in innovation and how different perspectives are valued within innovation processes

How will we create a participation ecosystem that values + fosters diversity + equity?

How do we recognise + challenge unhelpful dynamics to harness diversity in the innovation processes?

Engagement of Critical Levers

Resources, policies, and other levers that can incentivise, mobilise, and amplify innovation

What levers could be harnessed to incentivise + enable innovation (such as procurement, physical assets, etc.)?

Who holds the influencing power + capacity to engage critical levers?

How is this power distributed across actors + ecosystems?

Sensemaking, Evaluation + Information Flows

How we measure change + progress. Also, how we harness data and information flows that can support learning, inform innovation + enhance coherence

How could we sense + measure changes and impact across projects, portfolios + the overall CLI approach?

How could we combine data with human-centred stories + reflective practice? What frameworks, mechanisms + processes will we use?

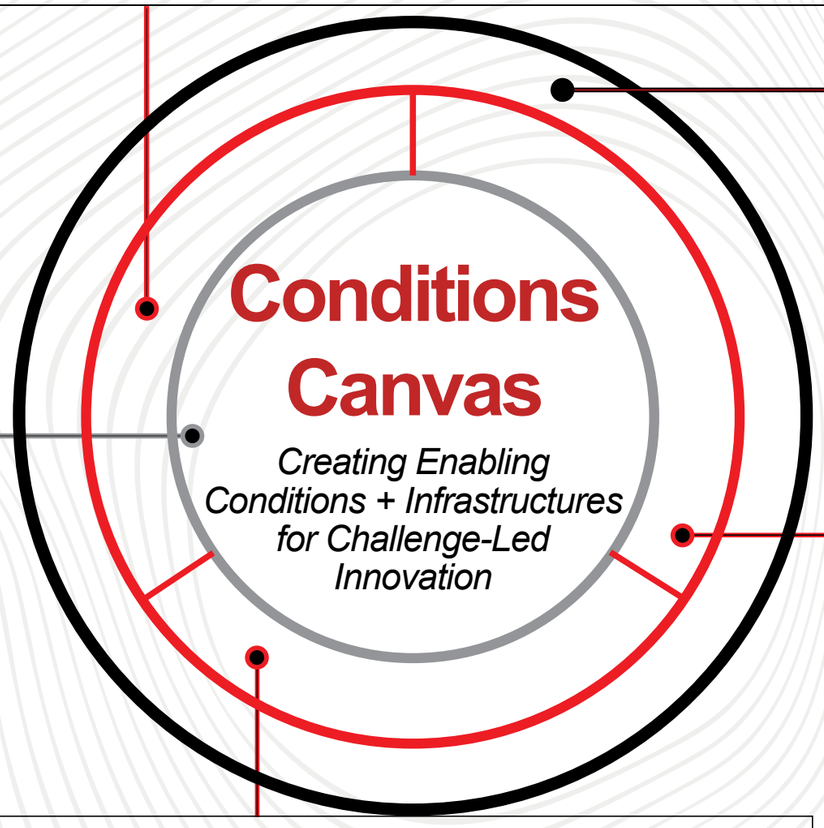
How could we incorporate information + learnings into adaptive practice + the design of new activities?

Clear Drivers + Narratives

Recognising and harnessing the drivers, pressures, and narratives that compel and enable cross-sector actors to organise and act

What are the drivers underpinning the challenge-led innovation initiative - and who is driving?

What narratives could drive diverse participation + what platforms are needed to ensure the narrative fosters innovation over time?



Flows of funding + investment

Capital that can enable bottom-up, top-down, and systemic R&D, plus implementation over longer timeframes

What financial resources could we access to support actors + activities?

How could resources be allocated with the interconnections of actors and activities in mind?

How could synergies and spill-overs be amplified between them through a systems approach to investment?

Leadership + Culture

Fostering leadership + cultures that value outcomes and are complexity-informed, ambitious, imaginative, +enabling of experimentation

Who are or should the core leaders be (at multiple levels) to inspire, hold + anchor this challenge-led innovation approach?

What values + principles could underpin our culture and guide our innovations + actions?

How could we ensure that learning + experimentation is valued?

How will we demonstrate learning across systems?

Adaptive Governance Frameworks

The platforms, mechanisms, and spaces that enable interaction, cooperation + accountability in decision-making, and that support adaptive governance processes.

What governance platforms and structures could be desirable across projects, portfolios and the overall challenge-led innovation approach?

What could the culturally and functionally appropriate models for each of these platforms be?

Who should participate + how?

How will decisions be made?

How could conflict be managed in fair and proactive ways?

How could governance platforms support sense-making, measurement and learning practices?

How are accountabilities managed at multiple levels - from leaders to communities?

Conclusion Without End

At Griffith Centre for Systems Innovation we aim to explore, test, learn and share ways in which we can take steps towards systemic transitions to enable regenerative and distributive futures. We have explored Mariana Mazzucato's Mission-oriented Innovation ideas as one way in which we can organise bold, directional innovation without losing contextual grounding.

Over the last four years we have developed these ideas and tested them in various contexts, evolved them into this 'Challenge-led Innovation' framework. We are sharing this framework and our explorations not as a fully fledged model, but rather, as a 'work in progress', a promising but still emergent way of organising for scaled up systemic innovation.

We will keep learning, testing and evolving these ideas - and we welcome opportunities to work alongside others who are learning their way into organising for large-scale transitions.

Such learning has to happen through action and collaboration, it is by it's very nature emergent, but with a purpose and a direction. We are not living at a time where this learning can be abstracted, hoarded nor simplified into commercialisable models - the stakes are too high for that.

So, please, if you are working in or on applied ways in which we can organise for systemic transitions, and if it makes sense to share and compare - reach out!

In the meantime, we continue this work, and expect our opinions, frameworks, learnings to morph, shift, evolve and grow over coming months and years.

> *We're moving from the world of small-scale experiments to large-scale transitions. And not large as in centralised in positions but large as in micro-massive, where millions of small things happen simultaneously in response. Our transition strategies aren't going to be centralised impulse systems, but micro-massive swarms of interventions that we're going to have to create new capabilities to build, almost like a new, emergent capability rather than top-down in positional capabilities. It's a new response which I think is recognised because we don't have the coordinative, centralised anti-democratic systems in the world to be able to impose change. We don't have the capacity to do that, we don't have the control capacity, and I think that is going to be one of the big revolutions.*
>
> Indy Johar, 2022

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