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RADICAL UNCERTAINTY REQUIRES RADICAL COLLABORATION

Stepping stones towards systems transformation with innovation portfolios

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Contents

Foreword

Exploring new approaches and methods together is an essential part of the future fund Sitra's societal training. Our aim is to increase changemaking capacities in Finland and offer both an arena and a platform where changemakers can learn from each other and find new means to tackle the challenges and opportunities of the future in collaboration.

Sitra's societal training has worked for a long time to bring together different types of changemakers to probe the future and to build common situational awareness and solutions around changing themes. Over time similar issues have frequently cropped up as challenges hindering systems transformation and innovations. Working in silos, the short-termism of programmes and projects, in addition to fragmented development practices, come up in discussions year after year. The demand for new and holistic thinking is apparent.

When single-point solutions are not enough to make an impact, there is an increasing demand for systems transformation where the solutions are augmented with new patterns of organising and structures that help transform systems to fulfil different purposes.

At the beginning of this decade Sitra's societal training took the time to explore what is new in promoting systems transformation. In January 2020 we organised the international Innovation Portfolio Sensemaking and Management workshop, the goal of which was to explore how we might enable structures that would support innovations that can help societies be more resilient.

We were joined at Sitra by a small, experienced but multifaceted group of people. The group's enthusiasm towards the topic could be felt. During the spring we organised an additional four workshops with Finland-based organisations where we explored the approach in depth, exchanged experiences and insights, translated the relevant concepts into Finnish, pondered challenges and opportunities and explored how to apply the portfolio approach to systems transformation in Finland.

This memorandum was informed and inspired by this series of workshops. Our intention for it is to serve as an opening for further discussion on the thinking behind innovation portfolios and to serve as a guide for changemakers. We hope the memorandum will inspire further thoughts and action on approaches and practices that help enhance the impact of societal innovation. The Covid-19 crisis has accentuated the demand for the title's call for action to each and every one of us: "radical uncertainty requires radical collaboration."

Päivi Hirvola
Director, Societal Training

Summary

Global and societal challenges are often so complex that they cannot be resolved by individual experiments or projects. With this in mind, the EIT Climate-KIC climate innovation initiative under the European Institute of Innovation & Technology, for example, has included innovation portfolios in the core of its operating model.

Innovation portfolios are a relatively new approach that is still taking shape. The approach relies on close interaction between connected projects or experiments, sensemaking between those involved in them and the shared impact arising from actions driven by that shared understanding.

"Radical uncertainty requires radical collaboration," says **Kirsten Dunlop**, CEO of EIT Climate-KIC, summarising the thinking behind innovation portfolios.

In this memorandum, we describe what types of challenges innovation portfolios are suitable for and what this new approach is all about. We also address the nature of global and societal problems and why they call for adaptability not only in the development of solutions but also in enabling transformation in operating practices and structures. This memorandum compares innovation portfolios to strategic portfolio management and delves into the challenges and opportunities associated with the approach.

Innovation portfolio practices can be divided into four categories: 1) identifying challenges that require systems transformation; 2) setting out how the whole portfolio seeks to make an impact; 3) composing a collection of projects with shared intent; and 4) engaging in sensemaking, generating insights and changing activities. These practices are discussed in more detail in the memorandum.

At the core of innovation portfolios is an understanding of the comprehensive and systemic nature of the largest challenges we are currently facing, which means that responding to these challenges must reflect the same principles. This memorandum is aimed at developers working on societal issues as well as the parties that fund and co-ordinate the development efforts.

Sitra's aim is to strengthen the competence and capabilities of society's agents of change to collaborate in resolving broader problems. The contents of this memorandum are partly based on workshops to which we invited Finnish professionals who specialise in societal change in various organisations to learn from the international pioneers of the innovation portfolio approach, discuss the potential uses of this new approach and take the approach further.

Tiivistelmä

Globaalit yhteiskunnalliset haasteet ovat usein niin monimutkaisia, ettei niitä ole mahdollista ratkaista yksittäisillä kokeiluilla tai hankkeilla. Tästä syystä esimerkiksi ilmastonmuutoksen hillitsemiseen tähtäävä Euroopan teknologiainstituutin alainen EIT Climate-KIC on ottanut toimintamallinsa ytimeen niin sanotut innovaatioportfoliot.

Innovaatioportfoliot ovat suhteellisen uusi ja vasta muotoutumassa oleva lähestymistapa. Lähestymistapa nojaa yhteen nivottujen projektien tai kokeilujen tiiviiseen vuorovaikutukseen, sen avulla syntyvään jaettuun ymmärrykseen ja siitä ponnistavien tekojen kautta syntyvään jaettuun vaikuttavuuteen.

"Radikaali epävarmuus vaatii radikaalia yhteistoimintaa", kiteyttää EIT Climate-KICin toimitusjohtaja **Kirsten Dunlop** innovaatioportfolioihin liittyvää ajattelua.

Tässä muistiossa kuvaamme, millaisiin tilanteisiin innovaatioportfoliot sopivat ja mistä tässä uudessa lähestymistavassa on kysymys. Avaamme myös globaalien ja yhteiskunnallisten ongelmien luonnetta sekä sitä, miksi nämä kysyvät muuntautumiskykyä paitsi ratkaisujen kehittämisessä, mutta myös toimintatapojen ja rakenteiden tasolla. Vertaamme muistiossa innovaatioportfolioita strategiseen portfoliojohtamiseen sekä paneudumme lähestymistapaan liittyviin haasteisiin ja mahdollisuuksiin.

Innovaatioportfolioiden käytänteet voidaan jakaa neljään osa-alueeseen: 1) systeemistä muutosta vaativien haasteiden tunnistaminen, 2) innovaatioportfolion vaikuttavuuden hahmottelu, 3) vaikuttavan projektikokonaisuuden koostaminen, ja 4) yhteisen ymmärryksen luominen. Avaamme muistiossa näitä enemmän.

Innovaatioportfolioiden ytimessä on käsitys käsillämme olevien laajimpien haasteiden kokonaisvaltaisuudesta ja systeemisyydestä, josta seuraa myös se, että näihin vastaamisen tulee heijastaa samankaltaisia periaatteita. Tämä muistio on suunnattu yhteiskunnallisille kehittäjille, kehittämisen rahoittajille sekä koordinoijille.

Sitran tavoitteena on vahvistaa yhteiskunnallisten muutoksentekijöiden osaamista ja valmiuksia ratkaista laajempia ongelmia yhdessä. Muistion sisältö perustuu osin työpajoihin, joihin kokosimme suomalaisia yhteiskunnallisen muutoksen ammattilaisia eri organisaatioista oppimaan aiheen kansainvälisiltä edelläkävijöiltä, pohtimaan tämän uudenlaisen lähestymistavan käyttömahdollisuuksia sekä viemään ajattelua eteenpäin.

Sammanfattning

Globala samhälleliga utmaningar är ofta så komplexa att de inte går att lösa genom enskilda experiment eller projekt. Av denna anledning har till exempel Climate-KIC, som lyder under Europeiska institutet för innovation och teknik EIT, infört så kallade innovationsportföljer i kärnan för sin verksamhetsmodell.

Innovationsportföljerna är ett förhållandevis nytt tillvägagångssätt som håller på att utformas. Tillvägagångssättet grundar sig på en nära interaktion mellan sammanflätade projekt eller experiment, en delad förståelse som uppstår med hjälp av detta och ett delat genomslag på grund av gärningar som tar avstamp i detta.

"Radikal osäkerhet kräver radikal samverkan", sammanfattar **Kirsten Dunlop**, VD på EIT Climate-KIC om tänkandet bakom innovationsportföljerna.

I denna promemoria beskriver vi för vilka situationer innovationsportföljerna lämpar sig och vad det nya tillvägagångssättet handlar om. Vi förklarar även arten på globala och samhälleliga problem samt varför de kräver anpassningsförmåga när det gäller utveckling av lösningar, men också gällande handlingssätt och strukturer. I promemorian jämför vi innovationsportföljerna med strategisk portföljledning och sätter oss in i utmaningarna och möjligheterna i tillvägagångssättet.

Innovationsportföljernas metoder kan delas in i fyra olika delområden: 1) identifiering av utmaningar som kräver systemisk förändring, 2) utformning av innovationsportföljens effekt, 3) sammanställning av en effektiv projekthelhet och 4) skapande av en gemensam förståelse. Vi förklarar dessa närmare i promemorian.

I kärnan av innovationsportföljerna finns en uppfattning om den heltäckande och systemiska karaktären hos de mer omfattande utmaningar som vi står inför, vilket också medför att snarlika principer ska återspeglas i hur vi svarar upp mot dem. Denna promemoria är avsedd för samhälleliga utvecklare, utvecklingsfinansiärer och samordnare.

Sitra har som mål att stärka kompetensen och färdigheterna hos samhälleliga förändringsagenter för att lösa större problem tillsammans. Promemorians innehåll är delvis baserat på verkstäder, där vi förde samman finländska yrkespersoner inom samhällelig förändring från olika organisationer för att lära sig av internationella föregångare inom ämnet, diskutera tillämpningsmöjligheterna för detta nya tillvägagångssätt samt driva tänkandet framåt.

Prologue

After seven years of operation, the EU's climate innovation initiative, EIT Climate-KIC, founded in 2010 as part of the European Institute of Innovation and Technology, was at a crossroads. Its newly appointed CEO Kirsten Dunlop challenged the organisation to evaluate its impact in relation to its fundamental mission: curbing climate change.

By this time EIT Climate-KIC had achieved the quantitative goals assigned to them by the European Union in terms of partnerships, funded start-ups, investments, creating new jobs, providing education and producing new products and services. Reaching these goals indicated that their operations were successful. But despite the success, a critical impact evaluation that assessed predictions for global warming and the growth of greenhouse gases showed that the success was relative and missing the point (Mitchell 2020; EIT Climate-KIC 2018).

The hypothesis EIT Climate-KIC had been operating on before this had been based on founding new types of markets that would be favourable to climate issues. However, they made a critical analysis of the competitive nature of the markets that revealed that the market logic itself cannot support the multidimensional and multistakeholder systems transformation that was required (Dunlop 2019).

Climate change is such a multifaceted and uncertain phenomenon that tackling it requires approaches and practices that need to be able to connect whatever is being done to achieving an impact. Instead of only improving what they were doing, EIT Climate-KIC decided to extend its focus beyond its own organisation and its partners with practices that would help create change in novel patterns of organising and changes in the structures that enable them, namely systems transformation. This meant focusing on creating behaviour change and transforming societal structures in addition to developing new climate technologies. This is what CEO Kirsten Dunlop refers to when she states that "radical uncertainty requires radical collaboration" (Dunlop 2020).

To succeed in their mission, EIT Climate-KIC is shifting to an operating model that, in addition to reaching quantitative targets, seeks to promote transformation that, in time, will have an impact on climate change. The operating model includes the initiative known as "Deep Demonstrations", the aim of which is to show that it is possible to achieve significant change in behaviours and structures: economic, social and financial systems. At the heart of the operating model is a redefinition of innovation: the traditional product and service innovations must be extended by systems innovations (EIT Climate-KIC 2018).

As part of this work to encourage transformation, EIT Climate-KIC seeks to position itself as an "ecosystem orchestrator". Its intention is to bring together the different communities needed to tackle climate change. And not just in order to deal with parts of the challenge but at the scope needed to make a significant impact. EIT Climate-KIC seeks to orchestrate collaboration between countries, cities, citizens, companies and research institutions to make an impact and promote systems transformation (EIT Climate-KIC 2018).

"Innovation portfolios" are the approach at the heart of EIT Climate-KIC's operating model. Instead of the relevant parties in a global or societal challenge working only on their own initiatives, innovation portfolios seek to promote collaboration between these parties to achieve collective impact.

1. Introduction

"We cannot solve our problems with the same thinking we used when we created them."
Albert Einstein

To paraphrase **Albert Einstein's** quote: the global and societal challenges that we experience today cannot be solved with the same thinking we used when we created them as the externalities and by-products of what we were doing.

We have focused on taking forward the strategies of our organisations and becoming ever more efficient in fulfilling them. But the focus that this has required has often made us neglect to include the perspectives of social and ecological sustainability at the core of what we do. Structural poverty and climate change are examples of such challenges that we cannot tackle without broad collaboration.

Different types of challenges require different approaches and practices. Activities that are successful and efficient in one context might not achieve the same results in another. They might even lead to new, unanticipated problems. This is why we must have capacities and capabilities in a wide range of means, methods and approaches. For example, experimentation helps us obtain information quickly about whether something works or not; service design helps us make things better from a customer or user perspective; and research helps us get a broader picture of what is happening. When challenges are increasingly multidimensional and messy, the more approaches we need in order to tackle them.

The broadest societal challenges we face today require systems transformation, meaning simultaneous changes in our patterns of organising and in our structures, and in how these interact with each other. We must become better at this in order to reconfigure our current systems to support the well-being and sustainability needed in the future.

The innovation portfolio approach helps us tackle challenges that require systems transformation from multiple dimensions. The approach helps us compose 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.

Innovation portfolios are a relatively new and emerging approach. Despite this we can explore their practical applications and learn from them. For example, in addition to EIT Climate-KIC, the UN Development Programme's (UNDP) Innovation Facility has shifted the focus of its activities from design, experimentation, futures and data to rethinking decision-making in uncertainty and promoting transformative change. Innovation portfolios and the practices related to them will play a central role in this (Begovic 2020).

This memorandum outlines how systems transformation might be fostered using innovation portfolios. It seeks to inspire people working on societal issues, and funders and orchestrators of multistakeholder change initiatives.

2. What challenge types are innovation portfolios suitable for?

Innovation portfolios are most suitable for challenges that contain significant uncertainty in terms of understanding and tackling them. To identify such challenges, we must ask ourselves how well we understand each challenge and its nature. How certain can we be about finding solutions to them? And is the challenge at hand broad or narrow?

Management in the industrial era and the innovation practices that support it are focused on defining strategic directions and moving towards those trajectories through various activities. In order to be efficient at this, the interaction structures of the organisations are built in ways that support being able to define and co-ordinate major goals in a centralised manner and distribute the small tasks needed to implement them in an efficient manner to individuals, teams and projects (Merchant 2016). Most of the well-being we enjoy today has been created on the basis of this type of thinking and it is definitely needed in the future as well.

In addition to being efficient in acting towards our goals, the uncertain challenges we face today also require us to integrate other perspectives into what we do. We cannot understand adaptive and transformative challenges only by analysing them from afar.
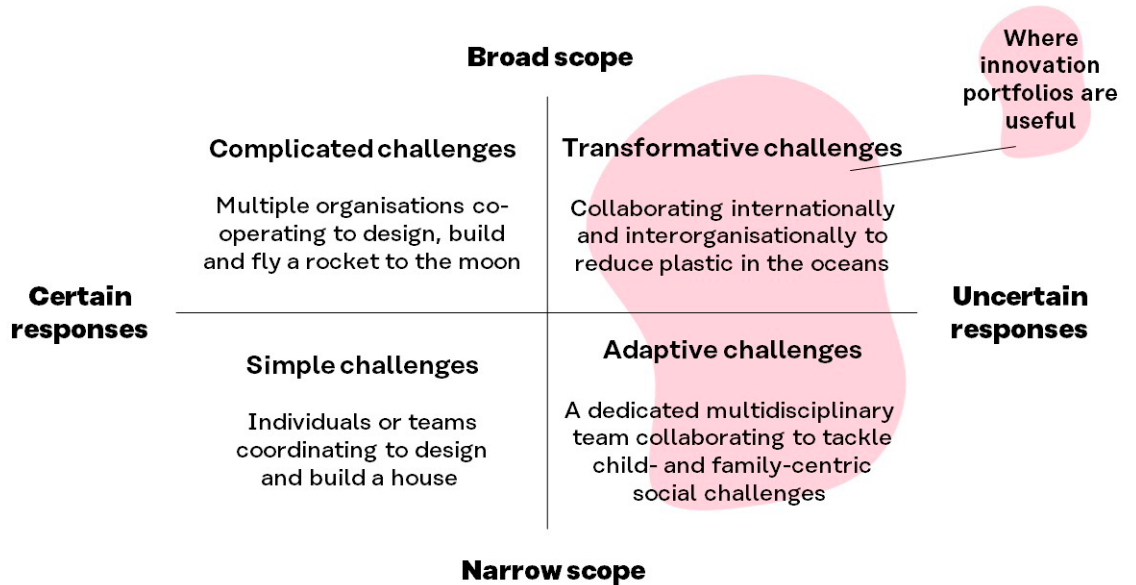
No one nor any single actor can understand and solve broad societal and systemic challenges alone. They must be tackled through constant interaction together with relevant stakeholders in ways that enhance their shared capabilities to understand and respond to the challenge at hand.

Transformative and adaptive challenges require us to change together and in relation to each other to stimulate change in our systems. These are the two challenge types where innovation portfolios and their practices are fit for purpose.

How can we understand the nature of different types of challenges? The figure split into quadrants below can help us do that. On its left side are **challenges to which we can respond with certainty**, for example, flying a rocket to the moon or building a house. On the right side are the **uncertain challenges that require systems transformation and adaptability** or example, reducing the plastic waste in oceans or solving child- and family-centric social challenges. In the upper half of the figure are **broad challenges** that are **complicated** (flying a rocket to the moon requires multi-organisational co-operation) or that **require transformation** (reducing plastic in the oceans, which requires many countries and organisations to collaborate in changing their behaviours). In the lower half of the figure are **narrow** and **simple** (individuals or teams co-ordinating to build a house) or **adaptive** (child- and family-centric social challenges that are tackled with the help of a multidisciplinary team[1]) **challenges**.

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1 At the heart of the Reclaiming Social Work (RSW) whole-system model is a consultant social worker supported by a small multi-disciplinary team that is enabled by their respective organisations to collaborate with children and families on tailoring solutions to social problems (Bostock et al. 2017).

Figure 1. Innovation portfolios are useful when dealing with transformative and adaptive challenges

Broad scope

Where innovation portfolios are useful

Complicated challenges

Multiple organisations co-operating to design, build and fly a rocket to the moon

Transformative challenges

Collaborating internationally and interorganisationally to reduce plastic in the oceans

Certain responses

Uncertain responses

Simple challenges

Individuals or teams coordinating to design and build a house

Adaptive challenges

A dedicated multidisciplinary team collaborating to tackle child- and family-centric social challenges

Narrow scope

On the left-hand side of the figure above are the challenges to which we can respond with certainty. It does not matter if the problem's scope is broad or narrow, we can analyse what success might look like and after that plan for a solution. On the right-hand side are complex challenges that change through interactions and require systems change, either through adaptation or transformation. In this case the challenges are multidimensional and not solvable only through local efforts. In these cases, reform might, in addition to doing things in a different manner locally, require transforming legislation, financial models, collaboration practices and other structural issues that create the conditions for adaptation.

We are currently so efficient at solving fragmented complicated and simple challenges that we create new problems in the form of externalities that aggregate and emerge as complex challenges. They are born and grow through countless small acts and interactions that individually might not be significant. Climate change, pollution, structural poverty and disadvantage among children and young people are examples of such externalities that together amalgamate to become large challenges. These are significantly different types of problems to those that we are used to solving when we look at the world through a lens from a position of certainty.

An example of a problem that has emerged from solving another problem is the aggregation of plastic in the oceans. Plastic products make our lives easier in many ways. For example, when a plastic bag used to carry things accidentally ends up in the ocean, the problem does not seem like something worth getting one's feet wet for. However, when plastics from metropolises around the world are dumped into the oceans, the scope of the challenge becomes completely different.

When complex, interdependent challenges that require systems transformation are tackled using approaches that have been developed to deal with complicated and simple challenges, a lot might get a lot done but the aggregated impact might still be small. In these situations, there is a clear gap between the intended impact and the actual consequences. The prologue's example of the shift in EIT Climate-KIC's emphasis depicts how innovation portfolios and ecosystem orchestration seek to narrow this gap.

It is important to note that broader challenges and solutions contain narrower challenges and solutions. A complicated challenge and solution can be broken down into many simple challenges and solutions. And this leads to complications because co-operating to connect the multiple simple solutions creates challenges of scope.

Tackling complex challenges that require transformation is similarly based on adaptive action, where smaller groups collaborate to make sense of the issue and change their activities. Tackling uncertain and broad challenges requires international and multi-organisational collaboration in the form of networked and ecosystemic organisation.

The innovation portfolio approach helps enhance the collaboration between those within a network or ecosystem when it comes to multidimensional challenges and encouraging systems transformation.

Confetti or spaghetti?

We need new kinds of metaphors to describe the nature of these challenges.

Dominic Hofstetter (2020) describes much of the work done to tackle global and societal challenges as being guided by a project-by-project mentality. Despite empirical evidence making clear that single projects cannot change systems, developers are mostly concerned with reducing risks rather than achieving the actual impact they desire. Fixed-term projects are the prevalent nature of developmental work and when the funding runs out, even the most successful projects are terminated if there is no further funding or no one prepared to take ownership of them. If the separate initiatives are not collected to form wholes, the fixed-term projects may follow one another without a link to the previous innovations and insights of past projects. In the worst-case scenario, the successes and insights from even the most outstanding projects may just end up as files collecting dust in investors' archives and their actual impacts on the world remain minimal.
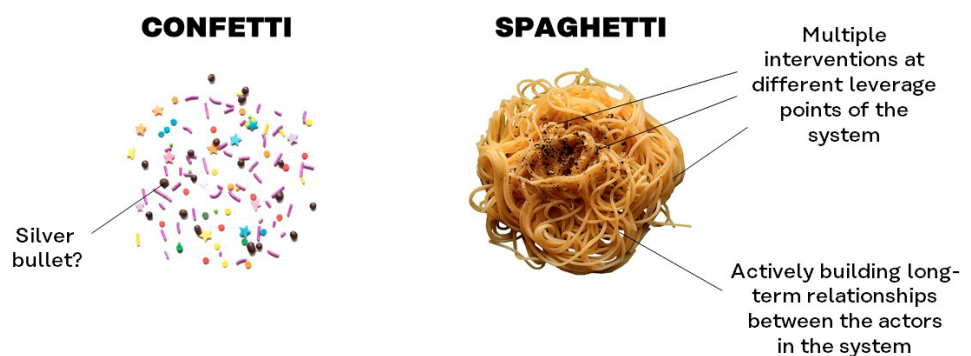
Ingrid Burkett (2017) from The Australian Centre for Social Innovation (TACSI) uses a confetti metaphor to describe the project-by-project mentality. Confetti consists of small pieces of paper or plastic and is often used as a special effect at events. Development projects are often like a confetti cloud. It catches our eye when up in the air but quickly loses relevance once all the confetti has fallen to the ground, unless among the confetti there is an occasional winning solution – a silver bullet that makes an impact against most odds.

In addition to the confetti metaphor, Ingrid Burkett uses a spaghetti metaphor to describe the work that we should pursue. The greatest societal challenges we face are deeply intertwined like spaghetti. When tackling uncertain and broad challenges that require systems transformation, our focus should not only be on the individual parts but rather in the way spaghetti connect to form a whole.

The message at the core of Burkett's metaphors is that the confetti-esque, project-by-project mentality used by organisations that compete against each other for funding does not get us far. Broad, societal challenges require systemic ways of working that can create widespread impact. We need collaboration to actively advance learning and action towards similar goals. In addition, collaboration should lead to greater collective sensemaking and a shared understanding of all those involved with the challenge.

The challenges that require systems transformation need all of us to tackle them. In a world of definable, certain challenges, we have expected someone else to handle the issues we do not feel belong to us. Paradoxically, in order to respond to challenges that require systems transformation with greater impact, we need multi-organisational collaboration across different levels of society. Innovation portfolios and the practices related to them provide a bridge from confetti-type activities to collaboration to make the spaghetti.

Figure 2. Confetti and spaghetti as metaphors for different types of approaches to tackling intertwined challenges (Picture concept: Ingrid Burkett/TACSI)

3.   What is special about innovation portfolios?

Innovation portfolios promote societal change by connecting thinking and practices that feed off each other. The systemic perspective is highlighted in their purpose: enhancing the synergy of activities and actors, and the connections between them, and maintaining continuity. In terms of activities, innovation portfolios connect multiple initiatives to compose a collection with impact and enhance mutual learning between the projects. In practice, innovation portfolios are used in planning, co-ordinating and enhancing the adaptation of a collection of initiatives that tackle a specific societal challenge, for instance.

The opportunities and challenges related to innovation portfolios are embedded in its holistic, systemic approach. While innovation portfolios intend to facilitate actions that transform the world, they also create spaces for our patterns of organising and behaviours to change.

The goal of the holistic approach is simple. Innovation portfolios intend to bring organisations together, enhance collaboration and create shared understanding and greater impact by building synergies within the collection of intertwined initiatives.

What is the difference between strategic portfolio management and innovation portfolios?

The strategic portfolio management of the industrial era is being augmented with the rise of practices stemming from the notion of a connected and networked world, innovation portfolios being one of them.

Strategic portfolio management has supported organisations well when tackling challenges that we can be certain about and has been efficient at achieving narrowly determined goals. In this context, portfolios have helped organisations make financial decisions about developing innovations using programmes and projects across predefined time spans. Strategic portfolio management views development as making investments by balancing risks and rewards. In a world of changing and uncertain challenges, we need different types of portfolio management practices that help us move towards desired futures.

The Three Horizons framework developed by **Bill Sharpe** (2020) from the International Futures Forum is used in futures thinking and foresight. The framework offers a way of exploring innovations through three horizons: the first being innovations that enhance the current core activities, the second horizon being creating adjacent, disruptive innovations, and the third one being fostering transformative innovations. Transformative innovations are related to systems transformation, where both structures and activities within a system are renewed to serve holistic, shared goals. These are at the very core of innovation portfolios.

There are different ways to manage innovation portfolios that emphasise making investments and controlling risks (Deloitte Insights 2018). For instance, the United States Agency for International Development (USAID) employs the thinking behind the Three Horizons framework when distributing the investments in their innovation portfolios. The majority of USAID's investments are allocated to the improvement of their current core activities. A smaller amount is invested in disruptive innovations in adjacent areas. Their smallest investments are focused on transformative innovations and promote renewal and the anticipatory innovations needed for the future (Megersa 2019).

The OECD's Observatory of Public Sector Innovation (OPSI) has developed an innovation facets model for the public sector that they offer as a perspective to innovation portfolio management (OPSI 2019). In their innovation facets model OPSI augments the Three Horizons model by adding another type of transformative innovation: mission-oriented innovation to go with anticipatory innovation (OPSI 2019).

Economist **Mariana Mazzucato**, who developed the concept of mission-oriented innovation, describes examples of missions as clearly defined, time-bound goals, such as flying a rocket to the moon and tackling climate change. They require national policies as well as cross-sectoral and cross-disciplinary innovation. A fundamental trait of mission-oriented innovation is that innovations are not created on their own but rather by making intertwined experiments (Mazzucato 2018).

Innovation portfolios are particularly well suited to the development of anticipatory and mission-oriented innovations where adaptation and enhancing the co-ordination between different parties are essential. The initiatives made up of projects and experiments that are part of innovation portfolios not only serve as ways to plan and implement solutions but also as means of experimenting and continuously learning together about the challenge at hand and exploring ways to tackle its different parts (Oprunenco 2020).

Innovation portfolios are useful when dealing with complex challenges that require us to respond in contexts of uncertainty. Whereas strategic portfolio management seeks to finance teams and organisations, innovation portfolios seek to bring together multiple organisations that deal with similar challenges (Hofstetter 2019). Innovation portfolios seek to finance activities that create change rather than use budgets to define what is done. The aim of financial planning using innovation portfolios is not to constrain activities based on budgeting periods and planning but rather support the time spans of the connected interventions needed to achieve change (Hofstetter 2020).

Considering time spans is a relevant aspect of innovation portfolios. Because the purpose of innovation portfolios is to implement projects in a given time and to create visible, desired change in the world, achieving the change should define time spans, not the duration of a project or a government's term of office (Blue Marble Evaluation n.d.[2]). For instance, the Swedish Viable Cities programme promotes collaboration beyond government terms of office and uses innovation portfolios to fulfil their 10-year mission to create carbon-neutral cities by 2030 (Viable Cities n.d.).

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[2] N.d. refers to a reference with no known date.

In this memorandum we will not delve deeper into the questions of financing, investing, decision-making and risk management that are often relevant in portfolio management, even though a lot is going on in these areas. We want to emphasise the social practices related to innovation portfolios. In doing this we wish to help build a common language that can connect the challenge owners, in other words the investors, with the people who can help tackle the challenges, the changemakers.

Table 1. A comparison of strategic portfolio management and innovation portfolios for systems transformation

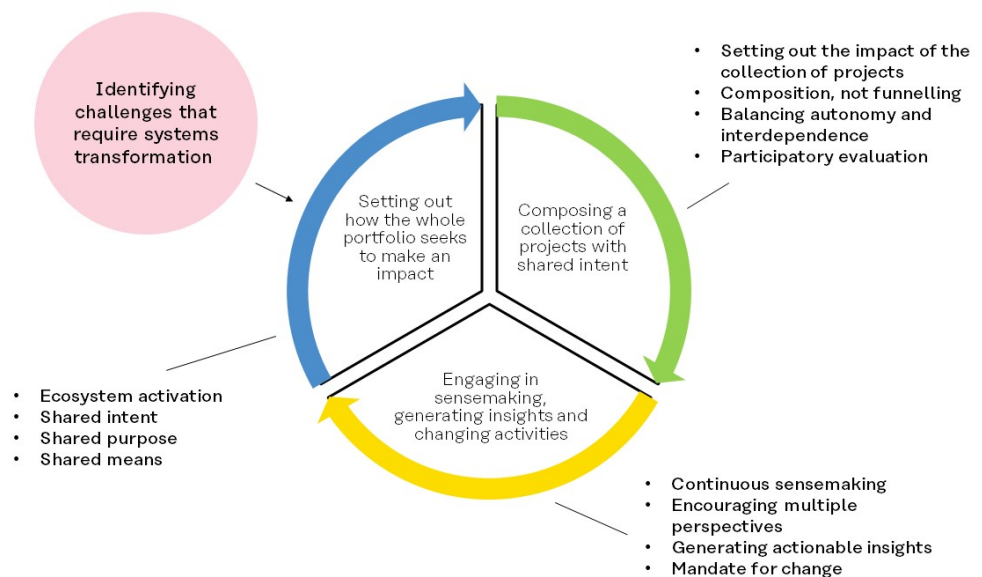|	**Strategic portfolio management**	**Innovation portfolios for systems transformation**
Purpose	Executing strategy and developing business models using programmes and projects	Ecosystemic collaboration to encourage systems transformation in relation to issues and phenomena outside the actors' organisations
Innovation types	Improving current core activities or expanding to adjacent possibilities	Developing mission-oriented or anticipatory innovations
Challenge types	Complicated and simple	Transformative and adaptive
Nature of the challenge	Certain and definable	Uncertain and open
Tackling the challenge	The challenge can be analysed to plan for solutions up front	The challenge is identified and solutions are explored
Actors	Teams and organisations	Networks and ecosystems (multiple organisations)
Usage of projects	Projects are the means of planning and implementing solutions	Projects are the interconnected means of learning about the challenge and tackling it through experimentation
Time spans	Budgeting and planning define the time spans of activities	Financial planning supports the time spans of the intervention approaches needed to achieve systems transformation

4. Practices and principles of innovation portfolios

Innovation portfolios consist of four sets of practices: 1) identifying challenges that require systems transformation; 2) setting out how the whole portfolio seeks to make an impact; 3) composing a collection of projects with shared intent; and 4) engaging in sensemaking, generating insights and changing activities. In addition to these practices we will define, in the following sections and boxes, 16 principles that help provide an understanding of the practices.

These four sets of practices are loosely based on those applied in practice by EIT Climate-KIC and UNDP but they have been reconceptualised and expanded with the principles in our series of workshops with Finnish organisations to help a broader audience to understand their essence better.

Figure 3. The practices and principles of innovation portfolios for systems transformation

4.1 Identifying challenges that require systems transformation

What should we take into account when a challenge has been identified as something that requires systems transformation? As we have noted above, challenges such as these require a different type of thinking or frame of reference, as defined by the four principles of transformation, systems orientation, futures orientation and adaptation.

The idea of promoting transformation is essential to innovation portfolios. While we often launch things into the world in order to change it, an underlying idea of innovation portfolios is that we also need to change in

relation to the world we desire to create. This means reforming our activities and structures. Achieving transformation should also define the scope, direction and time spans of our activities and interventions.

For example, the principle of transformation means not trying to solve the issues of marginalisation just by developing new practices. At the same time as we develop the practices, we should seek to create institutional structures that can enable the practices to succeed. Sometimes introducing a new approach may require letting go of some old practices for financial reasons.

The principle of systems orientation focuses on tackling the root causes and structural obstacles that create the symptoms rather than only focusing on the symptoms themselves. For instance, poverty can be alleviated in the short term with money, yet we should also focus our attention on all the structures that may create poverty among individuals and families.

The principle of futures orientation builds on the first two principles. Those involved in tackling the problems of the current systems should also imagine the systems of the future, after the challenge has been overcome. Imagining futures helps explore the possible steps that may need to be taken in order to move towards them.

REMEMBER THIS

Identifying challenges that require systems transformation

Transformation: Promote transformation or change in structures and those embedded within them. Use achieving transformation as a guiding principle for the scope, directions and time spans of activities and interventions.

Systems orientation: Explore the challenge through systems orientation: identify its symptoms but seek to influence its root causes and leverage points.

Futures orientation: Do not focus only on fixing on problems within the frame of the current system but imagine the systems of the future, after the challenge has been overcome, and what the possible steps towards those systems might be.

Adaptation: It is not possible to define these challenges up front: promote adaptation and collective learning to explore the challenge and how to tackle it.

The fourth principle we have identified is about promoting adaptation. Because of the uncertain nature of these challenges, it is impossible to define them or plan solutions to them up front. We must adapt to tackling them using different practices that help foster collective learning.

4.2 Setting out how the whole portfolio seeks to make an impact

Innovation portfolios seek to explore and co-ordinate the creation of a broader impact than single initiatives and projects can achieve. Therefore the impact of the innovation portfolios should be examined systemically while activating the whole ecosystem it seeks to deal with in regard to the challenges at hand.

Setting out how the whole portfolio seeks to make an impact will help to establish ways in which the whole ecosystem can build a shared understanding of the intended collective impact, share a meaningful purpose and identify the means and capabilities that are required. The impact of innovation portfolios is created through networks and ecosystems. This includes the multiple programmes and projects carried out in different sectors and at different levels of the society that seek to contribute to systems transformation.

Setting out the impact of the whole portfolio does not have to be done as specifically as with the initiatives within it. At this level it is more important to understand what is being done so that all relevant areas are covered and possible gaps can be attended to. In addition, when dealing with uncertainty it is useful to explore the intended impact when new insights emerge.

Example: EIT Climate-KIC

There is no single, established way of setting out the intended impact of innovation portfolios and different organisations do it in different ways. EIT Climate-KIC is rather advanced in this and uses its visual portfolio to set out how its impact goals, levers of change, funded projects and the people in them relate to each other.

EIT Climate-KIC advances its portfolio's impact by bringing together the networks of people and organisations relevant to the different impact goals and levers of change who have the mandate or the resources to support tackling the problems. To harness the power of demand, they engage the owners of the challenge – city/town mayors, regional leaders, government ministers and CEOs of major companies – to understand the ambition and needs, identify constraints and secure the intent for transformational change. EIT Climate-KIC supports the creation of shared understanding and aims to advance the sharing of collective resources through different collections of projects (EIT Climate-KIC 2019).

After understanding the transformative challenge and committing to solve it, they continue to set out the impact of the portfolio. At this point the key question is to explore where and how pre-existing resources could be best employed in order to create the desired impact in terms of the impact goals and in respect of focusing on the shared levers of change and the capabilities that are required to make an impact.
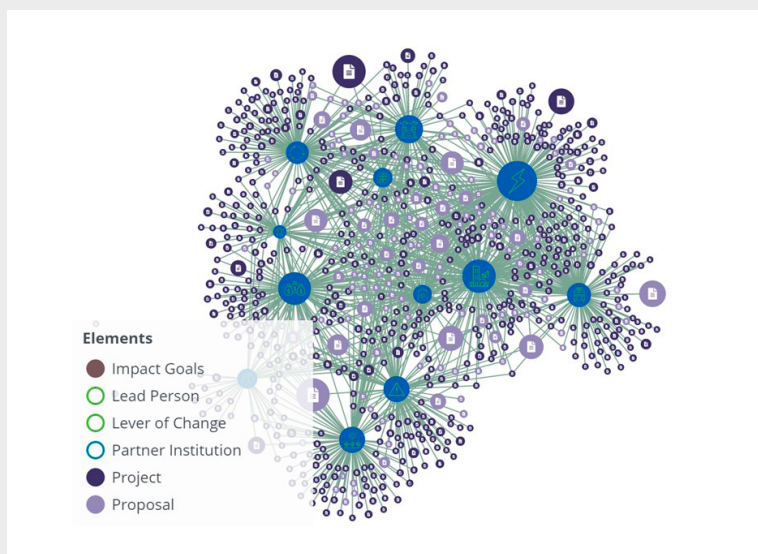
EIT Climate-KIC has four impact goals: Urban Transitions, Sustainable Land Use, Sustainable Production Systems, and Decision Metrics and Finance. These areas of focus are divided into 12 smaller impact goals; for instance, impact goals related to Urban Transitions include aims to "promote retrofit and decentralised energy", "create green, resilient cities" and "accelerate clean urban mobility" (EIT Climate-KIC n.d.).

Figure 4. The EIT Climate-KIC innovation portfolio as seen on the Exaptive visualisation platform (Source: Hofstetter 2019)

LIKE THIS

EIT Climate-KIC's visual portfolio helps set outhow the portfolio seeks to make an impact through all of its activities

— Identifying the networks of those related to the different impact goals and levers of change or shared means to assist those in the ecosystem to find possible partners.
— Providing a holistic picture of the projects and their connections.
— Finding possible gaps or areas of lesser emphasis.

Elements
- Impact Goals
- Lead Person
- Lever of Change
- Partner Institution
- Project
- Proposal

REMEMBER THIS

Setting out how the whole portfolio seeks to make an impact

Ecosystem activation: Impact is made through networks and eco-systems. Seek to engage the different sectors and different levels of the society.

Shared intent: Develop a shared understanding of the desired impact and what the intent of the ecosystem is in relation to achieving the impact.

Shared purpose: Instil a shared purpose between those within the ecosystem.

Shared means: Identify and build the ecosystem's shared means and the capabilities that are required to make an impact.

The levers of change are used to identify areas that should be engaged in order to create systems transformation. EIT Climate-KIC has identified the following levers of change: behaviour change, citizen engagement, finance, market structures, organisational governance, policy and regulation, production, and skills and technology, among many others. For instance, if we explore the leverage points in working towards decentralised energy, we will need solar panels and related technology, people who want to install them on their roofs and electricity companies who can buy surplus electricity from customers (EIT Climate-KIC 2019).

Working with the notion of ecosystemic change, EIT Climate-KIC does not carry out all of its development projects by itself. Instead it seeks to strengthen the capabilities of its community partners, who include research institutes, businesses, communities, legislators, investors and towns/cities.

Once they have formed a combination of impact goals and levers of change that contribute to systems transformation, they can begin to compose a collection of projects with shared intent.

4.3 Composing a collection of projects with shared intent

The confetti metaphor describes projects that are implemented on their own even though they might seek to influence a shared challenge. Innovation portfolios seek to support systems transformation by actively creating inter-connections among different projects, like spaghetti. Before starting individual projects, it is useful to compose collections of projects to help create a shared understanding of their intent.

A popular way of financing innovation is to do it with the help of the notion of an innovation funnel. In this approach multiple ideas are funded and experimented with in practice. Failure is part of the learning experience, yet the approach contains an expectation that a small percentage of these ideas develop into practical and commercial products or services (CHÔRA Foundation 2020).

When composing a collection of projects with shared intent, it is important to frame development work as a composition or a collection of collaborating parts rather than a funnel of winning solutions which fuels competition between the exploratory initiatives. Composing a collection of projects begins by exploring the whole challenge from its different angles and then developing intentional connections that support mutual learning between the projects. The purpose of composing is to support adaptive learning across different projects instead of finding the best solutions, as in the funnelling approach (CHÔRA Foundation 2020).

If we look at preventing marginalisation in society, for instance, the levers of systems transformation might be:

— practices that bring together multidisciplinary service teams to support individuals and their families;
— software that enables collaboration between cross-sectoral, alternating bodies that support individuals and their families;
— financial models that are able to deal with the value created in the collaboration between many organisations instead of procuring services from a single organisation;
— laws and policies that guide municipalities to acquire preventive services for marginalisation that are based on multidisciplinary collaboration.

For the previous example to work it is useful to develop the different levers of change in parallel or at least with a planned intent. The reason for this is that successful development projects in one area may fall short of their intended impact if finance models, laws and policies do not support them.

Composing a collection of projects comes down to two issues: first, setting out how the collection of projects with a shared intent seeks to make an impact and how to find possible projects that might fit the collection, and second, selecting a collection of projects.

Investors and funders can open up calls for project proposals based on the shared intent. However, composing a collection of projects with a shared intent is not restricted to investors only. A network or organisation can also use the practice to map out different levers of change and consider what types of projects and experiments they could or would like to run in order to make the change happen. The #RadicalChildcare Systems Lab[3] organised by **Hub Birmingham, Dark Matter Labs** and **Amy Martin** is a great example of applying innovation portfolios in this way. Their #RadicalChildcare Systems Lab sought to understand opportunities for developing local childcare and co-create ideas for experiments that might realise these opportunities.

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[3]   https://www.radicalchild.care/

What is important in the second part, the selection of projects, is to consider how the projects might promote shared impact together and what types of connections and synergies these projects might have. In other words, it is not enough that a single project itself is excellent, rather that it should fit in with the other projects in ways that promote the impact of the whole collection of projects. One way to assess collections is to draft alternative collections of projects from the project proposals and compare and evaluate the alternative project collections in relation to the potential impact they might be able to create together.

A collection of projects that is based on challenges that we can respond to with certainty usually divides the larger whole into smaller parts that can be implemented by different teams. When faced with challenges that require systems transformation, projects are a means to learning about the challenge and exploring possible solutions to it. This means that the relationships between the projects do not have to be fully defined beforehand. Finding a suitable balance between autonomy and interdependence between the projects through concrete actions is far more important.

Composing a collection of projects with a shared intent is one way of fostering the relationship between the owners of the challenge and the change agents. For example, EIT Climate-KIC organises four-day workshops twice a year to gather together all the different stakeholders involved. The goal of these workshops is to make decisions, improve shared understanding and provide a space to evaluate and share the insights of the projects in terms of making an impact and how the collection of projects is operating. Fostering collective sensemaking and decision-making based on shared intent takes time.

We at Sitra prototyped the creation of an impactful collection of projects during our innovation portfolio process, as part of the selection of teams for Sitra Lab's "nature-based solutions" learning cohort. The Council of Tampere Region used a portfolio approach to assess their European Regional Development Fund (ERDF) applications.

LIKE THIS

A general structure outlining CHÔRA Foundation's four-day workshop for composing a collection of projects with shared intent

Day 1: Take stock of the intent of the collection, available resources and possible projects

Day 2: Attribute value to the different projects that could make up the collection

Day 3: Compare different sets of collections and select one that fits the purpose

Day 4: Plan how to activate the collection of projects

Source: (Belle 2020)

Example: Council of Tampere Region
Authors: Päivi Myllykangas, Tiina Ramsted-Sen and Marko Mäkinen

The Council of Tampere Region's aim is to build a sustainable and lively Tampere region together with our networks. In order to successfully initiate systems change, innovation needs to happen simultaneously and in broad collaboration. The council funds a collection of innovation projects using European Regional Development Funds (ERDF).

The Council of Tampere Region was an active participant in Sitra's innovation portfolio process during the spring of 2020. During the process, we deliberated about how we could enhance the mutual learning between the projects as well as explore possible synergies of new projects while renewing our own current practices. EU-funded projects often follow the project-by-project mentality, where the problem is not usually the lack of good ideas but rather how these ideas might be intertwined effectively. Therefore, the Council of Tampere Region decided to experiment to see what kind of approach would improve the results and support the collaboration between individuals and organisations in the ERDF call for applications in the spring of 2020.

The experiment we chose to carry out focused on assessing a collection of new projects. What kind of information was needed to connect broad missions of change and the more concrete, practical actions that are being implemented within these projects?

The council wanted to provide value to the most central ecosystems of the region (the production industry, the circular economy, the research, development and innovation activities of social and health services), to increase the synergies of the projects and actors as well as to refine our operations as a public investor. That is why the applications were clustered into themes based on the official selection criteria and then evaluated by levels of impact by using the following dimensions: sustainability, systems orientation, and strengthening and reforming competence. These dimensions are part of the regional development programme that defines our mission statement.

As the orchestrator of regional networks, the Council of Tampere Region structures the work of many different entities in order to achieve common goals. To support this, innovation portfolios provided a framework through which we could understand and visualise common grounds and relationships between different elements. The experiment for the ERDF call in the spring 2020 confirmed the value of innovation portfolios in designing the calls for projects, in increasing shared understanding and in enhancing mutual learning and collaboration between projects. Through this experience, the Council of Tampere Region was able to find a more spaghetti-like, promising collection of intertwined projects instead of identifying the single silver bullets.

REMEMBER THIS

Composing a collection of projects with shared intent

Setting out the impact of the collection of projects: Given the challenge that the collection of projects seeks to tackle, explore the means by which the collection intends to make an impact.

Composition, not funnelling: Compose a synergetic collection of projects that can learn from each other and strengthen the whole ecosystem. Seek to avoid innovation funnelling practices because they create competition between those involved.

Balancing autonomy and interdependence: Too much autonomy and interdependence does not help the whole. Seek to find an optimal balance between the two.

Participatory evaluation: Evaluate the insights and impact of the collection of projects together with relevant parties from time to time to help revise the efforts.

Based on our experience, innovation portfolio-based thinking provides value in building a shared understanding of what is happening in the region and finding synergies. In addition, this approach can be applied to the formulation of the regional development programme together with our partners in the region, where the assessments are made, desired directions for the future are outlined and mutual learning takes place.

It is not easy to communicate to others about innovation portfolios. However, it provides concepts, brings an systematic approach to development and creates connections and ways of working together. Furthermore, it challenges people to describe abstract concepts and make them visible, concepts that are often hard to put into practice. Our learning journey with innovation portfolios continues.

4.4 Engaging in sensemaking, generating insights and changing activities

While composing a collection of projects with a shared intent provides prerequisites and frames for mutually enhancing projects, we also need ways in which projects and participants can learn from one another and adjust their practices. Sensemaking, decision-making and changing activities are central practices of innovation portfolios.

The important underlying idea here is the social dimension of intelligence that supports the distribution of information. Sensemaking requires building trust and the notion that in addition to sharing information we need a shared experience of what we are learning. Sensemaking requires time, psychological safety, openness and diversity.

Example: United Nations Development Programme (UNDP)

The United Nations Development Programme (UNDP) has developed a series of workshops around sensemaking, generating insights and changing activities that have been prototyped in different country offices. A central insight from their development work is that workshops can be implemented in many different ways depending on the possibilities and needs in the given context. At a practical level, the shortest version of this series takes three days, each phase of the series being explored daily (Rahwidiati and Quaggiotto 2019). In addition, the UNDP has experimented with a series of workshops distributed over several months with the intention of creating spaces for reflection while doing the work (Rahwidiati 2019).

The first of the daily phases is about sensemaking. Its purpose is to bring people together who are working on different portfolio projects and to share insights from their experiences. Based on the participants' experiences, creating the space needed for sensemaking has enhanced the visibility of their results as well as the collective assets, capabilities and relationships among them. These layers of knowledge are seldom captured in formal project documents. More often, it resides within the minds, memories and lived experiences of people directly working on these activities (Rahwidiati 2019). When these layers of knowledge are made visible, it is possible to find opportunities that bring about and develop systems perspectives across projects.

LIKE THIS

The high-level agenda of the UNDP's three-day sensemaking workshop

• **Day 1:** Sensemaking workshop: set context, make sense of a portfolio of projects, extract and map insights.

• **Day 2:** Process outputs: capture, sort and synthesise workshop outputs. Identify key insights and emergent intelligence.

• **Day 3:** Generate intelligence: draft an intelligence report and an action and socialisation plan.

• **Post-mission:** Intelligence report writing and socialisation.

Source: (Quaggiotto 2020)

The UNDP, EIT Climate-KIC and CHÔRA Foundation all host workshops that are based on similar practices of facilitating sensemaking. They are based on drafting similar reports and generating actionable insights. While the participants in projects share their insights, "harvesters" who don't themselves participate in the discussions are tasked to follow the conversation and document the needs, relationships, partnerships, capabilities and ideas for structural renewal. After a round of explaining the project reports, the observations are examined and reflected upon by the whole group before being summarised as documented insights.

The second phase focuses on synthesising what was learned during the workshop's sensemaking process into documented insights. While conclusions are generally a refined synthesis of what has been learned, insights are more clearly defined documents that can be used as means of creating conclusions. In the context of uncertainty, insights are more essential than conclusions, as they do not need to include an ultimate truth.

There are many kinds of insights and some can be claims and recommendations. What is central to them is that they are crystallised and documented instead of being solely understood within the working group. Insights are the results of collective sensemaking just as hard data might be the result in contexts where achieving ultimate truths is possible.

The third phase is about changing activities. Changes should be based on the insights and should form justifiable collections that support the renewal of activities and potentially even the shared intent. Giving participants the mandate to change activities at all levels based on sensemaking and insights is essential.

REMEMBER THIS

Engaging in sensemaking, generating insights and changing activities

Continuous sensemaking: Promote and take enough time for continuous, experience-based sensemaking that helps people learn from each other and about the whole system.

Encouraging multiple perspectives: Create spaces with enough psychological safety for discussions that are open and encourage diversity to enable different perspectives to emerge. Collect the perspectives and seek to understand their connections together to uncover the needs of the whole collection of projects.

Generating actionable insights: Based on the sensemaking sessions, identify insights that can be collected and combined to further inform new types of activities.

Mandate to change: Give participants the mandate to change activities at all levels based on sensemaking and insights.

5. Challenges and opportunities of the portfolio approach

While innovation portfolios are a relatively new and emerging approach in the field of management, with some great examples out there, there is still work to be done in refining this approach (Belle and Quaggiotto 2020). Together with the Finnish innovation portfolio group, we have recognised some of the key challenges and opportunities connected to this approach.

When we strive for spaghetti-like, deeply intertwined collaboration, we may stumble upon some old habits and structures: siloed goals and the attendant inherent competition that goes with them can contradict the creation of shared impacts. The idea of promoting adaptability as a central tenet of organisations, along with efficiency, may also require some elaboration. To what extent can we add perspectives and adaptability to the portfolio without failing to accomplish the desired goals and apply our resources wisely? In addition, how can we measure adaptability? These questions still require answers.

Budgeting, resource distribution and incentive systems may also need some further reform. If our budgeting practices are based on a set of accounts that are closely tied to the organisational structure, how can we implement budgeting in ways that foster phenomenon-based, adaptive collaboration?

Furthermore, the language and conceptualisation of innovation portfolios is not something we are used to and, therefore, the introduction of the approach may require organisations to develop new ways of understanding what they do and how they operate.

While we are excellent at managing things, we need to enhance the social leadership skills in our organisations. This is a prerequisite in order to utilise processes that have collective sensemaking at their core. Additionally, the approach might require reinventing the role of an expert in ways that emphasise collective sensemaking along with being specialised in a topic. This requires a different kind of frame by which experts should understand their competences.

The shift from traditional project management to innovation portfolios cannot be done lightly. Embodying a systems approach and developing the related competences takes time. An individual's desire and ability to make the change alone is simply not enough. To enhance the capabilities of an organisation to realise the novel ways of working requires conscious, collective effort and clearly designed learning paths.

What kinds of opportunities could the introduction of innovation portfolios offer? We often require a greater shared understanding of what we are doing. Defining a shared mission or meaningful goal can help to identify common ground among those involved. These may help in allocating the resources more effectively when the efforts of single parties do not overlap and gaps in a given challenge's field can be tackled with greater awareness.

A key opportunity to promote the innovation portfolio approach lies in the fact that it is not just a novel theory. The fact that pioneers like the UNDP and EIT Climate-KIC apply this approach as a central part of their operations encourages and provides an example to others.

While the concept of innovation portfolio is admittedly rather difficult, it is practical and appropriate in connecting new practices to existing and popular practices of management, decision-making and funding. At the same time, it is crucial to recognise the fact that portfolios of single organisations cannot necessarily tackle the broad challenges we face. Perhaps portfolios may also be approaches that improve the co-ordination of multifaceted networks and innovation ecosystems in the future?

The thinking behind this approach and its principles can be applied in rapid experiments like the ones we worked on during our series of workshops. However, it is crucial to recognise that building the organisational capabilities to run innovation portfolios takes time. This may require three to five years of commitment from the organisation, network or ecosystem that seeks to become good at all of the practices. Applying the approach to the given context, developing practices, training those involved, the introduction of practices and, particularly, changing the mindset needed takes time. This is why in this memorandum we describe the innovation portfolio in general terms rather than diving deeper into how this approach is applied in practice.

In applying this approach, we recommend starting with the needs and opportunities of today. Along with experimenting, the easiest first step is to facilitate workshops that encourage collective sensemaking that spans all organisations and projects. This practice gained the most traction among the participants of our innovation portfolio group.

Composing a collection of projects with shared intent can be done as part of different selection processes that seek to examine how well a collection of different projects would work together. We implemented two of these kinds of experiments during our series of workshops.

The key, underlying idea of innovation portfolios is that in order to change the world, *we need to change ourselves and the structures we are embedded in.*

Setting out how the whole portfolio seeks to make an impact does not necessarily require large effort. The central element is to bring together a diverse group of participants and support them in making sense of their shared work and connected activities.

That is easier said than done. We can come up with rapid solutions and achieve small, instant victories but the structures that enable the solutions change at a slower pace. If systems transformation is about adapting ourselves and structures, what can we do in order to develop these in relation to one another?

In order to change the structures, we need multi-organisational collaboration in the form of networks and ecosystems. Who is responsible for bringing together the multifaceted groups connected by the challenges and phenomena they face, but who are not used to collaborating? What kinds of capabilities should these ecosystem orchestrators possess? How can we fund the adaptive collaboration of ecosystems and how can we ensure it is financially sustainable? We do not yet know, but what we can say is that we do see an increasing number of opportunities and beginnings for developing the capabilities related to systems leadership with an emphasis on multi-organisational collaboration and adaptability.

Right now is the time to start and from where ever we are. In a complex system no one has significant power, yet everyone is connected to each other. And in shifting these interconnected relationships with intent lies the glimmer of opportunity to affect the future.

Sources

Begovic, M. 2020. *Strategic innovation funding in times of radical uncertainty.* Available at: www.medium.com/@undp.innovation/strategic-innovation-funding-in-times-of-radical-uncertainty-9d28a3a77adf.

Belle, G. 2020. *Dynamic Portfolio Management for System Transformation.* Available at: www.slideshare.net/SitraFund/gina-belle-dynamic-portfolio-management-for-system-transformation.

Belle, G. and Quaggiotto, G. 2020. *Portfolio approaches to tackle complex challenges. Notes on an emerging practice.* Available at: www.medium.com/@undp.ric/portfolio-approaches-to-tackle-complex-challenges-notes-on-an-emerging-practice-135b44ed0507.

Blue Marble Evaluation. *n.d. Transformative Engagement Principle.* Available at: www.bluemarbleeval.org/principles/transformative-engagement-principle.

Bostock, L., Forrester, D., Patrizo, L., Godfrey, T., Zonouzi, M., Antonopoulou, V., Bird, H. and Tinarwo, M. 2017. Scaling and deepening the Reclaiming Social Work model. Available at: www.gov.uk/government/publications/scaling-and-deepening-the-reclaiming-social-work-model.

Burkett, I. 2017. *Evaluating Systems Change. Presentation video.* Available at: www.youtube.com/watch?v=DWfWh67oTIY.

CHÔRA Foundation. 2020. *For Impact: Generate Snowballs, Don't Select Snowflakes! Funnelling vs Layering.* Available at: www.issuu.com/chora.foundation/docs/fvsl_whitepaper_master_april_2020.

Deloitte Insights. 2018. *Developing innovation portfolios for the public sector — Portfolios for public good.* Available at: www2.deloitte.com/content/dam/insights/us/articles/4727_Innovation-portfolios/DI_Innovation-portfolios.pdf.

Dunlop, K. 2019. *Polycentric governance, innovation & EU's role leading a new paradigm. Interview video.* Available at: www.youtube.com/watch?v=Hu-NAw2-B9c.

Dunlop, K. 2020. *Deep Demonstrations. Presentation videos.* Available at: Part 1: www.youtube.com/watch?v=mM5sX-LEedQM; Part 2: www.youtube.com/watch?v=9DDtal3TEVw; Part 3: www.youtube.com/watch?v=mpFDIeRTLII.

EIT Climate-KIC. N.d. Making an Impact. Available at: www.climate-kic.org/who-we-are/making-an-impact/.

EIT Climate-KIC. 2018. Transformation, in Time. EIT Climate-KIC Strategy 2019-2022. Available at: www.climate-kic.org/wp-content/uploads/2018/12/Transformation-in-time.pdf.

EIT Climate-KIC. 2019. *Work with us to achieve net zero, in time. Funding systems change is today's most important innovation.* Available at: www.climate-kic.org/wp-content/uploads/2019/10/191029_EIT_Climate-KIC_FundingNetZero_Double.pdf.

Hofstetter, D. 2019. *Innovating in Complexity (Part II): From Single-Point Solutions to Directional Systems Innovation.* Available at: www.medium.com/in-search-of-leverage/innovating-in-complexity-part-ii-from-single-point-solutions-to-directional-systems-innovation-dfb36fcfe50.

Hofstetter, D. 2020. *Transformation Capital — Systemic investing for sustainability.* Available at: www.medium.com/transformation-capital/transformation-capital-systemic-investing-for-sustainability-693cb1190da.

Mazzucato, M. 2018. *Mission-oriented innovation policies: challenges and opportunities.* Available at: www.academic.oup.com/icc/article/27/5/803/5127692.

Megersa, K. 2019. *Designing and managing innovation portfolios. K4D Helpdesk Report. Brighton, UK: Institute of Development Studies.* Available at: www.gov.uk/dfid-research-outputs/designing-and-managing-innovation-portfolios.

Merchant, N. 2016. *Why isn't work working? In: Kilpi, E. (ed.) 2016. Perspectives on new work. Exploring emerging conceptualizations.* Available at: www.sitra.fi/en/publications/perspectives-new-work/.

Mitchell, T. 2020. *Transformation, in Time. Our journey to a portfolio approach to systems change.* Available at: www.slideshare.net/SitraFund/tom-mitchell-transformation-in-time-our-journey-to-a-portfolio-approach-to-systems-change.

Oprunenco, A. 2020. *The System Shift: Frames, Energies and Experiments.* Available at: www.medium.com/@undp.ric/the-system-shift-frames-energies-and-experiments-f0ada9791efd.

OPSI. 2019. *Public Sector Innovation Facets.* Available at: www.oecd-opsi.org/projects/innovation-facets/.

OPSI. 2020. *A Prototype Tool for Exploring Your Innovation Portfolio.* Available at: www.oecd-opsi.org/prototype-distributed-innovation-portfolio-exploration/.

Quaggiotto, G. 2020. *Accelerating impact of project portfolios. Notes from the frontier of [ir]relevance.* Available at: www.slideshare.net/SitraFund/giulio-quaggiotto-accelerating-impact-of-project-portfolios-notes-from-the-frontier-of-irrelevance.

Rahwidiati, D. 2019. *Working on the engine — using portfolio sensemaking to accelerate learning.* Available at: www.medium.com/@undp.ric/working-on-the-engine-using-portfolio-sensemaking-to-accelerate-learning-b7275accf419.

Rahwidiati, D. and Quaggiotto, G. 2019. *How can we accelerate the effects of portfolios of development projects?* Available at: www.medium.com/@undp.ric/how-can-we-accelerate-the-effects-of-portfolios-of-development-projects-764f7bb36cf8.

Sharpe, B. 2020. *Three Horizons: The Patterning of Hope.*

Viable Cities. *N.d. What is Viable Cities?* Available at: www.en.viablecities.se/om-viable-cities.

Appendix

Summary: Principles for innovation portfolios

Identifying challenges that require systems transformation
— **Transformation:** Promote transformation or change in structures and in those embedded within them. Use achieving transformation as a guiding principle for the scope, directions and timespans of activities and interventions.
— **Systems orientation:** Explore the challenge through systems orientation: identify its symptoms but seek to influence its root causes and leverage points.
— **Futures orientation:** Do not only focus on fixing problems within the frame of the current system but imagine the systems of the future, where the challenge has been overcome, and what the possible steps towards them might be.
— **Adaptation:** It is not possible to define these challenges up front: promote adaptation and collective learning to explore the challenge and how to tackle it.

Setting out how the whole portfolio seeks to make an impact
— **Ecosystem activation:** Impact is made through networks and ecosystems. Seek to engage people from the different sectors and different levels of the society.
— **Shared intent:** Develop a shared understanding of the desired impact and what the intent of the ecosystem is in relation to fostering the impact.
— **Shared purpose:** Instil a shared purpose between those within the ecosystem.
— **Shared means:** Identify and build the ecosystem's shared means and the capabilities that are required to make an impact.

Composing a collection of projects with shared intent
— **Setting out the impact of the collection of projects:** Given the challenge that the collection of projects seeks to tackle, explore the means by which the collection intends to make an impact.
— **Composition, not funnelling:** Compose a synergetic collection of projects that can learn from each other and strengthen the whole ecosystem. Seek to avoid innovation funnelling practices because they create competition between those involved.
— **Balancing autonomy and interdependence:** Too much autonomy and interdependence does not help the whole. Seek to find an optimal balance between the two.
— **Participatory evaluation:** Evaluate the insights and impact of the collection of projects together with relevant parties from time to time to help revise the efforts.

Engaging in sensemaking, generating insights and changing activities

— **Continuous sensemaking:** Promote and take enough time for continuous, experience-based sensemaking that helps people learn from each other and about the whole system.

— **Encouraging multiple perspectives:** Create spaces with enough psychological safety for discussions that are open and encourage diversity to enable different perspectives to emerge. Collect the perspectives and seek to understand their connections together to uncover the needs of the whole collection of projects.

— **Generating actionable insights:** Based on the sensemaking sessions, identify insights that can be collected and combined to further inform new types of activities.

— **Mandate to change:** Give participants the mandate to change activities at all levels based on sensemaking and insights.

Innovation portfolio workshops, spring 2020

We began our work with the Innovation Portfolio Sensemaking and Management workshop in January 2020. Its speakers and facilitators included Chief Strategy Officer **Tom Mitchell** and Lead of Education and Learning **Solveig Zophoniasdottir**, from EIT Climate-KIC, **Giulio Quaggiotto**, Head of the Asia-Pacific Regional Innovation Centre at the UNDP, Director **Gina Belle** from the CHÔRA Foundation, and CEO/Chief Storyteller **Tony Quinlan** from Narrate Ltd (associated to the Cognitive Edge network).

The approach outlined in the memorandum is founded on the cases and experiences of EIT Climate-KIC and UNDP, which both employ practices developed by the CHÔRA Foundation.

A series of workshops for Finnish organisations that followed the January workshop were planned and facilitated by Sitra's **Mervi Porevuo**. In these workshops we explored three sets of innovation portfolio practices:

1. Setting out how the whole portfolio seeks to make an impact
2. Composing a collection of projects with shared intent
3. Engaging in sensemaking, generating insights and changing activities

In addition to these areas we discussed how to identify challenges that require systems transformation and why they require practices that support engaging with them. During the series of workshops we sought to understand innovation portfolios and how we might employ them in different contexts in Finland. We also generated principles that describe the different sets of practices of innovation portfolios. These inputs were used to feed into this memorandum.

27-28 January 2020 – Workshop:
Innovation Portfolio Sensemaking and Management
Materials: https://www.sitra.fi/en/blogs/lab-log-12-innovation-portfolio-sensemaking-and-management-workshop/

25 February 2020 – Workshop:
Composing a collection of projects with shared intent

15 April 2020 – Workshop:
Engaging in sensemaking, generating insights and changing activities

29 April 2020 – Workshop:
**Setting out and visualising how the whole portfolio seeks
to make an impact**

15 May 2020 – Workshop:
Principles for innovation portfolios

Participants of the Finnish innovation portfolio group

Organisation	Name
Biomimita Oy	Niina Kuusanniemi-Abbotts
Capability Oy	Arnaldo Pellini
Cultura foundation	Anna Sidorova
City of Espoo	Katja Hagman
City of Espoo	Päivi Sutinen
City of Helsinki	Mari Männistö
City of Helsinki	Jenni Räsänen
The ITLA Children's Foundation	Marika Tammeaid
Kela, the Social Insurance Institution of Finland	Pekko Iso-Koivisto
Kela, the Social Insurance Institution of Finland	Eeva Jouvenel
Kela, the Social Insurance Institution of Finland	Tuula Soukkanen
Kukunori ry	Markus Raivio
Kukunori ry	Markus Vähälä
Association of Finnish Municipalities	Tuula Jäppinen
Association of Finnish Municipalities	Tiina Rinne
Motiva Oy	Elina Ovaskainen
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Finnish National Agency for Education	Ulla Teräs
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Council of Tampere Region	Marko Mäkinen
Council of Tampere Region	Tiina Ramsted-Sen
Sitra	Timo Hämäläinen
Sitra	Kalle Nieminen
Sitra	Riina Pulkkinen
UNTIL Finland	Marketta Gland
UNTIL Finland	Tiina Neuvonen
Finnish Tax Administration	Johanna Kotipelto
Finnish Tax Administration	Jukka Kyhäräinen
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Finnish Ministry of the Environment	Virve Hokkanen

Working group

Mikael Seppälä, the writer of this memorandum, is a Specialist in the Sitra Lab team. He is an Innovation Management and Systems Thinking professional who follows and participates in international communities and discussions at the edge of the systems change field.

Mervi Porevuo is a Senior Lead responsible for the Leadership Training for Sustainable Economic Policy and the alumni activities of Sitra's Societal Training . Mervi was the process planner and facilitator of the series of workshops that generated many of the ideas behind this memorandum.

We wish to thank our international partners and the participants of our Finnish innovation portfolio group for sharing the thoughts and experiences that form the foundations of this memorandum.