



INNOVATION
FACETS



Public Sector Innovation Facets

INNOVATION PORTFOLIOS

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OPSI



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The Observatory of Public Sector Innovation collects and analyses examples and shared experiences of public sector innovation to provide practical advice to countries on how to make innovation work.

This report contains a summary of research and insights from practice on innovation portfolios. A more extensive version of this brief including detailed discussion and case studies appears as a chapter in a forthcoming OECD report.

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SUMMARY

- Innovation portfolio management is an emerging topic in the public sector that serves to systematically steer different types of innovation within organisations as well as in wider ecosystems.
- Innovation portfolio management is a dynamic sense-making and decision-making process which involves regular reviews of ongoing innovation activities and ensures coherent resource distribution between activities. Its primary purpose is to systemically align activities into overall missions and purposes as well as create distinctions and dedicated support structures for different types of innovative activity, such as exploitative and explorative activities in organisations.
- Benefits of innovation portfolio management include: avoiding innovation fragmentation, projectification and single-point solutionism, tackling risk aversion and learning on the portfolio level, identifying synergies between projects and activities, building value chains among projects and programmes, and developing layered activities connected to big reforms, including planning across ecosystems and regular checks to avoid lock-in.
- Successful public sector innovation portfolio management is key to tackling wicked problems (green transition, aging, etc.) that require ecosystem-wide action, and anticipating and adapting to change on the go.
- The general functions of innovation portfolio management relate to knowledge creation and sense-making, mapping portfolio activities and identifying possible synergies, ensuring agility across different activities, facilitating risk assessment across the portfolio, measuring and evaluating the innovation process, and ensuring effective activity co-ordination across the portfolio.
- Managing different types of innovations (e.g. mission-oriented, adaptive, enhancement-oriented, anticipatory) depends on effective portfolio management approaches and capacity in the public sector. Different types of innovation have different driving forces. Without structured and conscious support across the portfolio, public sector organisational practices may unbalance innovation efforts and result in bias toward the underlying status quo drivers.
- While private sector-based tools and methods for innovation portfolio management exist, they tend to concentrate on financial returns, projects, single organisations or have shorter timelines. Hence, they tend to be unsuitable for the public sector context, where cost-efficiency is only one outcome among many public values that innovation has to serve, where impacts are often co-created with external ecosystem partners, and where the timelines for impacts (especially in relation to wicked problems) are much longer than in the private sector.
- Leading public sector organisations are experimenting with innovation portfolio methods, but further work on tools and methods is needed to update innovation portfolio management in the public sector.

INTRODUCTION

The social, economic and ecological challenges that confront societies today require novel public sector solutions. As governments explore how to change the very foundations of governance and democracy to meet the needs of the 21st century environment, innovation is becoming an imperative to stay ahead of the curve. Governments are increasingly aware of the need to mitigate and leverage the high rate of societal and technological change, but they are still ill-equipped to innovate on a consistent basis and to anticipate signals from the external environment before they become realities.

Addressing this situation requires an overview of different government actions and knowledge of the types of innovation in which the public sector is investing. Fragmented and unsystematised approaches to public sector innovation are no longer adequate. Accordingly, many organisations are now experimenting with portfolio approaches to innovation management. This involves looking not only at the risks and investments connected with innovation, but also their influence on public values and broader ecosystem-wide effects. Such approaches and associated practices are far from fully developed, but offer a way out of the increasing “projectification” of innovation activities, that is, a focus on isolated, time-bound, single-point solutions and efforts. Portfolio approaches aim to identify potential synergies among innovation activities in public sector organisations, ecosystems and also across different levels of government (e.g. connected to specific missions such as climate change).

OECD has recently invested in a portfolio approach based on the Public Sector Innovation Facets model. This model provides an easy way to consider innovative approaches and instruments that governments could use to respond to emerging challenges in a timely manner. The model focuses on questions such as: What types of public sector innovation exist? How are innovative ideas generated in the public sector? Which methods are used to support investment in innovative projects? What capacity and resources are required for public sector innovation? The model takes a strategic approach to innovation in the public sector connecting the underlying purpose to concrete actionable issues (more information on this subject is available in the forthcoming report and the other accompanying policy briefs on four innovation “facets”: enhancement-oriented innovation, adaptive innovation, mission-oriented innovation and anticipatory innovation).

1

Enhancement-oriented innovation upgrades practices, achieves efficiencies and better results, and builds on existing structures (e.g. through digitalising services and better process management). An example of this type of innovation is the use of behavioural insights to improve the compliance rate with one-time payments.

2

Adaptive innovation tests and tries new approaches in order to respond to a changing operating environment (e.g. co-designing new community responses to emerging challenges such as the COVID-19 pandemic). Governments adopting social media as a channel for citizen interaction is an instance of adaptive innovation.

3

Mission-oriented innovation establishes a clear outcome and an overarching objective for achieving a specific mission (e.g. setting clear goals and roadmaps towards carbon neutrality). As an example, setting an objective to dramatically reduce greenhouse emissions within a decade is a mission-oriented approach to innovation.

4

Anticipatory innovation explores and engages with emergent issues that might shape future priorities and future commitments (e.g. conducting experiments to explore the future of work). An example of anticipatory innovation is the use of a sandbox to explore the impact of Artificial Intelligence on service delivery in health.

This brief focuses not only on the OECD's approach to innovation portfolios, but also on the broader role of innovation portfolios in the public sector. To understand key trends in the emerging field of innovation portfolios, the Observatory of Public Sector Innovation (OPSI) conducted research and invited public servants to share their experiences and examples of innovation portfolios in the public sector. Insights are provided on the following key themes: what are innovation portfolios, why are they needed in the public sector, lessons from the private sector, main functions of portfolio managements, tools and methods, and key takeaways. A more extensive version of this brief, including detailed discussion and case studies, appears as a chapter ("Innovation Portfolios") in the forthcoming OECD report. The present Public Sector Innovation Facets brief is intended as a summary for policy makers and practitioners.

WHAT ARE PORTFOLIO APPROACHES AND WHY ARE THEY NEEDED IN THE PUBLIC SECTOR?

Innovation is an uncertain investment. There is no guarantee that any single innovation activity will deliver impact, can be implemented in a predictable way, or will avoid unintended or unanticipated consequences. In an uncertain world, overreliance by public sector organisations on a single strategy may result in a precarious situation, as a change in circumstances (e.g. a crisis or disruption) may transform a promising or dependable approach into one that is unreliable or unsuitable. Furthermore, larger reforms and goals cannot be achieved by single initiatives or programmes; often they require concerted innovation across different organisations both within and outside the public sector. Having an overview of these activities across the portfolio of interventions is necessary to build clarity around intent of innovation among an ecosystem of actors.

What is innovation portfolio management?

Portfolio management is a dynamic decision-making process which involves regular reviews of ongoing innovation activities and ensures coherent resource distribution (investment, time, human resources, etc.) between activities¹ (see Box 1). A portfolio approach to innovation – managing multiple activities, support structures, and investments – is a way to spread risk, with numerous investments helping to mitigate the chance of loss (if one investment fails, others might still succeed). It is also a way to identify and analyse synergies between actions, evaluate results beyond single interventions and avoid innovation lock-in to ineffective or unsuitable strategies.

Box 1. What does portfolio management involve?

Innovation portfolio management involves a variety of practices that seek to detect, assess and develop new opportunities by effectively managing resources across selected projects, programmes or other interventions. Innovation portfolios include the following aspects:

- **Portfolio logic and perspective** – provides a strategic focus on a plurality of overall activities by connecting short-term actions to long-term goals, rather than focusing on individual projects.
- **Responsibilities distribution** – identifies accountable areas for overall innovation portfolio management and its different components.
- **Knowledge co-ordination** – adequate subject expertise is essential as is the ability to integrate, synthesise, and translate knowledge between disciplines. This also includes outreach to other partners and incorporating knowledge external to the organisation.
- **Tailored to project investments** – different types of innovation efforts may require different types of funding. Most small-scale projects do not require heavy investment, while transformational efforts may need consistent and extensive funding.
- **Co-ordination of innovation activities** – provides an overview of the innovation lifecycle including identification challenges, and evaluation of expected impacts and costs. It also establishes stage-gate (gatekeeping) controls to ensure continuity of the process and effective resource optimisation.
- **Holistic view of innovation efforts** – helps develop a shared vision of current innovation activities and find common understanding and systemic linkages across the entire innovation portfolio.

Source: Holden et al. (2018); Nagji and Tuff (2012); Meifort (2015); Cooper et al. (1997).

¹ Cooper, R.G., S.J. Edgett and E.J. Kleinschmidt, (1997), "Portfolio management in new product development: Lessons from the Leaders-I", *Research Technology Management*, Vol. 40, pp. 16-28.

In the public sector context, investing in a number of innovations (impactful projects or initiatives novel to the context), and focusing on activities that draw on different types of innovation, can increase the chances of achieving a desired or intentional result. Of course, investing in various innovations potentially connected to the same issue may increase costs and result in redundancy, but when viewed from a portfolio perspective, these additional costs appear as investments, rather than one-off bets with no guarantee of success. Some innovations are more likely to pay off, while others may be opportunities for learning. What matters is success at the portfolio level, which implies that riskier and learning-friendly innovation environments can also be supported. From a strategic perspective, a well-co-ordinated portfolio of projects is a better bet than a single, all-or-nothing project, especially if the operating environment is uncertain and public sector organisations cannot be confident about where (or when) an innovative response is needed. This approach can also help avoid a longstanding problem in the public sector around innovation – that projects become too big to fail, with continued investments made on the assumption that they will lead to success due to lack of alternatives.

In response to these pressures and challenges, leading public sector organisations across OECD countries and beyond have been experimenting with portfolio approaches to innovation. Portfolio approaches can help maintaining distinct and simultaneous activities and supports for current operations (exploitation) and engaging with new opportunities (exploration).² Ensuring some distinction as well as equilibrium between those activities allows an organisation to be more flexible, adaptable and responsive to disruptive contexts. As a consequence, in order to effectively set an overall direction for innovation, it is necessary to have a systematic view of innovation efforts and an ability to steer those efforts on a portfolio level. A portfolio approach is therefore a way to moderate the stream of different types of innovations within a system.³

Nevertheless, there is a wide diversity of perceptions and practices of innovation portfolios within public sector organisations as many approaches are still at an early stage of development.

Benefits of an innovation portfolio approach

Portfolio approaches to innovation management arise mostly from reflections by practitioners on emerging needs. For example, Sitra (2021) in Finland has adopted innovation portfolio approaches in response to the realisation that previous innovation management approaches were short-sighted, fragmented and ineffective (see Box 2). Meanwhile, Climate KIC, an organisation supported in part by the European Institute of Innovation and Technology (EIT) and focused on climate innovation to mitigate and adapt to climate change, has acquired a new understanding of the strategic role of the public sector to direct innovation (see Box 4). At the global level, UNDP is pioneering portfolio approaches to co-ordinate complex international and local, public sector and third sector stakeholder landscapes.

² This aptitude has been associated with the notion of ambidexterity – a dynamic capability that organisations need in the face of complex and uncertain scenarios. See: Andriopoulos, C. and M.W. Lewis, (2009), “Exploitation-exploration tensions and organizational ambidexterity: Managing paradoxes of innovation”, *Organization Science*, Vol. 20/4, pp. 696-717. Also see: Koryak, O. et al. (2018), “Disentangling the antecedents of ambidexterity: Exploration and exploitation”, *Research Policy*, Vol. 47/2, pp. 413-427.

³ Popadić, M., D. Pucko and M. Cerne (2016), “Exploratory innovation, exploitative innovation and innovation performance: The moderating role of alliance portfolio partner diversity”, *Economic and Business Review*, Vol. 18/3, pp. 293-318. DOI:10.15458/85451.26.

Box 2. Relational sense-making in Finland

Sitra is Finland's public innovation fund. It operates both as a think tank and as an investment company. It employs approximately 180 people and works on diverse topics such as climate change, data, democracy and the circular economy. Sitra has adopted an innovation portfolio approach to systematise and develop their capacities for renewal. Portfolio management provides a framework in which experimentation of individual projects can be carried out within a wider framework of multiple experiments. Sitra's portfolios include a list of strategic goals and user interviews which aim to understand the broader context and relevance of the innovation projects. These goals and interviews help to highlight the main "pain points" and, thus, the most desired outcomes from innovation work. At their core, the portfolios map all ongoing projects in the relevant area, establishing links with the overall strategic goals they support. Portfolio approaches also enable "relational sense-making" – the idea that understanding of an innovation ecosystem depends on knowledge spread among different individuals. By joining together they create a greater, shared understanding that would be otherwise unattainable in isolation.

Source: OECD interview (2021).

The main benefits of innovation portfolios are as follows:

1

Avoiding fragmentation and projectification. A project-centric view of innovation can be problematic, and public sector organisations have been found to struggle with "projectification" – the linear division of policy problems into smaller, manageable, time-bound actions without a general overview of their collective impact.⁴ When innovation activities need to fit into neat project formats, in isolation, this influences the types of problems considered suitable for innovation. For instance, pre-determined time frames may imply that the main target of innovation is not to uncover the most effective or creative solutions, but rather to complete projects that could be made to work within the given time span.⁵

2

Tackling risk aversion and learning on the portfolio level. Innovation portfolio management can provide an overview of a wide range of projects that facilitate resource dissemination and increase the tolerance for risk and investment in organisations. This involves the ability to distribute risk among multiple investments while simultaneously developing new intelligence and skills to swiftly move in the unknown. As such, failure and risk, which are a natural part of innovation, become more tolerable when viewed at a portfolio level.

⁴ Hodgson, D. et al. (2019), *The Projectification of the Public Sector*, Routledge, Abingdon, UK Routledge. Also Midler, C. (1995), "Projectification" of the firm: The Renault case", *Scandinavian Journal of Management*, Vol. 11/4, pp. 363-375.

⁵ Hodgson, D. et al. (2019).

3

Finding synergies between projects and activities. Portfolios do not perform in isolation, rather they form part of a broader organisational or systemic context. Portfolio approaches to innovation can highlight the breadth of available resources and actors engaged in innovation (not only in the public sector but also in the private and third sectors), in order to reallocate them in accordance with broader public values. A benefit of the portfolio approach is the setting of a clear objective and priority-setting of available resources, even if the innovation activities themselves are unclear (e.g. using part of the innovation portfolio to stress-test current policies and services or responding to a rapidly developing technological context or user needs).⁶

4

Building value chains between different project areas. The processes associated with portfolio management bring operational clarity and better understanding of the entire innovation value chain (allowing practitioners to evaluate the potential for scaling up innovations). They can also mobilise complementary partner relationships and different sources of knowledge and resources⁷ to help innovation activities advance from exploration to exploitation.

5

Keeping tabs on layered activities connected to big reforms. Innovation portfolios can be analysed at the team/unit, organisational and wider ecosystem level both in terms of innovation activities and the desired strategic impacts. The types of the impact being pursued by public sector innovation determine the level at which the innovation activity should be analysed. Portfolio approaches provide ways to co-ordinate, measure and align innovation at multiple levels towards a shared purpose or overall strategy.

6

Planning across ecosystems. Innovation portfolios offer a holistic view of innovation efforts and analyse the systemic ability to engage in solution-based design to address complex problems. In many cases, complex problems span several sectors and necessitate the alignment of innovation activities across ecosystems including, among others, innovation in basic research and local action to achieve the climate transition (see the portfolio approach adopted by Viable Cities in Box 3). In multi-project environments, performance should be considered in a joint manner, rather than distinguishing between projects, programmes and portfolio.⁸

⁶ Fricke, S.E. and A. Shenhar (2000), "Managing multiple engineering projects in a manufacturing support environment", *IEEE T. Engineering Management*, Vol. 47/2, pp. 258-268.

⁷ Cui, A.S. and G. O'Connor (2012), "Alliance portfolio resource diversity and firm innovation", *Journal of Marketing*, Vol. 76/4, pp. 24-43, doi:10.1509/jm.11.0130.

⁸ Müller, R., M. Martinsuo and T. Blomquist (2008), "Project portfolio control and portfolio management performance in different contexts", *Project Management Journal*, Vol. 39/3, pp. 28-42. doi:10.1002/pmj.20053.

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Avoiding lock-in and capture by innovation fads and fashions. Due to the complex nature of wicked problems, innovations linked to these challenges must be open-ended and interconnected, and avoid pre-determined rigid logic models and pathways to solutions.⁹

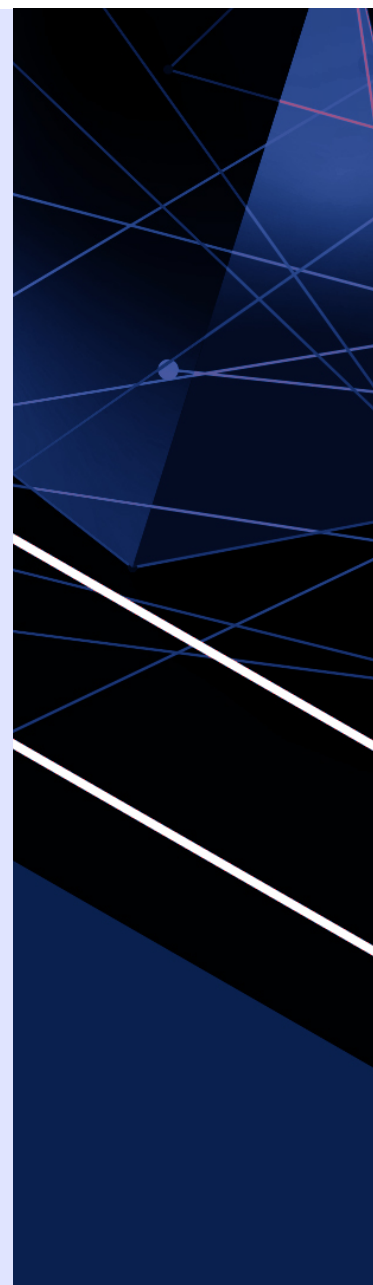
Box 3. Managing the climate transition through a portfolio approach – Viable Cities, Sweden

Viable Cities is a strategic innovation programme hosted by the Royal Institute of Technology (KTH) and closely aligned with other Swedish innovation agencies, such as Vinnova and the Swedish energy agency. Their funding amounts to EUR 100 million over a 12-year period (2017-2030) and is to a large extent dedicated to grants. The programme is focused on making cities climate-friendly and sustainable.

Viable Cities adopted a portfolio approach in conjunction with a mission-oriented innovation framework to achieve a systems view of the climate transition. The portfolio approach helps to counter siloed and fragmented efforts that do not contribute sufficiently to climate transition. The programme identified a “projectification” mindset – dividing problems into discrete linear problems and setting up individual projects to tackle them – as a key obstacle to successful innovation work. For this reason, portfolios are not conceptualised as a list of projects; instead, they include everything seen as relevant to the mission, including challenges, needs, barriers or future options. Further aspects may include investment plans, learning and people.

The innovation portfolio approach encourages member cities and external partners to co-develop a portfolio strategy together. It is hoped that portfolios with an “open interface towards other portfolios” will create a common language and framework and thus facilitate discussions and exchange of ideas. The portfolio of Viable Cities in this way may become compatible with those of other similar organisations. Aside from being an internal tool for organisational capacity-building, the portfolio is therefore a way to align with other, similarly minded agencies working on similar projects. However, ensuring compatibility among portfolios requires understanding the different international, national and municipal institutional levels at which they operate. Viable Cities focuses on city-level innovations where concrete implementation measures are taken.

Source: OECD interview (2021).



⁹ Rittel, H.W.J. and M.M. Webber. (1973), “Dilemmas in a general theory of planning”, *Policy Science*, Vol. 4, pp. 155-169, doi.org/10.1007/BF01405730.

WHICH LESSONS CAN BE APPLIED FROM THE PRIVATE SECTOR AND WHICH CANNOT?

Portfolio management methods were first applied in the financial sector with a view to steering investment decision-making. In the private sector, assessing alternatives in portfolios is commonly associated with evaluating investment options.¹⁰ Portfolios in this context usually deal with resource allocation trade-offs, conflicts in organisational routines between exploitative and explorative activities, bound risks and more uncertain investments. This suits the corporate context where often day-to-day processes are optimised and follow a clear line from problem analysis through to strategy formulation and execution. Hence, private sector innovation portfolios are often associated with the *innovation funnel model*, the *innovation ambition matrix model*, the *options portfolio model* and the *project impact feasibility model* – all of which aim to help organisations make innovation investment decisions based on variety of criteria. These may include, among others, uncertainty, risk, feasibility, impact (e.g. variety across different markets, technologies, product categories and project types), and temporality (long-term projects versus short term investments). Usually, the end goal is to maximise the monetary value of the portfolio as a whole, achieve a balance of projects across the aforementioned criteria and ensure that the innovation portfolio reflects the strategy of the business. These models, however, tend to bias the portfolio towards investment and financial value logic. In addition, focusing solely on cost- and project-based models means that in large organisations exploitation activities tend to be favoured over exploration. Consequently, many of these models have been critiqued due their biases and blind spots.

In the public sector, not all innovation efforts are driven by financial returns and have a single organisational competitive advantage perspective. Public sector success criteria are varied and frequently qualitative in nature, while innovation impacts have longer time spans than in the private sector. Hence, some of the above-described functions and models may not be applicable in the public sector. Current private sector portfolio management models lack the ability to measure and steer towards other value propositions (non-monetary values) and also fail to consider the ecosystem as a whole, engagement with which is often essential to generate public value shifts. Innovation portfolio functions in the public sector therefore need to be broader.



¹⁰ Nagji, B. & G. Tuff (2012), "Managing your Innovation Portfolio", *Harvard Business Review*, pp. 66-74, www2.deloitte.com/content/dam/Deloitte/us/Documents/strategy/us-managing-your-innovation-portfolio-07102013.pdf.

FUNCTIONS OF PORTFOLIO MANAGEMENT

What functions does good innovation portfolio management involve?

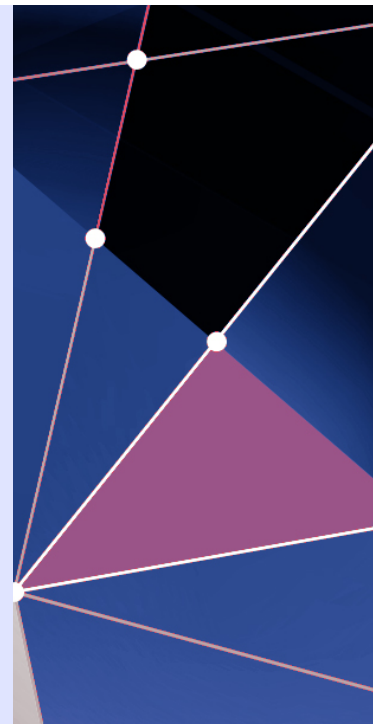
1. CREATE NEW KNOWLEDGE AND SPACE FOR SENSE-MAKING

Spreading organisational assets across a diverse spectrum of activities will enable the development of mechanisms to create intelligence through practice and collaboration. On the one hand, expanding innovation activity across a broad set of projects will widen the organisational or systems perspective. On the other hand, it will provide a better overview and understanding of the current portfolio and create space for sense-making (see Box 4 on Climate KIC's efforts to make sense of climate activities in Europe). In this context, sense-making refers to the ability to identify innovation needs, problem owners and current initiatives.

Box 4. Climate KIC

Climate KIC is a Knowledge and Innovation Community (KIC) co-funded by the European Union to identify and support types of innovation specifically designed to mitigate and adapt to climate change. Climate KIC is also involved with the "Transition Cities" project through which eight European cities have formed thematic clusters around the topics of energy networks, mobility and buildings. The key motivation for the use of an innovation portfolio approach in Climate KIC was the need to understand, map and visualise the activities of the innovation system. The main elements in this exercise were governance structure, and the skills and types of activities in the cities. A mapping exercise and the formulation of a portfolio served as the starting point for discussing and creating alignment around a common vision. The need for such a common vision is especially relevant in a context where various organisations respond to the need of different funding calls, and creates an opportunity to develop an action plan. In this case, a portfolio overview enabled project managers to adopt an ecosystems perspective when conceptualising problems and possible strategies for action.

Source: OECD interview (2021).



2. MAP INNOVATION PORTFOLIOS TO CREATE A HOLISTIC VIEW

Innovation portfolios present innovation assets and activities from different perspectives and enable organisations or systems to swiftly shift resources such as investments, talent and leadership to more promising opportunities in quickly changing contexts (see the example of innovation mapping in the provincial council of Gipuzkoa in Box 5). This requires innovation portfolio managers to monitor and map innovation activities, so that decision-making processes can be made holistically. Portfolios allow decision-makers to rapidly optimise resources across projects and tailor them in accordance with new contexts or changes in the operating environment. Innovation portfolios

reveal different alternatives while making sense of current actions, initiating social dialogue and rethinking shared purposes while allocating resources.¹¹

Box 5. Innovation mapping in the province of Gipuzkoa, Spain

The provincial council of Gipuzkoa initiated the Building the Future programme in 2015 with the ambition of working collectively to detect and address future challenges facing the province. The programme is built on an open and collaborative governance model with structures for understanding needs and ideas, proposing and initiating experimental projects, and learning from and scaling up results. It adopts an innovation portfolio approach with the aim of identifying connections and trying to align and gain synergies between co-creation activities. In 2019, the provincial council began work to support and further develop a collaborative governance approach for the programme, focusing on developing participatory processes of understanding and interpreting, co-creating and scaling, and continuous learning and development for systemic transformation. These efforts were further catalysed by the Climate KIC's selection of Gipuzkoa as one of eight Deep Demonstration projects, which provide a standard process and support for system innovation. The initial phase of this work included clarifying intent with challenge owners, undertaking a system mapping (of existing initiatives and connections between them), and performing an analysis of the innovation portfolio. This approach provides a better understanding of the actors working in different areas of the programme, builds a common language for the community of actors, and helps to identify innovation needs and intervention points for change. Initial anchoring work (with political leadership and other challenge owners) to establish a collective strategic intent and understanding of the system, will provide a base for further work on managing and catalysing change through innovation.

Source: OECD interview (2021).



3. CREATE A DIVERSE SUPPLY OF INNOVATION

Innovation often involves risk and uncertainty. In the public sector, short-term financial, reputational, or programmatic risks play a dominant role in shaping innovation portfolios. An understated risk is the inability to adapt or lead when faced with a threat to a public sector organisation's mission, remit, or purpose. To develop a risk readiness in the portfolio, organisations and systems must create a diverse supply and sufficient allocation of budget, technology, human resources and knowledge across different innovation activities (see Box 6 on Lund's approach to portfolio management). Reducing some risks is possible through optimal activity allocation across different activities as well as redundancy of different innovation activities supportive of a similar outcome. This approach develops higher adaptability to changing contexts and diversification of

¹¹c Chôra Foundation (2021), "The Future of Development: "Make Happen" with Portfolios of Options", Chôra Foundation.

organisational activities and expertise. This diversity and adaptability creates options that can be called upon in response to contextual shifts in the short and long term. Hence, a key portfolio activity is to create sufficient supply of innovation to support both long-term and short-term investment needs as well as adequate investment in diverse innovation activities overall.

Box 6. Resource allocation across Lund's innovation portfolio, Sweden

Future by Lund (FBL) is an innovation platform for the Swedish municipality of Lund. As part of its role, FBL aims to implement new governance mechanisms to support stakeholder dialogue about collective assets, activities and strengths of the innovation ecosystem in Lund. FBL plans to introduce clearer processes to identify common problems or opportunities for collective action across different focus areas in the system. It will also address the curation and strategic development of a portfolio of innovation activities across multiple organisations, actor groups and thematic boundaries over time. As a first step, FBL is undertaking a mapping of innovation assets and collaborative innovation activities (leveraging OPSI's innovation facets model, among others). With this as a base, FBL will facilitate strategic dialogue between various stakeholders focused on setting a collective direction and identifying possibilities to align efforts and resources or initiate new activities. Over the past seven years, FBL has developed its role through work on longer-term and more future-oriented development activities (i.e. anticipatory innovation), co-ordinating and actively facilitating collaborative action in areas where multiple organisations see potential but resources are thin and collaboration is essential for progress. Structured processes of "innovation portfolio management" will be increasingly important to reveal and provide evidence of the ripple effects as well as provide continued legitimacy for this role.

Source: OECD interview (2021).

4. MEASURE AND EVALUATE THE STATUS OF THE INNOVATION PROCESS

It is important to evaluate the success of innovation portfolio implementation, taking into consideration the type of innovation, the expected accomplishments, and lessons learnt. The measurement and evaluation of individual innovation projects is distinct from that of innovation portfolio management as a whole. The stage-gate process is a mechanism to control and evolve innovation efforts from rough ideas through to implementation. Stage-gated processes can be used to evaluate innovation projects and activities at regular intervals to ensure they still fit the new context and are aligned with the organisational purpose.¹² The evaluation process will ensure effective resource management and establish internal or external performance benchmarks to assess project performance. Subsequent reflection on the results will then help create new

¹² Holden, A. et al. (2018), "Developing innovation portfolios for the public sector", Deloitte, www2.deloitte.com/content/dam/insights/us/articles/4727_Innovation-portfolios/DI_Innovation-portfolios.pdf.

Box 7. Portfolio learning in Chicago, United States

The Office of Innovation forms part of the city of Chicago and has been assigned the role of a “fixer” when problems arise in departmental innovation processes. The impetus for using innovation portfolios stemmed from the realisation that innovation teams themselves did not possess a mandate to innovate, largely because public sector innovation was not perceived as either possible or legitimate. The Office of Innovation was created to centralise innovation assistance and to introduce relevant performance metrics. A second motivation for the creation of the group was to enable greater continuity of projects in the city by fostering institutional memory and continuity, regardless of changes in the political administration. To this end, the Office of Innovation has created a database of innovation projects, which tracks ideas, progress and failures, and provides a systemic overview of innovation progress. This approach has also encouraged a culture of learning and understanding failures as a normal aspect of innovation work.

Source: OECD interview (2021).



knowledge and inform future directions of future projects. However, measurement and evaluation of the portfolio as a whole requires a different approach. Innovation portfolio managers, who may be responsible for analysis, decision-making, or both, should measure and evaluate whether the portfolio is “performing,” or delivering impact against the organisation’s remit, purpose, or mission. While this is notoriously difficult to track, measure, and evaluate, innovation portfolio managers should develop mechanisms to address a few key questions:

1. is the portfolio of innovation aligning activities and projects with the overall organisational purpose or mission?
2. is the portfolio creating and maintaining distinct and suitable strategies for managing different types of innovation activity?
3. are new linkages across innovation activities being made and is learning happening between them?
4. are innovation activities in the portfolio shifting based on identified gaps, changed operating environments, or new opportunities or threats? Finally, as a meta-evaluation question, innovation portfolio managers should consider whether portfolio analysis is sufficiently connected with decision-making about how resources are allocated to innovation activities.



5. ENSURE EFFICIENT PROJECT CO-ORDINATION AND PORTFOLIO STEWARDSHIP

Whereas innovation might arise from different units in an organisation or actors in a system, it is essential to maintain the interconnections between activities while balancing approaches derived from different decision makers – all the while considering them as pieces of a broad strategy or mission. The success of the portfolio stewardship role is evident in the successful interpretation and alignment of the strategic actions of the organisation and the balancing of conflicting interests within the organisation.¹³ Innovation portfolios are thus a fundamental part of the decision-making process, especially for large co-ordinated efforts (see the example of the city of Helsingborg in Box 8). Consequently, a dynamic decision-making process is an important part of the portfolio approach, and involves regular reviews of ongoing projects in the portfolio, ensuring suitable resource distribution between each project or activity along with contributing to organisational learning and institutional memory of what works in which contexts and why (see Box 7 for an example). Other stewardship functions include setting clear objectives for different parts of the portfolio, owning decisions, facilitating learning across activities and with internal and external organisational actors, identifying systemic patterns and windows of opportunity, and establishing priorities regarding available resources. These all contribute to efficient co-ordination while ensuring portfolio stewardship based on the organisation's strategic aims.

Box 8. Innovation co-ordination in the city of Helsingborg, Sweden

Helsingborg is a city in Sweden with a population of approximately 110 000 inhabitants. In 2019, Helsingborg launched H22, a city-wide innovation initiative to develop solutions for a better quality of life for all residents. The administrative structure of the city of Helsingborg consists of nine departments with approximately 12 000 employees. Innovation is the responsibility of the individual departments. As a result, primary importance is given to co-ordinating these various efforts and creating a common framework for cross-departmental work. This is the central reason for adopting innovation portfolios. Helsingborg strives to include diverse types of innovation in its portfolio. This includes idea-driven innovation: the city has identified 17 challenges to encourage mission-driven innovation. Meanwhile, possibility-driven innovation focuses on the unknown potential of certain new technologies such as blockchain or Artificial Intelligence. Weekly cross-departmental meetings co-ordinate initiatives across different departments, and Helsingborg uses external websites, the intranet and other channels to disseminate information transparently and encourage participation among large segments of society.

Source: OECD interview (2021).



¹³ Müller, R., M. Martinsuo and T. Blomquist (2008), "Project portfolio control and portfolio management performance in different contexts", *Project Management Journal*, Vol. 39/3, pp. 28-42, doi: 10.1002/pmj.20053.

TOOLS AND METHODS

Based on the functions of innovation portfolios, portfolio practices in the public sector can be supported through tools that are designed to illustrate the distribution of resources and activities, promote a better understanding of portfolio activities, and oversee complex innovation systems. However, in practice there is a notable lack of mature tools for developing innovation portfolios in the public sector (across the different portfolio functions mentioned above). In particular, evaluation, measurement and benchmarking tools are needed. At present, tools tailored to risk management, resource allocation and understanding the underlying ecosystems connected to innovation portfolios are being trialled in the public sector following their usage in the private sector.

Risk balance and resource allocation

One of the core functions of innovation portfolios is to identify, create, and sustain different types of innovation activities for different purposes, such as for exploitation and exploration. One example of such an environment is the US government 10X agency, which funds innovation exploration activities and uses stage-gating funding to learn and assess exploitative potential over time (see Box 9) and invest resources accordingly. As a result, projects and activities that are eventually funded at highest levels have a lower risk of failing to implementation since early warning signals or insurmountable barriers were resolved during earlier stage-gates.

Box 9. Investing in public sector innovation portfolios – 10X

10X investments is a US-based government organisation that works to drive innovation projects in the public sector. 10X has developed a unique portfolio approach to managing the process of selecting, developing and scaling innovation investments. Its biannual call for ideas invites all federal US government employees to note down in a few sentences the problem they are attempting to solve. This low-barrier approach draws on knowledge from employees and can circumvent chains of command that may complicate the communication of insights. 10X then applies specific criteria to select projects based on these submissions: the organisation aims for moonshots and transformational ideas, but also makes its selection based on feasibility (e.g. whether the ideas require more seed funding than 10X investment can supply). 10X accepts that failure is a normal and essential part of innovation, and should be seen as normal and beneficial, as long as it occurs fast and some kind of progress or learning is achieved. Otherwise, even promising projects may be shut down early on.

Selected projects move through three phases. In phase one (“investigation”), 10X conducts initial research to understand the problem space. Phase two narrows the selection of projects by applying stricter criteria and asking what problem needs to be solved and what the solution involves building. This phase requires heavier research and development, and requires a grasp of the current state of the field, the contextual fit, the timelines involved, regulatory issues and how the innovation might scale. In phase three, the project team must make a case to 10X investments for further funding. This stage involves rigorous scrutiny and accounts for the

highest deselection of projects. At this stage, 10X requests a prototype or solution uncovered in the previous phase. 10X team works with a portfolio of projects each round and allocates resources in order to balance the need to create safe-to-fail spaces for exploration and learning along with lower risk resource allocation to solutions that are most likely to scale.

Source: OECD interview (2021).

Developing a better understanding of current portfolio activities

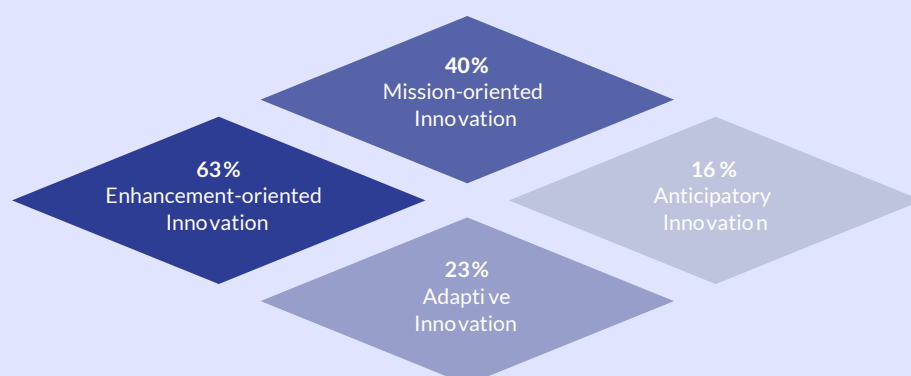
One tool that supports decision making at a portfolio level is the Portfolio Exploration Tool (PET) developed by the OECD Observatory of Public Sector Innovation (see Box 10). The PET is based on the Public Sector Innovation Facets model, which differentiates between four types of innovation activities. The PET allows for self-assessment of capacities and innovation types of an organisation or ecosystem. The results provide an overview of innovation patterns and can help teams or systems develop a more intentional portfolio-wide innovation strategy.

Box 10. Portfolio Exploration Tool (PET)

The Portfolio Exploration Tool (PET) developed by the OECD Observatory of Public Sector, and funded by the European Union's Horizon 2020 programme, is a self-guided digital tool. It is designed to map the innovation activities and the capabilities of an organisation or ecosystem to innovate. The resulting overview of innovation strengths assists organisations or ecosystems in selecting systemic and structured innovation. The PET also assesses the directionality of organisational activities and indicates possible gaps in innovation approaches and asset management. Learn more here: <https://oecd-opsi.org/pet/>

Results of a portfolio assessment: Distribution of innovation activities by type

The output result of a portfolio exploration tool (PET) analysis of an organisation's tendencies toward enhancement-oriented, mission-oriented, adaptive, and anticipatory innovation based on user input data.



Example result from the Portfolio Exploration Tool self assessment.

Source: OPSI (2021).

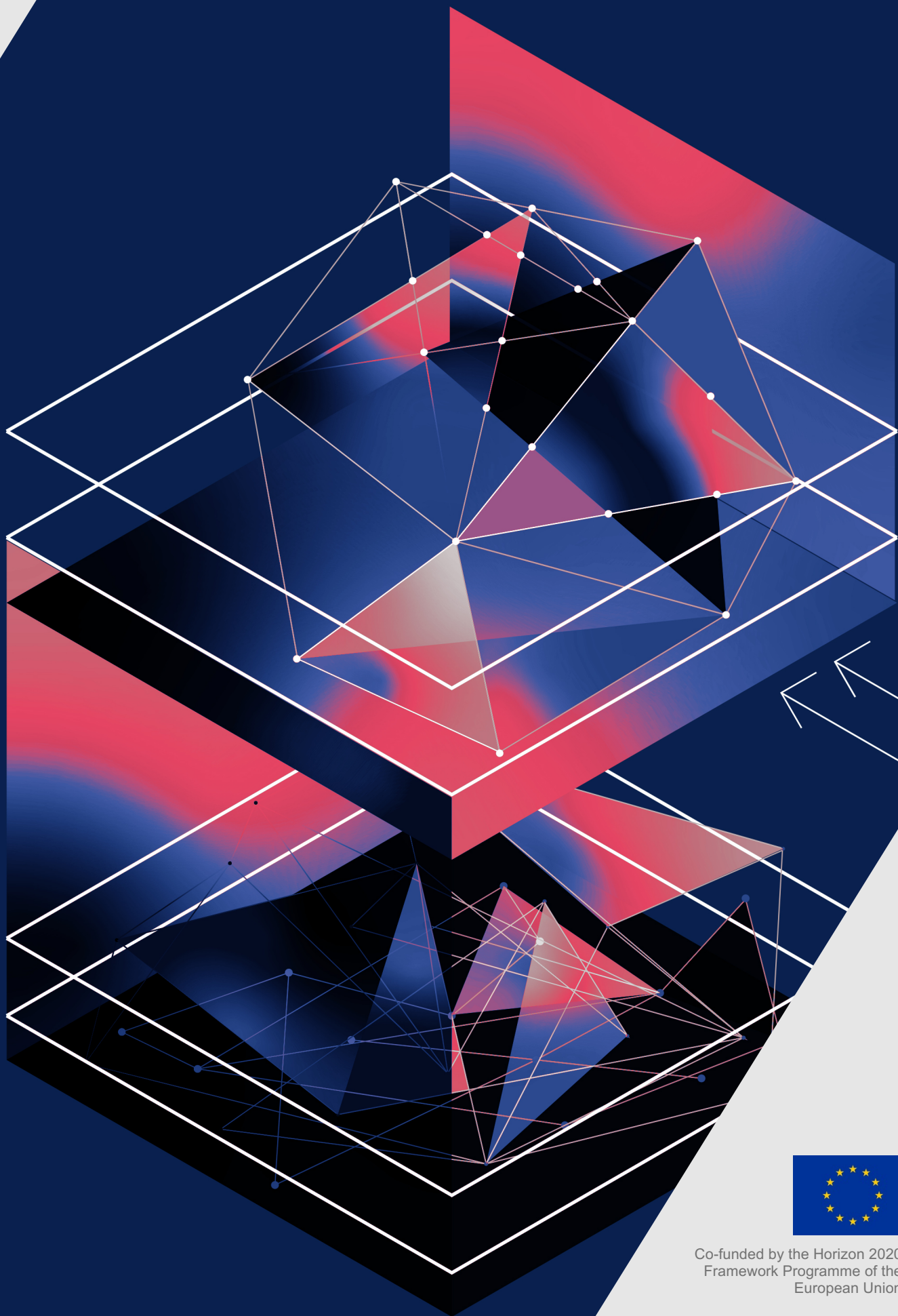
MAIN ACTION POINTS AND TAKEAWAYS

As outlined above, innovation portfolio management is assuming an increasingly central role in the public sector. The reality is that innovation portfolios already exist – managed or unmanaged – and their effectiveness to deliver on governments long-term goals is currently more ad hoc than intentional. Significantly more investment in innovation portfolio approaches is needed as well as uptake in public sector organisations where practical lessons can be gleaned. For example, many political, institutional and social factors may influence innovation portfolio composition in the public sector that may not even require consideration in the private sector.

At the same time, portfolio approaches help to address a variety of prevailing issues connected to innovation management in the public sector (risk aversion, failure, fragmentation, alignment of action across policy cycles, etc.). Yet the practice is still emerging. Portfolio approaches in the public sector are only now developing, and there is a need for more research, testing and development of different models to address diverging needs. In particular, tools and methods are essential to help visualise, monitor, evaluate, and take action with regard to innovation portfolios. Tools are only useful if the people and roles they support are well-positioned to steward innovation portfolios, including those that span across and between organisations. The role of an innovation portfolio manager involves not only analysis and decision-making, but also collective sense-making and shared learning and agenda setting. Innovation supportive of grand societal challenges and missions, such as green transformation missions, this role is particularly important. Spanning local, regional and national and even supranational bodies, innovation portfolio managers encourage uptake of innovation activities not only from public actors, but also from private companies, citizens and the third sector. A systemic view of innovation efforts is vital here to allow the public sector and its partners to gauge whether their efforts are sufficient to meet the challenges involved in such missions.

Portfolio practices can also help organisations avoid traditional innovation pitfalls – incentivising people not to draw attention to risks, addressing failure on a project-to-project basis, and favouring exploitation over exploration and short-term gains over long-term investment. An adequate and intentional supply of innovation activity across a portfolio is important for the public sector to avoid the biggest risk of all— the inability to adapt or lead when faced with a threat to its mission, remit, or purpose or missing an opportunity to create public value or address the biggest global challenges of our time.

Innovation portfolio management performed well is a continuous activity that spans institutions. Innovation portfolios can be examined within and between units and teams, and across entire organisations. The key question is how to build synergies between these practices that translate into learning and decision making supportive of innovation across the whole organisation. Future research is needed on differentiated models of innovation stewardship and portfolio management, not only to fit different organisations but also to meet the needs of centres of government who are called to steer innovation for the public sector or an ecosystem as a whole.



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