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Creating a thriving environment for innovation in public health service delivery

Brief 2: Building innovation capabilities over time

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1. Introduction

In the first brief of this short series on "Creating a thriving environment for innovation in public health service delivery", we considered what is required of the broader context for innovation in public health service delivery: what innovation is, why it is important, and the factors that constrain and enable it. Towards the end of the brief, we touched on needing to build innovation capability over the longer term, if it is to be sustained.

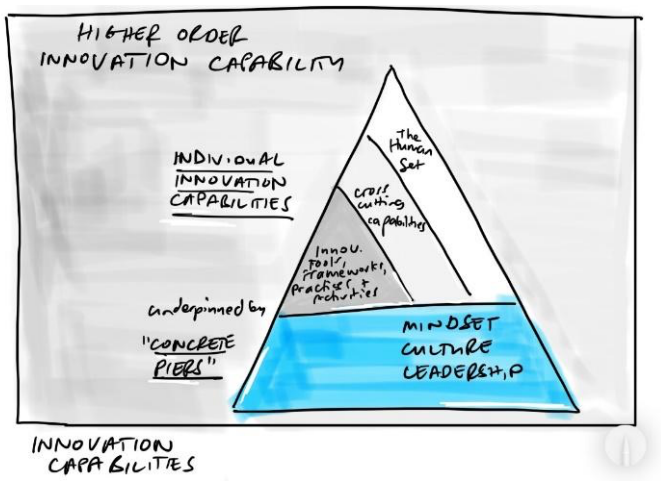
In this brief, we focus on different types of innovation capabilities and how they could be developed and embedded over time. A capability is the ability to achieve a goal. Innovation capability means **the potential to innovate** — to build, launch and sustain innovations repeatedly in an effortless manner.[1] Another way to think about innovation capability is the potential to transform knowledge and ideas into new models, products, processes and systems.[2]

Innovation capability is deeply dependent on a related set of foundational elements: **mindset, culture, and leadership.** These elements, which we explore below, shape the environment within which innovation capabilities may be built.

2. Enabling conditions for innovation capabilities: mindset, culture, and leadership

Underpinning the broader set of innovation capabilities are three fundamentally important enabling conditions —**mindset, culture, and leadership**. These elements **create the environment for successful innovation** (Figure 1).[4] Built on this foundation are three groups of innovation capabilities, with some obvious overlap and interplay. First, we'll consider each of the enabling conditions followed by the groups of innovation capabilities.

Figure 1: The role of mindset, culture, and leadership in innovation



Mindset

For innovation to be successful, there needs to be a core belief that it is possible *and* doable. Mindset, attitudes, and behaviours are just as important as specific technical skills at enabling innovation in the public sector.[3] The right mindset requires:

- **Curiosity** - seeking out new ideas and ways of working[4];

- **Insurgency** - challenging the status quo and being willing to work with external partners[4]— this requires a shift from the pursuit of control and stability to the quest for novelty and innovation;
- A predisposition to **making things happen**[5,6];
- **Bravery** to make choices that have the potential to fail[6];
- **A growth mindset** - to support people and a belief in what they can achieve[6]; and
- **Creative resolution** - this is the ability to make integrative decisions that combine disparate or opposing ideas.[7]

Culture

While individual mindsets matter, an organisation's **culture is often more powerful.** Public sector innovators don't create in a vacuum. Instead, they work in a culture and context of core values, behavioural norms, and patterns that govern how people interact and invest their energy in their jobs and the organisation at large.[5] Organisational culture is therefore a critical factor needed to support innovation capabilities. The culture can determine an organisation's openness to trial new ideas and carry the associated risks, and the willingness to allocate sufficient time and space for innovative thinking.[8]

Leadership

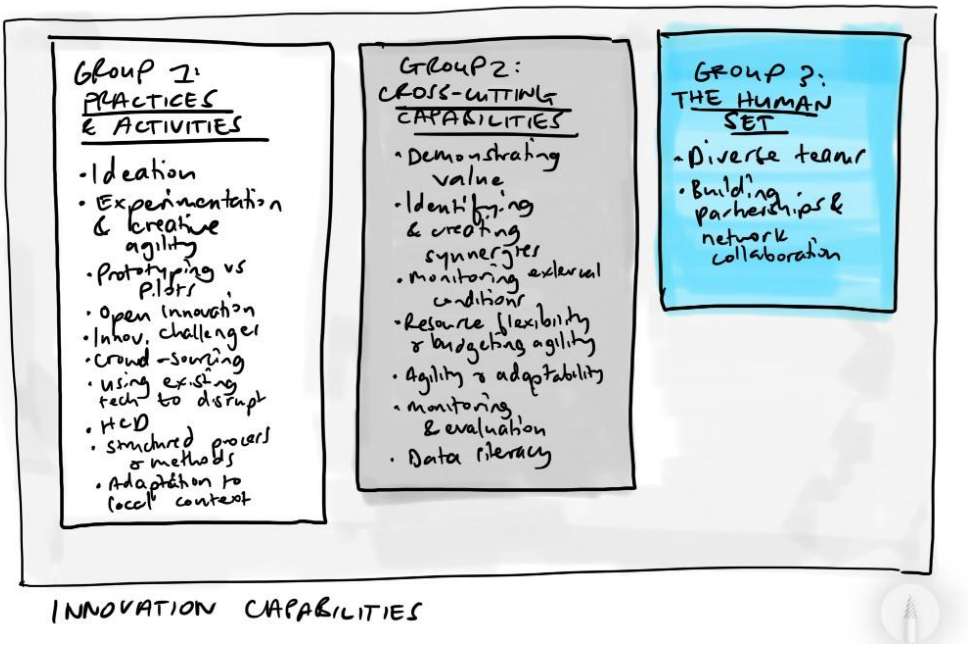
Organisational culture is partly determined by its leadership because they have relatively more power to establish the pre-conditions needed to innovate; leaders set the tone for a collaborative approach to problem-solving.[8] Leaders - at all levels - need to recognise the value of innovation,[8] be committed to change, and be able to articulate a compelling vision of the future.[9] Those leaders that cultivate an enabling environment for innovation demonstrate an **adaptive and pragmatic leadership style.** Adaptive leadership involves co-determining which activities stay, which ones go, and which need to adapt and transform. Pragmatic leadership involves changes to organisational culture and identities that introduce transformative learning, knowledge, and toolboxes.[4]

3. Different types of innovation capabilities

Innovation research describes an array of innovation capabilities—with many synonyms for concepts and various ways of classifying and defining sub-capabilities. For the purposes of this brief, we have grouped innovation capabilities into three clusters (Figure 2):

- **The toolkit** which includes innovation frameworks, practices, activities, and tools
- **Cross-cutting capabilities** that are applicable in diverse settings
- **The 'human set'** which are the capabilities that empower people to innovate

Figure 2: Different types of innovation capabilities



3.1 The toolkit: Innovation practices and activities

3.1.1 Ideation, experimentation, and prototyping

New ideas are generated through 'creative abrasion' – that is vigorous debate and idea-generation, both of which should be strongly encouraged during this process.[7] Successful ideation **leverages creative thinking and can build engagement** even across large and complex organisations (like government departments). Once ideas are generated, experimentation should follow. Experimentation and creative agility are critical practices for innovation because they move us away from the slower practice of implementing one large, 'perfectly' articulated plan, and towards a more responsive, incremental testing of many micro-ideas. In design thinking and problem-driven iterative adaptation (PDIA) approaches, this means that emphasis is placed on generating a **portfolio of solutions** – brought about through **creating and testing multiple solutions with short feedback loops.**[4,10,11] This approach fosters rapid learning in action and minimises investment in and visibility of failures, features that lend itself to bureaucratic, risk-averse environments.[12]

Prototyping is an agile, generative process that yields 'on-the-go' feedback. This contrasts with pilots that need to complete before learnings are realised. With prototyping, teams take an **"action step, learn, adapt, and take another step" approach** where actions are identified and carried out through experimental iterations. On the other hand, pilots and traditional approaches - which reference existing knowledge - plot out an exact plan and implement it as designed.[13] The iterative approach of prototyping keeps costs low, redirects only a few people for a short time, and can therefore more readily assess whether an innovation is worth pursuing without over investing.[14] There are, however, use cases for both prototyping and pilots. Therefore, innovation capability requires that organisations are agile enough to run experiments at both ends of the innovation spectrum: from a low-fidelity (simple and low-tech) prototype in a single nurse's office to a city-wide implementation of the latest digital technology.

It is important to bear in mind that experimentation goes beyond PDIA or rapid prototyping—government departments and regulators can play an active role in **nurturing innovation by exploring regulatory sandboxes, living labs and innovation testbeds.** These are examples of **tools that enable innovation** in the public health sector.[15]

3.1.2 Innovation mechanisms

Open innovation is about inviting external ideas into an organisation to improve its ability to develop new products and services. This mechanism involves two key capabilities: identifying and accessing promising ideas

and incorporating them alongside internal resources to enhance innovation processes and practices.[12] In addition, open innovation allows government agencies to capitalise on best practices while reducing the time and funding spent on basic research and development. It is, however, essential for public providers to not simply copy and paste ideas obtained elsewhere—**attention to localisation is vital** because public services should focus on solving and servicing the needs of users in their context.[4] Increasingly, service users want and expect to have a say in planning and implementing health priorities in their communities; they can play an essential role in innovation prioritisation and decision-making.[16] Politics, processes, and power relationships between stakeholders (within and outside of government) strongly influence the adoption and implementation of plans. This means that any strategy to implement change at scale that excludes local features is unlikely to succeed.[9]

Tightly structured innovation processes may seem counter-intuitive to generating ideas, but research has shown that instead of stifling creativity, the ideal structures free it up; while simultaneously providing risk-averse organisations with the tools to experiment with new concept.[12] Despite scepticism about the ability of large government organisations to innovate through design thinking, there's evidence of its successful use, but it seems mainly limited to highly-resourced countries (the UK, USA, Singapore etc.).[4,12]

3.2 Cross-cutting capabilities

While innovation practices and activities are required for internal stakeholders to test ideas, **embedding cross-cutting capabilities** into the organisational fabric is what **sustains innovation** over time. These cross-cutting capabilities include demonstrating the value proposition of innovations using data, resource flexibility and budgeting agility, and identifying and creating synergies across projects.

Even when there is robust evidence that supports an innovation's benefits, failure to identify its impact across the whole health system can ultimately block buy-in and adoption of the innovation.[17] Therefore, **demonstrating value** becomes critical for new innovations, i.e., the innovation needs to have **a clear value proposition.**[8,9,18] Perceived relative advantage and 'hard evidence' can play a role in demonstrating value.[9,19] Regular monitoring of implementation activities using 'hard evidence' and relevant metrics is essential—health systems need to track their performance and progress to learn, adapt, and identify new challenges and unintended consequences (especially with large-scale initiatives). Good decision-making must include a **data-driven** component, which means that data tracking should never be an afterthought in innovation.[4] Convincing 'hard evidence' can decrease resistance and opposition to new ideas and help innovators to make their case for the necessary human and financial resources needed.[19] Regular evaluation of activities also contribute to iterative course correction.

Identifying and creating synergies across projects and spaces – both internally and externally – supports innovation adoption. Finding synergies in parallel and consecutive projects requires an approach that supports all projects within the parameters of an organisation's long-term vision.[3] Changes in external spaces like regulatory policy, the political climate, and industry conditions are inevitable factors that need to be considered because of its impact on resource flows, stakeholder relationships, and outcomes throughout the broader ecosystem.[9,12] Active monitoring of changes in the external environment allows for more rapid internal adjustments, including necessary changes in governance and leadership.[12]

Changes in the external environment can also impact **resources for innovation**. Funding, human resources, infrastructure and time are necessary for innovation,[9,19] and even the fear of a shortage of these resources can inhibit innovation efforts.[19] Resource flexibility and **budgeting agility** can create the freedom to innovate and experiment.[5] In cases reviewed by the OECD's Observatory for Public Sector Innovation, resource flexibility was achieved by leveraging existing platforms, re-purposing public properties, or reallocating staff—these efforts reduced the cost of innovating and ensured that existing investments and resources were optimised. Where budgeting rules permit organisations to reallocate savings to fund other priorities, these organisations can reap the benefits of pursuing efficiency-producing innovation.[5] Although adopting a fully agile budget model is probably out of reach for some organisations, it may be possible to withhold a small portion of the budget to invest in shorter cycles than the traditional annual plans.[20] This approach would allow organisations to become responsive innovators that can solve unanticipated problems that arise in the short term.

3.3 The Human Set: Empowering people to innovate

Investments in people (recruiting and supporting people who bring fresh perspectives) **and partnerships** can expose organisations to new ideas and challenge olds ways of thinking.

In terms of **recruitment,** the public sector should seize the opportunity to compete for the best talent. This can be achieved by offering engaging work and opportunities that provide people with a chance to make a difference at scale—both of which the public sector is perfectly suited for.[21] There is a case to be made for cognitive diversity and cross-functional representation on innovation teams.[22] Diversity in team make-up paves the way for higher-order and comprehensive solutions; it increases access to networks and resources and it can build stakeholder alignment.[22]

Those who are already employed by the government can also be supported to become innovators. But 'premature load bearing' should be avoided. This is a capability trap that results from pressure and attempts to carry out innovation activities *before* people are empowered to execute them.[23] It can, therefore, be helpful to first **identify and enlist capable and credible champions** inside the government: innovations are more likely to succeed when key opinion leaders, political champions, and end-users support champions[16,19]; and when these champions attract the attention of policymakers at all levels.[24] To ensure that champions receive this attention and support, it may be helpful for a government department to find ways to **reward experimentation, even when it doesn't succeed**. Creating incentives to innovate (e.g., innovation awards) can have diffusion effects, enable learning, signal the importance of innovation as an organisational priority—and ultimately influence the existing culture.[5]

Lastly, the interaction between government and non-state partners is critical to the delivery of care and enhances innovation capabilities[5,8]—no single entity, no matter how innovative, can change the system alone.[5,24] Reasons to collaborate with universities, research institutes, businesses, and regional authorities include sharing the cost of developing innovations and access to R&D, critical skills and expertise.[24]

4. Building innovation capabilities over time

When building innovation capabilities over time, it is important to prioritise which capabilities to tackle first since some may take longer to change or develop, while others may shift more rapidly. Capability strategies should also have a short, medium and long-term perspective.[3] Tools and frameworks can help a government department to assess their existing innovation capability and flag the competencies and skills that they need to develop.[4] Below, we provide some ideas on the actions and efforts needed to build and embed innovation capabilities over the longer-term.

4.1 Innovation strategy design

Great innovation strategies are simple, straightforward, and easily understood by *everyone* involved.[25] They're different from but aligned with the overall mission and strategy of the organisation.[8,26] **Innovation strategies should include the following six components**[25]:

a. The innovation mission statement

b. A focused innovation portfolio—key activities to achieve the innovation mission

c. A blueprint for the execution of innovation initiatives

d. An innovation culture map (a benchmark needed to uncover new challenges and opportunities)

e. A structured innovation capability approach—defines the people, processes, programmes and targets/metrics required to measure success

f. The innovation 'playbook'—the structured tools, methods, and processes used to achieve the innovation strategy

Building innovation capability requires intentional and strategic **change management**.[8,27] Leaders need to determine and design the desired innovation culture—one that fosters risk-taking, encourages experimentation, and incentivises creativity.[21] This will likely require leaders to clarify the 'rules of the game' for their teams. Government department's need to make explicit the limits of acceptable practice and identify rules and regulations that may overlap or even contradict each other. Government departments can also shape policy and regulations by being active participants in living labs and innovation test beds—designing regulatory needs based on how an innovation performs in a test environment (an anticipatory approach to policy and regulation).[15]

4.2 Invest

Organisations should treat the **activation of innovation as an investment** in infrastructure.[21] Investments in **'Living Labs', for example**, are key to embedding innovation capabilities over time. These labs create real-life test and experimentation environments and exist in various forms: some are physical spaces for co-creation with different stakeholders (like citizens), some focus on research only, and others draw together members from within an organisation.[28] Labs can be sponsored by third parties such as universities, industry or non-profits.[8] The Western Cape ecosystem, which provides the context for this brief, includes an array of potential lab partners—universities, Technology Transfer Offices, innovation hubs, prototyping studios, health and health tech ventures, industry and non-profit organisations. The Bertha Centre, Groote Schuur Hospital, UCT Faculty of Health Sciences and Western Cape Government Health's innovation hub, collectively called **The Groote Schuur Innovation Hub**[1], is one example of a living lab that acted as a physical space to connect frontline innovators, policymakers, consultants, and subject matter experts.

Case studies of two different public sector innovation labs (a 'Tech Build-Out' in Indonesia, and an 'Innovation Taskforce' in Peru) demonstrated that a **deliberate approach to innovation** is paramount. This is in contrast to **an opportunist model** (innovation depends on champions who fight upstream against the organisation's standard operating model) which is often used in government departments.[21] Case studies also show that an innovation model requires investment in building **'ambidextrous capabilities'**—being equally adept at leveraging existing capabilities and exploring new opportunities, distinguishing between them, and allowing for different processes, structures, and even cultures.[21]

5. Key takeaways and suggestions

This brief describes different types of innovation capabilities and how they can be built over time. It suggests that **mindset, culture, and leadership create the foundational, enabling conditions** to develop innovation capabilities. Three groups of innovation capabilities are explored: 1) the **toolkit of innovation practices and activities**, 2) **cross-cutting capabilities** that can be applied in diverse settings, and 3) the **'human set'** of capabilities that empower people to innovate.

1. Government can use key **innovation practices** of ideation, experimentation, and prototyping to generate a range of solutions that emerge through creating and testing ideas with short feedback loops. These practices enable rapid learning in action and minimise investment in and visibility of failures. Government departments and regulators can nurture ideation, experimentation, and prototyping by exploring regulatory 'sandboxes', 'living labs' and 'innovation testbeds'.

   Open innovation is another useful mechanism to add to government's innovation capabilities because it capitalises on best practices while reducing the time and funding spent on initial research and development. However, it must be stressed that 'imported' ideas should be adapted to solve the specific needs of the government's targeted users. To summarise, tightly structured innovation processes and

[1] https://gsbberthacentre.uct.ac.za/catalysing/groote-schuur-new-innovations-1/

activities stimulate creativity, while simultaneously providing large and risk-averse organisations with the tools to experiment with new concepts.

2. It is essential for organisations to embed **cross-cutting capabilities** into their ways of working to sustain innovation over time. Cross-cutting capabilities include the following: the capacity to demonstrate the value proposition of innovations using data, ensuring resource flexibility and budgeting agility, and a sensitivity to identifying and creating synergies between both internal and external projects and spaces.
3. The final innovation capability explored in this brief is the **'human set'** which stresses that organisations need to **invest in people so that they are empowered to innovate. Recruitment and supporting strategies** play a key role in ensuring the optimal 'human set' for innovation. It is also imperative for the government to **collaborate with non-state partners** when building an innovative 'human set'.

Finally, the brief offers a series of recommendations to build long-term innovation capabilities in government departments. Here, an innovation strategy and deliberate investment are fundamental requirements. Innovation strategies need to be executed alongside intentional change management. Government departments that are serious about innovating should also start thinking of investment in innovation as part of, and not separate to, their investment in infrastructure.

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