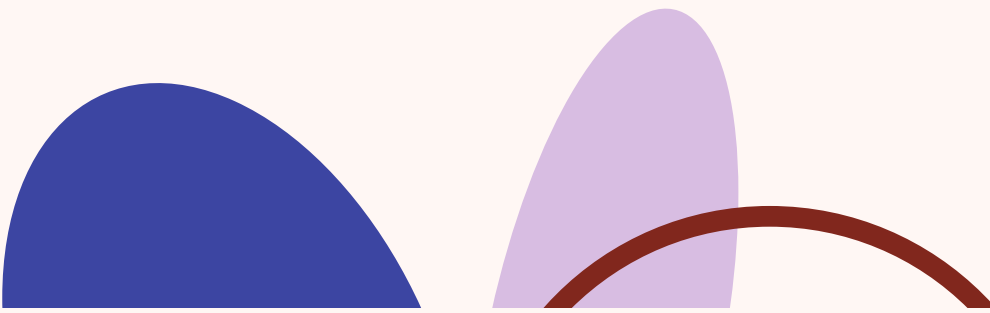# Systems Change – What works in public service environments?

Scan of literature

Prepared for: Department of Premier and Cabinet Tasmania

1 Introduction – The Importance of Systems Change

The Tasmanian government's drive for systems change has been influenced by the Commission of Inquiry outcomes and recommendations. Public services worldwide are adapting to meet the evolving needs of citizens, which increasingly involve tackling a range of challenges in providing services. Needs of individuals and communities are often "complex" rather than "complicated" problems and this is requiring different thinking and reworking the role of government in meeting needs.

This environmental scan aims to provide the Tasmanian Department of Premier and Cabinet (DPAC) Commission of Inquiry (COI) team with an overview of best practices in systems change within public service settings. It highlights key learnings and recommendations that can inform the ongoing work of the Commission of Inquiry and align the targeted work of Change Leads across government.

2 What is the 'System' and What are 'Systems Thinking' and 'Systems Change'?

While there are many definitions of '**systems**', the concept in public policy is multi-faceted and encompasses a broad range of elements that interact within a complex environment to achieve collective goals. The Organisation for Economic Cooperation and Development (OECD) defines a system as "elements joined together by dynamics that produce an effect, create a whole or influence other elements and systems. Systems exist on a spectrum of comprehensibility – from those easily observed and analysed to those that are highly complex or novel requiring postulation.

A system always exceeds the sum of its parts." (OECD, 2017). In other words, the system is not just the stakeholders that interact to fulfil a specific function or purpose, but rather it also includes the regulations, organisational routines and cultural norms that all influence the system.

Systems thinking is an interdisciplinary approach that focuses on understanding the relationships and interactions between different parts of a system, how systems evolve over time, and the outcomes they produce. **Systems change** is the application of this thinking to real-world situations, requiring a mindset shift to appreciate the complexity and interconnectedness of systems (Observatory of Public Sector Innovation). The Centre for Public Impact (CPI) includes 'thinking in systems' as a core principle to a vision of government reimagined. This means thinking in terms of diverse perspectives and moving to approaches that are rooted in constant learning and adaption (Centre for Public Impact, 2022).

3   A Call to Action

Traditionally, government systems are established and organised to deal with **complicated problems** (such as banking regulations, trade treaties and bilateral agreements); as well as providing public services and infrastructure (such as schools, hospitals and roads). Increasingly however, governments around the world are confronted by challenges that are inherently uncertain and complex in nature, calling for a new approach to problem-solving (OECD, 2017). A complicated problem is predictable and linear, with a beginning, middle and end (like building a new highway or air traffic control centre). While these 'problems' have many parts, it is possible to identify, model and analyse the relationship between the parts. By contrast**,** **complex problems** are inherently unpredictable, and rather than having discreet parts bound together in linear relationships, they are emergent and greater than the sum of their parts (like managing urban traffic congestion or directing air traffic) (Kamensky, 2011).

Within governments, policy makers also contend with complex policy legacies. Policy problems have evolved into systemic, independent challenges and their understanding and analysis need to adapt accordingly (Daviter, 2019). In complex contexts, cause and effect may only be obvious in hindsight, highlighting the need for alternate approaches.

In expertise driven domains of government, the mental bias produced by knowing what the right answers should be (seeing systems as complicated, not complex) can produce adverse effects (Snow, et al., 2021). Being able to identify the complicated from the complex and understand and apply the benefit of hindsight is an important skill for every public servant.

While systems approaches have developed significantly over the last 75 years with many sectors embracing systems change, the public sector has only recently started to apply systems approaches to transform governments in the last ten years or so (Observatory of Public Sector Innovation). Because typical mental models for government are based on an industrial mindset that seeks to manage and control, attempts at transformative systems change have often been ineffective and lack legitimacy with the general public (Centre for Public Impact, 2022).

Adopting systems change within the public sector requires significant adjustments, moving away from the notion of reform as an isolated intervention, and instead focusing on mobilising a broad range of stakeholders, applying authentic leadership and building capacity to forecast holistically, to achieve a common good rather than narrow institutional interests (OECD, 2017).

The COVID-19 pandemic is one of the most recent and relevant examples of governments globally being required to apply systems thinking with COVID-19 posing a simultaneous health, political, social and economic crisis. What many remember though is how the pandemic exposed many of the problems with existing political agendas and power structures, and how governmental responses were most effective when the status quo of the

existing paradigm was broken down and shifted to one of learning, shared power and humble leadership (ANZOG, 2020).
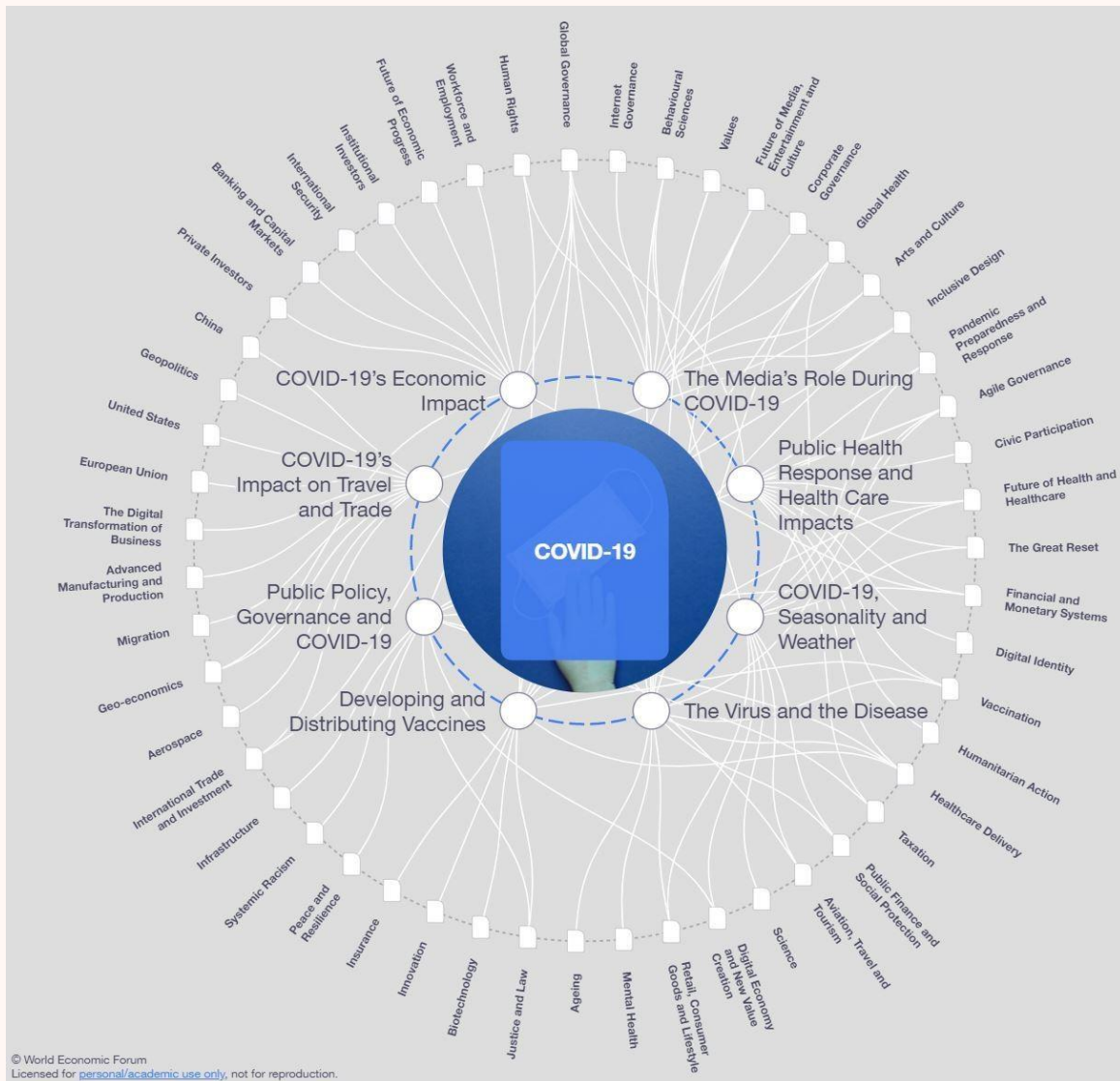
Figure 1: Understanding causal relationships and effects of COVID-19 (World Economic Forum, 2021)

A relevant and contemporary example of application of systems thinking and systems change management theory to address complex problems can be seen in the He Pou a Rangi New Zealand Climate Change Commission. This Commission approaches its mandate with a commitment to systems thinking and systems change, taking a holistic view to understand the implications of its advice on people, the environment, land, and the economy. As an advisory body, it focuses on evidence-based analysis and communication to drive impact, engaging with broad stakeholders, including Iwi/Māori, to develop advice that is both feasible in the short term and necessary for long-term emissions reduction and adaptation goals (Climate

Change Commission, 2024). The Commission uses a variety of methods, including economic modelling and stakeholder feedback, to develop and refine its advice, which includes setting emissions budgets, updating targets, and guiding policy direction. It tests its thinking systemically, considering the broad implications of its recommendations, and seeks external peer review to ensure the robustness of its analysis. The Commission's approach is iterative and long-term, providing independent advice across election cycles to support the government and New Zealanders in meeting climate change commitments (Climate Change Commission, 2024).

4 Principles of Systems Change

Systems approaches deal with complex problems that involve multiple actors, ambiguity, path-dependency and a lack, or absence of, definition, linear causality and optimal solutions.

Application of a systems lens to complex problems enables problem solvers to map the dynamics of the surrounding system, explore relationships between system components, understand how those points of connection affect functionality and ascertain which interventions lead to better results (Observatory of Public Sector Innovation).

5 Key Enablers

Systems approaches can serve as powerful tools for driving purpose-driven transformative changes in governments as they tackle contemporary, complex challenges. These approaches are most effective when an innovation agenda is firmly established within the government, coupled with a recognition that profound change is necessary.

Implementing systems change requires an understanding that traditional methods are insufficient to solve these complex problems. Furthermore, these approaches are typically time and resource-intensive, necessitating a sustainable and long-term commitment. They often require the inclusion of citizens and non-traditional stakeholders in the policymaking process, which can threaten established power structures, prompting a shift from an institutional to a problem/public purpose orientation. Although systems change can be initiated through bottom-up initiatives and proof of concepts, significant systemic changes generally require top-level permission, incentives, resources, and leadership support. (Observatory of Public Sector Innovation).

The Australian Prevention Partnership Centre (APPC) has created an enabling environment for systems change with the development of a systems change framework based on applying a systemic lens to the complex problem of chronic disease prevention (Australian Prevention Partnership Centre, 2021). The framework includes fostering an innovative culture and integrating a systemic lens and implementation focus with multiple diverse perspectives that go beyond traditional 'health' stakeholders. The APPC have also highlighted that to address complex problems, it is important to strike a balance between systemic and systematic

paradigms and to avoid surface-level judgements about where and how systems approaches can be operationalised and implemented (Australian Prevention Partnership Centre, 2022).

Systemic Paradigm	Systematic Paradigm
• Exploring the bigger picture • Focus on whole systems composed of interconnected parts • Natural experiments • A non-linear focus • Supporting change and change-agents in leveraging systems • Non-dualistic thinking (embracing the continuum) • What works for what systems in what contexts? (health, education, housing etc) • A focus on strengthening existing systems	• A focus on details • Methodical • Examining the parts within a system • A more linear focus • Duality (black and white, night and day, inhale and exhale, yin and yang etc) • Randomised controlled trials and cluster randomised controlled trials • What intervention works? (bio-medical focus) • A focus on fidelity in program delivery

Figure 2: The *systemic* and *systematic* paradigms defined by APPC

6 Key Barriers

Barriers to effective systems change are numerous and can significantly hinder progress. A prevalent obstacle is the aversion to failure, as a risk-averse culture stifles innovation and experimentation (Centre for Public Impact, 2022). Additionally, there is often immense pressure for uniformity across public services, which can limit the flexibility needed for systems change.

Hierarchical power structures, or the preference for command and control, further impede adaptive and collaborative efforts. The lack of rigorous evaluation of past policies prevents learning from previous experiences and improving future initiatives. A tradition of secrecy and siloed systems fosters isolation and inhibits the sharing of knowledge and resources necessary for holistic change.

Complicated procurement systems also pose significant challenges, limiting the ability to experiment with and implement new approaches. Finally, efficiency drives often reduce professional autonomy and integrity, undermining the capacity of public servants to engage in transformative practices. These barriers collectively create an environment resistant to the profound changes that systems change aims to achieve (OECD, 2017).

7 Lessons in Systems Change

Systems change and reform in public sector organisations are inherently complex and cannot be approached as isolated interventions. Instead, these efforts must be **holistic**, recognising

that problems often **traverse administrative and territorial boundaries**. The Australian Centre for Social Innovation (TACSI) exemplifies these principles through its work, such as the 'Family by Family' initiative and aged care improvements. TACSI engages multiple stakeholders, including government, non-profits and communities, applying systems thinking to understand complex issues and co-create solutions. Their emphasis on inclusive design ensures that interventions are relevant and grounded in real-world experiences. TACSI's adaptive approach, with continuous learning and feedback, highlights the need for flexible policies and boundary-spanning leadership to address systemic challenges effectively (TACSI, 2024).

In systems change best practice, leaders play a critical role in driving transformation by developing a clear **vision** for a desired future outcome. This involves envisioning a system that is more equitable, resilient, and responsive to the needs of all stakeholders. Leaders must then **define the principles** that will guide the operation of this future system, ensuring alignment with values such as inclusivity, sustainability, and effectiveness. By articulating these principles, leaders provide a roadmap for change and establish a common understanding of the desired direction. Implementation of systems change requires a strategic set of interventions aimed at transforming the existing system into the envisioned future state (Hill, et al., 2022). These interventions may include policy reforms, organisational restructuring, capacity-building initiatives, and community engagement strategies. Through effective leadership and strategic planning, systems change efforts can achieve lasting impact and create positive outcomes for individuals, communities, and society as a whole.

The Centre for Public Impact (CPI) is a prime example for best practice principles and vision in the public sector's implementation of systems change. CPI advocates for a holistic approach that recognises the interconnectedness of social issues and the need for coordinated action across government, civil society, and the private sector. Central to CPI's vision is the principle of public impact, which emphasises the importance of delivering positive outcomes for citizens. CPI promotes a set of best practice principles, including transparency, accountability and citizen engagement, to ensure that systems change efforts are inclusive, responsive, and effective (Centre for Public Impact, 2022). Additionally, CPI emphasises the importance of evidence-based decision-making, innovation, and continuous learning in driving transformative change.

By providing guidance, resources, and thought leadership, CPI empowers governments to navigate complexity, overcome barriers, and achieve meaningful impact in addressing societal challenges. Through its work, CPI envisions a public sector that is agile, adaptive, and capable of driving positive change that improves the lives of citizens and strengthens communities (Centre for Public Impact, 2022).

Achieving the right **balance** between simplification (focusing on outcomes) and complexification (addressing multiple factors) is a key lesson in systems change. Ashby's *Law of Requisite Variety*, also known as the "First Law of Cybernetics," states that for a system to

effectively manage its environment, it must be able to match the complexity of that environment. In simple terms, this means that a system (in this case – government) needs to have a diverse set of responses and capabilities that are at least as varied as the challenges it faces (OECD, 2017).

In the context of systems change, Ashby's Law highlights the importance of adaptability and flexibility, which is often hard to achieve in a public service environment. To tackle complex and dynamic problems effectively, public sector organisations must develop a wide range of strategies, tools, and approaches. This includes diversity of skill sets, innovative practices, broad stakeholder inclusion and flexible policies.

By aligning their variety of responses to the complexity of the issues they face, public sector agencies can better navigate and implement systems change, ultimately leading to more effective and resilient outcomes (OECD, 2017).

8 Implementation Strategies

Relative to systems change, **stewarding** is described in the literature as "the art of getting things done amidst a complex and dynamic context. Stewardship is a core ability for agents of change when many minds are involved in conceiving a course of action, with many hands accomplishing it" (Boyer, Cook, & Steinberg, 2013).

The core context of stewardship in a public sector environment rest on the notion that "solutions" in the context of wicked problems, are never optimal. The term solutions should be used carefully in the context of systems change as solutions are often considered to have neat boundaries in terms of scope and timelines and interact with the system in a predictable way. In the context of stewarding, solutions should be understood as interventions into the system, to which the system will react.

Stewardship collapses the gap between analysis and execution which can be common in policy spheres. It is a form of agile leadership not requiring significant decision making – "we figure out what to do, then we do it".   Therefore, command and control authority does not work – it requires distributive leadership across all domains rather than all the decision-making being "front loaded".

At a leadership level, it is described as "folding the future back into the present" and requires robust connection between objectives, methods and a deep understanding of the system dynamics. As described earlier, it requires the shared vision and authorising environment and then the ability for those in charge to distribute the leadership to deliver on the outcomes.

In New Zealand, the Aotearoa government are embracing this approach of stewardship, committing to 'Kaitiakitanga', a Māori term for the concept of guardianship. In this context, stewardship is described as caring for resources that exist for the benefit of others (Te Kawa Mataaho Public Service Commission, 2022). This value has been embedded in New Zealand's Public Service Commission which is supported by the *Public Service Act 2020* to ensure that

the entirety of the Public Service acts as a single team with a spirit of service to the community.

Prototyping refers to the process of creating scaled-down versions or early-stage models of new ideas, policies, or services to test their feasibility and gather feedback before full-scale implementation (OECD, 2017). Prototyping allows for experimentation and iteration, enabling innovators to refine and improve their concepts based on real-world insights and user experiences. Alberta CoLab's *"Follow the Rabbit: A Field Guide to Systemic Design"* exemplifies prototyping in public sector innovation in its outline of five key characteristics of systemic design:

1. inquiring,
2. open,
3. integrative,
4. collaborative and
5. centred.

Using a simple formular of 'playfulness + discipline = creativity', the guide provides a practical framework for applying systemic design principles to address complex societal challenges (CoLab, 2016). Rather than proposing rigid solutions, the guide encourages users to prototype interventions to understand their potential impact and iterate based on feedback. By adopting a prototyping mindset, Alberta CoLab empowers public sector practitioners to test ideas in small, manageable ways, reducing risks and increasing the likelihood of success in driving systemic change.

Establishing ongoing **accountability and feedback** loops is essential to adapt and refine efforts in dynamic, complex environments. Traditional linear accountability frameworks are considered inadequate for measuring impact in every facet of society, especially in systems change initiatives where outcomes may be multifaceted and emergent (OECD, 2017). While developing evidence remains important, evaluation should be carefully designed to have minimal impact on the work itself. In the public sector, this may entail co-developing project-specific performance metrics with stakeholders and conducting longitudinal analysis to assess long-term impact.

Independent brokers can facilitate debates and create a level playing field, particularly when existing power structures impede progress. This is again exemplified in countries like New Zealand and the United Kingdom who have high-functioning, independent bodies established to provide apolitical advice, monitor government performance and ensure transparency and accountability in policy-making.

The United Kingdom's "What Works Centre for Early Intervention" serves as one such model, exploring effective multi-agency systems for vulnerable children and families. The Early Intervention Foundation collaborates with government to address key issues such as the limitations of traditional evaluation methodologies, the importance of common terminologies

and metrics, readiness for change, tools for system design and evaluation, and the necessity of transformational leadership at all government levels (Early Intervention Foundation, 2023).

By prioritising ongoing feedback, collaboration, and adaptive learning, public sector organisations can enhance their capacity to drive meaningful systems change and improve outcomes for communities.

9 Conclusion

Public sector service organisations must evolve to address increasingly complex challenges. Systems change requires a shift in mindset, innovative approaches, and inclusive practices. Successful implementation involves recognising barriers, leveraging best practices, and ensuring the necessary conditions and variables are in place. It also highlights the importance of interdisciplinary collaboration, authentic leadership and cycles of continuous learning and improvements.

This environmental scan provides a foundation for understanding systems change in the public sector and offers a basis for further discussion and development of strategies to drive purpose-driven transformation within the Tasmanian government.

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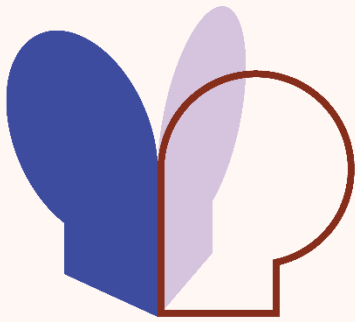
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