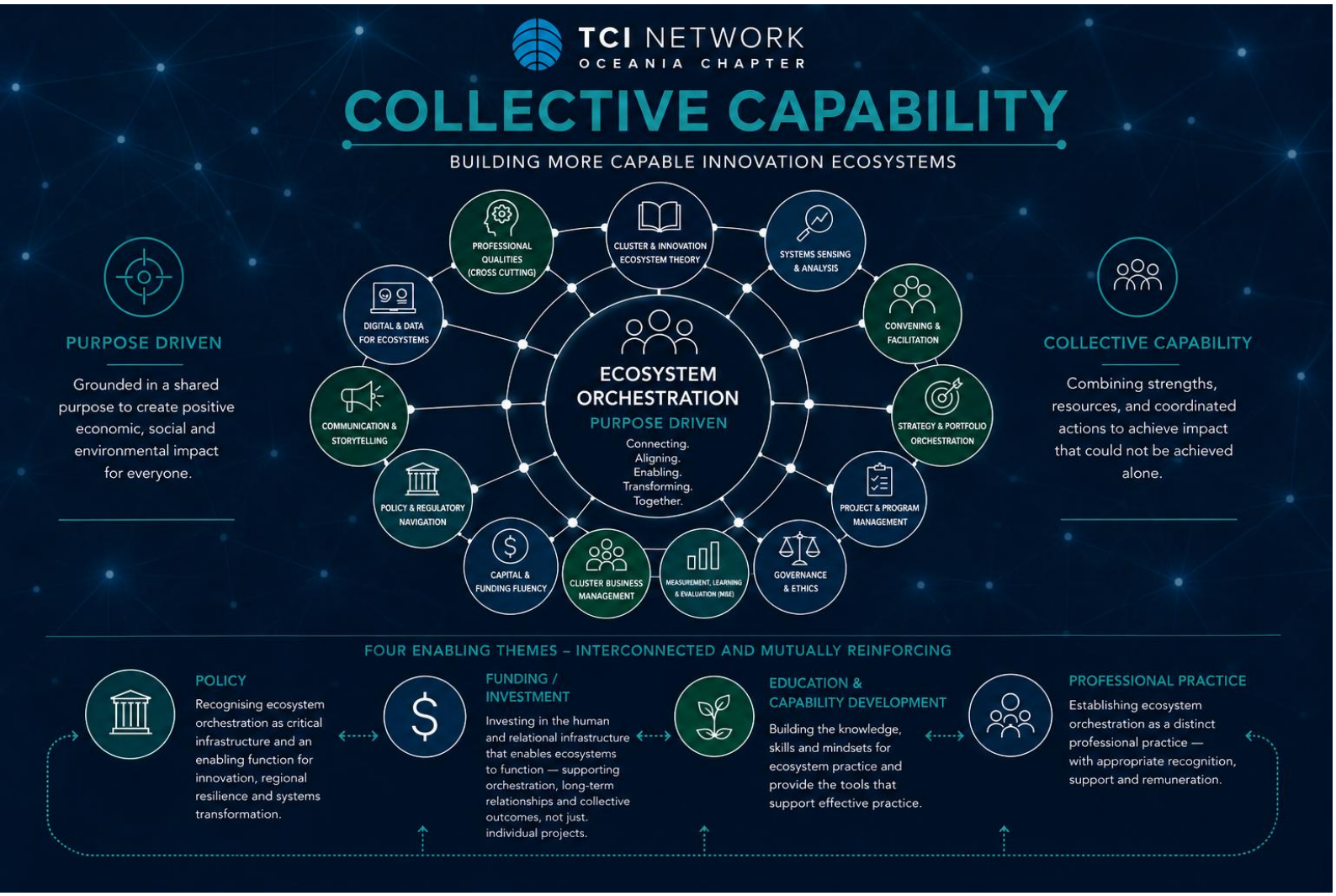


Discussion Paper

An Ongoing Conversation on Building More Capable Innovation Ecosystems

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1. Introduction

Across the world, increasing attention is being given to the role of clusters and innovation ecosystems in addressing complex challenges such as productivity, industry transformation, regional resilience, decarbonisation and the transition to more sustainable and regenerative economies.

Innovation ecosystems are increasingly recognised as critical infrastructure for economic, social and environmental transformation. Yet ecosystems do not innovate by themselves. Their success depends on people and organisations capable of connecting knowledge, building relationships, aligning resources and enabling collective action. Yet one critical form of infrastructure continues to receive comparatively little attention:

- We invest in **innovation infrastructure**.
- We invest in **research infrastructure**.
- We invest in **physical infrastructure**.
- But we largely ignore the **human and relational infrastructure** that connects it all together.

Paying attention to this human and relational infrastructure has been at the heart of a range of conversations over the past year through a variety of forums. These conversations span those working within complex ecosystems, cluster organisations, regional/economic development roles, training and research functions, and policy.

While many of these conversations originated within the cluster community through the TCI network participants consistently observed that the capabilities being discussed build upon and extend beyond traditional cluster management. Increasingly, practitioners are working across broader innovation ecosystems, regional transitions, mission-oriented collaborations and cross-sector partnerships. Throughout this paper, the term *innovation ecosystem* is therefore used to encompass this broader context, while recognising that clusters remain an important and often foundational component of many innovation ecosystems.

Rather than documenting the discussions themselves, it seeks to identify the broader patterns, shifts in thinking and emerging propositions that appeared to cut across different conversations and contexts.

It does not attempt to provide definitive answers. Rather, it captures the themes that appeared to resonate across very different sectors and contexts and identifies opportunities for further exploration.

Whilst important, this paper argues that as innovation ecosystems become increasingly important, we must also move beyond thinking about the capabilities of individual practitioners towards understanding how ecosystem practice - and particularly ecosystem orchestration- can intentionally develop the collective capability of innovation ecosystems.

The ideas presented here have emerged through conversations with many people over the past year, and the rich contribution and insights are greatly appreciated. While these conversations have profoundly shaped the thinking presented, this paper does not claim to represent a collective view. Rather, it reflects the author's own sense-making and interpretation of the patterns, themes and questions that appeared to emerge across these discussions. It is offered as a contribution to an ongoing conversation and an invitation for others to challenge, refine and build upon these ideas.

2. Where the conversation started

This discussion began with what appeared to be a relatively straightforward question: **What capabilities are required to effectively lead, convene and orchestrate innovation ecosystems?**

While increasing attention is being given to strengthening innovation ecosystems, much less attention is being given to the people and organisations responsible for orchestrating them.

The emerging Capability Framework seeks to capture these capabilities as a basis for discussion rather than as a definitive model.

Contributors and practitioners described roles that were becoming increasingly complex, yet often remained poorly understood, inadequately recognised/remunerated, underfunded/resourced and inconsistently supported.

Whilst it was always recognised that the capabilities described in the framework would/should not necessarily be demonstrated by one person, collective capability across the ecosystem has emerged as key.

#	Capability	Short Definition
1.	Cluster and innovation ecosystem theory	Understanding the core theories, frameworks and dynamics that underpin cluster development and innovation ecosystems, and applying these concepts to diagnose system behaviour, inform strategy and design effective interventions.
2.	Systems Sensing, Integration & Intelligence	Understanding the ecosystem as a dynamic system — mapping actors, interdependencies and leverage points; framing problems and forming hypotheses; integrating diverse knowledge, perspectives and data; identifying emerging signals, shifts and patterns; understanding implications and opportunities; identifying where small interventions can unlock large, positive change; and generating actionable ecosystem intelligence that supports collective sense-making, intelligent decision-making and adaptive action.
3.	Convening & Facilitation	Creating safe, inclusive in-person and digital spaces for stakeholders to collaborate, navigate conflict, build trust, build shared purpose, and co-create collective action.
4.	Strategy & Portfolio Orchestration	Moving from one-off projects to a mission-oriented portfolio; aligning actors around shared purpose, outcomes and roadmaps; designing pipelines; coordinating learning loops and enabling intelligent prioritisation and resource allocation across the ecosystem
5.	Project & Program Management	Planning, coordinating and delivering projects and programs — timelines, milestones, risks, resources, stakeholder coordination, delivery tracking and closure.
6.	Governance & Ethics	Clarifying roles between backbone and delivery functions; defining decision rights; ensuring transparency, accountability and stewardship of shared resources, data and IP.
7.	Measurement, Learning & Evaluation (MEL)	Designing and implementing monitoring & evaluation frameworks linking project activities to mission objectives; tracking contribution (not attribution); embedding learning loops, adaptive decision-making and continuous strategic adjustment
8.	Cluster Business Management	Ensuring organisational health — membership, services, budgeting, staffing, compliance, event operations and long-term sustainability.
9.	Capital & Funding Fluency	Understanding and accessing funding/investment sources — public programs, corporate co-investment, philanthropy and blended finance; preparing grants, proposals and business cases.
10.	Policy & Regulatory Navigation	Connecting initiatives to regional and national strategies; interpreting policy and regulation; engaging in policy windows; preparing advocacy and submissions.
11.	Communication & Storytelling	Crafting narratives that mobilise stakeholders, attract resources and build trust — including campaigns, case studies, pitches, media and digital communications.
12.	Digital Ecosystem Intelligence	Using digital platforms, CRM/directories, collaboration tools and dashboards to strengthen connectivity, support knowledge flow, ecosystem intelligence and evidence-informed decision-making.
13.	Professional Qualities (Cross-cutting)	The mindsets and behaviours that enable ecosystem leadership — including influence without authority, relational intelligence, adaptability, integrity, collaboration, resilience, cultural intelligence, reflective practice and learning agility. These qualities underpin and elevate all other capabilities across the ecosystem context.

Emerging capability framework

3. From individual capability to collective capability

The Capability Framework initially described a broad range of capabilities associated with effective ecosystem practice. Conversations confirm that the role of the ecosystem orchestrator is not to do everything.

A healthy innovation ecosystem itself must be considered as capable.

It can:

- sense change
- build shared understanding
- mobilise resources
- learn
- adapt
- innovate
- coordinate action.

These capabilities rarely sit within one organisation or individual.

Nor should they.

Instead, they emerge through the relationships between businesses, universities, government, investors, community organisations and practitioners.

The purpose of ecosystem orchestration is therefore not simply to strengthen individual capability. It is to intentionally strengthen the collective capability of the ecosystem. Collective capability is considered an emergent property of the ecosystem, arising not simply from the capabilities of its individual participants, but from the quality of the relationships, connections and interactions between them.

This distinction changes how we think about ecosystem practice.

Rather than just asking:

“What capabilities should an ecosystem orchestrator possess?”

another important question becomes:

“How does an ecosystem orchestrator help the ecosystem develop, connect and activate the capabilities it requires?”

3.1. The role of the ecosystem orchestrator

Contributors consistently described the orchestrator as someone who creates coherence across complexity.

Rather than acting as the expert in every discipline, the orchestrator helps to:

- understand the ecosystem
- identify capability gaps
- connect people and organisations
- facilitate trust and shared purpose
- align investment and effort
- strengthen governance
- enable learning
- support intelligent collective decision-making.

In this sense, ecosystem orchestration is less about directing activity and more about enabling others to contribute effectively.

In line with the term ‘orchestration’ the role is likened to conducting an orchestra.

The conductor does not play every instrument.

Their role is to help the musicians perform together.

3.2. What capabilities does a capable ecosystem need?

The Capability Framework has the potential to become a way of understanding where capability exists across an ecosystem, where gaps remain, and where additional investment, partnerships or orchestration may be required. This needs to consider that certain capability requirements might depend on the maturity of the innovation ecosystem and what it is focused on.

Some of these capabilities may sit within an orchestrating organisation and an individual orchestrator. Others may exist within universities, government agencies, businesses, investors, community organisations or other partners.

The orchestrator's role is not necessarily to own these capabilities, but to recognise, connect, strengthen and activate them.

This therefore raises the question:

“Can the framework be used as a diagnostic tool to assess capability gaps across an ecosystem?”

4. Emerging themes from the conversations

Several consistent themes emerged.

4.1. Ecosystem practice is emerging as a distinct profession

Contributors recognised that ecosystem orchestration extends well beyond project management or network coordination and is emerging as a distinct field of professional practice.

Yet despite the growing importance of this work, ecosystem practice remains poorly understood and often invisible. In many jurisdictions, the role lacks clear professional identity, recognised career pathways, consistent capability development, appropriate remuneration and long-term investment. Practitioners frequently find themselves creating value across complex systems while operating without the recognition or support afforded to more established professions.

This matters because **what is not recognised is rarely valued, funded or systematically developed.**

4.2. Capability is more than competency

Contributors distinguished between competencies that can be taught and the judgement and skill required to apply them effectively within complex and constantly changing contexts.

4.3. Frameworks are helpful—but practice needs enabling tools

Contributors consistently highlighted that capability frameworks alone are insufficient. There was strong interest in practical methods, tools, implementation pathways and communities of practice that help practitioners translate concepts into action within different ecosystem contexts and stages of maturity.

It was also recognised that many of the methods and tools required to support ecosystem practice may already exist within other fields of professional practice - particularly those associated with complex systems change, collective impact and systems leadership. At the same time, advances in digital technologies, including ecosystem mapping, artificial intelligence and decision-support tools, offer significant opportunities to strengthen ecosystem intelligence and support more informed collective decision-making. Developing ecosystem capability therefore requires not only investment in people, but also in the practical methods, tools and technologies that enable effective ecosystem practice.

4.4. Shared purpose matters

Across every example - from industrial hemp to maritime decarbonisation - participants returned to the importance of developing a compelling shared purpose around which stakeholders could align.

However, it was also recognised that maintaining this alignment is one of the greatest challenges in ecosystem practice. While organisations may share a commitment to an

overarching purpose, they inevitably operate within their own organisational priorities, funding limitations, commercial interests and political realities. One of the defining capabilities of a healthy innovation ecosystem is therefore not the absence of competing interests, but its ability to maintain sufficient coherence that diverse actors continue to contribute towards shared outcomes.

This suggests that ecosystem orchestration is not simply about establishing a shared purpose. It is about continually reconnecting day-to-day decisions and activities back to that broader purpose, helping the ecosystem balance diversity with collective direction and adapt without losing coherence.

4.5. Ecosystem orchestration remains under-invested

Participants observed that while governments readily invest in infrastructure, projects and businesses, far less attention is given to the connective work that enables these investments to generate greater collective value.

5. Implications

The conversations suggest that strengthening innovation ecosystems is not simply about developing more capable individuals or organisations. It is about intentionally building the collective capability of the ecosystem itself.

This represents a subtle but important shift in thinking. Rather than viewing ecosystem orchestration as a project management or coordination function, it positions orchestration as the practice of developing, connecting and activating the distributed capabilities that enable an innovation ecosystem to learn, adapt and act collectively.

If this perspective is accepted, there are important implications for policy, funding, education and practice.

5.1. Policy

If innovation ecosystems are increasingly recognised as critical infrastructure for addressing complex economic, social and environmental challenges, then greater attention needs to be given to the capabilities that enable those ecosystems to function effectively. This suggests a shift in policy thinking—from project-level activity to recognising ecosystem orchestration as an enabling function that underpins innovation, regional resilience and systems transformation.

5.2. Funding/Investment

Governments and investors routinely fund infrastructure, research, businesses and individual projects, yet comparatively little investment is directed towards the human and relational infrastructure that enables these investments to work together effectively. If ecosystem capability is recognised as a critical determinant of long-term outcomes, then investment models need to support the development of ecosystem capability, orchestration functions and long-term relationship building - not simply the delivery of individual projects.

5.3. Education and capability development

The conversations suggest that traditional professional development models also need to evolve. While technical competencies remain important, ecosystem practice increasingly requires systems thinking, judgement, adaptive leadership and the ability to work across organisational and disciplinary boundaries.

5.4. Professional practice

Perhaps most significantly, the discussion points towards ecosystem orchestration as an emerging field of professional practice. Rather than being viewed simply as project coordination or stakeholder engagement, orchestration represents a distinct function concerned with developing, connecting and activating the distributed capabilities of an innovation ecosystem. Recognising this function has implications for professional identity, professional development, career pathways, remuneration, institutional support and how ecosystem orchestration is recognised, supported and evaluated.

It also suggests that the success of ecosystem orchestration should be evaluated not simply by the activities undertaken or projects delivered, but by the extent to which the ecosystem itself becomes more connected, adaptive, collaborative and capable over time.

5.5. Digital capability and ecosystem intelligence

The increasing availability of digital platforms, artificial intelligence and advanced analytics has the potential to fundamentally reshape ecosystem practice. While these technologies cannot replace the judgement, relationships and trust that underpin effective ecosystem orchestration, they can significantly strengthen the ability of ecosystems to sense change, identify emerging patterns, understand interdependencies, model scenarios and support more informed collective decision-making.

This suggests that digital capability should not be viewed simply as an operational skill, but as a strategic enabler of ecosystem intelligence. Future ecosystem practice is likely to depend increasingly on the ability to combine human judgement, systems thinking and relational capability with digital tools that enhance sensing, learning, adaptation and coordinated action across increasingly complex innovation ecosystems.

Finally, the Capability Framework itself may need to be viewed differently. Rather than simply describing the capabilities of an ecosystem practitioner, it has the potential to become a diagnostic and development framework that helps identify where capability exists across an ecosystem, where critical gaps remain, and how orchestration can strengthen the ecosystem's capacity to sense, learn, adapt and act collectively.

If innovation ecosystems are increasingly recognised as critical infrastructure, then ecosystem capability should likewise be recognised as a strategic asset, and ecosystem orchestration as an essential enabling function—not simply a project activity or coordination role. Strengthening that capability may prove to be one of the most important investments we can make in the resilience, adaptability and long-term success of our innovation ecosystems.

6. Questions for further exploration

This conversation leaves us with several important questions.

- What distinguishes ecosystem capability from individual capability?
- How do practitioners develop the judgement required to work effectively across complex systems?
- What capabilities should sit with an orchestrator, and what capabilities should be distributed across the wider ecosystem?
- How can ecosystem capability be intentionally developed over time?
- What practical tools and learning approaches best support ecosystem practice?
- How should ecosystem capability and ecosystem impact be measured?
- What role should research, education, policy and industry play in supporting this emerging profession?
- What is the relationship between ecosystem architecture and ecosystem capability? While this paper has focused on the capabilities that enable an ecosystem to function effectively, an important question remains: how do governance arrangements, institutions, enabling organisations, funding mechanisms and other structural features influence the development of those capabilities?

7. Some working definitions

Language matters, and the meaning of key terms often varies according to the context in which they are applied. For the purposes of this discussion paper, the following working definitions describe how these terms are used. They are intended to support greater coherence across those working in clusters and innovation ecosystems, while recognising that no single definition is universally applicable and that these terms may continue to evolve according to the context in which they are applied.

Innovation

- The successful creation, adoption or application of new or improved ideas, products, services, processes, business models, technologies or ways of working that create value.

Innovation Ecosystem

- The network of people, organisations, relationships, institutions, policies and resources that interact to support the creation, adoption and scaling of purposeful innovation.

Ecosystem Practice

- The broader professional field concerned with enabling innovation ecosystems to address complex economic, social and environmental challenges through collaboration, systems thinking, orchestration, leadership and capability development.

Ecosystem Capability

- The collective capacity of an innovation ecosystem to sense, learn, adapt, coordinate, mobilise resources and act effectively towards shared outcomes. Ecosystem capability is an emergent property arising from the quality of relationships, interactions and complementary capabilities across the ecosystem, rather than the capabilities of any single organisation or individual.

Ecosystem Orchestration & Integration[1]

- A core enabling function within ecosystem practice that intentionally connects, aligns and integrates diverse actors, knowledge, resources and activities across an innovation ecosystem to strengthen ecosystem capability and enable collaboration, collective intelligence and coordinated action around shared opportunities and outcomes that no single organisation could achieve alone.

[1] In this paper the 'integrator' function is implied/integrated into the general term of 'orchestration'

Ecosystem Orchestrator / Integrator

- An individual or organisation that helps create coherence across an innovation ecosystem by connecting people, knowledge, resources and opportunities; facilitating collaboration; generating shared understanding; and enabling coordinated action towards common goals.

Cluster

- A cluster is typically: a geographic concentration of interconnected businesses, suppliers, service providers, research organisations and supporting institutions operating within a particular industry, value chain, technology domain or area of specialisation.

Cluster Manager

- A practitioner who facilitates the development and performance of a cluster or area of specialisation by connecting stakeholders, building capability, identifying opportunities and coordinating collective action. In many contexts, cluster managers also perform a broader ecosystem orchestration or backbone function, helping align actors, knowledge, resources and investment across systems to support innovation, competitiveness, resilience and collective impact.