

02



Fostering dynamic entrepreneurial innovation ecosystems

In the natural sciences, an ecosystem is understood as a system of interconnected elements, formed by a community of organisms interacting with their environment. Ecosystems are often nested structures, and drawing a boundary around them is hard. Think of life on the bark of a tree in a forest. The tree is an ecosystem for the creatures that live on it and in it, while the tree itself is part of the forest ecosystem, and so on.

When humans are part of ecosystems, the arrangements of activities, physical objects and resources are usually made with intent. Agents in the ecosystem



shape the ecosystem through their interactions and behaviour. Still, at the same time, the ecosystem shapes the options available to, and the evolutionary potentials of, the different agents.

Many scholars studying entrepreneurial ecosystems draw on the pioneering work of Frederick Moore². He describes a business ecosystem as “an economic community supported by a foundation of interacting organizations and individuals producing goods and services of value to customers, who are themselves members of the ecosystem. The member organisms also include suppliers, lead producers, competitors, and other stakeholders. Over time, they coevolve their capabilities and roles, and tend to align themselves with the directions set by one or more central companies ...”.

² Moore, J., F. 1996. *The death of competition: leadership and strategy in the age of business ecosystems*. New York: HarperCollins.

It is hard to copy whole ecosystems or even just elements that work from one ecosystem to another, although ecosystems can learn from each other. Silicon Valley, a famous example of an entrepreneurial ecosystem, is not only hard to copy, but it has also proven resistant to spreading into nearby business parks. Equally, attempts to create new ecosystems from scratch often fail.

However, there are certain behaviours that can be fostered that may result in the emergence of an ecosystem. For example, Hwang and Horowitz argue that promoting entrepreneurial ecosystems is more like supporting rainforests than managing plantations³. Their message is not to copy Silicon Valley, but to imagine a “next” ecosystem that is fostered around certain key principles. They argue that by promoting practices such as “learning by doing”, “diversity enhancement”, “celebrating role models”, “building tribes of trust”, “creating social feedback loops” and “making social contacts explicit” in a place will create the conditions from which a range of entrepreneurial activities are likely to emerge.

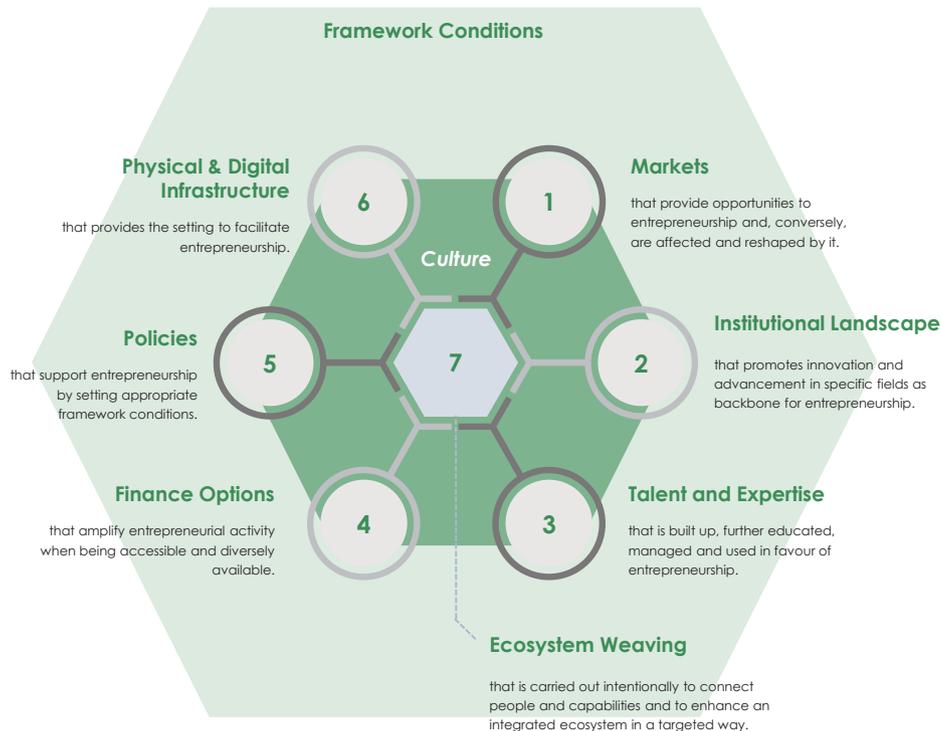
During 2020, Mesopartner partnered with VDI/VDE Innovation + Technology to develop an entrepreneurial ecosystem assessment instrument for the GIZ. We identified nine key functions of an entrepreneurial ecosystem, of which seven could be benchmarked or assessed. The assessment intends to support strengthening the dynamism and resilience of these systems and to help more of the actors become aware of their role in the ecosystem. With the pioneer Daniel Isenberg as

³ Hwang, V.W. & Horowitz, G. 2012. *The Rainforest: The secret to building the next Silicon Valley*. Regenwald.

our inspiration, we identified different functions that capture the dynamics of an entrepreneurial ecosystem. These functions capture the affordances that entrepreneurs typically draw on from the ecosystem. It is, therefore, immaterial whether the public or the private sector provides these functions. What is more important is that these functions – depending on their maturity – add value, promote innovation and induce diversity in the ecosystem.

The seven measurable functions provided by entrepreneurial ecosystems are:

1. Access to **markets** that provide opportunities and feedback
2. The **institutional landscape** that promotes innovation and advancement
3. The availability of **talent and expertise**
4. A variety of **financial options** that amplify entrepreneurial activity
5. **Policies** that encourage entrepreneurship
6. **The physical and digital infrastructures** that enable investment and growth
7. Intentional efforts to continuously **weave ecosystem** relationships and collective action



There are two additional functions: 8) the **culture of collaboration and competition** between the agents, and 9) **framework conditions** that encourage risk-taking and innovation. These functions are harder to capture because they are more ambiguous: factors that discourage most businesses often inspire a few entrepreneurs and techno-enthusiasts to innovate. For example, harsh trading conditions might paralyse most businesses, but that may be the source of inspiration for a few entrepreneurs to develop alternative solutions.

Drawing from this work, I would like to offer a few observations for development practitioners interested in promoting entrepreneurial ecosystems to help them recognise some of the common characteristics of the ecosystems they are observing:

- A few agents usually play the role of knowledge brokers, bringing in new knowledge and ideas from the outside or connecting different knowledge domains within the ecosystem.
- Much of the knowledge needed for innovation is already embedded in the ecosystem.
- Often there is healthy competitive pressure on individuals, teams and companies to be innovative, exploit new knowledge, attract talent and successfully enter new markets.
- When critical functions are not available in the ecosystem or in the broader environment, entrepreneurs must make up for the lack of these external functions internally. While some will be able to make up for what is lacking and innovate while doing so, wider entrepreneurial innovation may be curtailed by the missing functions.



- The configuration of different functions will change over time as the ecosystem evolves. The importance of different functions will depend on the stage and the needs of the different agents.
- The agents in the ecosystem are continuously solving many problems on different fronts, resulting in a continuous evolution of the ecosystem. While some may be focused on pushing the technological frontiers, others may be focused on creating new markets.
- Winning ideas are quickly disseminated across organisational boundaries as problems are solved or as workarounds become available.
- Tacit knowledge flows easily between individuals collaborating across organisational boundaries, even if the organisations themselves are different. In fact, the exposure to diverse knowledge bases and different competencies often fuels more innovation,

which in turn attracts more talent and resources to the ecosystem.

- Constraints that are overcome through innovation and collaboration become part of the DNA of the ecosystem. These breakthroughs often shape the downstream evolutionary pathways of the ecosystem.
- In dynamic ecosystems, it is not only the entrepreneurs who are collaborating. Employees, individual tinkerers and representatives from supporting organisations often self-organise around common interests or ideas.

I have found the entrepreneurial ecosystem approach to be valuable in helping me think through what entrepreneurs and innovators are drawing from and contributing to their



environment. The seven functions draw attention to the affordances available in the system and how the organisations providing these functions co-evolve with the innovators, problem solvers and the new capabilities built up in the system. The two additional functions are also valuable because they draw our attention to where the ecosystem might go from here. If challenges and constraints in the broader environment and



socio-cultural context can be overcome, these breakthroughs shape the future developmental pathways of the ecosystem in different ways to the solutions that other ecosystems are generating.

There are three short warnings that I must often repeat: Firstly, do not only focus on the private sector. Public sector and civil society organisations must also learn and adapt along with the agents in the ecosystem.



Secondly, entrepreneurial ecosystems can often be concentrated in a very small geographical area. They do not necessarily represent the whole place or industry; they are a node in a bigger system. Be careful how much ambition you expect from an ecosystem. Perhaps the most valuable contribution of an ecosystem is that it is a problem-solving and knowledge-recycling device in society. Perhaps it is unfair to burden ecosystems with the pressure to achieve other of our preferred indicators like job creation, inclusion and so on.

Thirdly, just because a group of entrepreneurs or businesses is co-located does not mean an ecosystem exists. In ecosystems, the members are highly interdependent. The networks that make ecosystems innovative are not only between the entrepreneurs themselves but between employees, cross-organisational interest groups, and actors from the broader environment. A dynamic ecosystem is a place where new knowledge is highly valued and where today's innovations grow out of last year's constraints.

Dr Shawn Cunningham (sc@mesopartner.com)