

# Entrepreneurial and Technological Ecosystems

## Introduction

Entrepreneurial success, as well as impact, directly or indirectly gets affected by the environment or ecosystem in which it is operating its business. Given that the Entrepreneurial and Technological Ecosystems could be described as a blend of social, economic, cultural, political and tech components within a region, you as a provident entrepreneur should be able to navigate them smoothly, consider and exploit their potential and opportunities.

In this module we explore the key domains of these systems and the major implications for your business deriving from them.

The ecosystem approach, as a comprehensive way of understanding multi-aspect environments, has recently gained so much attention in entrepreneurship and innovation studies. Since it contains various key elements important for any start-up business, it is of great importance to consider them as a part of your entrepreneurial journey.

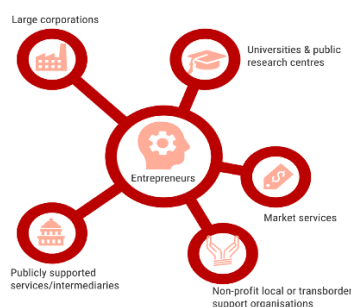
## What are the entrepreneurial ecosystems and why they are important for your start-up company?

Entrepreneurial ecosystems or entrepreneurship ecosystems are peculiar systems of interdependent actors and relations directly or indirectly supporting the creation and growth of new ventures. Entrepreneurial and technological ecosystems are comprised of different success factors - referring to *actors* and their contribution to the ecosystem, to the *conditions*, which are the specific circumstances of the region that may or may not be conducive to entrepreneurship; and to *policies*, which may be used to intervene in the system when there are perceived gaps.<sup>1</sup>

### Entrepreneurial Ecosystems

Framework conditions/conducive environment:

- Human capital /talent
- Financial capital
- Local infrastructure
- Culture
- Spatial concentration



<sup>1</sup> "Fostering collaboration through mapping, analysing and interlinking of European Entrepreneurial Regions", Publications Office of the European Union, 2022

### ***The actors of an entrepreneurial ecosystem***

An ecosystem is a network of many different types of actors who interact in a dynamic, self-regulating fashion. These types of actors may include “entrepreneurs (both potential and existing), entrepreneurial organisations (e.g. firms, venture capitalists, business angels, banks), institutions (universities, public sector agencies, financial bodies) and entrepreneurial processes (e.g. the business birth rate, numbers of high growth firms, levels of entrepreneurial ambition etc.) which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment.”

However, **the most important factor is the density and the interaction among the actors described.** There is no single driver that can be singled out, as each of these actors play a specific role and are in an interdependent relationship.

Bearing the above points in mind, it is important to **distinguish between start-ups with ambitious entrepreneurs and SMEs.** While the ‘traditional’ SMEs generally make up the majority of employment and gross value added in an economy, their characteristics differ from start-ups in several ways. Firstly, given their higher ambition levels, start-ups serve larger markets and have more pronounced growth aspirations than SMEs. Furthermore, start-ups tend to be more innovative, and more technology oriented than SMEs. A third characteristic of start-ups is that they operate more based on private capital such as business angel or venture capital funds, while SMEs use bank loans (or government grants in specific projects).

Start-ups with technological innovation (and preferably with high ability to capture profits generated by these innovations) ensure higher likelihood of scaling up. However, technology-driven start-ups are not the only regional driving force, and entrepreneurs can operate in a variety of fields other than technological innovations.

### ***Ecosystem conditions/conducive environment***

In entrepreneurial ecosystems that emerge organically, the framework conditions are already present and evolve to better support the requirements of the ecosystem. Where this is not the case, policy needs to intervene to transform it into a conducive environment. The main components of such an environment are:

- **Human capital/talent:** It is important to have a broad pool of potential employees with the correct skills in all sectors and areas of expertise, including technical workers as well as more business-oriented workers. Universities and research centres educate the human capital available. Likewise, there has been a shift towards more entrepreneurial education. If there is no balance with other inputs, it might lead to brain drain.

- **Financial capital:** A strong, dense, and supportive community of venture capitalists, business angels and seed investors, among others, has to be available, visible and accessible across sectors, demographics and geographies. One of the most relevant players in this area is the dealmaker – serial entrepreneurs, who are involved in the entrepreneurial community in a fiduciary capacity in several entrepreneurial ventures. Dealmaker networks are also important, but they tend to be more present in mature stages.
- **Local infrastructure:** It is a success factor when it tackles the needs of each ecosystem (they can be technological or of any other kind), and most notably win global connectedness, injecting the global knowledge needed to create world-beating start-ups, the key ingredient of Global Market Search.
- **Culture:** It is one of the most important aspects and the most challenging to modify. The creative class, composed of people like entrepreneurs, professors and artists who create meaningful new forms is relevant for an ecosystem. These individuals want to live in nice places where culture is enjoyed, where there is tolerance for new ideas and enjoy being surrounded by like-minded creative individuals. **A culture of openness is one of the elements of a successful entrepreneurial ecosystem.** Clusters and innovation networks need to be internationally linked to avoid stagnating, and they need to offer connections to global value chains and international expertise and markets. It is also important that the core entrepreneurs of each ecosystem cross borders in order to keep it alive.
- **Spatial concentration:** Usually the levels of entrepreneurship vary across the territory of a region since entrepreneurship tends to concentrate in areas where there are favourable conditions. A commonly agreed definition of spatially concentrated ecosystems sets boundaries as located within a 100 km radius around a centre point in a region, although exceptions can also be found due to the local reality. Larger regions need to decide whether to have one or more interconnected hubs instead of spreading entrepreneurship throughout the territory.

### **Key elements of the technological and entrepreneurial ecosystems to consider**

Since you are building your ideas into a start-up company, a key part in your development strategy should be the considerations related to some of the most important elements of the ecosystems where you'll base your company. Here is a list of elements, with a description of each element, to be considered and assessed given their importance in the ecosystems (for your business):

- **Exit strategies:** Entrepreneurs and investments are considered successful when one of the following happens: (a) profitable growth to the global market, (b) acquisition by a big company, (c) merge with another company, or (d) IPO. Especially for investors, the existence of exit options in the local ecosystem is an attractive factor. While mature ecosystems present all four strategies, there is a lack of exit options in new ecosystems. Zero options is considered weak, one option is medium, and two or more options is a sign of maturity.
- **Global market:** Percentage of start-ups that targeted the global market. A start-up is considered to target the global market if it acts in markets outside its country, with existing customers or at least an official representation office.
- **Entrepreneurship in universities:** Percentage of alumni that founded a start-up within 5 years of graduation.
- **Mentoring quality:** The percentage of mentors that fit one of these criteria: (1) had a successful start-up in the past and (2) founded and worked for more than 10 years in one or more start-ups.
- **Bureaucracy:** Based on the inefficient government bureaucracy index of the global competitiveness report. It represents the percentage of respondents that considered bureaucracy as a problematic factor for doing business.
- **Tax burden:** Based on the country's total tax rate ranking of the global competitiveness report.
- **Accelerators quality:** Percentage of start-ups in accelerators that reach the stage of receiving a next level investment or reach the global market in a sustainable profitable stage.
- **Access to funding in US\$ or EUR:** Total amount of investment in start-ups in US\$ / EUR according to a trusted database.
- **Human capital quality:** Based on the ecosystem position in the talent index of the global start-up ecosystem report.
- **Culture values for entrepreneurship:** Cultural support index in the global entrepreneurship and development index.
- **Technology transfer processes:** Based on innovation and sophistication factors of The Global Competitiveness Report.
- **Methodologies knowledge:** Percentage of start-ups that have knowledge or are trained on systematic methodologies.
- **Specialized media players:** Local media specializing in the start-up industry plays an important role in spreading the word about what is happening in the ecosystem. The existence of more than five players is a sign of movement and engagement within the ecosystem. The specialized media must be recognized by the local community as a reference to be considered in this list.
- **Start-up events:** How frequently local events focused on themes like high-tech entrepreneurship or start-ups occur.

- **Ecosystem data and research:** The existence of a database with data about the ecosystem is an indication of maturity. It is more difficult to improve what one cannot measure; thus, ecosystems that do not have research institutions nor metrics cannot recognize the next steps to take.
- **Ecosystem generations:** the number of generations of prior entrepreneurs that are re-investing their earnings in the ecosystem. “0” means no prior entrepreneurs are investing in the ecosystem, “1” means a first generation of prior entrepreneurs re-investing their earnings in the ecosystem, “2” means that entrepreneurs that received investment from generation 1 are investing their earnings in new start-ups, and so on.
- **Number of start-ups:** Quantity of start-ups founded by year, according to a trusted database.
- **Access to funding in number of deals/year:** Deal count, independently from value or start-up stage.

**Angel funding in number of deals/year:** Deal count only by Angel investors. Mature ecosystems tend to have more angel investment support, since angels are usually successful entrepreneurs giving back their earnings to the community.

**Incubators/tech parks:** The number of incubators and tech parks active in the ecosystem.

**High-tech company presence:** How many high tech companies have tech teams located in the ecosystem region.

**Established companies influence:** How many big companies have activities that nurture the ecosystem? Activities include event organization, local community ambassadors and mentors, acceleration programs, or local investments in start-ups.

Try to find viable and trust-worthy information on these aspects of the technological and entrepreneurial ecosystems where you plan to start your company, and use it to evaluate each factor’s state. Then you’ll be able to fine-tune your development plans, use any strong points (elements) and address (or at least be aware of) any weaknesses / gaps.

## Wrapping-Up

Closing this lesson, try to reflect (in your team if possible) on what are the most important elements of the ecosystems which are key to your business?

Continue your entrepreneurial journey with our other course modules.

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