

## THE ENTREPRENEURIAL ECOSYSTEM CONCEPT: IN SEARCH OF THE COMMON DEFINITION

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### ABSTRACT

The aim of this article is to contribute to the stack of knowledge on the concept of an entrepreneurial ecosystem by bringing more clarity and understanding of what an entrepreneurial ecosystem is. The paper takes the form of a literature review and presents and discusses the elements of the most common definition of an entrepreneurial ecosystem concept. The value of the paper is that it puts together and reviews the recent research by the most-cited scholars and leading academic publications as well as the most-cited entrepreneurial ecosystem definitions and suggests the most common approach as a result of the latest discussions in the entrepreneurship literature.

**Keywords:** Business ecosystem, entrepreneurship, ecosystems, entrepreneurial ecosystem, ecosystem metaphor.

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## INTRODUCTION

Entrepreneurial ecosystem has been a buzzword for the last few years now. However, the ecosystem concept has been adapted for different literatures for quite a long time. Song (2019) mentioned some of the scholars that have adapted the ecosystem concept. Jacobides et al. (2018) summarised the ecosystems literature under 1) business ecosystem 2) innovation ecosystem 3) platform ecosystem. One of the earliest discussions goes back to Tansley (1935) who argued that an ecosystem is a whole complex of organisms inhabiting a given region “considered together with all the effective inorganic factors of its environment is the ecosystem, which is a particular category among the physical systems that make up the universe” (Tansley, 1935 p.306). Acs et al. (2017) briefly explain what the ecosystem concept has to do with economics and continue as follows:

“The simple answer is that an ecosystem is about performance and performance is what economics is about. The more nuanced answer is that economics has always been about the systems that explain differential output (economic behaviour) and outcomes (aggregate welfare). Entrepreneurship is an important output of such systems—it is both enabled and constrained by its context—and an important mechanism to explain the outcome of economic systems” Acs et al., 2017, p.2

A very interesting and critical point we believe is that not only the ecosystem concept of Tansley (1935) is applicable to the entrepreneurial ecosystem but his definition of the “climax” which is a culmination of development and “represents the highest stage of integration and the nearest approach to perfect dynamic equilibrium that can be attained in a system developed under the given conditions and with the available components” (Tansley, 1935, p.300) is also at the heart of the entrepreneurial ecosystem concept.

Burda et.al. (2020) studied differences and similarities between the business ecosystem, entrepreneurial ecosystem, and innovation ecosystem based on the bibliometric analysis of academic articles published in Web of Science. They have suggested the following definitions based on the studied literature.

*Innovation ecosystem-* is a network of legally independent economic agents of varying line-ups who can be direct competitors, however, collaborate for the purpose of creating a comprehensive VP for the customer.

*Business ecosystem-* is an ecosystem where a focal actor tries to expand the boundaries of his offering by developing and maintaining an ecosystem of participants who are able to provide complementary VPs and participate in the development of this offering.

*Entrepreneurial ecosystem-* is a network of interrelated economic agents, concentrated within a particular geographical area, which ultimately will result in the creation of new enterprises and stimulation of regional development.

Additionally, Velt et al. (2020) investigated the top business journals that published entrepreneurial ecosystem related articles. He found that about half of the entrepreneurial ecosystem related research has been published by the top academic journals.

The aforementioned reasons motivate us to conduct research and to look for the answer to the following research questions:

- How do we define the entrepreneurial ecosystem?
- What is the most common definition of the entrepreneurial ecosystem concept?

The paper takes the form of a literature review of scholarly articles, books, and scientific databases such as ScienceDirect, Web of Science, Scopus, and Google Scholar. The paper is attempting to find the most common definition and to bring more clarity and understanding of the entrepreneurial ecosystem concept.

The structure of the paper follows the standards of the academic article outline. After the introduction part section two presents a brief history of the entrepreneurial ecosystem discussion in the relevant literature. The third section covers the most-cited definitions of the entrepreneurial ecosystem concept as well as the discussion of the elements of the most common definitions of the entrepreneurial ecosystem concept. The fourth section is the final section and covers the concluding remarks, limitations, and summary of the paper.

## 1. ENTREPRENEURIAL ECOSYSTEM CONCEPT

According to Malecki (2018) it was Moore (1993) who popularised the term “ecosystem” in social science and suggested considering a firm as part of a business ecosystem. The entrepreneurial ecosystem concept, as argued by Spigel and Harrison (2017), is based on entrepreneurship theories, regional science, and economic geography.

Isenberg (2016) criticised the application of the metaphor of the ecosystem to entrepreneurship which is summarised as follows:

- *The creation mistake:* As the term “ecological restoration” implies, ecosystems are not created or built. However, ecosystems can be influenced, facilitated, and occasionally restored and because they are self-organising and self-sustaining, the notion of creating an ecosystem is problematic. Nevertheless, the majority of entrepreneurial ecosystem reports have mistakenly emphasised “creating” an entrepreneurial ecosystem. He reckons it is because observers conflate a particular institution or organisation (such as a mentor network) with the ecosystem as a result suggesting the need for external control to “create” them in the first place.
- *The centralised control mistake:* This misunderstanding is related to the creation mistake. We can only own and control elements of ecosystems (land, houses), but not the ecosystem.
- *The geography mistake:* This comes from viewing entrepreneurship ecosystems in broad geography, typically at the national level. Quite the contrary, there are some studies (see for example Rocha & Sternberg, 2005) showing that variation of entrepreneurship within countries can be greater than that between countries.
- *The intention mistake:* Another mistake is creating centrally controlled entrepreneurship ecosystems where “the intention of one or a small set of actors is relevant or causal” (Isenberg 2016,p 569). For instance, social norms (such as supporting wealth creation or risk-taking) one of the important elements of entrepreneurship ecosystems may be necessary even without entrepreneurial intention.
- *The entrepreneur-centrality mistake:* It is something to do with the analyses of entrepreneurship ecosystems exclusively from the entrepreneur's standpoint. Isenberg gives an acting analogy, where the star is most visible, but without the producer, director, casting director, and so on, the appearance of the star is irrelevant.

## 2. THE MOST COMMON DEFINITION OF ENTREPRENEURIAL ECOSYSTEM

Although there is no consensus in the literature on the definition of an entrepreneurial ecosystem (Brown and Mason, 2017) we need to follow some kind of common definition of the entrepreneurial ecosystem. Table 1 lists the most cited definitions published mainly by the top academic publishers.

**Table 1:** Popular definitions of entrepreneurial ecosystems

Publication	Definition
Spilling (1996)	"The entrepreneurial system consists of a complexity and diversity of actors, roles, and environmental factors that interact to determine the entrepreneurial performance of a region or locality." (p. 91)
Cohen (2006)	"Entrepreneurial ecosystems represent a diverse set of interdependent actors within a geographic region that influence the formation and eventual trajectory of the entire group of actors and potentially the economy as a whole. Entrepreneurial ecosystems evolve through a set of interdependent components which interact to generate new venture creation over time" (pp. 2-3)
Isenberg (2010)	This entrepreneurship ecosystem consists of a dozen or so elements (which we consolidate into six domains for convenience sake ...) that, although they are idiosyncratic because they interact in very complex ways, are always present if entrepreneurship is self-sustaining. So although the combinations are always unique, in order for there to be self-sustaining entrepreneurship, you need conducive policy, markets, capital, human skills, culture, and support. (p. 46)
Qian et al. (2012)	"Economic, social, institutional and all other important factors that interactively influence the creation, discovery and exploitation of entrepreneurial opportunities" (p. 562)
Feld (2012)	Four principles for entrepreneurial ecosystems: "1) Entrepreneurs must lead the startup community. 2) The leaders must have a long-term commitment. 3) The startup community must be inclusive of anyone who wants to participate in it. 4) The startup community must have continual activities that engage the entire entrepreneurial stack." (p. 23)
Vogel (2013)	"...an interactive community within a geographic region, composed of varied and interdependent actors (e.g. entrepreneurs, institutions and organisations) and factors (e.g. markets, regulatory framework, support setting, entrepreneurial culture), which evolves over time and whose actors and factors coexist and interact to promote new venture creation." (p. 6)
Autio et al. (2014)	"Entrepreneurial ecosystems regulate the direction and quality of entrepreneurial innovation by shaping the direction and potential rewards of alternative courses of technological development..." (p. 1100)
Mason and Brown (2014)	A set of interconnected entrepreneurial actors (...), entrepreneurial organizations (...), institutions (...), and entrepreneurial processes (.....) which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment. (p. 9)
Stam (2015)	"...a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship (p. 1765)
Mack and Mayer (2016)	"Entrepreneurial ecosystems (EE) consist of interacting components, which foster new firm formation and associated regional entrepreneurial activities" (p.3)
Roundy (2016)	"The sets of actors, institutions, social structures and cultural values that produce entrepreneurial activity" (p. 233)
Acs et al. (2017)	"...The entrepreneurial ecosystem approach, just like strategy and regional development literatures, emphasizes the interdependence between actors and factors, but sees entrepreneurship (new value creation by agents) as the output of the entrepreneurial ecosystem" (p. 3)
Audretsch and Belitski (2017)	"systems of entrepreneurship (further ecosystem) as institutional and organizational as well as other systemic factors that interact and influence identification and commercialization of entrepreneurial opportunities" (p. 2)

Auerswald and Dani (2017)	“Represents the higher-level infrastructure that enables interactions between the entrepreneurial agents and institutions in the industrial sector... They cut across industries and focus on the environment surrounding entrepreneurs - with entrepreneurs and entrepreneurship clearly at the centre” (p.98 and p.113)
Autio (2017)	“Entrepreneurial ecosystems are regionally embedded interaction systems that drive the allocation of resources towards productive uses through the creation and scale-up of new ventures.” (p. 23)
Bruns et al. (2017)	“Entrepreneurial ecosystem as a multidimensional set of interacting factors that moderate the effect of entrepreneurial activity on economic growth” (p. 1)
Spigel (2017)	“Entrepreneurial ecosystems are combinations of social, political, economic, and cultural elements within a region that support the development and growth of innovative start-ups and encourage nascent entrepreneurs and other actors to take the risks of starting, funding, and otherwise assisting high-risk ventures.” (p. 50)
Kuratko et al. (2017)	“Entrepreneurial ecosystem as coordinated attempts to establish environments that are conducive to the probabilities of success for new ventures following their launch... entrepreneurial ecosystems are focused on creating environments conducive to the success of entrepreneurs and their new ventures” (p.120)
Wadee and Padayachee (2017)	“an entrepreneurial ecosystem refers to the set of elements, individuals, organisations or institutions outside the individual entrepreneur that are conducive to the choice of a person to become an entrepreneur or the probability of his or her success following launch.” (p. 288)
Theodoraki et al. (2018)	“The entrepreneurial ecosystem includes three dimensions: actors who form it and their interactions (formal and informal network), physical infrastructure, and culture.” (p. 50)
Stam and Spigel (2018)*	“a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory” (p. 407)

**Source:** Based on Burda et al. (2020), Spigel (2020), Cao & Shi (2020) and Cavallo et al. (2019) studies.

\* asterisks indicate the author’s own addition.

In an attempt to present the most common definition of an entrepreneurial ecosystem we compared and broke down two definitions: Burda (et.al 2020) and Stam and Spigel (2018) definitions of an entrepreneurial ecosystem.

Burda et al. (2020) conducted a bibliometric analysis of papers published in the Web of Science database between 1993 and 2020 and analysed 777 studies that are written on the concepts of an innovation ecosystem, business ecosystem, and entrepreneurial ecosystem. One of their great contributions to the literature is extracting definitions and identifying the distinctive features of the “innovation ecosystem”, “business ecosystem”, and “entrepreneurial ecosystem” concepts. After their bibliometric` research, Burda et al. (2020) suggested the following definition of an entrepreneurial ecosystem:

*“Entrepreneurial ecosystem is focused upon the creation of a network of interrelated economic agents, concentrated within a particular geographical area, which ultimately will result in the creation of new enterprises and stimulation of regional development” (Burda et al., 2020, p. 97)*

Another most-cited definition is by Stam and Spigel (2018) which is as follows:

*“a set of interdependent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory.” (Stam and Spigel, 2018, p. 407)*

Stam and Spigel (2018) breaks down the above definition into four key components which are given in Table 2 in comparison with the components in Burda et al. (2020) suggested definition.

**Table 2:** Comparison of entrepreneurial ecosystem definition of Stam & Spigel's (2018) and Burda et al. (2020)

Components in the definitions	Stam & Spigel's (2018)	Burda et al. (2020)
1	Interdependent actors and factors	Interrelated economic agents
2	Coordinated in such a way	Network
3	Enable productive entrepreneurship	Result in the creation of new enterprises
4	Within a particular territory	Within a particular geographical area

*Source:* Author's own comparison based on Stam & Spigel's (2018) and Burda et al.(2020) definitions.

If we compare Stam and Spigel's (2018) definition with the definition suggested by Burda et al. (2020) we can see that Stam and Spigel's (2018) definition almost overlaps with each other with only a slight difference in the wording. In Burda et al.'s (2020) suggested definition of the component "*stimulation of regional development*" seems like only addition to Stam and Spigel's (2018) definition which could be considered a long-term benefit of the entrepreneurial ecosystem.

## CONCLUSION

The paper aims to contribute to the body of knowledge on the concept of the entrepreneurial ecosystem and to shed light on the most referred definitions of the entrepreneurial ecosystem concept. Therefore the paper compares different approaches about entrepreneurial ecosystem concept and suggests the most common approach based on the literature review. As a result of our analyses, Stam and Spigel's (2018) definition appeared the most common and comprehensive definition when compared to the other definitions. As per the future research directions, we found the following papers critical to entrepreneurial ecosystem research.

- Wurth et al. (2021)– this paper presents a critical literature review and a transdisciplinary research program for entrepreneurial ecosystem research and practice.
- Malecki (2018, p. 10) – this paper argues that “in order to understand the emergence and evolution of an entrepreneurial ecosystem, we have to go beyond the lists of factors/components/elements approach.”
- Auerswald and Dani (2017, p.105) – this paper supports the evolutionary perspective and suggests that the life cycle of EEs is best characterised by “the evolutionary dynamics of complex adaptive systems”.

One of the limitations of the paper is that this research focuses on the selected papers published in academic journals indexed in Science Direct, Web of Science, and Google Scholar. In order to get the most comprehensive analysis it would be better to include other relevant research databases and be able to compare other approaches and contributions to the entrepreneurial ecosystem body of knowledge. Another limitation is that digitization of the entrepreneurial ecosystem is not included in this study. The reason behind skipping the digitization of the entrepreneurial ecosystem is to avoid complex discussions and make the paper easy to follow. These limitations can be the motivation for the new research, to say the least. In fact, some of the related topics are the part of the ongoing debate in the entrepreneurship literature.

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