Guest editorial

Interdisciplinary perspectives on entrepreneurial ecosystems

Introduction

The term entrepreneurial ecosystems has gained increasing notoriety among scholars and practitioners, particularly because of the mainstream business books such as Feld's (2012) *Startup communities: Building an entrepreneurial ecosystem in your city* and Isenberg's (2014) *Harvard Business Review* article *What an entrepreneurship ecosystem actually is*. Together with many other writings, these works have popularized the phrase "entrepreneurial ecosystem". Yet a problem remains, there is neither a universally accepted definition of the "entrepreneurial ecosystem" nor a theory explaining this phenomenon. This special issue invited scholarly contributions to examine various facets of the entrepreneurial ecosystem to help coalesce our understanding of what exactly it constitutes and how it affects entrepreneurship.

The term *entrepreneurial ecosystem* can be subdivided into two aspects. First, *entrepreneurial*, which delineates the focus of the ecosystem to the process of entrepreneurship, the creation of new products and/or services through opportunity identification and exploitation (Shane and Venkataraman, 2000). The second term, *ecosystem*, is based in scholarship of interpreting systems with a focus on organisms interacting with their physical environment (Bertness and Callaway, 1994). The terminology ecosystem was first introduced in management by Moore (1993), and it has increased in prevalence and application in both strategy and entrepreneurship literatures (Audretsch and Belitski, 2017). In strategy, an ecosystem is used to describe the processes of coopetition in technology-focused settings (Adner and Kapoor, 2010). The entrepreneurship literature uses the term to refer to entrepreneurial policy initiatives (Wessner, 2004), focused localized clusters of entrepreneurial activity (Kenney and Von Burg, 2000), innovation ecosystems (Nambisan and Baron, 2013) and national systems of entrepreneurship (Ács *et al.*, 2014).

We follow Mason and Brown's (2014, p. 5) definition of an entrepreneurial ecosystem as a set of:

> [. . .] interconnected entrepreneurial actors (both potential and existing), entrepreneurial organizations (e.g., firms, venture capitalists, business angels, banks), institutions (e.g., universities, public sector agencies, financial bodies) and entrepreneurial processes (e.g., the business birth rate, numbers of high growth firms, levels of "blockbuster entrepreneurship", number of serial entrepreneurs, degree of sell-out mentality within firms and levels of entrepreneurial ambition) which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment.

Aspects of an entrepreneurial ecosystem

An entrepreneurial ecosystem contains four dynamic elements: agents (e.g. entrepreneurs, stakeholders and any other form of system actor), the contextual environment (which captures system processes), outcomes of the system itself and the region or city (which identifies boundaries of the system). Accordingly, entrepreneurial ecosystems consist of communities with several agents. Agents like, local governments, colleges and universities, investors, mentors, service providers, media and incumbent companies are all driving forces in the creation and maintenance of an entrepreneurial ecosystem (Feld, 2012). The development of an entrepreneurial ecosystem can take many paths, but generally,

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innovation and business creation take precedent as desired outcomes. The system itself is dynamic and functions through knowledge-spillovers. As a result, entrepreneurial ecosystems tend to have a considerable impact on venture creation and innovation because of coopetition (Romero-Martínez and Montoro-Sánchez, 2008).

The most important facet of entrepreneurial ecosystems are its agents. The agents in the system do not make decisions in a vacuum; they are made based on interdependent issues confronted by other agents as they interact with the ecosystem. Simon (1956) argues that the structure of the environment has a significant influence on rational behavior. Therefore, the contextual environment or the structure of the entrepreneurial ecosystem, will both directly and indirectly influence the process of venturing because entrepreneurs respond to opportunities they discover or co-create in an ecosystem. The contextual environment encompasses all the system processes that shape the context of interacting with the environment for agents and the interaction of agents with the contextual environment result in system outcomes (e.g. performance, innovation and new business creation). Finally, the geography of the ecosystem is another area of focus because it sets the boundaries for the area of study.

Entrepreneurial ecosystems have boundaries owing to the fact that ecosystems are tied to geography. This supports arguments by Florida *et al.* (2017), who argue that the city (or the region) is the very center of the processes of innovation, entrepreneurship and creativity. They suggest that the city (or region) should be the central organizing unit of these processes in which the entrepreneur interacts with the environment. Accordingly, we contend the entrepreneurial ecosystem approach to the study of human behavior should posit a framework for examining the interactions that occur between people (agents) and their environment (context) within the system (a geographic region or city) and are aimed at outcomes (innovation, creativity or business creation) based on associated system processes (contextual structure for organizing).

Historical background of entrepreneurial ecosystems

The entrepreneurial ecosystem approach is similar to with other concepts like clusters, innovation districts and industrial, in that its main focus is in understanding the external business environment. This is because pressures beyond the boundaries of the firm, but within a zone, can also contribute to an organization's success. Some of the earliest work on the concept of geographic business ecosystems can be traced to Marshall (1920), who emphasized that the availability of skilled labor and knowledge as benefits to co-location. Marshall's (1920) economic theory of agglomeration economies suggests that firms located in a particular zone end up benefiting from external economies of scale. Nascent start-ups tend to need similar resources and by sharing a common geography, these start-ups can share the fixed costs of inputs external to the start-ups. What ends up happening is the number of start-ups in a particular geography will then share the cost of specialized resources, so the average cost for these specialized resources drops per start-up, resulting in a direct economic benefit to firms located within the start-up community.

Contributions building on this line of logic include, Markusen (1996) and Zacharakis *et al.* (2003). In all, this line of research focuses on the potential benefits of co-located firms or clusters, in terms of value creation and social embeddedness (Pitelis, 2012). Clusters are geographically concentrated organizations interconnected by specialized suppliers, service providers, companies in related industries and associated institutions in a particular economic field (e.g. universities, standard agencies and trade associations); all of which compete but also cooperate at the same time (Porter, 1998). Moreover, contributions from sociology on ecosystems suggest these interconnections create horizontal network effects.

Horizontal network effects result in a culture that values open information exchange among system members. This in turn enhances value for existing network constituents (Saxenian, 1994). Such features create highly flexible networks where members can adapt quickly to change. And finally, contributions based on the work of Florida *et al.* (2017) in the field of economic geography argue that entrepreneurs, engineers, professors and artists or the creative class, create meaningful new forms within ecosystems because of the horizontal network effects. Taken together, the existence of a critical mass of creative class members in a geographic area results in a competitive advantage for an area over other areas because the creative class has a vested interest to create an environment that is pleasant, culturally diverse and tolerates novel and contrarian ideas. However, within these lines of research, the system often does not emphasize the role and power of agents, and the system generally is rarely modeled. Likewise, welfare outcomes are typically not discussed (Stam and Spigel, 2016). Consequently, we contend that the goal of entrepreneurial ecosystem research is to provide a framework to model agents, the system, as well as its processes and outcomes.

Researching entrepreneurial ecosystems

The entrepreneurial ecosystem perspective, although similar to other lines of scholarship that focus on the structural environment, differs by placing a stronger focus on the entrepreneur and system stakeholders. It begins by highlighting the agency and power wielded the agents in the system and emphasizes the influence of the contextual environment that encompasses the entrepreneurial process. Although work on entrepreneurial ecosystems is still quite nascent, there are a few studies showcasing the tangible role the entrepreneurial ecosystems play in regional development (Fritsch, 2013). For instance, Mack and Mayer (2016) examine the impact of visible success stories, a strong entrepreneurial culture and supportive public policies have on the early entrepreneurial successes in the Phoenix, AZ entrepreneurial ecosystem. In a similar study, Spigel (2017) investigates the entrepreneurial ecosystems of Waterloo and Calgary, Canada, suggesting that ecosystems will likely have different structures and origins, but their success ultimately centers in their capacity to foster an interconnected network that supports start-ups. Other work on areas like Boston (Saxenian, 1994), Silicon Valley (Kenney and Patton, 2005), WA D. C (Feldman, 2001), Kyoto (Aoyama, 2009), Chicago (Miller and Acs, 2017) examine how interdependent historically produced, place-based elements created the conditions for long-term entrepreneurial success. Finally, Ács *et al.* (2014) have used large-scale empirical methods, instead of qualitative methods, to identify the different underlying local factors associated with high levels of innovative entrepreneurship across national levels of innovation ecosystems. Historically, regional economic development and strategic entrepreneurship scholarship have often overlooked the role of entrepreneurs creating value in entrepreneurial ecosystems. Yet, the emerging scholarship in this area has raised awareness, and will continue to raise awareness, of the interdependent nature of actors and factors on system outcomes on the prosperity and development of cities and regions.

About the special issue[1]

This special issue presents eight peer reviewed papers aimed at further contributing to our collective understanding of entrepreneurial ecosystems. These papers are diverse and interdisciplinary. The authors contributing to this issue span global boundaries (e.g. the USA, the UK, Australia, France, Finland and Malaysia). These authors also cross disciplinary boundaries and study contexts (e.g. entrepreneurship, sustainability, geography, public and international affairs, management and engineering). The first paper, by Huang-Saad, Duval-Couetil and Park, explores the complex interconnectedness of

universities in regional entrepreneurial ecosystems. The second paper, by Velt, Torkkeli and Saarenketo, looks at born-global startups in Estonia, emphasizing the need for born-global firms to remain engaged in their local ecosystems. The third paper, by Debbage, explores non-farm proprietorship employment data as a proxy for entrepreneurship, contributing to our understanding of why some metropolitan areas have generated more entrepreneurial opportunities than others since the 2008 market crash. The fourth paper, by Muldoon, Bauman and Lucy, reviews the trust literature in the context of an entrepreneur's social network ties, building on our understanding of both trust and distrust.

The fifth paper, by Cowell, Lyon-Hill and Tate, explores ecosystems growth needs, emphasizing the need for more prototyping facilities and translational research by universities, among others. The sixth paper, by Thomsen, Muurlink and Best, uses a political ecology framework to explore the dynamics of social entrepreneurship ecosystems, a nuanced and relatively unexplored ecosystem context. The seventh paper, by Pittz and Hertz, synthesizes the literature on university ecosystem elements and supplements their analysis with a Delphi Panel of subject matter experts. The eighth paper, by Pillai and Ahamat, explores the role of social-cultural capital via social network ties in youth entrepreneurship. Together, these eight manuscripts help advance our collective understanding of entrepreneurial ecosystems.

Conclusion

Taken together, the increasing focus of scholarship aimed at examining entrepreneurial ecosystems captures the shift in the field at integrating previously disparate literatures. A broader focus was given on the role of context, particularly social, cultural and economic forces that affect and are affected by entrepreneurial processes (Steyaert and Katz, 2004). Scholars have warned that there is not one best approach when it comes to creating and maintaining entrepreneurial ecosystems (Hechavarria and Ingram, 2014). Any region can try to initiate policies and programs developed in another area that could of succeed in attracting entrepreneurs. However, if the individual institutional environment of a particular area is not also specifically considered, it may fail to establish a sustainable entrepreneurial ecosystem that creates a competitive regional economy over the long term. In the absence of a deliberate strategy, policymakers run the risk of creating unintended negative consequences for entrepreneurs and the wider regional economy, including but not limited to, investment gaps, misallocation of resources, excessive churn and market bubbles. Therefore, we ardently believe that it is of utmost interest to examine how the entrepreneurial ecosystems evolve over time within specific geographic regions to truly understand their impact. In all, work in this domain will help us further understand how entrepreneurial ecosystems influence the entrepreneurship process.

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Note

1. Special issues have come under some criticism by promotion and tenure committees in recent years. Some committees have lamented that special issues articles do not have the same level of transparency that articles in regular issues have, especially with regard to acceptance rates. To address these concerns, and in the nature of full transparency, the guest editors would like to note some key data regarding the papers published in this special issue. First, all manuscripts contained here within were subject to a double-blind peer review process with at least two rounds of blind reviewer feedback being offered. Second, there were 26 manuscripts submitted to the special issue of which eight revised manuscripts were ultimately accepted for publication. This makes the effective special issue acceptance rate 30.77 percent, which is lower than the journal's overall acceptance rate over the past three years. Third, one of the special issue editors has published in the past with two of the authors who submitted to the special issue, and in these cases, the other special issue editors handled 100 per cent of the review and decision-making processes on these manuscripts. This is not uncommon or unexpected – editors are selected to edit special issues in areas where they have deep expertise, so it's reasonable to expect they would have worked with other scholars in the past who work in the same space that would have an interest in the special issue.

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Further reading

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