To bridge or buffer? A resource dependence theory of nascent entrepreneurial ecosystems

Philip T. Roundy
Department of Marketing and Entrepreneurship, University of Tennessee, Chattanooga, Tennessee, USA, and
Mark A. Bayer
Department of Management, Eastern Illinois University, Charleston, Illinois, USA

Abstract
Purpose – Vibrant entrepreneurial ecosystems, systems of inter-related forces that promote and sustain regional entrepreneurship, are increasingly viewed as sources of innovation, economic development and community revitalization. Regions with emerging, underdeveloped or depressed economies are attempting to develop their nascent entrepreneurial ecosystems in the hopes of experiencing the positive benefits of entrepreneurial activity. For nascent entrepreneurial ecosystems to grow requires resources. However, how nascent entrepreneurial ecosystems manage their resource dependencies and the tensions that exist between creating and attracting resources are not clear. The purpose of this paper is to propose a theory of nascent entrepreneurial ecosystem resource dependence.

Design/methodology/approach – This conceptual paper analyzes entrepreneurial ecosystems as meta-organizations and builds on resource dependence theory to explain how nascent ecosystems respond to environmental dependencies and their resource needs through internal and external strategies.

Findings – Two specific strategies used by nascent entrepreneurial ecosystems to manage resource dependence – bridging and buffer – are explored. It is proposed that there is a positive relationship between the resource dependence of a nascent entrepreneurial ecosystem and its use of bridging and buffering activities. Two ecosystem characteristics that influence the pursuit of bridging and buffering – ecosystem size and the presence of collaborative values – are also identified. In addition, it is theorized that resource dependence strategies influence a key, system-level characteristic of entrepreneurial ecosystems: resilience, the ecosystem’s ability to respond and adapt to internal and external disruptions.

Originality/value – The theory presented generates insights into how nascent entrepreneurial ecosystems create and obtain resources when ecosystems are unmunificent, resource-constrained or underdeveloped. The theorizing addresses which resource dependence strategy – buffering or bridging – has a stronger link to resource dependence (and resilience) and under what conditions these linkages occur. The theoretical model generates insights for research on entrepreneurship in emerging and developed economies and produces practical implications for ecosystem participants, policymakers and economic development organizations.

Keywords Regional development, Startup communities

Paper type Conceptual paper

Introduction
Communities in emerging and developed economies are increasingly taking steps to stimulate entrepreneurial activity in pursuit of entrepreneurship’s positive economic and social benefits (Acs et al., 2014). In these efforts, there is growing recognition that entrepreneurs do not identify, create or pursue opportunities in isolation; their activities are embedded in a dense web of economic, community and cultural forces (Greve and Salaff, 2003; Roundy, in press). The embeddedness of entrepreneurship has shifted the focus of
academics’ and practitioners’ attention from the activities of individual entrepreneurs and ventures to the construction and growth of entrepreneurial ecosystems (EEs), the systems of inter-related forces that promote and sustain regional entrepreneurship (Autio and Thomas, 2013; Cavallo et al., in press; Mason and Brown, 2014; Hechavarria and Ingram, 2014; Roundy et al., 2018). In regions where other economic development strategies have stalled, such as in many underdeveloped or depressed economies, the emphasis on creating thriving EEs is particularly intense (Isenberg, 2010).

Resources are required to create and develop EEs and to support their participants (entrepreneurs, investors, incubators) (Colombo et al., 2019). Both academics and practitioners have tended to emphasize how entrepreneurs and organizations within EEs manage and deploy resources rather than how ecosystems create resources or secure them from resource providers external to the system (Spigel, 2017a; Knox, 2017). Spigel (2017a), for instance, studied how high-growth entrepreneurs “engage with and draw resources from” the EEs in Edinburgh and Glasgow, Scotland (p. 1). However, scholars have yet to articulate a theory explaining resource acquisition dynamics at the ecosystem-level. As a result, how EEs create and attract resources is not fully understood.

To grow, nascent EEs – ecosystems in the early stages of cultivating the inter-related forces that promote and sustain entrepreneurship – are dependent on successfully developing and acquiring resources. Compared to more established ecosystems, in nascent EEs, firm births are low and “the [entrepreneurial] arrangements and activities of interest are fragile, tentative, unstable, and potentially experimental in nature” (Thompson et al., 2018, p. 99). Furthermore, the core components of nascent EEs, such as local customers, investors, success stories and human capital, are underdeveloped (Mack and Mayer, 2016, p. 2121). In many nascent EEs, however, there are budding movements focused on stimulating entrepreneurial activities and coordinated efforts to spur entrepreneurship (through the creation of support organizations; Mack and Mayer, 2016; Roundy, 2017b). Nascent EEs are contrasted with mature EEs, like Silicon Valley, CA (Engel, 2015), in which a high percentage of resources are produced internally or flow from well-established relationships with readily available external providers (Kenney and Von Burg, 1999). Research on mature EEs, which is often based on studies of ecosystems located in resource-rich contexts, has produced significant insights about the general phenomenon of EEs. However, there is not yet a clearly articulated theory to explain how nascent EEs create and acquire the resources needed to flourish.

To understand nascent EEs’ resource acquisition dynamics, we integrate EE research with resource dependence theory (Pfeffer and Salancik, 1978; Drees and Heugens, 2013; Wry et al., 2013), which calls attention to organizations’ reliance on actors in their external environment for resources and how organizations engage in strategies to manage resource dependence. Resource dependence theory was developed to explain the activities of conventional organizations; however, we propose that the theory is also applicable to EEs, which are a type of meta-organization (i.e. a network of individuals and organizations not bound by employment relationships but characterized by system-level goals; Gulati et al., 2012; Roundy et al., 2017). Pfeffer and Salancik (1978, p. 1) argue that “to understand the behavior of an organization you must understand the context of that behavior – that is, the ecology of the organization.” In this paper, we argue that to understand the behaviors of nascent EEs, one must understand their ecology and, specifically, how they acquire resources from external sources and develop them internally. We argue that resource dependence theory is applicable to nascent EEs because of their resource challenges and resource
dependence. In developing a theory of resource dependence in EEs, we address three specific questions:

Q1. What are nascent entrepreneurial ecosystems’ resource challenges?

Q2. What are the strategies nascent entrepreneurial ecosystems use to create and acquire resources and when are these strategies used?

Q3. What are the implications of the different resource dependence strategies for nascent entrepreneurial ecosystems’ resilience?

Drawing from resource dependence theory, and taking the entrepreneurial ecosystem as our unit of analysis, we propose that nascent EEs face unique resource challenges that make them more dependent on their external environments than mature EEs. We theorize a positive relationship between a nascent EE’s resource dependence and its use of bridging and buffering strategies. We argue that bridging and buffering strategies are dependent on EE size and the presence of collaborative values. Finally, we propose curvilinear relationships between bridging, buffering, and a key system-level characteristic of nascent EEs, their resilience, which represents EEs’ ability to survive and adapt to disturbances, such as a sudden inability to acquire resources.

By integrating resource dependence theory and work on EEs we address the criticism that “contemporary work on EEs within both popular business literature and academic research lacks a strong theoretical foundation, making it a chaotic concept and reducing its ability, generalizability, and policy relevance” (Spigel and Harrison, 2018, p. 152). In doing so, our theorizing makes three primary contributions. We draw attention to the issues faced by nascent EEs and the insights that are generated by considering ecosystems that are early in their lifecycle and not located in munificent, resource-rich, and highly developed economies. We also identify a critical source of variation among nascent EEs – the extent to which they engage in resource dependence strategies – which has implications for the resilience of ecosystems. Resilience is an important indicator of the “health” of socio-economic systems (Folke, 2006). Finally, we expand the boundaries of resource dependence theory beyond the traditional organization to the meta-organization.

Literature review

The entrepreneurial ecosystems perspective

Studies of EEs are producing a robust stream of research built on the insight that entrepreneurial activity (the creation and pursuit of innovative opportunities to produce value) does not occur in a vacuum and is influenced by an interconnected set of forces that exist outside the entrepreneur (Liguori et al., 2019; Roundy and Fayard, 2019; Van de Ven, 1993). Entrepreneurship is a phenomenon that is dependent on complex collections of individuals, organizations, institutions, and values (Spilling, 1996; Stam, 2015). However, while researchers are acknowledging that entrepreneurs are embedded in larger systems of forces, studies have been slower to examine how EEs are nested within local, regional, and national contexts, which differ in their level of development and resources. That is, research examining EEs has implicitly adopted a “closed-system” (Scott and Davis, 2015) approach to studying EEs and has not explored ecosystems’ pursuit of resources.

To address the intensity of scholars’ interest in nascent ecosystems and in ecosystems that might suffer from resource limitations, we used the ABI/INFORM and Business Source Premier databases and manual queries to search for any articles examining “nascent,”
“early-stage” or “emerging” EE and/or EE in “developing” and “emerging economies.” We also searched for any articles focusing on EEs and “resources”.

Our search revealed that studies are increasingly focused on entrepreneurship occurring outside large, capital cities and in unestablished markets (Galperin and Melyoki, 2018). For instance, Sridharan et al. (2014) studied entrepreneurship in peripheral communities in Tamil Nadu and West Bengal, India. They found that even though the individuals they studied were “subsistence entrepreneurs,” a subset of these entrepreneurs were able to grow thriving enterprises. Even in high-income countries, like Australia, nearly a quarter of new businesses are created outside major cities (Houghton, 2017).

Scholars are beginning to study early-stage EEs located in emerging and developing markets and outside large urban areas. These studies find that, in general, there are key differences between EEs in emerging and advanced economies (Cao, 2018; Quinones et al., 2015). For instance, Mansour et al. (2018) studied Egypt’s entrepreneurial ecosystem, which is both an early-stage ecosystem and one located in an emerging economy. They found that Egypt’s ecosystem remains at a “birth” stage because of “scattered efforts, uncoordinated initiatives, [a] fragile legal framework and low-quality education” (p. 519). In addition, the ecosystem struggles to retain entrepreneurial talent because qualified EE participants often “immigrate to more robust innovation environments,” which suggests that the Egyptian ecosystem is an example of an emerging ecosystem that has difficulty keeping resources in the system (p. 519).

In another recent study, Sandhu and colleagues (2018) analyzed the entrepreneurial ecosystem in the state of Punjab in northern India. They focused on female entrepreneurs and their access to entrepreneurial finance and found that the Punjab context is an emerging entrepreneurial ecosystem where formal and informal institutions are “interwoven and interdependent” (p. 173). As an ecosystem in an emerging market, women face unique challenges acquiring the financial resources needed to found and scale their ventures. Similarly, by studying the nascent entrepreneurial ecosystem in Ghana, Amankwa-Amoah (2018) found that factors such as stigmatization and fear of business failure, governments’ suspicion of the private sector and the lack of clear national policy act as barriers to ecosystem development.

Some studies are beginning to explicitly examine the role of resources in nascent EEs. For instance, in Kenya’s “Silicon Savanna,” Hain and Jurowetzki (2018) examined how a specific type of financial resource – foreign direct investment – could spur entrepreneurship and innovation. Dana and Ratten (2017) focused on resource-rich landlocked African countries, including Botswana, Zambia and Zimbabwe, and argued that because of their resource composition, to compete in the international marketplace, the EE in these countries need to focus on cultivating informal networks and on their differentiating cultural attributes. Finally, Alon and Godinho (2016) examined a specific resource provider – business incubators – in Brazil’s peripheral northeast region and find that there are unique “structural problems which may be common to other peripheral regions” that influence the effectiveness of business incubators in emerging ecosystems.

Despite the progress made by studies examining EEs in emerging economies and nascent EEs’ resource challenges in these contexts, more work is necessary. Research on nascent EEs has focused on specific components of EEs (entrepreneurs’ ability to acquire financial resources; Sandhu et al., 2017; the usefulness of resource providers; Alon and Godinho, 2016), but has not offered a comprehensive theoretical framework that seeks to explain resource acquisition and creation. Furthermore, most studies have taken the entrepreneur as the primary unit of analysis and have examined their resource acquisition strategies or the factors encouraging (or limiting) their abilities to acquire resources. Few studies have taken the EE as
the unit of analysis or sought to explain system-level resource dynamics. Before we present our theoretical model, which focuses on how nascent EEs create and acquire resources, in the next section we review the work examining resources and entrepreneurship.

**Resources and entrepreneurial activity**

**Entrepreneurs and resource acquisition.** From an organizational perspective, resources are a firm’s idiosyncratic bundle of assets and capabilities (Amit and Schoemaker, 1993; Silverman, 2017). They are tied semi-permanently to organizations (Wernerfelt, 1984) and include all of the tangible assets, information, capabilities, knowledge and human capital used in the production of goods and services (Amit and Schoemaker, 1993). Resources also include other intangible assets, such as an organization’s reputation, status, celebrity and legitimacy (Dalpiaz et al., 2010).

A key tenet in studies of organizational resources is that organizations are not self-sufficient and “no organization is an island” (Shwom, 2009, p. 271). Resources that cannot be produced internally must be obtained from external stakeholders (Scott and Davis, 2015; Pfeffer and Salancik, 1978). Organizations are dependent on and often constrained by exchanges with other organizations and groups, such as investors, the media, suppliers, competitors, creditors and governmental agencies, (Bode et al., 2011; Zott and Huy, 2007).

Most research has focused on resource acquisition in mature firms (Greve, 2011). There is, however, a growing body of work examining how entrepreneurial firms obtain resources from external sources (Zhang et al., 2010). Studies find that a new venture’s ability to acquire and mobilize resources is critical for firm survival and growth (Brush et al., 2001). Yet, acquiring resources is a difficult task and, arguably, “the greatest challenge faced by entrepreneurs” (Brush et al., 2001, p. 71). New ventures face several problems related to establishing and growing their resource base, including liability of newness, lack of legitimacy and information asymmetry with resource providers (Zott and Huy, 2007).

**Entrepreneurial ecosystems and resources.** Research on resource acquisition has focused on conventional organizations. However, meta-organizations also require resources (Bor and Croapper, 2016). Meta-organizations, like EEs, are networks of individuals and organizations that are loosely connected, not bound by formal relationships and united by system-level goals (Gulati et al., 2012). Research examining the functioning of EEs has sought to identify the characteristics and core attributes of such ecosystems (Brown and Mason, 2017). Many of these ecosystem components are conceptualized as resources, such as entrepreneurial knowledge, skilled workers, experienced mentors, early-stage investment capital, technological infrastructure, support organizations and cultural artifacts (Isenberg, 2011; Mason, 2009; Motoyama et al., 2017; Roundy, 2016). As in traditional organizations, resources are recognized as critical to the “health” and functioning of EEs (Shi and Shi, 2017).

Studies acknowledge that EEs are not homogeneous in their resources. For example, Spigel and Harrison (2018) create the distinction between “munificent” and “unmunificent” ecosystems based on their aggregate resources, which highlights that EEs differ in their levels of tangible resources and intangible assets, such as legitimacy, attention and social capital. One source of resource heterogeneity is differences in the contexts in which ecosystems are located. For instance, EEs that are created in emerging economies or in cities rebuilding their economies will have access to different types and amounts of resources than EEs located in mature, stable and resource-rich economies (Roundy, 2017).

Other studies focus on intra-EE resource usage. For example, in a study of two Canadian ecosystems in a high-income nation (Canada), Spigel (2017b) examines the resources available in the ecosystems and how the strength of the networks through which these
resources flow is important for understanding the ecosystems’ overall strength and functionality of ecosystems. However, studies rarely acknowledge that, although EEs represent environments where entrepreneurial activities take place, ecosystems are themselves situated in larger environments that can enable or constrain their abilities to acquire and create resources (Björklund and Krueger, 2016). We argue that resource dependence theory, summarized in the next section, is especially useful for identifying the resource challenges of nascent EEs, the strategies they use to develop and access resources and the implications of these strategies.

**Resource dependence theory: an explanation for how organizations acquire resources**

Resource dependence theory builds on earlier power- and exchange-based theories of organizing and on the open systems perspective, that emphasize the organization-environment interface (Pfeffer and Salancik, 1978; Shu and Lewin, 2017; Thompson, 1967). It represents a break from other theoretical frameworks, like population ecology and neoclassical economics, by allowing organizations to differ rather than assuming their homogeneity. Unlike some perspectives, resource dependence theory grants managers agency and explains inter-organizational variation in structure, success and survival as, in part, based on the strategic choices and conscious, planned responses of organizational leaders (Barringer and Harrison, 2000; Child, 1972; also Hu, 2017).

The central theme of resource dependence theory, which was emphasized by Pfeffer and Salancik (1978) and expanded upon by subsequent scholars (Casciaro and Piskorski, 2005; Drees and Heugens, 2013), is that organizations face complex environments stemming from their “manifold relationships” with other entities who have diverse agendas, perspectives and interests (Wry et al., 2013, p. 447). Resource dependence theory is grounded in the insight from economic sociology that organizations are embedded in networks of economic interdependencies and social relationships (Granovetter, 1985). To acquire resources, organizations must depend on their relationships with other entities, including competitors, suppliers, creditors, customers and governments (Barringer and Harrison, 2000; Pfeffer and Salancik, 1978).

Although organizations must depend on their environments for resources, resource dependence theory suggests that not only are environments not equally resource-endowed, but they are also not always dependable (Pfeffer and Salancik, 1978). As a result, organizations engage in strategies to manage dependence and acquire resources (Hallen et al., 2014). Resource dependence theory posits that organizational performance and survival depends, in part, on an organization’s assessment of its environment and its ability to exert control over resources from external partners (Wry et al., 2013: 448). Organizations can engage in two, general strategies to manage dependencies in their environment: buffering and bridging. Each strategy represents a different approach to resolving resource dependence.

**Buffering.** Organizations develop a buffer between themselves and their external environment by sealing off core operations from environmental influences and by engaging in internal actions to manage resources (Thompson, 1967). Buffering strategies include stockpiling resources, attempting to forecast environmental changes, expanding or reducing the scales of production, and reducing fluctuations in input or output (i.e. “leveling”) through contracting and advertising (Scott and Davis, 2015).

Central to the idea of buffering is that the organization has some sort of “technology” that converts inputs into outputs. When the environmental agents that influence these technologies become unpredictable or unreliable, it can wreak havoc on organizational stability (Pfeffer and Salancik, 1978). Buffering involves creating mechanisms inside the
organization that insulate the technology from these environmental disruptions. The most obvious examples of potential environmental disruptors are an organization’s raw materials suppliers (who can create a resource shortage) and customers. If market demand is unstable or rapidly changing, the organization is disrupted and, for instance, finished inventory can build up (or run out) and customers are not willing (or able) to buy the organization’s products. Buffering involves strategies like stockpiling input inventory so that the organization’s technology can still be fed if outside sources get disrupted or putting contracts in place with buyers that guarantee that output will be purchased. An extreme form of buffering involves diversifying the technology of the organization so that it does not depend on one critical resource from outside the organization – instead, the organization relies on many different inputs equally so that the criticality of any single resource is diminished (Scott and Davis, 2015).

**Bridging.** Organizations also influence their resource relationships through bridging strategies. Bridging differs from buffering in that the organization, to a degree, accepts resource dependencies on the external environment. The resulting control that external agents have over the organization is managed (or usurped) through bridging, which involves attempts to acquire resources by creating interdependencies that avoid or lessen the control that external resource providers possess or exercise (Pfeffer and Salancik, 1978). Bridging activities include mergers, vertical integration, alliances, board interlocks and governmental ties (Vancouver Hillman et al., 2009).

**Resource dependence and entrepreneurial activities**

Scholars have begun to study the dynamics of resource dependence in the context of entrepreneurship and new ventures (Qian et al., 2016). For instance, Siqueira and Bruton (2010) examine the resource dependence of high-technology, entrepreneurial ventures in emerging economies. They argue that ventures in emerging economies face a unique context with greater resource constraints and higher levels of firm informality. Zheng and Xia (2018) examine how, in China, venture capitalists (VC) terminate investments based on the dependence between a VC firm and its portfolio companies and based on social relationships among VCs. Similarly, Hallen et al. (2014) find that “third-party chaperones” (central VCs) help young firms mitigate resource dependence and other vulnerabilities while mobilizing resources. These studies and others (Villanueva et al., 2012) demonstrate that new ventures are particularly susceptible to resource dependence and that resource dependence theory can be used to understand their behaviors. In fact, in entrepreneurial, early-stage ventures resource dependence may be even more critical than in established firms (Dailey, McDougall, Covin and Dalton, 2002). Thus, while scholars have not applied resource dependence theory to the study of EEs (mature or nascent), there are theoretical and empirical grounds to suggest that the theory can offer insights into the functioning of EEs.

**Theory development**

*The applicability of resource dependence theory to entrepreneurial ecosystems* 

EE research has been slow to examine issues at the EE-environment interface, an omission that is partly attributable to scholars only recently clarifying EE boundaries and focusing on the contexts in which EEs exist. For instance, Roundy and colleagues (2018) argue that the “borders” of an EE are multi-dimensional and dependent on both geographic and sociocultural characteristics, such as the extent that ecosystem participants share geographic proximity, guiding rule sets, values and stories. This research suggests that EEs have boundaries and it is appropriate to consider how and why resources flow across them.
EE research aligns with resource dependence theory’s perspective that individuals have agency and take purposive steps to influence their organizations’ dependence on the environment and ability to attract resources (Pfeffer and Salancik, 1978). Scholars and practitioners argue that vibrant EEs balance grassroots, “bottom-up” strategies, which emerge organically from EE participants (and particularly entrepreneurs) with “top-down” forms of direct EE leadership (Feld, 2012; Spigel, 2018). In addition, although focused on different levels of analysis – the organization and the meta-organization (or ecosystem) – both resource dependence theory and EE research explore issues of organizational structure, success and survival. These commonalities suggest that there is sufficient alignment between resource dependence theory and conceptualizations of EEs and that uniting the two research streams might generate important insights for EE scholarship. As discussed in the next section, we argue that resource dependence theory can explain how an EE manages its resource dependence, which influences its functioning and resilience (i.e. “the degree to which an EE can continuously recover from and adapt to exogenous shocks and endogenous pressures” (Roundy et al., 2017: 99).

External resources and nascent entrepreneurial ecosystems development

The development of EEs and their ability to generate entrepreneurial activities depend on both tangible and intangible resources (Isenberg, 2011). Some resource providers reside within an ecosystem, such as local customers, mentors, support services, investors and media; other resources exist outside an entrepreneurial ecosystem and must be attracted. To supplement local resources, policymakers, support organizations (incubators) and entrepreneurs take actions to create resources in EEs, such as enacting policies to promote entrepreneurship or local investment (Motoyama and Wiens, 2015). However, in nascent ecosystems in emerging or undeveloped markets, which do not have a fully established entrepreneurial infrastructure and, thus, are resource-constrained, a large portion of needed resources must be obtained from providers that are outside the boundaries of the ecosystem (Roundy, 2017).

The specific resources that comprise EEs separate them from other meta-organizations, such as industrial clusters and regional systems of innovation (Cooke, 2001). For instance, Spigel (2016, p. 51), argues that “the advantages of an entrepreneurial ecosystem are related to resources specific to the entrepreneurship process such as startup culture and financing rather than other types of industrial benefits found in clusters that accrue to firms of all sizes and ages” (4). Specifically, EEs are comprised of several types of tangible and intangible resources, which can be grouped into three categories: cultural, social, and material (Spigel, 2017a). Cultural attributes include beliefs, attitudes, values, and outlooks about entrepreneurship – resources that are largely internal to an EE and form part of the ecosystem participants’ cultural toolkits (Rindova et al., 2011). Social attributes are the networks of connections required for a functioning ecosystem and the trust necessary for encouraging connections to share scarce resources (Muldoon et al., 2018). Finally, material attributes are resources that are place-centric, including universities, support facilities and local policy (Spigel, 2017b). By identifying the type of capital that underlies each attribute, a more fine-grained resource classification can be created (Pret et al., 2016). Specifically, as described in the following sections, the entrepreneurial activity in EEs depends on five types of resource capital: financial, human, social, cultural and symbolic. For a nascent EE to generate and sustain entrepreneurial activities its participants must find some way to create these types of capital internally or acquire them from resource providers in the ecosystem’s external environment. In the next section, we discuss why acquiring and managing
resources is an acute challenge for nascent EEs and particularly those located in underdeveloped and emerging economies.

The resource challenges of nascent entrepreneurial ecosystems

Work on emerging EEs suggests that they differ from developed ecosystems in several attributes (Roundy, 2017). A key difference between nascent and mature EEs is that, at least initially, early-stage ecosystems do not contain the resources needed to support new ventures and ecosystem growth. Specifically, we identify five types of capital that are deficient in early-stage EEs. These resources are critical to an ecosystem and its participants because they can influence growth (Wernerfelt, 1984), competitive advantage (Peteraf, 1993), and performance (Newbert, 2008) and shape organizational and ecosystem strategy (i.e. “the search for ways in which […] unique resources can be deployed in changing circumstances”; Rumelt 1984, p. 569).

Financial capital limitations. Mature EEs have dense communities of investors who represent all levels of venture financing – from micro-loans to mezzanine financing – and who invest in diverse sectors, industries, and types of ventures (Case and Harris, 2012; Spigel, 2016). In contrast, nascent ecosystems are unlikely to contain large and diverse pools of internal, early-stage investment. In these ecosystems, limited entrepreneurial activities, relative to established ecosystems, are coupled with limited, local venture investment. In addition, on the demand side, nascent EEs have less robust intra-EE consumer markets. As a result, there is less local demand, fewer local customers, and fewer “lead users” of innovation who can purchase new products and provide entrepreneurs with financial capital in the form of sales revenue (Bahrami and Evans, 1995; Isenberg, 2010, 2011).

Human capital limitations. In comparison to more mature ecosystems, nascent ecosystems have less entrepreneurship-specific human capital, such as knowledge about how to found businesses, identify and recruit high performing employees and build the organizational structures, routines and systems involved in scaling early-stage ventures (Isenberg, 2010; Roundy, 2017). Such knowledge is the foundation for entrepreneurial activities (Zhao and Wang, 2015). Human capital is lacking in nascent EEs, in part, because young ecosystems do not have long histories of entrepreneurial activity by which participants can develop human capital through direct experiences or vicarious learning. Moreover, depending on their location (small city versus large urban hub), nascent EEs may not contain large research-oriented universities, which create human capital through training new entrepreneurs, creating leading-edge, commercializable technologies and providing the skills needed to work in new ventures (software development skills, financial literacy; Isenberg, 2011; Roberts and Eesley, 2011). In nascent ecosystems, the support services that enable entrepreneurship-specific human capital, such as accounting, human resources and information technology services targeted at early-stage ventures, may also be absent or under-developed.

Social capital limitations. Social capital is a resource produced by networks of relationships (Lin, 1999). Social networks, comprised of direct and indirect ties between EE participants and resource providers, are valuable because they facilitate information and resource transfer between parties (Zhang et al., 2010). Relative to mature ecosystems, there is less entrepreneurship-specific social capital in nascent ecosystems because intra-EE networks of participants are under-developed. Networks are less robust because there are fewer individuals with prior experiences founding new ventures (i.e. the network contains fewer potential “nodes”) and there are fewer opportunities for participants to interact and form relationships (i.e. fewer connections between nodes). Thus, in nascent ecosystems, the networks of connections among entrepreneurial individuals are smaller and less dense than
in more mature ecosystems. Relative to developed EEs, nascent EEs are also less likely to have experienced support organization, such as incubators, accelerators and business development centers, which provide a range of resources, including mentorship, training, professional services and financial investment, in addition to helping entrepreneurs grow their social networks (Roundy, 2017a; Tötterman and Sten, 2005).

**Cultural capital limitations.** Cultural capital is a product of a region’s culture, comprising its values, beliefs and narratives. In nascent EEs, there is limited entrepreneurship-specific cultural capital because regions that lack a record of entrepreneurial activities and that have not had accomplishments are unlikely to have cultures that embrace entrepreneurship; indeed, the cultures of nascent EEs may lack important entrepreneurial values, such as acceptance of failure (Amankwah-Amoah, 2018). Without frequent exposure to entrepreneurial activities, residents of regions with nascent EEs are unlikely to share collective beliefs, attitudes and outlooks that support entrepreneurship. As a result, the cultures of regions with nascent EEs may not contain rich stories describing entrepreneurial successes (high-profile investments or initial public offerings), which are cultural artifacts that can be leveraged to acquire resources.

**Symbolic capital limitations.** Symbolic resources provide value beyond an object’s or action’s intrinsic content or functional use (Zott and Huy, 2007). Like new businesses, nascent EEs suffer from a type of “liability of newness,” because, as described, they lack a long record of successes (ventures being acquired and generating wealth for the region), which creates uncertainty for prospective resource providers (Zott and Huy, 2007; Stinchcombe, 1965). Similar to investors evaluating ventures for the returns they will generate, resource providers and prospective EE participants face challenges when trying to evaluate an ecosystem’s ability to provide high returns on their resources (Zhang et al., 2010). Resource providers, therefore, may be reluctant to commit resources (Zott and Huy, 2007; Vancouver Hillman, 2009).

A nascent EE’s limited history of entrepreneurial activities and lack of demonstrable accomplishments may cause the ecosystem to lack legitimacy (i.e. “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, beliefs, and definitions”; Suchman, 1995, p. 574). For instance, if a region is not known for having a vibrant entrepreneurship community, resource providers and outside evaluators may view attempts to attract resources to the region’s budding EE as illegitimate, improper, or inappropriate uses of capital. Thus, regional entrepreneurial ecosystem’s perceived status and its reputation as a “hotbed” for entrepreneurship can influence its ability to acquire resources and create a positive feedback loop: as an EE’s status increases, more resources flow to it, which cause further status increases. Nascent EEs are also less likely to be populated by high-status participants (well-known venture capital funds, successful entrepreneurs), who provide symbolic capital by acting as signals to resource providers of the quality of the ecosystem (Martens et al., 2007; Florin, Lubatkin and Schulze, 2003). In sum, nascent EEs’ internal capital limitations suggest the following proposition:

**P1.** Nascent entrepreneurial ecosystems are more dependent on their environments for resources than mature ecosystems.

Resource dependence theory suggests that organizations engage in several activities to mitigate resource dependence and satisfy their resource needs (Pfeffer and Salancik, 1978). In the section that follows, we propose that EEs, as meta-organizations, use intra-ecosystem actions and inter-ecosystem relationships to manage dependence and exert control over their environments. We propose that these activities have implications for the functioning of EEs.
Dependence on key external resource providers: buffering and bridging strategies

Nascent EEs can engage in activities to increase their abilities to acquire and create resources. The goal of these actions is to reduce environmental uncertainty and increase an ecosystem’s control over needed resources (Dai et al., 2015). Organization theorists suggest that these strategies are rooted in the “stability motive” – achieving a steady supply of resources, which leads to stability in internal operations and external relations (Bode et al., 2011; Thompson, 1967). To satisfy the stability motive, resource dependence theory suggests two generic strategies – buffering and bridging – (Meznar and Nigh, 1995) each of which involves specific tactics and activities (Bode et al., 2011). These strategies are pursued by EE leadership (i.e. the agents actively working to build and develop the ecosystem) and by non-leadership EE participants.

The bridging strategies of nascent entrepreneurial ecosystems. Nascent entrepreneurial ecosystems’ deficiencies in internal resources suggest that to grow, ecosystems must import resources from outside their boundaries. Indeed, studies hint that the “connections outside the [entrepreneurial ecosystem] are critical for importing novel knowledge” and other resources (Spigel, 2017b, p. 53). A bridging strategy creates connections with resource providers, which helps an EE secure resources and protects it from resource-related risks and disruptions (Mishra et al., 2016). Bridging strategies manage dependencies by expanding an EE’s influence over resource providers and reducing resource uncertainty through “boundary spanning” and “boundary shifting” linkages with resource providers (Bode et al., 2011; Mishra et al., 2016; Ulrich and Barney, 1984).

Like organizations, EEs can engage in bridging activities structured along a continuum of formality – from relatively informal alliances with other EEs to formally structured mergers. Resource dependence theory suggests, however, that EEs improve their performance through inter-organizational relationships by “choos[ing] the least-constraining device to govern relations with [their] exchange partners that will allow [them] to minimize uncertainty and dependence and maximize [. . .] autonomy.” (Davis and Cobb, 2010, p. 6). These arguments suggest:

P2a. There is a positive relationship between the resource dependence of a nascent entrepreneurial ecosystem and its use of bridging strategies.

Relationships between nascent EEs and external resource providers can take several forms. The bridging arrangements with the highest degree of structure are mergers and acquisitions (M&A). In the same way that organizations seek to minimize resource insufficiency and dependence via M&A activity, nascent EEs can improve their ability to acquire resources by merging with other, nearby EEs (Casciaro and Piskorski, 2005). Studies of traditional organizations find that mergers increase control over resource acquisition by absorbing competitors, managing interdependence with resource providers, diversifying operations, and, ultimately, reducing a focal firm’s dependence on a target (i.e. merging) firm (Pfeffer, 1976).

Because it is traditionally viewed as an inter-organizational arrangement, merging might not seem applicable to meta-organizations like EEs. The practitioner literature, however, provides evidence that EEs do, in fact, merge (Corbin and Schulz, 2017). Merging is a particularly germane strategy for nascent EEs. For instance, in developing their entrepreneurial ecosystem, small towns can choose to forego their individual (town) identities and instead focus on creating EEs with neighboring towns that are based on an aggregate geographic boundary. This occurs when several small towns in an emerging economy merge their EE efforts to create a county- or province-level EE. Whereas resource-rich EEs may not need to rely on nearby communities to bolster their resources, creating an
aggregate EE through the merging of multiple smaller-scale EEs allows nascent ecosystems to pool their resources and increase their resource acquisition power. Such EEs can then devote (combined) resources to promoting the merged EE, which can be more efficient and have higher leverage than promoting multiple, smaller EEs. Relatedly, a nascent EE may allow itself to be acquired by a mature, nearby EE to secure access to the larger EE’s resources, such as its reputation, media attention or financial resources. These motivations explain, for instance, why small cities that are near mature, thriving ecosystems adopt the ecosystem’s identity, rather than creating their own. For example, CA cities in proximity to the San Francisco Bay Area generally do not seek to create separate EEs with unique identities but instead adopt the “Silicon Valley” banner (Christensen, 1997).

**P2b.** Mergers and acquisitions are positively associated with the provision of resources to nascent entrepreneurial ecosystems.

Formally merging with another entrepreneurial ecosystem is a strategy that is unlikely to be attractive to EE participants wanting to maintain their EE’s identity or who are concerned with the lack of internal control that may result from a merger arrangement. In such cases, resource dependence theory suggests that less structured inter-organizational arrangements, such as alliances, are desirable and may allow EEs to access needed resources while maintaining greater control over their identities, internal resources, and risk (Das and Teng, 1999). Alliances are “collaborative arrangements between two firms which involve the exchange and sharing of multiple resources for the co-development of technologies or products” (Lofstrom, 2000, p. 1).

The nascent entrepreneurial ecosystem in Youngstown, OH, a mid-sized city in the “Midwest” United States, provides an example of how alliances can manifest in nascent EEs. Like other former manufacturing and industrial economies that have experienced prolonged periods of economic decline since the end of the twentieth century, Youngstown is reinventing its economy by creating a vibrant EE focused on new industries and technologies (additive manufacturing; Ford and Despeisse, 2016). One strategy used by the emerging EE is to ally with participants of the Silicon Valley ecosystem to create connections to potential resource providers (Nelson, 2017). This example illustrates that nascent EEs can form relationships with external organizations, including other ecosystems, and create networks of inter-organizational alliances to gain resources (Bae and Gargiulo, 2004). These arguments suggest:

**P2c.** Alliances are positively associated with the provision of resources to nascent entrepreneurial ecosystems.

**Buffering strategies.** Bridging actions are focused on creating linkages between an EE and resource providers, reducing dependence by strengthening these connections, and allowing an EE to have greater control over resource acquisition. At the ecosystem-level, bridging is, thus, an externally focused strategy, which involves an EE’s actions in its external environment. In addition to such strategies, resource dependence theory suggests that organizations also engage in internally focused strategies, referred to as “buffering,” which involve “the regulation and/or insulation of organizational processes, functions, entities, or individuals from the effects of environmental uncertainty or scarcity” (Lynn, 2005, p. 38). Buffering achieves resource stability by taking actions within an EE to protect (i.e. buffer) the ecosystem from environmental disturbances associated with resource provider dependence (Bode *et al.*, 2011). Organizations engage in buffering when, for instance, they generate slack resources, such as excess inventory, which allows the firm to absorb resource
disruptions (suppliers failing to fulfill an order; Bode et al., 2011). The goal of buffering activities is to reduce an EE’s exposure to external resource providers and, thus, to decrease the risk of fluctuations and irregularities in the supply of resources (Drees and Heugens, 2013). Buffering represents efforts to insulate an EE from its external environment (Meznar and Nigh, 1995).

Buffering is one motivation for EEs investing in intra-ecosystem resources. For example, a nascent EE may invest in creating an incubator or in seeding its own venture investment fund(s) so that it does not have to rely on outside providers for these resources. These types of actions allow a nascent EE to regulate the supply of key resources, such as entrepreneurial talent and early-stage capital, by producing them within the ecosystem.

P3. There is a positive relationship between the resource dependence of a nascent entrepreneurial ecosystem and its use of buffering strategies.

When are entrepreneurial ecosystems more likely to bridge or buffer?

Entrepreneurial ecosystem size. Resource dependence studies find that as organization size increases so does an organization’s power relative to its environment because size is associated with greater breadth of organizational activities and more connections with a diverse set of actors, which allow an organization to resist environmental pressures (Drees and Heugens, 2013; Meznar and Nigh, 1995). In contrast, small firms have fewer internal activities and less diversity in their external connections, which makes them more susceptible to environmental forces. Because of these dynamics, organization size is positively related to buffering, rather than bridging, activities (Meznar and Nigh, 1995).

There is an analogous relationship between EE size and resource dependence strategies. Nascent ecosystems form in cities and regions of different sizes (Audretsch and Belitski, 2017). Even if an ecosystem is nascent, it may be large or small in terms of its boundaries, population, and the size of its economy (Roundy, 2017a). For instance, nascent ecosystems that develop in small towns exhibit different resource dependence strategies than nascent ecosystems that develop in large urban areas. In large ecosystems, there is a greater likelihood that EE participants can find ways to create the resources they need inside the ecosystem, instead of pursuing relationships with external resource providers. As EE participants collaborate and rely upon each other, they in essence “join forces” and produce new resources (which can include routines, habits and knowledge about what to do in the future when resource needs arise). Thus, as EE size increases, intra-, rather than extra-, ecosystem interdependencies are created among EE participants, which contribute to the intra-EE creation of some resources, a form of buffering, and the EE not having to engage in bridging activities with external resource providers.

P4. There is a positive (negative) relationship between the size of a nascent entrepreneurial ecosystem and its use of buffering (bridging) strategies.

Entrepreneurial ecosystem collaborative values. An ecosystem’s ability to support entrepreneurial activity is dependent on participants exhibiting certain values, such as collaboration, cooperation, and trust (Colombelli, Paolucci, and Ughetto, 2019; Muldoon et al., 2018). These values, which stem from participants sharing a community logic, are important for facilitating interactions among EE participants and for ensuring that relationships are mutually beneficial (Roundy, 2017a). However, EEs differ in the degree to which participants demonstrate these values towards individuals and organizations outside the EE – that is, the degree to which collaboration with external agents is emphasized. This
difference influences the probability that EE participants engage in buffering or bridging. Specifically, if EE participants value self-sufficiency, competition or individualism, rather than collaboration, then this promotes buffering and precludes bridging (Meznar and Nigh, 1995). In contrast, if EE participants prefer acquiring resources through collaboration with multiple stakeholders then they will be more willing to make the intra-EE changes and the relational compromises necessary for effective collaboration. These EE participants will also prefer interacting with and getting feedback from external agents, which promotes bridging strategies. This suggests:

\[ P5. \] There is a positive (negative) relationship between the presence of collaborative values in a nascent entrepreneurial ecosystem and its use of bridging (buffering) strategies.

Resource dependence strategies and the resilience of nascent entrepreneurial ecosystems
As strategies for reducing resource dependence, both bridging and buffering “can be done at different degrees and levels” and “may be functional or dysfunctional” (Mishra et al., 2016, p. 184). Too much or too little of either resource acquisition strategy has ramifications for the functioning of an ecosystem. Indeed, one explanation for the heterogeneity in EEs (Brown and Mason, 2017) is differences in the degree to which they engage in bridging and buffering. Specifically, in the same way that bridging and buffering activities are linked to key organizational outcomes (Mishra et al., 2016), they are also directly tied to a critical system-level outcome, an EE’s resilience: “the degree to which an EE can continuously recover from and adapt to exogenous shocks and endogenous pressures” (Roundy et al., 2017, p. 99).

Resilience is an EE-level characteristic that depends on the diversity of an ecosystem’s components (variety in the system’s entrepreneurs, business models, investors, and support organizations) and the coherence among these components (Roundy et al., 2017). Resilience represents an EE’s ability to change and adapt in response to shifting external and internal conditions. A resilient ecosystem can survive a disturbance, such as a sudden inability to acquire resources, without suffering a long-term loss of functioning and may even be stronger after the disruption because of the system’s changes (Holling, 1986; Meerowa and Newell, 2015).

If a nascent EE engages in low levels of bridging and rarely creates relationships with external resource providers, it will have limited access to external resources, will be overly dependent on its existing resource partners, and will be less likely to receive market information from external sources. If there is a disruption in the EE’s environment, such as a change in market conditions that makes a resource unavailable, the ecosystem will not have enough other resource provider relationships on which to fall back, thus limiting its ability to respond to a disturbance and lowering its resilience.

In contrast, if a nascent EE overinvests in the formation of inter-organizational relationships these connections can improve its ability to acquire external resources; but improvements may come at the cost of a less-developed EE. That is, reliance on external resources is a substitute for an EE developing diverse internal resources, a key characteristic of EE resilience; by not generating resources inside the ecosystem, participants within the EE may not develop the cohesion and sense of community required for resilience (Roundy et al., 2017). It is through intra-EE interactions that EE participants develop the shared values, beliefs, trust and “rules” (“value cooperation over competition”) that provide cohesiveness and are the foundation for resilience (Dwivedi et al., 2003; Feld, 2012).

\[ P6. \] There is a curvilinear (inverted U-shaped) relationship between bridging and entrepreneurial ecosystem resilience.
Over- and under-investments in buffering also has similar ramifications for nascent ecosystem resilience. If EEs make limited investments in creating internal resources, then they are unlikely to generate a diverse portfolio of internal resources. Diversity in internal resources is important because an EE’s portfolio of resources can be used as a risk-spreading strategy to guard against unanticipated disruptions that influence a specific resource (cf. Morris, Neumeyer, and Kuratko, 2015). Furthermore, there is a greater likelihood that EEs with diverse resources can adapt to shifting environmental demands because there is greater novelty and variety on which market forces can find alignment (Roundy et al., 2017). The diversity of a nascent ecosystem’s participants (investors, customers, venture types, and support organizations) is also associated with the ecosystem’s agents, collectively, having a greater knowledge breadth (Folke et al., 2005) and having rich and varied schema, which can increase the number of responses available to the EE (Roundy et al., 2017).

In contrast, to reduce dependence on the environment, the temptation can exist for nascent EEs to attempt to create all resources within the ecosystem. However, early theorizing that informed resource dependence theory (Thompson, 1967) suggests that if an EE over-invests in internally produced resources, its attempts to insulate itself from resource disruptions may inadvertently cause it to become insular. In doing so, the EE will no longer respond to environmental signals. Moreover, if an EE invests too heavily in internally produced resources at the expense of creating external “bridging” relationships, then the EE will lose access to the information and signals provided by ties to outside resource providers. Such information flows are critical for alerting an EE to environmental changes, for prompting entrepreneurial learning (Breslin and Jones, 2012), and for helping an EE respond to subsequent changes (Stam, 2015).

Injections of knowledge and other resources into an ecosystem are feedback loops between the EE and the environment that the ecosystem must respond to and which help the EE remain flexible and adaptive (Roundy et al., 2018). Feedback loops with external stakeholders regulate the supply of resources into and out of the ecosystem (financial capital entering an EE may attract more capital; however, too much capital can impede the flow of new capital). As the entrepreneurs, resource providers, and other agents in an EE respond to disturbances or injections of resources into the system, the network that connects the agents will itself evolve. These changes increase the possible range of behaviors in the ecosystem and its ability to adapt.

*P7*. There is a curvilinear (inverted U-shaped) relationship between buffering and entrepreneurial ecosystem resilience.

Table I summarizes our main theoretical arguments and the mechanisms driving our theory.

**Discussion**

Despite growing interest in EEs, there is a paucity of theories explaining how nascent EEs function. It is not clear from prior research how nascent EEs create and acquire the resources needed to grow. Research has begun to adopt metaphors from the study of biological ecosystems to explain the behavior of EEs (Auerswald, 2015), which have drawn attention to key ecosystem features, like resilience (Roundy et al., 2017). However, no metaphorical lens is complete (Morgan, 1997). We argued that insights can be gained by adopting a new lens, the EE as meta-organization, and that resource dependence theory can be used to identify and explain the resource challenges of nascent EEs, the strategies ecosystems use to create and acquire resources, and the implications of these strategies for
EE resilience. In the sections that follow, we unpack the implications of these findings for ecosystem scholars and practitioners.

**Contributions to theory**

**Entrepreneurial ecosystems.** Introducing resource dependence theory to the study of EEs expands the focus of attention outside the EE and calls attention to the importance of linkages between EEs and their external environment. The environments in which EEs are created and develop influence their functioning. As we have argued, a key difference

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<th>Resource dependence strategy</th>
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<td><strong>Bridging strategies</strong></td>
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<tr>
<td>Creating interdependencies with other ecosystems through activities such as mergers, acquisitions, and alliances</td>
<td>There is a positive relationship between the resource dependence of a nascent entrepreneurial ecosystem and its use of bridging strategies.</td>
<td>A key difference between nascent and mature EEs is that nascent ecosystems do not contain the resources needed to support and scale entrepreneurial activities. Resource deficiencies motivate nascent ecosystems to engage in bridging activities to acquire resources. Nascent EEs increase their ability to acquire resources by merging with (or being acquired by) other EEs. The merging of multiple smaller-scale EEs into an aggregate EE allows nascent ecosystems to reduce needed resources. Nascent EEs’ connections to potential resource providers allow EEs to access needed resources while maintaining greater control over their identities and internal functioning.</td>
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<td>Mergers and acquisitions</td>
<td>Mergers and acquisitions are positively associated with the provision of resources to nascent entrepreneurial ecosystems.</td>
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<td>The insulation of EE processes, functions, organizations, or individuals from the effects of external environmental forces</td>
<td>There is a positive relationship between the resource dependence of a nascent entrepreneurial ecosystem and its use of buffering strategies.</td>
<td>Buffering activities reduce an EE’s exposure to external resource providers and, thus, decrease the risk of fluctuations and irregularities in the supply of resources.</td>
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<td>Impact of bridging strategies</td>
<td>There is a curvilinear (inverted U-shaped) relationship between bridging and EE resilience</td>
<td>Under-investing in bridging reduces an EE’s access to resources, which lowers its resilience; over-investing in bridging reduces the EE’s diversity of internal resources and coherence, which lowers its resilience.</td>
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<tr>
<td>Impact of buffering strategies</td>
<td>There is a curvilinear (inverted U-shaped) relationship between buffering and EE resilience</td>
<td>Under-investing in buffering reduces the diversity of an EE’s resources, which lowers its resilience; over-investing in buffering reduces the information an EE receives, which lowers its resilience.</td>
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Table I. The resource dependence strategies of nascent entrepreneurial ecosystems
between EE contexts is that many EEs are created in regions and economies without the resources identified as the “pillars” of mature ecosystems, such as entrepreneurial human capital, sources of early-stage investment and support organizations (Isenberg, 2011). The differences across EEs in the resource-munificence of their contexts suggests that EE scholars should be cautious about directly applying findings from studies of EEs in resource-rich contexts (the implicit focus of most studies) to EEs located in less munificent environments. More specifically, our theorizing suggests that it may be dangerous to assume that insights from established EEs in high-income countries are directly applicable to EEs in emerging and developing economies.

Similarly, we draw attention to the unique issues faced by nascent EEs and the insights that can be gained from studying ecosystems that are early in their lifecycle. The resource limitations of nascent EEs suggest that they may need to be more entrepreneurial in their activities. Scholars should recognize that while our understanding of EEs may increase by studying mature and fully developed ecosystems, like Silicon Valley, shifting the focus of attention earlier in the lifecycle of the EE may generate fundamental insights that can inform ecosystem-building in EEs and regions that might never attain the level of development experienced by a handful of large, mature ecosystems in resource-rich environments.

EE research has begun to emphasize ecosystem characteristics. Foremost among these characteristics is ecosystem resilience, which is the ability to respond and adapt to disturbances (Roundy et al., 2017). The theory we develop identifies novel antecedents to EE resilience: the strategies used to manage resource dependence. The extent to which EEs engage in bridging and buffering resource activities is a previously unidentified source of variation among EEs.

Implications for policymakers and entrepreneurs
Policymakers and participants in nascent ecosystems often bemoan their resource limitations, particularly when making comparisons to more endowed, mature ecosystems. However, resource dependence theory suggests that nascent ecosystems are not fully at the mercy of resource deficiencies or environmental forces. Ecosystem builders have agency and can pursue concrete strategies to shape their environments and exert influence on resource providers.

Furthermore, it is not sufficient to acknowledge that an ecosystem needs “more investors” or “more support services.” EE builders should systematically assess the resource limitations and needs of their ecosystems and then develop a resource acquisition strategy. Because of their unique resource deficiencies, resource dependence theory suggests that nascent EEs require different resources and may have to pursue different strategies than mature EEs. Thus, there may be limitations to looking to well-established EEs for models and best practices.

EE participants seeking to promote the creation of nascent ecosystems should also recognize that there are two strategies for obtaining necessary resources: seeking to create resources within the ecosystem or identifying bridging opportunities with resource providers. Although there is intuitiveness to this implication, in practice, EE participants often over-emphasize intra-EE resource creation. Our theory suggests that, particularly in nascent EEs, participants should consider the connections that can be made to other EEs (and their resource providers) and recognize that EEs are not closed-systems.

Directions for future research
A starting point for future research is empirically verifying our theory. We suggest social network analysis as an appropriate approach. As studies of other contexts demonstrate,
social network analysis is well suited for analyzing resource dependence relationships (Burt, 1983, 2004; Piskorski and Anand, 2005; Scott, 2017). EEs are comprised of networks of entrepreneurs, mentors, investors, support organizations and other stakeholders (McGrath et al., 2006; Motoyama and Knowlton, 2017). As an example of how a network perspective might reveal insights into how nascent EEs manage resource dependence, the external perspective on organizational teams finds that both the density of a team’s internal social network and the heterogeneity of external perspectives, knowledge, and expertise are related to team productivity (Reagans and Zuckerman, 2001). Although these findings were based on studies of intra-organizational groups, what they suggest for EEs is that if ecosystems have dense internal network ties (associated with buffering activities) and multiple, heterogeneous external network ties (from bridging activities), this may increase EEs’ ability to engage in network brokerage (Burt, 2004). That is, not only will such EEs have access to heterogeneous resources via their external bridging, but they will also be able to act as a broker of social capital and other resources due to tight, dense internal connections from buffering. From a resource dependence perspective focused on managing power (Pfeffer and Salancik, 1978), this could represent a way that nascent EEs can derive brokerage power while seeking resources. Thus, pairing resource dependence theory with a networks perspective and methodology may generate insights about how internal aspects of resource availability and connections (buffering) and external-oriented resource seeking (bridging) lead to brokerage, which can help nascent EEs regain some power in their relations with external providers. The networks approach also allows for examining how specific types of ecosystem participants influence resource dependence at the individual- and organization-levels. Our focus was the ecosystem; however, research is needed to tease apart how ecosystem-level resource dynamics influence (and are influenced by) the specific strategies of different EE stakeholders.

Testing the paper’s theory might also shed light on the temporal dynamics of bridging and buffering resource strategies and their performance implications. For example, future research can examine if ecosystems early in their lifecycle that engage in bridging activities to acquire critical resources tend to outperform ecosystems that do not perform such activities. In addition, it may be insightful to examine if there are specific bridging or buffering activities that are best geared at “survival-oriented” critical resources in the short-term, as compared to other activities well suited for acquiring resources needed for the long-term development of the EE. For instance, venture capital and other material resources may be more critical for the short-term survival of the ecosystem than knowledge about how to organize and manage the EE, which may be essential for the ecosystem’s long-term health. If this is the case, then bridging and buffering activities for nascent EEs will differ qualitatively from those of ecosystems further along in their lifecycle because they are intended to seek and acquire different types of resources.

Resource dependence theory suggests that a specific bridging strategy for conventional organizations is to rely on boards of directors to improve resource acquisition opportunities (Valenti et al., 2011). Future research is needed in the context of EEs to determine if an analogous resource acquisition strategy exists. For example, is there evidence that EEs attempt to engage in similar activities through the creation of informal boards, such as advisory panels, comprised of influential EE members (high profile entrepreneurs, directors of support organizations)? If so, important insights may be gained from exploring how EEs leverage such “boards,” for resource acquisition purposes. For example, in attempting to grow the nascent Youngstown, OH technology EE, the leadership of a local incubator scoured LinkedIn and other social media sites to
identify people with roots in the city, and thus connections to the EE, who were now in
the technology and finance sectors in California, London, and other entrepreneurial
hubs (Sweeney, 2015). These connections represent a network of highly-connected,
potential resource providers. Further work is needed to explore other specific tactics
nascent EEs use to bolster their resource base.

Finally, the creation and promotion of EEs is increasingly viewed as a potent strategy for
economic development and revitalization. Communities that are struggling to adjust to
economic changes have embraced the potential benefits vibrant EEs can generate. However,
growing EEs requires significant resources. More research is needed that explores how
nascent EEs overcome resource limitations in their attempts to create flourishing
entrepreneurial communities.

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To bridge or buffer?


Further reading


**Corresponding author**
Philip T. Roundy can be contacted at: philip-roundy@utc.edu