Article

Helping Entrepreneurs Help Themselves: A Review and Relational Research Agenda on Entrepreneurial Support Organizations

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Abstract

Entrepreneurial support organizations (ESOs), such as incubators and accelerators, are now ubiquitous. Despite this proliferation, their impact on entrepreneurs, ventures, and communities remains unclear, while academic research remains disjointed and largely descriptive, limiting understanding of the entrepreneurial support process and the influence of ESOs on it. Conducting a systematic review of 337 peer-reviewed articles involving five ESO forms—incubators, science parks, accelerators, maker spaces, and co-working spaces—we find that the literature's conception of support is under-socialized such that there is a need for longitudinal, processual, and experimental examination of changes in the rich relationships between entrepreneurs and their ventures, entrepreneurs and other entrepreneurs, entrepreneurs and ESOs, and ESOs and external stakeholders. Conceiving of support as help to become self-sufficient, we offer an alternative, relational approach to research on entrepreneurial support and those organizations seeking to provide it.

Keywords

entrepreneurial support organizations, entrepreneurial support, review, incubators, accelerators, help, Self-sufficiency

What does it mean to support entrepreneurship? Despite its critical role in driving innovation and economic growth (Baumol, 2010; Schumpeter, 1934), entrepreneurship poses significant challenges, uncertainties, and "liabilities" that can dissuade even the most competent and courageous individuals from acting, much less succeeding (Aldrich & Fiol, 1994; McMullen & Shepherd, 2006; Stinchcombe, 1965). As a result, the last few decades have witnessed an explosion of

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public and private initiatives aimed at improving entrepreneurs' odds of success (e.g., Audretsch et al., 2020; Lerner, 2012). Chief among these initiatives have been "entrepreneurial support organizations" (ESOs), organizations explicitly founded for the purposes of catalyzing entrepreneurial activity and providing entrepreneurs with support; examples include incubators, science and technology parks, accelerators, and, more recently, many maker spaces and co-working spaces. These ESOs are now ubiquitous and number in the tens of thousands worldwide (e.g., Hallen et al., 2020; Hochberg, 2016; Mian et al., 2016; Phan et al., 2005; Yang et al., 2018; Younger & Fisher, 2020). Despite their proliferation, ESOs appear to have had, at best, an equivocal effect in helping entrepreneurs transform ideas into new ventures (e.g., Busch & Barkema, 2020; Hallen et al., 2020; Hausberg & Korreck, 2020; Lerner, 2012; Schwartz, 2011; Smith & Hannigan, 2015; Tamasy, 2007; Yusuf, 2010).

This paper steps back and offers a systematic review and constructive critique of the literature on ESOs.[1] Specifically, we integrate decades of research on five ESO forms—incubators, science (research/technology) parks, accelerators, maker spaces, and co-working spaces. We do so in an attempt to better understand how they, as a category, have been examined to date, how they define success, whether that success has been attained, and what has proven to be consequential in that success.

Beyond limited theoretical development and mixed empirical results, we find that concerns about ESO efficacy may be partly ascribed to conceptual ambiguity of the "support" construct itself. To many ESOs and researchers of them, support refers solely to provision of techno-material resources and network access. To the public and many entrepreneurs drawn to ESOs, however, the notion is synonymous with help, a concept better understood as assistance in becoming self-sufficient. To date, relational and dynamic conceptions of entrepreneurial support employing metaphors, theories, and methods associated with parenting, coaching, mentoring, or other helping relationships are grossly under-represented in the literature on support organizing. Further, whether manifest as a parent raising a child, a humanitarian serving someone in need, or an ESO supporting an entrepreneur, helping scenarios are rarely straightforward, as both the "helper" and the "recipient" have interests (e.g., Ellerman, 2009). Failure to recognize entrepreneurial support and support organizing as helping scenarios could preclude ESOs from fostering entrepreneurial self-sufficiency and even undermine their primary objective, encouraging entrepreneurs to become dependent on ESOs or ESOs to become co-dependent with successful entrepreneurs.

In contrast to the provisional perspective of entrepreneurial support and support organizing, we propose an alternative, but complementary, approach that is grounded in a richer, relational and dynamic understanding of entrepreneurial support (as a process; Ratinho et al., 2020). Specifically, we highlight the need for longitudinal, processual, and/or experimental examination of changes in the rich relationships between (1) entrepreneurs and their ventures, (2) entrepreneurs and other entrepreneurs, (3) entrepreneurs and ESOs, and (4) ESOs and external stakeholders to help alleviate headaches in practice and initiate information cascades affecting core and emergent subtopics within the scholarly domain of entrepreneurship (Shepherd, 2015; Wiklund et al., 2011).

Delineating Entrepreneurial Support Organizations

Building on Hanlon and Saunders (2007), Ratinho and colleagues define "entrepreneurial support" as the "provision of valuable resources to entrepreneurs by individuals or organizations, which carry structured activities to facilitate the imminent establishment of a new independent firm, increase survival chances, or promote long-term growth" (2020: 2). While studies have considered the support from individuals, such as family/friends (Hanlon & Saunders, 2007),

trusted advisors (Strike & Rerup, 2016), or mentors (St-Jean & Audet, 2012), far greater attention has been paid to organizations providing entrepreneurial support. We, therefore, limit our review's scope to "entrepreneurial support organizations" (ESOs), which we define as "an organization whose primary purpose is to support individuals and collectives, through (in)direct and (im)material assistance, as they seek to initiate and progress through the stages of the entrepreneurial process."

Based on the entrepreneurial support definition above, many organizations, such as governments, universities, and financial entities (angel groups, venture capital firms, commercial banks, etc.), offer it in some form (e.g., Clayton et al., 2018). For these organizations, however, offering entrepreneurs assistance is only one of several objectives and typically *not* their top priority.[2] Thus, while all ESOs are organizations that support entrepreneurs, not all organizations that support entrepreneurs are ESOs. We focus on organizations whose "primary purpose" is to support entrepreneurial activity, examining five prevalent ESO forms that have emerged over the last several decades: *incubators, science (research/technology) parks, accelerators, maker spaces,* and *co-working spaces.3* Table 1 offers additional details on these forms, including common definitions, recent count estimates, and their defining support features.

As Table 1 suggests, these ESO forms share a great deal in common. However, research on each of these forms has largely developed in isolation from the others. Indeed, from very early on (e.g., Campbell & Allen, 1987), most articles and review pieces on these organizations only focus on one particular form (e.g., Albort-Morant & Ribeiro-Soriano, 2016; Crișan et al., 2019; Lecluyse et al., 2019; Theodorakopoulos et al., 2014). There are exceptions, as some works delineate one form from another (e.g., Brown & Mawson, 2016; Bruneel et al., 2012; Pauwels et al., 2016). Nonetheless, the norm has been a series of siloed sub-streams, each with relatively limited theoretical development, and focused on describing activities, outcomes, and shortcomings (in theory and practice) that are considerably similar across siloes. Thus, to advance our understanding and theorizing on entrepreneurial support organizing within and through ESOs, we review the literature in a manner that integrates these sub-streams (e.g., Patriotta, 2020).

Review Method and Overview of Reviewed Studies

We employed a systematic literature review approach (Petticrew & Roberts, 2006; Short, 2009; Tranfield et al., 2003) because of its rigor, transparency, inclusion of conceptual and empirical work, and alignment with our objective of integrating research on various ESO forms (Patriotta, 2020; Rauch, 2020). Consistent with this approach, we followed four steps: (1) Sample generation; (2) Sample screening; (3) Coding; (4) Analysis. Although we offer a short overview of each step here, please see the online appendix for a more detailed account of our iterative process.

First, we generated our sample using Web of Science and Scopus to include research across several relevant disciplines, including management, entrepreneurship, technology, sociology, and urban studies, among others. To conduct our search, we then generated several search queries with relevant terms and in accordance with previous research (e.g., Grégoire et al., 2011; Shepherd et al., 2015; Sutter et al., 2019). Next, we searched the titles, abstracts, and/or keywords of works in both databases. The ten queries that ultimately support this review were conducted on February 20, 2020, and included works published between January 1979 and February 2020. In total, these searches produced 10,949 items. We then screened and reduced our sample to a final set of 337 journal articles by: (1) eliminating duplicates; (2) eliminating works that were not peer-reviewed articles (conference papers, book reviews, chapters, etc.); (3) examining the journal's quality; (4) examining the titles/abstracts for relevance; (5) examining the full text for relevance. Again, please see the online appendix for a complete list of the journals and articles in

Table 1. Overview of Featured ESOs.

INCUBATORS	**Definitions:** • "A shared office-space facility that seeks to provide its incubatees…with a strategic, value-adding intervention system (i.e., business incubation) of monitoring and business assistance" Hackett and Dilts (2004b, p. 57) • "Property-based organizations with identifiable administrative centers focused on the mission of business acceleration through knowledge agglomeration and resource sharing" Phan et al. (2005, p. 167) **Early Example/ Current Estimate:** 1959 (Batavia Industrial Center, New York) / 7,000 worldwide **Legal Forms/Sponsors:** Non-Profit & For-Profit / Universities, Corporations, Governments, Non-Profit Organizations, Financial Institutions, Entrepreneurs **Stage of Entrepreneurs1:** Pre-Venture; Infancy **Features:** Physical Space*; Physical Resources; Administrative Support; Networking*; Workshops
SCIENCE PARKS	**Definitions:** • "A property-based initiative which (i) has formal operational links with centers of knowledge creation, such as universities and (public and/or private) research centers, (ii) is designed to encourage the formation and growth of innovative (generally science-based) businesses, and (iii) has a management function which is actively engaged in the transfer of technology and business skills to 'customer' organizations" Colombo and Delmastro (2002, p.1107) • "An organization managed by specialized professionals, whose main aim is to increase the wealth of its community by promoting the culture of innovation and the competitiveness of its associated businesses and knowledge-based institutions" Hobbs et al. (2017, p. 958) **Early Example / Recent Estimate:** 1951 (Stanford Industrial Park, Palo Alto) / 400 worldwide **Legal Forms / Sponsors:** Non-Profit & For-Profit / Universities, Corporations, Governments **Stage of Entrepreneurs[1]:** Early Growth; Sustained Growth; Maturity **Features:** Physical Space; Administrative Support; Knowledge Exchange*
ACCELERATORS	**Definitions:** • "Fixed-length, focused programs for start-ups that provide some combination of mentorship, financial investment, office space, public attention, and certification" Clough et al. (2019) • "Organizations which provide support for startups in order to accelerate their development through one or more processes: learning, validation, access & growth, and innovation" (Crișan et al. (2019, p. 80) • "Organizations that aim to accelerate successful venture creation by providing specific incubation services, focused on education and mentoring, during an intensive program of limited duration" Pauwels et al. (2016, p. 13) **Early Example / Recent Estimate:** 2005 (Y Combinator, Cambridge); 3,000 worldwide **Legal Forms / Sponsors:** Non-Profit & For-Profit / Universities, Corporations, Governments, Non-Profit Organizations, Financial Institutions, Entrepreneurs

(Continued)

Table 1. Continued

	Stage of Entrepreneurs[1]: Infancy; Early Growth
	Features: Physical Space; Administrative Support; Curriculum/Mentoring*; Financial Capital*; Graduation Event*
MAKER SPACES	**Definitions:**
	• "Shared fabrication facilities where members gain access to a range of manufacturing technologies" Browder et al. (2019, p. 465) • "Community workshops in which members pay dues to access tools and workspace" (van Holm (2017, p. 2) • "Communities comprised of members with different levels of experience and motivations, working with technology and ideas materialized into some form of physical representation" (Pettersen et al. (2019)
	Early Example / Recent Estimate: 1995 (c-base, Berlin) / 1,400 worldwide
	Legal Forms / Sponsors: Non-Profit & For-Profit / Universities, Corporations, Libraries, Non-Profit Organizations, Communities/Collectives, Associations, Entrepreneurs
	Stage of Entrepreneurs[1]: Pre-Venture; Infancy; Early Growth
	Features: Shared Physical Space*; Physical Resources*; Networking; Workshops; Public Events
CO-WORKING SPACES	**Definitions:**
	• "Low-rent alternative workspaces intended to offer a fun and informal atmosphere" Clayton et al. (2018, p. 111) • "Shared workspaces utilized by different sorts of knowledge professionals, mostly freelancers, working in various degrees of specialization in the vast domain of the knowledge industry" Gandini (2015, p. 194) • "Shared office environments that a heterogeneous group of workers (rather than employees of a single organization or industry) pay to use as their place of work, to engage in social interaction and sometimes collaborate on shared endeavors" Waters-Lynch and Potts (2017, p. 420)
	Early Example / Recent Estimate: 2005 (Hat Factory, San Francisco); 19,000 worldwide
	Legal Forms / Sponsors: Non-Profit & For-Profit / Universities, Corporations, Libraries, Non-Profit Organizations, Communities/Collectives, Entrepreneurs
	Stage of Entrepreneurs[1]: Pre-Venture; Infancy; Early Growth
	Features: Shared Physical Space*; Administrative Support; Networking; Workshops; Public Events

Note. [1] = ages based on the classification provided by Lichtenstein and Lyons (2006); * =Defining feature of form

our sample, our search query terms, how we addressed "journal quality" and "relevance," among other details.

We then closely read each of the 337 articles, coding their content along several dimensions. We managed this process using Microsoft Excel, with each paper assigned a row and each code a column. Some of our coding dimensions included the type of paper (conceptual or empirical), the focal ESO (incubator, maker space, etc.), the research question(s), the theories and literatures involved, the main findings or arguments, among others. During this initial reading, we also took extensive notes, as we sought to record the key tensions, assumptions, metaphors, and analogies

Table 2. Characteristics of Sample Articles.

Conceptual Articles (*N* = 66)	
Purpose	Count (%)
Descriptive	45 of 66 (68%)
Explanatory	13 of 66 (20%)
Predictive	8 of 66 (12%)
Formal Prop's	8 of 66 (12%)

Empirical Articles (*N* = 271)			
Approach	Count (%)	Data Source	Count (%)
		Primary	225 of 271 (82%)
Qualitative	154 of 271 (57%)	*Secondary*	129 of 271 (48%)
Multi-Case Study	56 of 154 (36%)	*Both*	98 of 271 (36%)
Case Study	46 of 154 (30%)	*Undefined*	19 of 271 (7%)
Ethnography	9 of 154 (6%)		
Other/Undefined	44 of 154 (29%)	*Interview*	151 of 271 (55%)
		Survey/Questionnaire	95 of 271 (34%)
Formal Prop's/Hypo's	9 of 154 (6%)	*Archival*	87 of 271 (32%)
Process	20 of 154 (13%)	*Observation*	59 of 271 (21%)
Longitudinal	30 of 154 (19%)	*Database*	36 of 271 (13%)
		Other/Undefined	33 of 271 (12%)
Quantitative	96 of 271 (35%)		
Regression	58 of 96 (60%)	**Entrepreneurial Context**	
Group Comparison	11 of 96 (11%)	*Technology*	158 of 271 (57%)
Factor Analysis	8 of 96 (8%)	*Corporate*	21 of 271 (8%)
Survival/Hazard	6 of 96 (6%)	*Academic/University*	99 of 271 (36%)
Other/Undefined	17 of 96 (18%)	*Social/Sustainable*	19 of 271 (7%)
		General/Other	98 of 271 (36%)
Formal Prop's/Hypo's	53 of 96 (55%)		
Descriptive/Summ. Stats	79 of 96 (82%)	**Geographic Context**	
Correlation Tables	41 of 96 (43%)	*North America*	72 of 271 (26%)
Empirical Models	88 of 96 (92%)	*Central/South America*	7 of 271 (3%)
		Europe	133 of 271 (48%)
Mixed Method/Other	21 of 271 (8%)	*Middle East/Africa*	9 of 271 (3%)
		Asia	32 of 271 (12%)
		Australia/S. Pacific	5 of 271 (2%)
		Global	10 of 271 (4%)

Note. Some articles are coded into more than one category, where possible, enabling a total greater than 100%.

raised in these works, in an effort to better understand how scholars conceptualized and theorized about these organizations vis-à-vis entrepreneurs and other actors.

Before integrating the reviewed works, we provide a general overview of this body of research. Table 2 offers a summary of the conceptual and empirical contributions to our collective understanding of ESOs. As the table illustrates, nearly half of the articles in our final sample (154 of

the 337 articles) adopt qualitative approaches. In doing so, these articles typically examine one (30% of the qualitative articles) or multiple cases (36% of the qualitative articles) and rely on some combination of interview, observation, and archival data sources. Quantitatively, a majority of the works use some form of regression (59% of the quantitative articles), often using primary survey data or secondary data from public and private databases, such as the U.S. Census or Crunchbase. A smaller subset of quantitative studies use factor analysis (8% of quantitative studies) or survival/hazard analysis (6% of quantitative studies), for purposes of developing ESO performance measures (e.g., Messeghem et al., 2018) or understanding firm survival and exit related to ESO support (e.g., Amezcua et al., 2013, 2020), respectively. For both empirical categories, some works were labeled as "Other/Undefined," with "other" representing unique methods employed by less than 5% of the articles in that category (e.g., Van Rijnsoever [2020] use of agent-based modeling) and "undefined" consisting of works where authors were unclear in their methodological approach (e.g., simply stating the data they collected). Finally, contextually, research examining ESOs often focuses on technology entrepreneurship (57% of empirical articles) and draws from (Western) European or North American perspectives (48% and 26% of empirical articles, respectively).

Following prior research (e.g., Short et al., 2009), we classified the conceptual articles in our final sample (which included theory pieces, reviews, and special issue introductions) into one of three categories: "Describe," "Explain," or "Predict." Articles designated as "describe" were those that defined or discussed ESOs and ESO dynamics; "explain" articles engaged theory and explained how and why certain ESO dynamics are related; "predict" articles offered formal propositions and predicted particular ESO-related outcomes, such as the relationship between ESO performance and their firm selection performance (e.g., Hackett & Dilts, 2004a). As Table 2 illustrates, roughly 70% of the conceptual articles in our final sample describe ESOs and their dynamics (i.e., what they are, what they offer, what they hope to achieve, etc.). Only 21 articles (6% of the final sample) take an explanatory or predictive conceptual approach, offering some support for the critique that theoretical development in this area of research remains limited and in the early stages. Together, this overview suggests several opportunities for diversifying and broadening this area of research, some of which we outline in the Discussion.

Analysis and Integration of Review Findings

As noted above, we coded all the articles in our sample across several dimensions. Of particular importance, we carefully coded and organized the papers by their focal level of analysis.[4] Through this process, we identified five levels of analysis across the ESO literature: *Individuals; Ventures; ESOs; ESO Sponsors;* and *Systems* (beyond "ESO Sponsors," such as industries, entrepreneurial ecosystems, cities, etc.). To integrate our findings across the five ESO forms and to take stock of our understanding of entrepreneurial support and support organizing (Patriotta, 2020), we then evaluated the studies for each level of analysis along three questions: *(1) What is being supported? (2) How is it being supported? (3) To what effect?* By consolidating the responses to these questions for each level, we were able to develop a coherent understanding of the intra-organizational (i.e., "Internal" domain) and inter-organizational (i.e., "External" domain) support dynamics (and their demonstrated effects) in the ESO literature to date.

We now present our integrated findings, starting with the "ESO" level of analysis. We then present studies focused "within the walls" of ESOs (i.e., the "Internal Domain," which includes the "Individuals" and "Ventures" levels of analysis), followed by those "beyond the walls" of ESOs (i.e., the "External Domain," which includes the "ESO Sponsors" and "Systems" levels of analysis). For each level, we consolidate the research into a series of prominent categories, based on the studies' foci and responses to our key questions. Due to space limitations, we cannot

thoroughly discuss every paper, in every category, at every level. Thus, we only offer narrative overviews of more heavily studied categories (e.g., "venture performance"), but we provide relevant citations for every category.

Review Findings

Entrepreneurial Support Organizations

In total, 98 studies in our sample focus on the ESO level of analysis, approximately two-thirds of which are conceptual or qualitative papers. Only three works offer explanatory or predictive theoretical contributions at this level of analysis (Hackett & Dilts, 2004a; Kim & Wagman, 2014; Theodorakopoulos et al., 2014), while nine offer formal hypotheses/propositions. In reviewing and integrating works at this level, studies often fell into one of four categories: (1) *Describe, Classify, Compare*; (2) *Emergence and Evolution*; (3) *Management and Structure*; (4) *Evaluation*.

Nearly half of the studies at this level of analysis fall into the first category, "Describe, Classify, Compare," which consists of those that provide high-level or rich descriptions of ESOs, classify them into typologies, and/or compare forms. Examples of studies that primarily "describe" include: incubators (e.g., Carayannis & Von Zedtwitz, 2005; Hansen et al., 2000); accelerators (e.g., Adomdza, 2016); maker spaces (e.g., Browder et al., 2019); hubs (e.g., Bachmann, 2014; Littlewood & Kiyumbu, 2018); other related forms (e.g., Pollio (2019) study of a Startup Weekend or Nowak and Grantham (2000) discussion of virtual incubators). Generally, these works list the resources and services the ESO provides (office space, networking, legal or financial advice, direct or indirect funding, etc.), the types of organizations that fund or sponsor them, their stated goals or objectives, and/or the types of individuals or ventures they attract or that participate in them. In many cases, these studies also draw attention to the geographic or institutional context in which the focal ESO is located, with examples ranging from Brazil (Chandra & Fealey, 2009), to Israel (Roper, 1999), to various nations across Europe (e.g., Cooke et al., 2006; Diamantopoulou et al., 2018; Kihlgren, 2003; Thierstein & Willhelm, 2001). Further, a series of studies organize ESOs into typologies and describe each type, with the typologies often based on particular ESO offering configurations (e.g., McCarthy et al., 2018; Moschner et al., 2019; Ng et al., 2019) or their primary financial backer (e.g., Aernoudt, 2004; Carayannis & Von Zedtwitz, 2005; von Zedtwitz & Grimaldi, 2006; Zedtwitz, 2003). Relatedly, a few studies compare ESOs, either across or within forms (e.g., Brown & Mawson, 2016; Durão et al., 2005; Markusen & Oden, 1996; Mian, 1996).

A much smaller subset of studies at this level move beyond descriptions or classifications and focus on "ESO Emergence and Evolution" - in other words, how particular ESOs come into being and how forms have changed over time. The few studies engaging issues of ESO emergence take several forms, from proposing principles intended to guide the establishment process (e.g., Tavoletti, 2013) to quantitatively testing whether emergence is the result of a "push" or "pull" effect in the region (e.g., Qian, et al., 2011). Two recent qualitative studies, in particular, offer rich insights into the ESO formation process. First, drawing on institutional theory, legitimacy, and categories, Tracey et al. (2018) highlight the local and category authentication work of "H-Farm" as they sought to "translate" the incubator ESO form to the Italian context. Similarly, Younger and Fisher (2020) focus on the organizational image formation efforts of accelerators, vis-à-vis the category's exemplars (Y Combinator and Techstars), through processes of image emulation, experimentation, and divergence. Finally, six studies address evolution of the incubator form (Allen, 1988; Bruneel et al., 2012; Grandi & Grimaldi, 2004; Grimaldi & Grandi, 2005; Leblebici & Shah, 2004; Nicholls-Nixon et al., 2021), mainly detailing (lifecycle) stages of evolution and suggesting evolution results from shifts in industry and entrepreneur/venture needs.

Another small subset of studies discusses ESO "Management and Structure." Rather than describe their offerings, these works consider aspects of the focal ESO's organizational structure and design—its personnel, rules, programming, physical environment, etc., such as how they should manage their application process (Zhdanova & Milyaev, 2016), maintain their tenant inflow (Bank et al., 2017), or the various roles of their managers (Kakabadse et al., 2020). Others focus on the underlying philosophy of the organization's support, namely whether it should be "customized" or "standardized" to residents' needs or whether the ESO's engagement with residents should be "intensive" or "laissez-faire" (e.g., Albahari et al., 2019; Bergek & Norrman, 2008; Vanderstraeten et al., 2016). On these issues, recent work by Cohen, Bingham, et al. (2019) examines organizational design choices in several top accelerators, namely consultation intensity, offering customization, and information disclosure, suggesting accelerators with concentrated consultation, standardized activities, and transparent cohort dynamics help mitigate entrepreneurs' bounded rationality, resulting in better graduate firm (financial) outcomes. Ahmad and Thornberry (2018) offer a notably different view on ESO structure. Drawing from hybridity research (e.g., Battilana & Lee, 2014), they argue the de-coupling of an incubator's activities and the misalignment of managements' incentives confers legitimacy and reputability to the form while complicating impact measurement, allowing for rapid proliferation despite questionable success.

Finally, more than 20 studies in this group conduct some form of ESO evaluation or provide tools to assess performance. To date, studies conducting assessments of ESOs have utilized both qualitative (e.g., Adegbite, 2001; Alon & Godinho, 2017; Franco et al., 2018; Lall et al., 2013; Udell, 1990) and quantitative approaches (e.g., Ferreiro-Seoane et al., 2018; Fukugawa, 2018; Schwartz & Göthner, 2009; Soetanot & van Geenhuizen, 2007). Beyond the means provided by these works, other resources for assessing ESO performance include a number of conceptual frameworks, scales, "evaluation tools," and "best practices" (e.g., Gerlach & Brem, 2015; Hackett & Dilts, 2008; Messeghem et al., 2017, 2018; Mian, 1997). Collectively, these works emphasize the importance of evaluating ESO performance along four general dimensions: their residents, themselves, the organization(s) funding them (if applicable), and their community.

In sum, research at the ESO level of analysis remains largely descriptive, detailing their many offerings, objectives, and ways to possibly evaluate their progress in meeting those objectives. Research at this level also highlights different configurations (e.g., typologies), organizational design choices, and support philosophies (e.g., customize/standardize, intensive/hands-off) ESOs may adopt to support resident entrepreneurs and ventures. While these works draw from a range of theoretical perspectives, such as real options theory, institutional theory, and the resource-based view, theorizing around ESOs, as organizations, remains limited. Indeed, roughly a third of the articles in this subset do not engage theory directly. Further, though several works adopt qualitative approaches, surprisingly few empirical studies explicitly focus on ESO antecedents, processes, and/or outcomes. Thus, many questions at this level remain unanswered, such as: how ESOs come to exist; how they develop/improve their competence in entrepreneurial support; how they make decisions (like design choices or support philosophies); if and/or how they change or adapt; if and/or how their decisions and actions generate specific resident outcomes; how they define their objectives (beyond supporting residents), and whether those organizational objectives compete or conflict with resident support (Cohen, Bingham, et al., 2019 and Tracey et al., 2018, offer helpful exceptions on design and emergence, respectively).

Support "Within the Walls" of ESOs—Individuals and Ventures

A majority of the studies in our sample focus on the entrepreneurial support occurring internally or "within the walls" of ESOs. Through our analysis, we identified and integrated findings for

two levels of analysis—*individuals* engaging with ESOs and *ventures* engaging with ESOs.[5] To consider the temporally-bounded nature of their ESO engagement, and to gain better understanding of ESO research, we coded whether the study discussed the state of the resident individuals and ventures before, during, and/or after their engagement with the ESO. Further, we coded whether the study empirically demonstrated (versus discussed/implied) relevant outcomes.

Individuals

To date, scholars have examined several populations within ESOs, including the students, entrepreneurs, employees, "tenants," and "members" participating in them, as well as the incubator managers, client advisors, mentors, and coaches operating within them. Across the 47 articles (14% of the final sample), 10 offer insights about the individual "PreESO," 30 detail their experiences "During-ESO," five offer insights about them "Post-ESO," and 14 discuss outcomes. Answers to the question of "what is being supported" typically draw from resource-based, human capital, social capital, networks, and learning perspectives and fall into one of six categories: (1) *Entrepreneurial Intention/Action* (e.g., Guerrero et al., 2018; Martínez et al., 2017; Michelsen et al., 2013); (2) *Self-efficacy and Persistence*; (e.g., Aernoudt et al., 2019; Bouncken & Reuschl, 2018; Essig, 2014; Marlow & McAdam, 2012; Radu Lefebvre & Redien-Collot, 2013); (3) *Learning;* (4) *Networking, Collaboration, Cooperation*; (5) *Resource Access & Use*. Due to space constraints, we elaborate on the last three categories—see the citations above for the first two.

First, a select number of studies investigate aspects of individual learning within ESOs. Some studies focus on the specific sources and content of learning, such as the relation between sources (accelerator manager or review panels) and content of particular types of learning (explorative or exploitative; Patton & Marlow, 2011) or the sensemaking-sensegiving dynamic between entrepreneurs and client advisors to produce investment-ready proposals (McAdam & Marlow, 2011). Others broadly consider the ESO organizational environment, such as examining the authenticity of the accelerator learning environment for developing entrepreneurial competencies (recognizing and assessing opportunities; Miles et al., 2017), the "catalysts" that trigger experiential learning processes within accelerators (Politis et al., 2019), and how the ESO's "affecto-rhythmic" environment influences learning and idea development (Katila et al., 2019). Some, like Jiménez and Zheng (2018) , in their study of a Zambian ESO, suggest participation can expand individual and collective capabilities (Sen, 2001), resulting in broader human-centered development. Notably, while these (and other) works point to general individual/entrepreneurial learning benefits associated with ESO participation, a recent experiment by Chatterji et al. (2019) suggests such experience may hinder future receptivity to peer business advice.

For a separate subset of studies, individuals' networking, collaboration, and cooperation activities—what they do with others in ESOs—are the focus. Collectively, these works demonstrate substantial variability, in terms of individual engagement in these activities (e.g., Bøllingtoft & Ulhøi, 2005; Bøllingtoft, 2012), and offer some explanations for that variance. For example, Høvig et al. (2018) suggest an individual's "causation" or "effectuation" approach drives peer-to-peer networking and idea exchange in ESOs (the latter valuing these activities, the former not). Hasan and Koning (2019) point to the number of social ties an individual has with ESO group members *before* participation as a hindrance to networking and collaboration *during* participation. In their study of a "cooperative network," Resch and Steyaert (2020) detail the affective challenges and oscillations associated with cooperative practices in these environments. To improve engagement, this subset also contains a few studies that shed light on specific structural and managerial interventions, including Giudici et al. (2018) work on open-system orchestration, which stresses the importance of preliminary, introspective work before participating in

collaborative/network settings like ESOs, and Busch and Barkema (2020) study of the incubator "T-Hub," which details how the ESO fostered serendipitous encounters and network embeddedness through specific organizational conditions and "community-enabling leadership." While these studies certainly offer insights into the nature of these activities within ESOs, along with their barriers, they offer little by way of demonstrating how or if these activities translate into entrepreneurial outcomes during or beyond an individual's time within an ESO.

Finally, the most prevalent studies at this level are those that report individuals' access to ESO resources and services during participation. This set primarily consists of self-reported survey responses to issues such as ESO resource availability/usage, perceptions of "value" or "quality" concerning various offerings, or overall satisfaction with participation (e.g., Arlotto et al., 2011; Marimuthu & Lakha, 2015; Sarkar et al., 2019; Tötterman & Sten, 2005; Voisey et al., 2006). To explore the heterogeneity in these preferences and ratings between individuals (i.e., entrepreneurs) and between individuals and ESO managers (as observed by van Weele et al., 2017), a separate group of studies within this subset explore these preferences and ratings alongside different individual characteristics, such as human capital, entrepreneurial experience, and cultural differences (e.g., Albort-Morant & Oghazi, 2016; Dahms & Kingkaew, 2016; Pandey et al., 2017). For example, using a discrete choice experiment, van Weele et al. (2020) identify three latent classes of entrepreneurs seeking incubator participation, based on resource preferences – those that consider all resources valuable, those only seeking funding, and those disinterested in coaching, mentoring, or similar services. Ultimately, these studies demonstrate heterogeneity in individual resource preferences (among each other and vis-à-vis ESO leaders) but stop short of revealing any systematic preferences, based on informant demographics or the ESO form studied.

In sum, individual level ESO studies almost exclusively examine individuals at one or two points during their ESO participation and often adopt resource, human capital, and/or social capital theoretical perspectives. Collectively, these studies offer modest support for ESO involvement in fostering or improving individual entrepreneurial intent, self-efficacy, and select competencies (e.g., opportunity recognition). Further, these studies emphasize the heterogeneous experiences of individuals participating in ESOs (some neutral, some even negative), the need for ESOs to socialize and/or assist individuals in making sense of the support organization environment in which they are participating, and the importance of the ESO manager-entrepreneur relationship (and the former's proactive engagement) during individuals' residency. These insights aside, however, most studies at this level stop short of demonstrating clear, relevant outcomes from ESO participation and disregard individuals' experiences prior to or shortly after participation. Indeed, only two studies in our sample investigate individuals before, during, and after their ESO involvement. As a result, there is still much we do not know regarding how ESOs empower, change, and/or challenge individuals as they begin, continue, or end their entrepreneurial journey.

Ventures

ESO research at the venture level primarily consists of studies that investigate current participants (i.e., "incubatees," "tenants," "residents") and past participants (i.e., "graduates"). Across the 91 studies in this subset (27% of the final sample), 12 studies offer insights into the ventures "Pre-ESO," 52 studies focus on ventures "During-ESO," only six studies consider ventures "Post-ESO," and more than half (58) of the studies demonstrate outcomes, largely because of a greater volume of quantitative studies at this level. Though they examine a range of topics, such as how a firm can use an ESO to reduce its "liability of foreignness" (Blackburne & Buckley, 2019) or how firms in institutionally weak environments can access public resources via an ESO's certification and capability development (Armanios et al., 2017), the more common responses to "what's being supported" at the venture level include: (1) *Venture Emergence* (e.g., Hisrich & Smilor, 1988; Stayton & Mangematin, 2019);

(2) *Venture Development*; (3) *Venture Survival and Performance*; (4) *Networks* (Breznitz et al., 2018; Cooper et al., 2012; Honig & Karlsson, 2010; McAdam & Marlow, 2008; Sá & Lee, 2012); (5) *Knowledge and Learning* (e.g., Hallen et al., 2020; Rubin et al., 2015; Scillitoe & Chakrabarti, 2010).[6] Given their core objective, the majority of venture-level studies examine some aspect of venture "development," "growth," "performance," or "success."

Though many studies state "venture development" as the objective of ESO participation, it is rarely defined and often side-stepped in favor of the third category, "survival and performance" (e.g., Hackett & Dilts, 2004b; Lamine et al., 2018). For our purposes, this category consists of studies that examine whether and how ventures change or grow *during* their ESO residency. To date, works that address these issues primarily take a qualitative approach and highlight ways ESOs facilitate—or potentially hinder—venture development. For example, some studies draw from resource-based and lifecycle perspectives to suggest ventures' resource needs and usage in ESOs change as they develop over time (e.g., Yusubova et al., 2019), though it is unclear whether resource needs and usage decrease or increase as ventures develop during their residency (e.g., McAdam & McAdam, 2008). A few studies move beyond resource provision and focus on social or organizational issues that may influence venture development, such as the "co-production" of "business assistance" to develop ventures through entrepreneur and ESO manager exchange (Ahmad, 2014; Ahmad & Ingle, 2011; Eriksson et al., 2014; Rice, 2002), the ESO's influence on ventures' temporal orientation to accelerate their development (Qin et al., 2019) or the internal political, intellectual property, and credibility concerns that can complicate or block development (Bouncken et al., 2018; Evald & Bager, 2008; McAdam & Marlow, 2007). Collectively, while these studies identify a variety of development enablers and hindrances within ESOs, they often stop short of connecting their findings to clear outcomes (for an exception, see Cohen, Bingham, et al., 2019, discussed in the ESO level, as they show how accelerator design decisions translate into business model changes during participation *and* subsequent funding results).

Across the full body of ESO research, arguably no question has received greater attention than some version of "Do they work?" Thus, our third category, "Venture Survival and Performance," concerns studies that examine how ventures have fared *since* ESO residency. Most works here take quantitative approaches, with some utilizing comparative or matched-samples techniques. Common "performance" or "success" measures include: Finances (sales, profit, revenue, turnover, funds raised); Employment (staff growth, jobs created); Survival (the venture is still operating). Less common measures, among others, include: Graduation (the venture successfully left the ESO (Rothaermel & Thursby, 2005); "Product growth" (Breznitz & Zhang, 2020); Customer traction (measured by web traffic, (Hallen et al., 2020); Physical space used in an ESO (Hannon & Chaplin, 2003); R&D measures (Barbero et al., 2012).

To date, empirical research is mixed regarding the effects of ESOs on venture financial performance, job creation, and survival. Concerning *financial* performance, studies find: no effect from incubator participation (Peña, 2004); a negative effect from incubator participation, versus non-participation (Dvouletý et al., 2018); a negative effect from public incubator participation, versus external financial support (Lerner & Haber, 2001); negative short-term sales implications that become positive over time, versus non-participation (Lukeš et al., 2019); a greater ability to raise funds, hit milestones faster, and via formal investors from incubation and acceleration, versus non-participation (Gonzalez-Uribe & Leatherbee, 2018; Hallen et al., 2020; Van Rijnsoever et al., 2017); and, an ability to raise funds, based on certain accelerator design configurations (Cohen, Bingham, et al., 2019). The fewer studies that examine *employment* growth find: no effect from incubator participation (Lukeš et al., 2019; Peña, 2004; Schwartz, 2011); mixed results from accelerator participation (Breznitz & Zhang, 2020; Hallen et al., 2020); requiring a combination of "support infrastructure elements" – beyond ESO use – to have any effect (Del Sarto et al., 2020; Roig-Tierno et al., 2015). The main studies that examine *survival* suggest: higher survival rates, based on time spent with an incubator

counselor, versus non-incubation (Chrisman & McMullan, 2004); no survival differences, versus non-incubation (Schwartz, 2013); a period of lower survival rates for incubator firms during the first 3 years after graduation (Schwartz, 2009); survival rates of 20% to 35% higher for accelerator ventures, versus ventures almost accepted (Hallen et al., 2020); lower survival rates for accelerator ventures, versus non-accelerator ventures (Yu, 2020). Finally, select studies examine venture survival by conditioning ESO support with environmental characteristics, such as local founding density (Amezcua et al., 2013), urbanization (Amezcua et al., 2020), and "regional capacity" variables (Harper-Anderson & Lewis, 2018).

In sum, most studies at the venture level take up the issue of efficacy – do ESOs improve venture development, performance, and/or survival. Collectively, these studies offer some indication ESO participation can enhance venture development and performance, the most consistent empirical finding being the ability of ventures to obtain future financial backing (quicker, in greater quantity, and from public and private sources). For other performance outcomes, such as revenue, employment growth, or survival, however, research remains mixed and inconclusive. This is due, in large part, to inconsistencies in how scholars operationalize and actively measure these outcomes, when they elect to collect the data (during participation, immediately after participation, 1 year later, 3 years later, etc.), and their choice (if any) of comparison group. Unfortunately, studies concerning venture development (i.e., how they change during residency) stop short of demonstrating outcomes associated with the mechanisms or processes they deem or theorize consequential. Indeed, only 12 of the 91 studies in this subset track ventures over more than one stage of their ESO residency (i.e., pre, during, post) and none encompass all three stages. Thus, future work at this level would benefit from synergy between the development and performance category approaches, examining whether, how, and why ventures change during ESO residency, and then connecting those observed changes to (desired) entrepreneurial outcomes (as one exemplar, see Hallen et al., 2020).

Support "Beyond the Walls" of ESOs—Sponsors and Systems

In addition to the resources and activities intended to support resident individuals and ventures, some scholars detail other actions ESOs take, as standalone entities, to create value for those "beyond their walls" or external to the ESO (e.g., Hytti & Ljunggren, 2011). Though it is a much smaller collection of works, compared to those focused internally, our analysis identified two constituent levels, which we label "ESO Sponsors" and "Systems" (defined below). Like the "internal" levels of analysis, our coding and analysis examined what the ESO is supporting, how, and to what effect.

ESO Sponsors

Drawing from Cohen and colleagues, we generally view "ESO Sponsors" as "external institutions that provide financial or in-kind support, including office space, professional services, mentors, and endorsement" to ESOs Cohen, Fehder, et al. (2019, p. 1787). Stated simply, they are the organizations – often corporations, universities, non-profits, or governments (e.g., Carayannis & Von Zedtwitz, 2005) – backing the ESO. Based on our review, 39 papers (12% of the total sample) offer detailed consideration of "ESO Sponsors" and focus on one of two types: corporations or universities. Like the ESO literature, overall, many of the studies in this subset offer (single) case descriptions (Mahmoud-Jouini et al., 2018; Ford et al., 2010; Gutmann et al., 2019; Kupp et al., 2017; Virtanen & Laukkanen, 2002) or generate typologies, based on resource configurations and sponsor priorities (Kanbach & Stubner, 2016; Prexl et al., 2019; Richter et al., 2018; Weiblen & Chesbrough, 2015).

At a high level, by sponsoring an ESO, ESO sponsors of all types (corporate, university, non-profit, government) seek to benefit from competitive, efficiency, and sustainability advantages. However, when it comes to addressing "what's being supported" for them, above and beyond the

entrepreneurs or ventures the ESO supports, limited research identifies four areas. First, the sponsor may obtain relevant *strategic knowledge*. Serving as a "listening post" (e.g., Kanbach & Stubner, 2016), the ESO reduces the social and geographic distance between its sponsor and industry (Villani et al., 2017) and allows for knowledge "capturing, accumulating, converting and translating, and integrating" that may inform and direct the sponsor's organization and decision-making (Zahra, 2015, p. 727). For corporate sponsors, this may be technological shifts that effect their business model/core; for university or government sponsors, this may spur shifts in curriculum, infrastructure, or job training initiatives. Second, the sponsor may realize *financial benefits* from creating an ESO, via technology licensing, equity from investments, or public cost-savings compared to corporate tax schemes or other economic development policies (e.g., Ferreiro-Seoane et al., 2018; Good et al., 2019; Markman et al., 2008; Weiblen & Chesbrough, 2015). Though less discussed than knowledge or financial gain, a few studies also suggest sponsoring an ESO triggers broader *experimentation* (e.g., Kohler, 2016) and adds to an *entrepreneurial culture* within the sponsor (Kanbach & Stubner, 2016; Shankar & Shepherd, 2019).

To date, very few studies empirically examine ESO sponsor outcomes "beyond the walls" of the ESO they sponsor. And while some list corporate financial benefits associated with sponsoring an ESO (e.g., see the introduction of Shankar & Shepherd, 2019), others demonstrate or discuss noteworthy shortcomings or challenges associated with doing so. For example, Kolympiris and Klein (2017) show a relative drop in innovation output for universities sponsoring incubators, suggesting they draw resources away from more consequential entities. Additionally, Hansson et al. (2005) suggest the introduction of a sponsored ESO (in their case, science parks) may create more barriers to desired sponsor and venture outcomes, while Kötting (2019) cautions of political tensions and Gutmann et al. (2019) find no evidence of entrepreneurial "cultural shifts" within corporate sponsors.

In sum, though a wide variety of organizations sponsor ESOs and may accrue benefits from doing so, research at this level of analysis remains in the early stages, mainly focused on university- and corporate-sponsored ESOs, and largely conjectural when it comes to outcomes for the sponsor (beyond resident outcomes). While it is certainly possible that launching an ESO could generate spillover effects for a sponsor, it remains empirically unclear how sponsors optimally launch and situate their ESO (via themselves) to do so and how the ESO's presence and activities alter a sponsor's organizational routines, activities, culture, entrepreneurial orientation, and so on.

Systems

Fifty works (15% of the final sample) consider ESO action at the "system" level, which we generally view as a web of interrelated actors in a particular domain. Thus, this section concerns the effects ESOs have on actors *other than* their resident individuals/ventures or their sponsors. To date, the literature has situated ESOs in a number of systems, from industries and clusters (Feldman, 2001; Hum, 2003), to technology transfer ecosystems (Good et al., 2019), to art communities (Balfour et al., 2018), to the increasingly popular notion of "startup communities" or entrepreneurial ecosystems (Autio et al., 2018; Feld & Hathaway, 2020; Spigel, 2017).

In addition to being recognized as constituents of various systems (e.g., Theodoraki & Messeghem, 2017), this limited group of studies suggest ESOs offer support to systems in at least three ways. First, through "field-building" (Amezcua et al., 2013) and "market development" efforts (Dutt et al., 2016), ESOs work to increase system *participation*, be it in formal markets and/or "underdeveloped" economies (e.g., Haugh, 2020; Smith et al., 2016), existing or emergent sectors (e.g., Sagath et al., 2019), or entrepreneurial ecosystems (e.g., Van Rijnsoever, 2020). Goswami et al. (2018) qualitative study of an accelerator in Bangladesh offers an illustration of the latter, as they detail the different forms of expertise within the accelerator that can

increase stakeholder participation and ecosystem commitment, while van Holm (2017) discusses the ability of maker spaces to develop and retain workforce talent suitable for the modern economy. Relatedly, several note the foundational *community-building* activities of ESOs, as they try to shift their area's narrative, culture, and beliefs concerning entrepreneurship (Balfour et al., 2018; Bliemel et al., 2019; Feldman, 2001; Levenda & Tretter, 2020; Neumeyer et al., 2019; Smith et al., 2016). Finally, scholars suggest ESOs not only participate and seek to "build community" in these systems, they often seek to *lead*, "orchestrate," and/or "coordinate" them (Cavallo et al., 2019; Colombo et al., 2019; Harper-Anderson, 2018; Roundy et al., 2018), in an attempt to "cohere" actors and interests to generate entrepreneurial outcomes (Roundy et al., 2017), particularly in areas with limited entrepreneurial activity (e.g., Pustovrh et al., 2020).

Regarding ESO effects at this level, most empirical work to date has focused on issues of market participation, growth, and/or modernization and return mixed effects (e.g., Frenkel et al., 2008; Ratinho & Henriques, 2010; Shearmur & Doloreux, 2000). For example, Dutt et al. (2016) demonstrate a greater emphasis on "market development" by ESOs in emerging economy contexts (related to the "ESO Sponsors" section, they also show how ESO actions are primarily a function of their sponsor's goals). Hong et al. (2017) look at the effects of ESOs on economic convergence in China, ultimately pointing to the influence of private, specialized incubators over public, diversified incubators in this effort. In their examination of accelerators across the United States, Cohen, Fehder, et al. (2019) demonstrate limited effects on regional employment and patent activity. Aside from early efforts by Goswami et al. (2018), Harper-Anderson (2018), and Feldman (2001), scholars have yet to fully examine or demonstrate ESO efforts to "orchestrate," "cohere," or culturally alter the systems in which they participate.

In sum, like the ESO Sponsor level, research describing, theorizing, and/or empirically examining the effects of ESOs on systems is in the early stages. Indeed, many of the studies pertaining to this level in our sample were published in the last 5 years. As a result, issues relevant to theory on support organizing, such as how ESOs emerge, contest, and/or ingratiate themselves among actors in an existing system, how they initiate and/or lead entirely new systems, and how their externally-oriented activities align and/or compete with their internal support efforts, remain under-explored (see Tracey et al., 2018, and Younger & Fisher, 2020, for related insights).

Discussion

We began this paper with a simple observation: Entrepreneurial support organizations are seemingly everywhere. Yet, they appear to have had an equivocal effect, at best, in helping entrepreneurs transform ideas into new ventures or transition "underdeveloped" regions into vibrant communities for entrepreneurship. Wondering whether ESOs work, why or why not, and whether society should keep funding/supporting them, we sought to integrate research across five ESO forms – incubators, science parks, accelerators, maker spaces, and co-working spaces—to better understand how they, as a category, have been examined to date, how they define success, whether that success has been attained, and what has proven to be consequential in that success.

As detailed above, scholars have made important strides in documenting these areas for each form over the last several decades. Our review of the scholarly literature on ESOs, however, suggests these five forms share important commonalities. First, each ESO form started a bit haphazardly, and for reasons other than fostering entrepreneurial activity, be it real estate development in the Rust Belt, training prospective angel investors, or seeking to overcome the many distractions of working remotely from home (e.g., Aernoudt, 2004; Younger & Fisher, 2020). Second, all five ESO forms are organizations that, through colocation and a mix of organizational design choices, resource offerings, and internal and external actions, create a temporary

"holding" environment for entrepreneurs and their ventures to change for the better. Third, this lineage and basic set of organizing principles has yielded considerable ambiguity in the literature about how ESOs define and measure success, ranging from growth in terms of revenue and/or employees of resident ventures, through resident individuals learning to become entrepreneurs or the ESO simply surviving, to the ESO somehow fostering community development. And yet, each ESO form has enjoyed tremendous growth and widespread adoption, in a geographic, sectoral, and cultural sense (as Tables 1 and 2 show). Thus, as organizational forms sharing a common purpose of supporting entrepreneurs, ESOs appear to exhibit common characteristics that warrant their investigation as a broader category, in addition to their constituent forms, and in doing so, capable of shedding light on entrepreneurial support and support organizing processes, more generally.

Importantly, beyond the value of considering ESOs as a broader category, our review reveals ESOs and the study of them almost exclusively adopt a *provisional* approach to entrepreneurial support wherein ESOs provide techno-material resources to entrepreneurs and ventures while largely neglecting social psychological and meaning-making aspects of the entrepreneurial process. By provisional, we mean the many studies that apply some form of the following logic: young entrepreneurs and ventures are poorly resourced and vulnerable, the focal ESO exists and provides or grants access to certain things (often techno-material in nature), and through select performance outcomes (satisfaction, finances, staff, etc.), one can determine whether resident are better off and whether providing those things, in that way, is worthwhile. Indeed, nearly half of the studies that engage theory at the "Individual," "Venture," and "ESO" levels of analysis adopt resource, knowledge, social capital, or human capital perspectives, that is, the material and immaterial things ESOs are providing or granting access to their residents. Similarly, as we overviewed above, most studies at the "ESO Sponsor" and "System" levels assume the ESO exists and describes what they provide or afford these actors (knowledge, financial returns, etc.).

The many studies adopting a provisional treatment of entrepreneurial support have been helpful in conceptually defining and detailing what ESOs are, the contexts in which they exist (corporate, university, etc.), and what they provide. However, this treatment only represents a single, unidirectional arrow of influence (e.g., Ratinho et al., 2020), usually from the focal ESO to the focal resident entrepreneur, venture, sponsor, and/or system, and often only at a single stage of development. This is problematic because, in reality, helping scenarios, like those between ESOs and entrepreneurs, are rarely as simple as the provisional approach implies. Instead, they evolve over time, are subject to the unique influences and interests of both the "helper" and the "recipient," and can just as easily result in "recipient" dependence upon the "helper" or a co-dependence of the two (i.e., unhelpful help) as opposed to "recipient" independence (i.e., no longer needing help). This suggests the helping scenario of entrepreneurial support involves an *ever-changing, bi-directional relationship between entrepreneurs and ESOs*, with this core relationship informed and influenced by other relations each party maintains. For entrepreneurs, that includes their relation to their venture over time, along with other resident entrepreneurs and ventures within the ESO. Likewise, ESOs do not exist in a void, meaning they are subject to the (re)actions and expectations of other actors in their ecosystem, such as investors, governments, and other ESOs, to name only a few. Together, these relations require "mutual adjustments" (Allen, 1988) and push beyond a simple, singular conception of exchange or support.

In sum, resident entrepreneurs and ventures are more often treated instrumentally, as resources/objects, as opposed to subjects with agency, both by ESOs in practice and by the scholars who have studied them. As such, the meaning of support has not included more relational notions of help in which the entrepreneur participates in learning to become self-sufficient as is more common in relational notions of help such as parenting, mentoring, or coaching. Instead, the provisional approach has dominated both practice and the study of it, downplaying the agency of

resident entrepreneurs and precluding the possibility that "children can raise each other," that "children can raise parents," or that "parents help each other learn to raise children." While learning makes an occasional appearance in the ESO literature, it typically does so without demonstrating processes and/or outcomes (e.g., Bouncken & Reuschl, 2018; Patton & Marlow, 2011; Pettersen et al., 2019; Politis et al., 2019). Indeed, learning, and especially the notion of learning how to learn, has received surprisingly little attention by either ESOs or the researchers studying them (e.g., Theodorakopoulos et al., 2014). Likewise, despite the accepted practice of colocating entrepreneurs and/or ventures within ESOs, learning from others is almost entirely absent from the ESO literature. Together, these issues suggest that entrepreneurial support, with its preoccupation on what ESOs should provide to "help" nascent entrepreneurs and ventures, may be following a trajectory similar to that which plagued studies in the development literature.

ESOs as Helpers Facilitating Doer Understanding

In his attempt to "lay the intellectual foundations for an alternative philosophy of development" (2009: 186), David Ellerman argues that the development literature has been plagued for years by four forms of "unhelpful help" (two volitional and two cognitive) that undermine autonomy-respecting help—that is, helping people help themselves. The volitional forms emphasize getting the doer's (i.e., the help recipient's) world to correspond more to some prescriptive representation or model. Both are vulnerable to the doer's actions becoming based on external versus internal motives (Ellerman, 2009, p. 17). The first of these mistaken volitional policies is referred to as "social engineering." Believing the doer is headstrong on the wrong path, the helper provides "motivation" for the doer to do the "right thing" (treating aid and conditionalities as "carrots and sticks"). Thus, the helper deliberately tries to impose his will on the doer. The second of these mistaken volitional policies is referred to as "benevolent aid." Considering the recipient as helpless, the helper provides aid to the doer to "solve the problem" by relieving symptoms until next time. Thus, the helper replaces the doer's will with her will. As a remedy to both, Ellerman (2009) proposes that autonomy-respecting help should search for where "virtue is afoot on its own" and to catalyze social and economic linkages to spread success. In other words, the helper is encouraged to find and start with the motivation of the doer and to supply help on that basis. Additionally, a "gap-filling aid" approach to prevent the doer's self-help capacity from being undermined is advocated to prevent benevolent aid from encouraging risky behavior created by moral hazard in which excessive insurance relieves the insured from taking normal precautions.

In contrast to the volitional is the cognitive side of the helper-doer relationship (e.g., beliefs based on compliance with external authority versus beliefs based on the exercise of critical reason and rational judgment). The cognitive side tries to get the doer's descriptive representation or model to correspond more to the world, but this knowledge-based assistance also runs into forms of unhelpful help that are similar to the volitional side. For instance, the cognitive equivalent to "social engineering" is "the right belief" in which the helper tries "to supply the right will" to the doer through biased information and one sided arguments. In such scenarios, helpers do not allow doers to hear all sides of a question or to perform their own experiments for fear that the doers will "draw the wrong conclusions." This distortionary help compromises the autonomy of doers. Similarly, the cognitive equivalent to "benevolent aid" is "borrowed opinions," not knowledge. By giving doers "answers," the givers try to save the doers the trouble of learning and appropriating knowledge, but in the process, they undermine the development of the doer's learning capacity.

The remedy to both mistaken cognitive policies is for the helper not to give answers but instead to facilitate active learning (experiments) from the doer and to encourage peer-to-peer learning between doers such that they try to answer questions or resolve their own problems.

Through active and peer-to-peer learning, doers are thought to transcend knowledge acquisition to achieve something considered even more important: understanding (Dewey, 1916; Rogers, 1951). Consequently, Ellerman (2009) encourages helpers to adopt an indirect approach to help in which the helper fosters and awakens an intrinsic desire for learning on the part of the doer who then takes the active role in (re)discovering and appropriating knowledge. Building on McGregor's (1960) Theory Y, Ellerman (2009) identifies five steps through which to help doers. Theory Y is based on the principle of integration and self-control, where integration refers to the situation where an individual "can achieve his own goals best by directing his efforts toward the objectives of the enterprise" (1960: 61). Management's task is not to provide incentives or supply motivation; the "task is to provide an appropriate environment—one that will permit and encourage employees to seek intrinsic rewards at work" (1967: 14).

As Ellerman (2009) notes, if the motivation is not to be supplied by the helper, then it must be found in the doer. This can be achieved through five steps, as described by McGregor (1948). Step one starts from the doer's problem, as understood by the doer. Step two sees the problem through the doer's eyes. How does the doer perceive and conceptualize the difficulty? If the doer perceives a situation differently from the helper, then this should be explained. Step three is to help the doer pursue their own ends to best solve the problem. The helper is not "to teach" the doer what the helper considers the best solution to be, but instead to offer knowledge and experience that can help the doer find what is best to further the doer's own intrinsic ends. Quoting McGregor (1966, p. 163), Ellerman notes "… *A*'s [helper's] objective is to utilize his skill to create a situation in which *B* [doer] can learn, and to make his knowledge available so that *B* may utilize it to augment his own need satisfaction in ways consistent with the achievement of organizational objectives" (2009: 63). Step four hrelps the doer to implement, test, and refine the doer's solution. Finally, step five hrelps the doer gain autonomy and take responsibility for the solution and its implementation – as well as for finding his or her own solutions to similar problems that might arise in the future. This involves getting the doer to avoid dependency, but it also means that the helper needs to avoid trying to take responsibility, which may be particularly difficult when the helper wants to take ownership of the solutions to look better in the eyes of their stakeholders. Ellerman (2009, p. 64) notes:

> If [the helper's] own need for power is too strong, he will not be able to create or maintain an effective relationship with B [the doer]. If he is overanxious for recognition, he is likely to destroy the results of his work with B by seeking credit for B's accomplishments. (McGregor, 1966, p. 167).

Just as Ellerman (2009) encourages development agencies to offer autonomy respecting help, we suggest that ESOs may benefit entrepreneurs by offering autonomy-respecting help. The good news for ESOs is that entrepreneurs are likely to be intrinsically motivated, making the volitional forms of unhelpful help less concerning. However, the cognitive forms of unhelpful help (i.e., "the right belief" and "borrowed opinions") remain a threat, as does their inverse, which Bergman and McMullen (2020) refer to as the laissez-faire approach (see also Bergek & Norrman, 2008). Indeed, it appears that laissez-faire may represent a third form of "unhelpful help" – beyond the mistaken cognitive policies of "the right belief" and "borrowed opinions." In laissez-faire the helper provides resources while assuming the doer is more efficacious than they actually are.

All three forms of unhelpful help are problematic for ESOs because they point to a mismanagement of an implied relationship between the ESO (helper) and the entrepreneur (doer). With "the right belief" and "borrowed opinions," the ESO (helper) intervenes too much, failing to respect the entrepreneur's autonomy and need to engage in "active" learning, as explained by Dewey (1916):

> It is that no thought, no idea, can possibly be conveyed as an idea from one person to another. When it is told, it is, to the one to whom it is told, another given fact, not an idea. The communication may stimulate the other person to realize the question for himself and to think out a like idea, or it may smother his intellectual interest and suppress his dawning effort at thought. (Dewey: 159).

At the other extreme is laissez-faire, where the ESO (helper) may not intervene at all. Indeed, it is a common error to think that the alternative to too much intervention is passivity (e.g., a teacher leaving the children to "free play," Westbrook (1991), but a complete laissez-faire, or hands-off, approach would lead to no interaction rather than an autonomy-respecting interaction (Rogers, 1951). Through benign neglect, laissez-faire may achieve step five of McGregor's indirect approach, which is to help the entrepreneur gain autonomy and take responsibility for the solution and its implementation, but it does so by chance, failing to execute the first four steps of McGregor's indirect approach. For example, the ESO employing laissez-faire fails to start with the entrepreneur's problem as understood by the entrepreneur, to see the problem through the entrepreneur's eyes, to help the entrepreneur pursue their own ends to best solve the problem, and/or to help the entrepreneur to implement, test, and refine the entrepreneur's solution. Instead, the ESO merely provides resources and leaves the entrepreneurs to their own devices.

A Relational Research Agenda on Entrepreneurial Support and Support Organizing

Going forward, we advocate a *relational perspective of entrepreneurial support and support organizing*, one attuned to the bi-directionality of influence on and by myriad actors, which in turn implies that time and process have an important role to play in entrepreneurial support. As we have noted, relationships – especially new relationships – rarely stay the same. They evolve as the parties they connect co-evolve. With this in mind, we have structured the remainder of this discussion around five relationships, derived from the levels of analysis reviewed above: (1) entrepreneurs and their ventures; (2) entrepreneurs and other entrepreneurs; (3) entrepreneurs and ESOs; (4) ESOs and external stakeholders; and, (5) ESO and researchers. All five of these relationships share a focus on learning how to develop entrepreneurial ventures to become increasingly more self-sufficient, and the role that support, either directly as activities or indirectly as context, plays in that process.

Relationship 1: Entrepreneurs and Their Ventures

The venture creation process is feedback intensive, such that entrepreneurs have to be willing and able to make decisions based on newly-revealed information about their customers, their products, and themselves (e.g., Grimes, 2018). Thus, even the most basic relationship between entrepreneurs and their ventures tends to be characterized by learning, not just once, but repeatedly as entrepreneurs seek not only to learn how to realize profit from their creations but also to understand why they should continue trying to do so, despite in some cases receiving mixed or negative feedback.

Our review of the ESO literature suggests that entrepreneurs may vary in their capacity for learning and that longitudinal tracking of venture development and the influence of the activities and context of the ESO on this capacity are largely absent in both practice and research. This is a problem because the current ESO literature appears ill-equipped to tackle unexpected changes over time in how entrepreneurs relate to their ventures. Namely, there is little examination of how venture development can transform the entrepreneur's intent or desire to create the new venture. Additionally, research tends to examine entrepreneurs cross-sectionally.

There is limited longitudinal work examining the evolution of desire, intent, product idea, or business model, wherein an entrepreneur or cohort of entrepreneurs are observed throughout their entire entrepreneurial journey in the ESO from entering to eventual exit. Instead, the entrepreneurial throughput process is treated homogenously with no distinctions made across stages within or across entrepreneurs (even within incubators, accelerators or other specific ESO forms).

In addition to better understanding how entrepreneurs mobilize, utilize, or configure resources in these environments over the course of their residency (e.g., Baker & Nelson, 2005; Clough et al., 2019), it would be valuable to examine when entrepreneurs choose to persist despite adverse feedback, when they elect to pivot, and when it might make more sense to abandon the venture or the entrepreneurial vocation altogether. What role does entrepreneurial support play in helping entrepreneurs answer these questions? One's default model is more likely to be wrong than right such that some people realize that they were not meant to be entrepreneurs even when their venture concept may have merit, but it is unclear how the activities or context of the ESO facilitate or encumber this realization. How might the ESO affect whether and how an entrepreneur arrives at answers to questions such as: Should I, as an entrepreneur, persist or pivot in how I am pursuing this venture idea? Or might it be time that I reconsider some more fundamental beliefs about whether entrepreneurship remains an appealing vocation for me given what I have learned so far? Questions like these typically encourage people to seek feedback from experts or at least from those who have seen the process play out before. Other entrepreneurs in residence and employees of the ESO would be some of the first people from whom entrepreneurs in ESOs would seek such information.

Distinction needs to be made regarding beliefs about the *venture* versus beliefs about the entrepreneurial *vocation* as many entrepreneurs - especially first-time entrepreneurs - are likely to be in the midst of challenging both simultaneously. In both cases a theory-in-use is based on assumptions, and the beliefs these assumptions give rise to are being tested to determine whether they comport with fact, to what degree, and whether they require revision. These facts can address superficial activities, such as what product to offer which market, to more fundamental desires, such as why one wanted to try entrepreneurship in the first place, to more mid-range concerns, such as how new value should be created. Given the hierarchy of meaning involved in entrepreneurial action, double-loop learning, where doers do learn how to learn (e.g., Argyris, 1976, 2002) is capable of occurring at multiple levels simultaneously, but no such distinction of level has been made within the ESO literature or even the entrepreneurship literature more widely.

Given the importance of beliefs in entrepreneurial action (McMullen & Shepherd, 2006), we propose that both sensemaking (e.g., Sandberg & Tsoukas, 2020; Weick, 1995) and cognitive behavioral therapy (e.g., David et al., 2018; Hayes & Hofmann, 2018) could offer potentially useful theories and tools for intervention by ESOs and researchers alike. For instance, sensemaking seeks to explain how individuals work to understand (and act in) novel, ambiguous, or confusing issues/events that violate of expectations, a relational process likely triggered by ESO participation and throughout the venture creation process, both within and outside of ESOs. How entrepreneurs make sense of the ESO context, and their role in it, may vary among residents, with implications for the outcomes of all parties involved. Alternatively, cognitive behavioral therapy (CBT) is premised on the idea that internal thoughts – not external environments – trigger people's emotions and behaviors, but it seeks to change the way people think and shape their beliefs, not on changing people's external environment. As such, CBT involves emotional support, seeking to surface and correct self-defeating beliefs that the intense ambiguity and liminality of the ESO situation could elicit from otherwise capable entrepreneurs pursuing potentially viable ventures (e.g., Prashantham & Floyd, 2019).

Relationship 2: Entrepreneurs and Other Entrepreneurs

ESOs rarely if ever exist to support a single residential entrepreneur. Instead, the ESO provides the context in which cohorts or communities of entrepreneurs are created, sustained, and disbanded. In most cases, the relationships between the focal entrepreneur and other entrepreneurs or among the other entrepreneurs would not have happened without the context of the ESO. Accordingly, the focal entrepreneur influences and is influenced by other entrepreneurs within the ESO in both positive and negative ways. This poses a problem for the ESO literature because currently there is no examination of what entrepreneurs do for other entrepreneurs in residence. Consequently, the social psychological concerns of entrepreneurs are often neglected. Both upward and downward social comparison is possible, meaning that the focal entrepreneur might feel superior to other entrepreneurs in some ways while feeling inferior to them in others. For example, the focal entrepreneur's venture may lack the coherence and clarity of a peer's venture, while that same focal entrepreneur exhibits greater mastery of some business function (such as marketing) or technical capability (such as coding or programming). Or perhaps, one venture is growing faster than the other. Despite differences, which could even be highly salient, such comparisons can still encourage or discourage the focal entrepreneur, despite the inappropriateness of such inferences. To that end, future research may want to examine what role peer entrepreneurs play in the development and/or alteration of a focal entrepreneur's identity within an ESO.

The ESO does not have to intervene directly through support activities to affect this process. Simply creating the context that allows them to occur is likely to affect the venture development of all the residential entrepreneurs. Many ESOs acknowledge the existence of these effects under the guise of cohort effects or peer-to-peer learning, but few if any seek to manage the process and consider the role identity and social identity implications of intervention or abstention (e.g., Demetry, 2017; Marlow & McAdam, 2015; Stets & Burke, 2000).

As with the first relationship, the neglect of peer learning and other peer effects may be due to the current literature's emphasis on the ESO's provision of techno-material resources at the expense of the more social psychological notion of emotional support. As with cognitive behavioral therapy, positive psychology may have much to contribute to this form of emotional support in the form of social comparison theory (SCT; e.g., Wheeler & Suls, 2020). Initially proposed by Festinger (1954), SCT assumes a drive within individuals to gain accurate self-evaluations and explains how individuals evaluate their own opinions and abilities by comparing themselves to others in order to reduce uncertainty in these domains and learn how to define the self. By not interfering in relationships among the resident entrepreneurs, the ESO may unwittingly encourage entrepreneurs to rely on erroneous inferences drawn from opaque behavioral assessments of others. In contrast, intervention could facilitate communication and transparency into the struggles that other entrepreneurs face while equipping each with coping strategies to regulate the emotional vicissitudes of the entrepreneurial journey (McMullen & Dimov, 2013).

Relationship 3: Entrepreneurs and ESOs

Ostensibly the goal of most ESOs is to help their resident entrepreneurs to learn to become self-sufficient, understood to mean that the resident entrepreneurs' business models can survive "in the wild" without the subsidization of the ESO. So far, we have discussed the role of the ESO in helping entrepreneurs to surface and correct false beliefs that may impair or even preclude the development of their ventures or themselves as entrepreneurs. However, ESOs are organizations that also have their own theories-in-use. As mentioned above, a dominant assumption among many of them (particularly incubators, science parks, maker spaces, and co-working spaces) is that a laissez-faire approach is preferable to a more heavy-handed intervention into the

relationships of entrepreneurs. This laissez faire policy assumes a neutrality, which we would argue is a false belief. Refraining from intervention may prevent the ESO from committing sins of commission, but it exposes the organization to committing sins of omission like allowing or even encouraging the flawed social comparison highlighted earlier. Additionally, a laissez-faire approach largely assumes that the relationship between the entrepreneur and the ESO flows in only one direction, such that the ESO influences the behavior of the entrepreneur but not vice versa. In many cases, however, ESOs acquire physical resources at the bequest of resident entrepreneurs. For example, maker spaces may make significant investments in equipment that only some residents can use.

The current ESO literature's failure to attend to ESO-level activities and outcomes is problematic because it precludes research from focusing on the actions of the ESOs themselves. Instead, most ESOs and studies of them almost exclusively emphasize what ESOs do (i.e., provide) for entrepreneurs—for example, activities, services offered—while offering little examination of what makes them successful or allows them to survive—for example, revenue models, governance structures, best practices, etc. (again, see Cohen, Bingham, et al., 2019, for a rare exception). That is, ESO performance is almost exclusively measured in terms of the ESO's effect on entrepreneurs and ventures, with no mind to the ESO's own longevity as an organizational entity. This would be similar to defining a venture's success only in terms of its effect on employee satisfaction. That satisfaction matters, but obviously it can at times be at odds with organizational performance.

To the extent that such acquisitions facilitate the growth of some ventures and not others in residence, they have the potential to unintentionally transform the ESO from host or landlord of many entrepreneurs into the production facility or factory for one venture. That is, there may be potential for a highly successful resident to capture the ESO. Similarly, to the extent that entrepreneurial residents early in the ESO's existence may have a disproportionate influence over the policies and rules the ESO introduces to govern the space and over the resources they offer, these early residents may have an outsized imprinting effect not shared by later entrants. Finally, ESO managers and employees work with resident entrepreneurs, not necessarily their ventures. In some cases, these relationships are likely to evolve beyond purely transactional encounters to involve richer dimensions such as friendship. If so, turnover of residential entrepreneurs (or lack thereof) is likely to have an influence on turnover of ESO personnel. Therefore, the relationship between ESOs and entrepreneurs needs to be seen as a conduit that runs both ways, from entrepreneur to ESO, as well as from ESO to entrepreneur. This relationship involves forms of exchange beyond simple provision of techno-material resources. Such exchanges can take social and moral, as well as economic, forms. Consequently, theories of negotiation and power such as resource dependency theory (Hillman et al., 2009) or social exchange theory (Cropanzano & Mitchell, 2005) may offer scholars a richer lens to examine the multi-dimensional and dynamic relationship between ESOs and entrepreneurs.

Relationship 4: ESOs and External Stakeholders

Like the entrepreneurs they host, ESOs do not exist in a vacuum. They influence and are influenced by other stakeholders in their ecosystem. Where do these ESOs come from and where do they go when they are disbanded? For the most part, we do not know because the ESO literature often takes their existence for granted. Moreover, most are young enough that little-to-no research has been conducted about ESO failure (for an exception, see Smith & Bergman, 2020). Research on ESOs has, however, emphasized their buffering and bridging functions, such that ESOs are typically portrayed as mediators between residential entrepreneurs and external stakeholders. Through buffering, ESOs absorb the negative shocks of external stakeholders; through bridging,

they act as brokers connecting entrepreneurs to the external parties needed to further entrepreneurial development. But why ESOs choose to support entrepreneurs in these ways (or at all) is difficult to understand without paying greater attention to the web of relationships in which the management and employees of ESOs are embedded.

The assumptions and beliefs that form ESOs' theories-in-use come from somewhere, and often that source is other people, especially when the activity is new, such as when creating an ESO for the first time. For example, the laissez-faire approach to governance in ESOs is arguably more widespread than is optimal, given its effects on resident entrepreneurs. Why is this? Is laissez-faire less expensive than a strategy employing more heavy-handed intervention? Perhaps, but it certainly does not appear to be more effective. Typically, the laissez-faire approach is based on a belief that all that stands between many would-be entrepreneurs and a successful venture is access to resources (which then tend to be conceived exclusively in terms of material resources). This "Field of Dreams – If you build it, they will come" assumption seems to hold water only in drawing entrepreneurs, but not necessarily in transitioning them through/out of ESOs, such that they become self-sufficient entities capable of flourishing without ESO subsidization or protection.

Consequently, there appears to be a disconnect between what ESOs do and what external stakeholders tend to assume that ESOs do, with external stakeholders, such as the public, assuming ESOs coach entrepreneurs to become gazelles, while many ESOs see themselves merely as providing space or tools to those who know how to use them but simply lack access. In many cases, no attempt to rectify this public misconception of what most ESOs provide is made because it may form the basis for how and why these ESOs receive the resources they do. That is, ESOs' funding and thus survival may depend on their perpetuation of the narrative that they help to produce gazelles and to transform novices into expert entrepreneurs while knowing good and well that they rarely if ever do. There is no examination in the current literature of what the ESO does for their ecosystem or what the ecosystem does for the ESO, leaving us to wonder: when and how do ESOs learn from other ESOs or other external stakeholders?

ESOs' actions are not always geared at fostering single- or double-loop learning among their constituents. Despite their other-orientation, ESOs are organizations that are comprised of individuals who can be selfish, and therefore ESOs are as vulnerable as any organization to self-interested concerns such as perpetuating the flow of resources from the public upon which their existence and their employees' jobs depend. Such relational complexities have largely been overlooked to date. Consequently, discussions of ecosystems, network theory, legitimacy, coopetition, and similar acknowledgements that ESOs are socially and structurally embedded would be a step in the right direction, but only if they also recognize that more than physical resources travel through this network. Just as importantly, information and values flow through these conduits that is intended not only to detect and correct false beliefs to facilitate the learning process but also possibly to perpetuate false beliefs that could obstruct the learning process of stakeholders who might not like what they learn about ESOs.

Relationship 5: ESOs and Researchers

The final relationship in need of discussion involves that between ESOs and the researchers who study them. In other words, it is worth reconsidering how we, as scholars, relate to ESOs. As noted throughout our findings, ESO research to date has been highly descriptive, focused on the resources they provide their residents, and often for a singular moment in time. As Table 2 shows, only a few studies take a longitudinal (19% of qualitative articles, 9% of the full sample) and/or processual approach (13% of qualitative articles, 6% of the full sample) in their data collection and analysis. If we are to deepen our understanding of the learning and meaning making

Table 3. Future Research Opportunities Through a Relational Approach.

Focal relationship	① Entrepreneurs & ventures within ESOs	② Entrepreneurs & other entrepreneurs within ESOs	③ Entrepreneurs & ESOs	④ ESOs & external stakeholders
Potential Research Questions	Given their limited prior resources and support, how do entrepreneurs make sense of the resource munificent ESO environment? How do the actions or context of an ESO effect whether an entrepreneur persists, pivots, or quits? How do entrepreneurs mobilize or leverage resources in the ESO environment, and how do these practices inform, shape, or influence future resourcing approaches?	How does the presence of other entrepreneurs within an ESO encourage or discourage self-assessments? To what effect? What interventions might ESOs use to facilitate communication and transparency around the emotional struggles of the entrepreneurial journey? What role/social identity tensions emerge for entrepreneurs within ESOs, and how do entrepreneurs balance or overcome them?	How, why, and under which conditions might information and influence flow from the entrepreneur to the ESO, as well as from the ESO to the entrepreneur? How do ESOs reflect, learn, improve, and/or change as a function of supporting various entrepreneurs? How do ESOs balance their survival with that of their resident entrepreneurs?	How, why, and under which conditions might information and influence flow from external stakeholders to the ESO, as well as from the ESO to external stakeholders? How do practices within ESOs matriculate to "ESO Sponsors" or "Systems" in which ESOs participate? How do ESOs catalyze or legitimate entrepreneurial activity in places where such activity is uncommon?
Theoretical Perspectives	**Double-loop Learning:** Argyris (1976, 2002). **Cognitive Behavioral Therapy:** David et al. (2018); Hayes and Hofmann (2018). **Resource Mobilization & Bricolage:** Baker and Nelson (2005); Clough et al. (2019); Fisher (2012). **Sensemaking:** Sandberg and Tsoukas (2020); Weick (1995).	**Social Comparison Theory:** Wheeler and Suls (2020). **Identity Theory and Social Identity Theory:** Demetry (2017); Mmbaga et al. (2020); O'Neil et al. (2020); Stets and Burke (2000).	**Resource Dependency Theory:** Pfeffer and Salancik (2003). **Social Exchange Theory:** Cropanzano and Mitchell (2005). **Imprinting Theory:** Stinchcombe (1965); Bryant (2014); Johnson (2007): Mathias et al. (2015).	**Ecosystems:** Acs et al. (2017); Spigel and Harrison (2018). **Network Theory:** Borgatti and Halgin (2011); Provan et al. (2007). **Intermediation:** Howells (2006).

processes across the relations we identify (entrepreneurs in relation to themselves, their ventures, to other entrepreneurs, to the ESO, and ESOs in their relation to their residential entrepreneurs, and the various stakeholders with whom they interact), then scholars need to longitudinally track an entrepreneur, cohort of entrepreneurs, or ESO in real time. This means engaging with the entrepreneur(s) and/or ESO(s) during or shortly after they begin the activity in question, consistently and frequently checking their activities and progress, and continuing that engagement following the cessation of relevant activities. Indeed, the relationships highlighted above are more than transactions, they are weak and strong ties through which economic, social, and moral exchanges or resources, ideas, beliefs, and values flow. Thus, longitudinal and processual approaches are needed to rigorously unpack them (e.g., Gehman et al., 2018; Langley, 1999, 2007).

Beyond adopting longitudinal and processual approaches, we encourage scholars to move beyond simply *observing* ESOs and seek opportunities for *collaborating* and *experimenting* with them. Not only are ESOs easy to locate, given their proliferation, many of the studies in our sample took advantage of ESOs in close physical proximity, often at the scholars' institution of employ. We encourage scholars to deepen their relationship with ESOs, both on and off campus, as ESOs present an incredible opportunity for experimentally testing and advancing research on entrepreneurial support and support organizing. Two studies in our sample—Chatterji et al. (2019) Hasan and Koning (2019)—offer unique and direct examples of experimentally altering the physical and social environment of an ESO. Other studies, outside of the ESO context (such as Kistruck et al., 2016; Slade Shantz et al., 2020), offer helpful examples for collaborating with partners in practice to conduct field experiments that are theoretically rich and practically impactful (see also Stevenson et al., 2020, on experimentation and entrepreneurship research, more generally). Table 3 offers questions and theoretical perspectives that align with the relational approach we advocate in this research area.

Conclusion

The rapid rise and proliferation of ESOs remains somewhat unclear. What is clear, however, is that ESOs, in some form or another, are here to stay. If we are to match their proliferation with advancements in theoretical understanding and practical efficacy, we believe a relational approach to the study of ESOs is a fruitful one. Such an approach not only affords advancements in entrepreneurial support and support organizing, as processes, but other topics that are core to the discipline of entrepreneurship. Although support is often implied to mean "help," the terms "support" and "help" are imperfect synonyms at best. If the objective is to help entrepreneurs become more self-sufficient, then a more relational approach is likely needed as is a focus on learning and how ESOs both affect and are affected by that process. If the objective of ESOs is merely to support entrepreneurs in some more restricted sense of the term, then it may be time to clarify this among ESO management, ESO residents, and ESO stakeholders or else examine whose interests the current obfuscation serves, as well as how and why.

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Notes

1. To date, only one review appears in a mainstream management or entrepreneurship journal, a special issue introduction by Phan et al. (2005) and only addresses research on incubators and science parks.
2. For detailed discussions on this point concerning universities, see Youtie and Shapira (2008); for financial entities, see Hallen et al. (2020), Kim and Wagman (2014), and Yu (2020).
3. A point of clarity concerning the more recent ESO forms, maker spaces and co-working spaces. We recognize not *every* maker or co-working space is interested in entrepreneurship. However, as recent research (reviewed here and elsewhere) has demonstrated (e.g., Bergman & McMullen, 2020; Bouncken & Reuschl, 2018; Browder et al., 2019), many are created for or designed with entrepreneurs in mind. Thus, we include these emergent ESO forms in our review and review research specifically focused on entrepreneurial activity within them. We thank an anonymous reviewer for seeking clarity on this point.
4. We say "carefully" because the nested/multi-level nature of ESOs created situations in which some studies freely switched between levels of analysis (e.g., stating the ESO as unit of analysis and presenting a study of individuals networking within the ESO) or created proxy measures from one for another (e.g., measuring ESO performance by surveying entrepreneur satisfaction). Thus, each paper was closely reviewed, constantly reflecting on, "Who is the main protagonist in this paper?," rather than relying on the authors' stated level of analysis.
5. In some cases, it was difficult to discern whether a study in this domain was interested in individual or venture level outcomes, as the authors treated them as one and the same. However, we leaned on the phrasing of the research question, the theoretical perspective, how variables were operationalized, and what was actually measured to ultimately situate the study in one level or the other.
6. Though related, venture level network and knowledge studies differ from the individual level subset in their focus and/or theoretical perspective. For example, venture level studies consider network structure/size and draw from inter-organizational learning, versus individual level studies, which look at networking behaviors and experiential learning.

Supplemental Material

Supplemental material for this article is available online.

References

Acs, Z. J., Stam, E., Audretsch, D. B., & O'Connor, A. (2017). The lineages of the entrepreneurial ecosystem approach. *Small Business Economics*, *49*(1), 1–10. https://doi.org/10.1007/s11187-017-9864-8

Adegbite, O. (2001). Business incubators and small enterprise development: The Nigerian experience. *Small Business Economics*, *17*(3), 157–166. https://doi.org/10.1023/A:1011801018398

Adomdza, G. K. (2016). Choosing between a student–run and professionally managed venture accelerator. *Entrepreneurship Theory and Practice*, *40*(4), 943–956. https://doi.org/10.1111/etap.12145

Aernoudt, R. (2004). Incubators: Tool for entrepreneurship? *Small Business Economics*, *23*(2), 127–135. https://doi.org/10.1023/B:SBEJ.0000027665.54173.23

Aernoudt, R. (2004). Incubators: Tool for entrepreneurship? *Small Business Economics*, *23*(2), 127–135. https://doi.org/10.1023/B:SBEJ.0000027665.54173.23

Aernoudt, R. (Zeiner, AVangsal, FKubberød, EPettersen, I. B2019From making gadgets to making talents: exploring a university makerspace.). Incubators: Tool for entrepreneurship? *Small Business Economics*, *23*(2), 127–135.

Ahmad, A. J. (2014). A mechanisms-driven theory of business incubation. *International Journal of Entrepreneurial Behavior & Research*, *20*(4), 375–405. https://doi.org/10.1108/IJEBR-11-2012-0133

Ahmad, A. J., & Ingle, S. (2011). Relationships matter: Case study of a university campus incubator. *International Journal of Entrepreneurial Behavior & Research*, *17*(6), 626–644. https://doi.org/10.1108/13552551111174701

Ahmad, A. J., & Thornberry, C. (2018). On the structure of business incubators: De-coupling issues and the mis-alignment of managerial incentives. *The Journal of Technology Transfer*, *43*(5), 1190–1212. https://doi.org/10.1007/s10961-016-9551-y

Albahari, A., Klofsten, M., & Rubio-Romero, J. C. (2019). Science and technology parks: A study of value creation for park tenants. *The Journal of Technology Transfer*, *44*(4), 1256–1272. https://doi.org/10.1007/s10961-018-9661-9

Albort-Morant, G., & Oghazi, P. (2016). How useful are incubators for new entrepreneurs? *Journal of Business Research*, *69*(6), 2125–2129. https://doi.org/10.1016/j.jbusres.2015.12.019

Albort-Morant, G., & Ribeiro-Soriano, D. (2016). A bibliometric analysis of international impact of business incubators. *Journal of Business Research*, *69*(5), 1775–1779. https://doi.org/10.1016/j.jbusres.2015.10.054

Aldrich, H. E., & Fiol, C. M. (1994). Fools rush in? the institutional context of industry creation. *Academy of Management Review*, *19*(4), 645–670. https://doi.org/10.5465/amr.1994.9412190214

Allen, D. N. (1988). Business incubator life cycles. *Economic Development Quarterly*, *2*(1), 19–29. https://doi.org/10.1177/089124248800200103

Alon, I., & Godinho, M. M. (2017). Business incubators in a developing economy: Evidence from Brazil's northeast region. *Science and Public Policy*, *44*(1), 13–25.

Amezcua, A., Ratinho, T., Plummer, L. A., & Jayamohan, P. (2020). Organizational sponsorship and the economics of place: How regional urbanization and localization shape incubator outcomes. *Journal of Business Venturing*, *35*(4), 105967. https://doi.org/10.1016/j.jbusvent.2019.105967

Amezcua, A. S., Grimes, M. G., Bradley, S. W., & Wiklund, J. (2013). Organizational sponsorship and founding environments: A contingency view on the survival of business-incubated firms, 1994–2007. *Academy of Management Journal*, *56*(6), 1628–1654. https://doi.org/10.5465/amj.2011.0652

Argyris, C. (1976). Single-loop and double-loop models in research on decision making. *Administrative Science Quarterly*, *21*(3), 363–375. https://doi.org/10.2307/2391848

Argyris, C. (2002). Double-loop learning, teaching, and research. *Academy of Management Learning & Education*, *1*(2), 206–218. https://doi.org/10.5465/amle.2002.8509400

Arlotto, J., Sahut, J. M., & Teulon, F. (2011). What is the performance of incubators? The point of view of coached entrepreneurs. *International Journal of Business*, *16*(4), 341–352.

Armanios, D. E., Eesley, C. E., Li, J., & Eisenhardt, K. M. (2017). How entrepreneurs leverage institutional intermediaries in emerging economies to acquire public resources. *Strategic Management Journal*, *38*(7), 1373–1390. https://doi.org/10.1002/smj.2575

Audretsch, D., Colombelli, A., Grilli, L., Minola, T., & Rasmussen, E. (2020). Innovative start-ups and policy initiatives. *Research Policy*, *49*(10), 104027. https://doi.org/10.1016/j.respol.2020.104027

Autio, E., Nambisan, S., Thomas, L. D. W., & Wright, M. (2018). Digital affordances, spatial affordances, and the genesis of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, *12*(1), 72–95. https://doi.org/10.1002/sej.1266

Bachmann, M. (2014). How the hub found its center. *Stanford Social Innovation Review*, *12*(1), 22–27.

Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, *50*(3), 329–366. https://doi.org/10.2189/asqu.2005.50.3.329

Balfour, B., Fortunato, M. W., & Alter, T. R. (2018). The creative fire: An interactional framework for rural arts-based development. *Journal of Rural Studies*, *63*, 229–239.

Bank, N., Fichter, K., & Klofsten, M. (2017). Sustainability-profiled incubators and securing the inflow of tenants–The case of green garage Berlin. *Journal of Cleaner Production*, *157*(7), 76–83. https://doi.org/10.1016/j.jclepro.2017.04.123

Barbero, J. L., Casillas, J. C., Ramos, A., & Guitar, S. (2012). Revisiting incubation performance: How incubator typology affects results. *Technological Forecasting and Social Change*, *79*(5), 888–902.

Battilana, J., & Lee, M. (2014). Advancing research on hybrid organizing – insights from the study of social enterprises. *Academy of Management Annals*, *8*(1), 397–441. https://doi.org/10.5465/19416520.2014.893615

Baumol, W. J. (2010). *The microtheory of innovative entrepreneurship*. Princeton University Press.

Bergek, A., & Norrman, C. (2008). Incubator best practice: A framework. *Technovation*, *28*(1-2), 20–28. https://doi.org/10.1016/j.technovation.2007.07.008

Bergman, B. J., & McMullen, J. S. (2020). Entrepreneurs in the making: Six decisions for fostering entrepreneurship through maker spaces. *Business Horizons*, *63*(6), 811–824. https://doi.org/10.1016/j.bushor.2020.07.004

Blackburne, G. D., & Buckley, P. J. (2019). The International business incubator as a foreign market entry mode. *Long Range Planning*, *52*(1), 32–50. https://doi.org/10.1016/j.lrp.2017.10.005

Bliemel, M., Flores, R., De Klerk, S., & Miles, M. P. (2019). Accelerators as start-up infrastructure for entrepreneurial clusters. *Entrepreneurship & Regional Development*, *31*(1-2), 133–149. https://doi.org/10.1080/08985626.2018.1537152

Borgatti, S. P., & Halgin, D. S. (2011). On network theory. *Organization Science*, *22*(5), 1168–1181. https://doi.org/10.1287/orsc.1100.0641

Bouncken, R. B., Laudien, S. M., Fredrich, V., & Görmar, L. (2018). Coopetition in coworking-spaces: Value creation and appropriation tensions in an entrepreneurial space. *Review of Managerial Science*, *12*(2), 385–410. https://doi.org/10.1007/s11846-017-0267-7

Bouncken, R. B., & Reuschl, A. J. (2018). Coworking-spaces: How a phenomenon of the sharing economy builds a novel trend for the workplace and for entrepreneurship. *Review of Managerial Science*, *12*(1), 317–334. https://doi.org/10.1007/s11846-016-0215-y

Breznitz, S. M., Clayton, P. A., Defazio, D., & Isett, K. R. (2018). Have you been served? The impact of university entrepreneurial support on start-ups' network formation. *The Journal of Technology Transfer*, *43*(2), 343–367. https://doi.org/10.1007/s10961-017-9565-0

Breznitz, S. M., & Zhang, Q. (2020). Determinants of graduates' entrepreneurial activity. *Small Business Economics*, *55*(4), 1039–1056. https://doi.org/10.1007/s11187-019-00171-8

Browder, R. E., Aldrich, H. E., & Bradley, S. W. (2019). The emergence of the maker movement: Implications for entrepreneurship research. *Journal of Business Venturing*, *34*(3), 459–476. https://doi.org/10.1016/j.jbusvent.2019.01.005

Brown, R., & Mawson, S. (2016). Targeted support for high growth firms: Theoretical constraints, unintended consequences and future policy challenges. *Environment and Planning C: Government and Policy*, *34*(5), 816–836. https://doi.org/10.1177/0263774X15614680

Bruneel, J., Ratinho, T., Clarysse, B., & Groen, A. (2012). The evolution of business incubators: Comparing demand and supply of business incubation services across different incubator generations. *Technovation*, *32*(2), 110–121. https://doi.org/10.1016/j.technovation.2011.11.003

Bryant, P. T. (2014). Imprinting by design: The microfoundations of entrepreneurial adaptation. *Entrepreneurship Theory and Practice*, *38*(5), 1081–1102. https://doi.org/10.1111/j.1540-6520.2012.00529.x

Busch, C., & Barkema, H. (2020). Planned luck: How incubators can facilitate serendipity for nascent entrepreneurs through fostering network embeddedness. *Entrepreneurship Theory and Practice*, *1*, 104225872091579. https://doi.org/10.1177/1042258720915798

Bøllingtoft, A. (2012). The bottom-up business incubator: Leverage to networking and cooperation practices in a self-generated, entrepreneurial-enabled environment. *Technovation*, *32*(5), 304–315. https://doi.org/10.1016/j.technovation.2011.11.005

Bøllingtoft, A., & Ulhøi, J. P. (2005). The networked business incubator—leveraging entrepreneurial agency? *Journal of Business Venturing*, *20*(2), 265–290. https://doi.org/10.1016/j.jbusvent.2003.12.005

Campbell, C., & Allen, D. N. (1987). The small business incubator industry: Micro-level economic development. *Economic Development Quarterly*, *1*(2), 178–191. https://doi.org/10.1177/089124248700100209

Carayannis, E. G., & von Zedtwitz, M. (2005). Architecting gloCal (global–local), real-virtual incubator networks (G-RVINs) as catalysts and accelerators of entrepreneurship in transitioning and developing economies: Lessons learned and best practices from current development and business incubation practices. *Technovation*, *25*(2), 95–110. https://doi.org/10.1016/S0166-4972(03)00072-5

Cavallo, A., Ghezzi, A., & Balocco, R. (2019). Entrepreneurial ecosystem research: Present debates and future directions. *International Entrepreneurship and Management Journal*, *15*(4), 1291–1321. https://doi.org/10.1007/s11365-018-0526-3

Chandra, A., & Fealey, T. (2009). Business incubation in the United States, China and Brazil: A comparison of role of government, incubator funding and financial services. *International Journal of Entrepreneurship*, *13*, 67.

Chatterji, A., Delecourt, S., Hasan, S., & Koning, R. (2019). When does advice impact startup performance? *Strategic Management Journal*, *40*(3), 331–356. https://doi.org/10.1002/smj.2987

Chrisman, J. J., & McMullan, W. E. (2004). Outsider assistance as a knowledge resource for new venture survival. *Journal of Small Business Management*, *42*(3), 229–244. https://doi.org/10.1111/j.1540-627X.2004.00109.x

Clayton, P., Feldman, M., & Lowe, N. (2018). Behind the scenes: Intermediary organizations that facilitate science commercialization through entrepreneurship. *Academy of Management Perspectives*, *32*(1), 104–124. https://doi.org/10.5465/amp.2016.0133

Clough, D. R., Fang, T. P., Vissa, B., & Wu, A. (2019). Turning lead into gold: How do entrepreneurs mobilize resources to exploit opportunities? *Academy of Management Annals*, *13*(1), 240–271. https://doi.org/10.5465/annals.2016.0132

Cohen, S., Fehder, D. C., Hochberg, Y. V., & Murray, F. (2019). The design of startup accelerators. *Research Policy*, *48*(7), 1781–1797. https://doi.org/10.1016/j.respol.2019.04.003

Cohen, S. L., Bingham, C. B., & Hallen, B. L. (2019). The role of accelerator designs in mitigating bounded rationality in new ventures. *Administrative Science Quarterly*, *64*(4), 810–854. https://doi.org/10.1177/0001839218782131

Colombo, M. G., Dagnino, G. B., Lehmann, E. E., & Salmador, M. (2019). The governance of entrepreneurial ecosystems. *Small Business Economics*, *52*(2), 419–428. https://doi.org/10.1007/s11187-017-9952-9

Colombo, M. G., & Delmastro, M. (2002). How effective are technology incubators? Evidence from Italy. *Research policy*, *31*(7), 1103–1122.

Cooke, P., Kaufmann, D., Levin, C., & Wilson, R. (2006). The biosciences knowledge value chain and comparative incubation models. *The Journal of Technology Transfer*, *31*(1), 115–129. https://doi.org/10.1007/s10961-005-5025-3

Cooper, C. E., Hamel, S. A., & Connaughton, S. L. (2012). Motivations and obstacles to networking in a university business incubator. *The Journal of Technology Transfer*, *37*(4), 433–453. https://doi.org/10.1007/s10961-010-9189-0

Crişan, E. L., Salanță, I. I., Beleiu, I. N., Bordean, O. N., & Bunduchi, R. (2019). A systematic literature review on accelerators. *The Journal of Technology Transfer*, 1–28.

Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, *31*(6), 874–900. https://doi.org/10.1177/0149206305279602

Dahms, S., & Kingkaew, S. (2016). University business incubators: An institutional demand side perspective on value adding features. *Entrepreneurial Business and Economics Review*, *4*(3), 41–56. https://doi.org/10.15678/EBER.2016.040304

David, D., Cristea, I., & Hofmann, S. G. (2018). Why cognitive behavioral therapy is the current gold standard of psychotherapy. *Frontiers in Psychiatry*, *9*, 4. https://doi.org/10.3389/fpsyt.2018.00004

Del Sarto, N., Isabelle, D. A., & Di Minin, A. (2020). The role of accelerators in firm survival: An fsQCA analysis of Italian startups. *Technovation*, *90-91*(1), 102102. https://doi.org/10.1016/j.technovation.2019.102102

Demetry, D. (2017). Pop-up to professional: Emerging entrepreneurial identity and evolving vocabularies of motive. *Academy of Management Discoveries*, *3*(2), 187–207. https://doi.org/10.5465/amd.2015.0152

Dewey, J. (1916). *Democracy and Education*. Free Press.

Diamantopoulou, V., Androutsopoulou, A., & Charalabidis, Y. (2018). Towards a taxonomy of services offered by start-up business incubators: Insights from the mediterranean region. *International Journal of Entrepreneurship and Small Business*, *33*(4), 494–513. https://doi.org/10.1504/IJESB.2018.090333

Durão, D., Sarmento, M., Varela, V., & Maltez, L. (2005). Virtual and real-estate science and technology parks: A case study of Taguspark. *Technovation*, *25*(3), 237–244. https://doi.org/10.1016/S0166-4972(03)00110-X

Dutt, N., Hawn, O., Vidal, E., Chatterji, A., McGahan, A., & Mitchell, W. (2016). How open system intermediaries address institutional failures: The case of business incubators in emerging-market countries. *Academy of Management Journal*, *59*(3), 818–840. https://doi.org/10.5465/amj.2012.0463

Dvouletý, O., Longo, M. C., Blažková, I., Lukeš, M., & Andera, M. (2018). Are publicly funded Czech incubators effective? The comparison of performance of supported and non-supported firms. *European Journal of Innovation Management*, *21*(4), 543–563. https://doi.org/10.1108/EJIM-02-2018-0043

Ellerman, D. (2009). *Helping people help themselves: From the world bank to an alternative philosophy of development assistance*. University of Michigan Press.

Eriksson, P., Vilhunen, J., & Voutilainen, K. (2014). Incubation as co-creation: Case study of proactive technology business development. *International Journal of Entrepreneurship and Innovation Management*, *18*(5/6), 382–396. https://doi.org/10.1504/IJEIM.2014.064718

Essig, L. (2014). Ownership, failure, and experience: Goals and evaluation metrics of university-based arts venture incubators. *Entrepreneurship Research Journal*, *4*(1), 117–135. https://doi.org/10.1515/erj-2013-0037

Evald, M. R., & Bager, T. (2008). Managing venture team relationships in corporate incubators: A case study of network dynamics and political rivalry in a high-tech incubator. *International Entrepreneurship and Management Journal*, *4*(3), 349–364. https://doi.org/10.1007/s11365-006-0024-x

Feld, B., & Hathaway, I. (2020). *The Startup community way: Evolving an Entrepreneurial ecosystem*. John Wiley & Sons.

Feldman, M. P. (2001). The entrepreneurial event revisited: Firm formation in a regional context. *Industrial and Corporate Change*, *10*(4), 861–891. https://doi.org/10.1093/icc/10.4.861

Seoane, F. J. F., Rodríguez, G., & García, A. V, Ferreiro-Seoane, F. J., Rodríguez-Rodríguez, G., & Vaquero-García, A. (2018). Public investment in business incubators, is it better than doing nothing? *International Journal of Entrepreneurship and Small Business*, *33*(4), 553–574. https://doi.org/10.1504/IJESB.2018.090355

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, *7*(2), 117–140. https://doi.org/10.1177/001872675400700202

Fisher, G. (2012). Effectuation, causation, and bricolage: A behavioral comparison of emerging theories in entrepreneurship research. *Entrepreneurship Theory and Practice*, *36*(5), 1019–1051. https://doi.org/10.1111/j.1540-6520.2012.00537.x

Ford, S., Garnsey, E., & Probert, D. (2010). Evolving corporate entrepreneurship strategy: Technology incubation at Philips. *R&D Management*, *40*(1), 81–90.

Franco, M., Haase, H., & Correia, S. (2018). Exploring factors in the success of creative incubators: A cultural entrepreneurship perspective. *Journal of the Knowledge Economy*, *9*(1), 239–262. https://doi.org/10.1007/s13132-015-0338-4

Frenkel, A., Shefer, D., & Miller, M. (2008). Public versus private technological incubator programmes: Privatizing the technological incubators in Israel. *European Planning Studies*, *16*(2), 189–210. https://doi.org/10.1080/09654310701814504

Fukugawa, N. (2018). Is the impact of incubator's ability on incubation performance contingent on technologies and life cycle stages of startups? Evidence from Japan. *International Entrepreneurship and Management Journal*, *14*(2), 457–478. https://doi.org/10.1007/s11365-017-0468-1

Gandini, A. (2015). The rise of coworking spaces: A literature review. *Ephemera*, *15*(1), 193–205.

Gehman, J., Glaser, V. L., Eisenhardt, K. M., Gioia, D., Langley, A., & Corley, K. G. (2018). Finding theory–method fit: A comparison of three qualitative approaches to theory building. *Journal of Management Inquiry*, *27*(3), 284–300. https://doi.org/10.1177/1056492617706029

Gerlach, S., & Brem, A. (2015). What determines a successful business incubator? Introduction to an incubator guide. *International Journal of Entrepreneurial Venturing*, *7*(3), 286–307. https://doi.org/10.1504/IJEV.2015.071486

Giudici, A., Reinmoeller, P., & Ravasi, D. (2018). Open-system orchestration as a relational source of sensing capabilities: Evidence from a venture association. *Academy of Management Journal*, *61*(4), 1369–1402. https://doi.org/10.5465/amj.2015.0573

Gonzalez-Uribe, J., & Leatherbee, M. (2018). The effects of business accelerators on venture performance: Evidence from start-up Chile. *The Review of Financial Studies*, *31*(4), 1566–1603. https://doi.org/10.1093/rfs/hhx103

Good, M., Knockaert, M., Soppe, B., & Wright, M. (2019). The technology transfer ecosystem in academia. An organizational design perspective. *Technovation*, *82*(2), 35–50. https://doi.org/10.1016/j.technovation.2018.06.009

Goswami, K., Mitchell, J. R., & Bhagavatula, S. (2018). Accelerator expertise: Understanding the intermediary role of accelerators in the development of the Bangalore entrepreneurial ecosystem. *Strategic Entrepreneurship Journal*, *12*(1), 117–150. https://doi.org/10.1002/sej.1281

Grandi, A., & Grimaldi, R. (2004). Evolution of incubation models: Evidence from the Italian incubation industry. *Industry and Higher Education*, *18*(1), 23–31.

Grégoire, D. A., Corbett, A. C., & McMullen, J. S. (2011). The cognitive perspective in entrepreneurship: An agenda for future research. *Journal of Management Studies*, *48*(6), 1443–1477. https://doi.org/10.1111/j.1467-6486.2010.00922.x

Grimaldi, R., & Grandi, A. (2005). Business incubators and new venture creation: An assessment of incubating models. *Technovation*, *25*(2), 111–121. https://doi.org/10.1016/S0166-4972(03)00076-2

Grimes, M. G. (2018). The pivot: How founders respond to feedback through idea and identity work. *Academy of Management Journal*, *61*(5), 1692–1717. https://doi.org/10.5465/amj.2015.0823

Guerrero, M., Urbano, D., Cunningham, J. A., & Gajón, E. (2018). Determinants of graduates' start-ups creation across a multi-campus entrepreneurial university: The case of Monterrey Institute of technology and higher education. *Journal of Small Business Management*, *56*(1), 150–178. https://doi.org/10.1111/jsbm.12366

Gutmann, T., Kanbach, D., & Seltman, S. (2019). Exploring the benefits of corporate accelerators: Investigating the sap industry 4.0 Startup program. *Problems and Perspectives in Management*, *17*(3), 218–232. https://doi.org/10.21511/ppm.17(3).2019.18

Hackett, S. M., & Dilts, D. M. (2004a). A real options-driven theory of business incubation. *The Journal of Technology Transfer*, *29*(1), 41–54. https://doi.org/10.1023/B:JOTT.0000011180.19370.36

Hackett, S. M., & Dilts, D. M. (2004b). A systematic review of business incubation research. *The Journal of Technology Transfer*, *29*(1), 55–82. https://doi.org/10.1023/B:JOTT.0000011181.11952.0f

Hackett, S. M., & Dilts, D. M. (2008). Inside the black box of business incubation: Study B—scale assessment, model refinement, and incubation outcomes. *The Journal of Technology Transfer*, *33*(5), 439–471. https://doi.org/10.1007/s10961-007-9056-9

Hallen, B. L., Cohen, S. L., & Bingham, C. B. (2020). Do accelerators work? If so, how? *Organization Science*, *31*(2), 378–414. https://doi.org/10.1287/orsc.2019.1304

Hanlon, D., & Saunders, C. (2007). Marshaling resources to form small new ventures: Toward a more holistic understanding of entrepreneurial support. *Entrepreneurship Theory and Practice*, *31*(4), 619–641. https://doi.org/10.1111/j.1540-6520.2007.00191.x

Hannon, P. D., & Chaplin, P. (2003). Are incubators good for business? Understanding incubation practice—the challenges for policy. *Environment and Planning C: Government and Policy*, *21*(6), 861–881. https://doi.org/10.1068/c0215

Hansen, M. T., Chesbrough, H. W., Nohria, N., & Sull, D. N., Morten, T., & Hansen, N. N. (2000). Networked incubators: Hothouses of the new economy. *Harvard Business Review*, *78*(5), 74–84.

Hansson, F., Husted, K., & Vestergaard, J. (2005). Second generation science parks: From structural holes jockeys to social capital catalysts of the knowledge society. *Technovation*, *25*(9), 1039–1049. https://doi.org/10.1016/j.technovation.2004.03.003

Harper-Anderson, E. (2018). Intersections of partnership and leadership in entrepreneurial ecosystems: Comparing three U.S. regions. *Economic Development Quarterly*, *32*(2), 119–134. https://doi.org/10.1177/0891242418763727

Harper-Anderson, E., & Lewis, D. A. (2018). What makes business incubation work? Measuring the influence of incubator quality and regional capacity on incubator outcomes. *Economic Development Quarterly*, *32*(1), 60–77. https://doi.org/10.1177/0891242417741961

Hasan, S., & Koning, R. (2019). Prior ties and the limits of peer effects on startup team performance. *Strategic Management Journal*, *40*(9), 1394–1416. https://doi.org/10.1002/smj.3032

Haugh, H. (2020). Call the midwife! business incubators as entrepreneurial enablers in developing economies. *Entrepreneurship & Regional Development*, *32*(1–2), 156–175. https://doi.org/10.1080/08985626.2019.1640480

Hausberg, J. P., & Korreck, S. (2020). Business incubators and accelerators: A co-citation analysis-based, systematic literature review. *The Journal of Technology Transfer*, *45*(1), 151–176. https://doi.org/10.1007/s10961-018-9651-y

Hayes, S. C., & Hofmann, S. G. (Eds.). (2018). *Process-based CBT: The science and core clinical competencies of cognitive behavioral therapy*. New Harbinger Publications.

Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, *35*(6), 1404–1427. https://doi.org/10.1177/0149206309343469

Hisrich, R. D., & Smilor, R. W. (1988). The university and business incubation: Technology transfer through entrepreneurial development. *The Journal of Technology Transfer*, *13*(1), 14–19. https://doi.org/10.1007/BF02371496

Hobbs, K. G., Link, A. N., & Scott, J. T. (2017). Science and technology parks: An annotated and analytical literature review. *The Journal of Technology Transfer*, *42*(4), 957–976. https://doi.org/10.1007/s10961-016-9522-3

Hochberg, Y. V. (2016). Accelerating entrepreneurs and ecosystems: The seed accelerator model. *Innovation Policy and the Economy*, *16*(1), 25–51. https://doi.org/10.1086/684985

Hong, J., Chen, M., Zhu, Y., & Song, G. (2017). Technology business incubators and regional economic convergence in China. *Technology analysis & strategic management*, *29*(6), 569–582. https://doi.org/10.1080/09537325.2016.1216096

Honig, B., & Karlsson, T. (2010). Social capital and the modern incubator: A comparison of in-group and out-group social networks. *Journal of Small Business & Entrepreneurship*, *23*(sup1), 719–731. https://doi.org/10.1080/08276331.2010.10593512

Howells, J. (2006). Intermediation and the role of intermediaries in innovation. *Research Policy*, *35*(5), 715–728. https://doi.org/10.1016/j.respol.2006.03.005

Hum, T. (2003). Mapping global production in New York City's garment industry: The role of Sunset Park, Brooklyn's immigrant economy. *Economic Development Quarterly*, *17*(3), 294–309. https://doi.org/10.1177/0891242403255088

Hytti, U., & Ljunggren, E. (2011). Stakeholder theory approach to technology incubators. *International Journal of Entrepreneurial Behavior & Research*, *17*(6), 607–625. https://doi.org/10.1108/13552551111174693

Høvig, Ø., Pettersen, I. B., & Aarstad, J. (2018). Entrepreneurial causation vs. effectuation in a business incubation context: Implications for recruiting policy and management. *Entrepreneurship Research Journal*, *8*(1), 1–11.

Jiménez, A., & Zheng, Y. (2018). Tech hubs, innovation and development. *Information Technology for Development*, *24*(1), 95–118. https://doi.org/10.1080/02681102.2017.1335282

Johnson, V. (2007). What is organizational imprinting? Cultural entrepreneurship in the founding of the Paris opera. *American Journal of Sociology*, *113*(1), 97–127. https://doi.org/10.1086/517899

Kakabadse, N., Karatas-Ozkan, M., Theodorakopoulos, N., McGowan, C., & Nicolopoulou, K. (2020). Business incubator managers' perceptions of their role and performance success: Role demands, constraints, and choices. *European Management Review*, *17*(2), 485–498. https://doi.org/10.1111/emre.12379

Kanbach, D. K., & Stubner, S. (2016). Corporate accelerators as recent form of startup engagement: The what, the why, and the how. *Journal of Applied Business Research*, *32*(6), 1761–1776. https://doi.org/10.19030/jabr.v32i6.9822

Katila, S., Laine, P.-M., & Parkkari, P. (2019). Sociomateriality and affect in institutional work: Constructing the identity of start-up entrepreneurs. *Journal of Management Inquiry*, *28*(3), 381–394. https://doi.org/10.1177/1056492617743591

Kihlgren, A. (2003). Promotion of innovation activity in Russia through the creation of science parks: The case of St. Petersburg (1992–1998). *Technovation*, *23*(1), 65–76. https://doi.org/10.1016/S0166-4972(01)00077-3

Kim, J.-H., & Wagman, L. (2014). Portfolio size and information disclosure: An analysis of startup accelerators. *Journal of Corporate Finance*, *29*, 520–534. https://doi.org/10.1016/j.jcorpfin.2014.10.017

Kistruck, G. M., Lount, R. B., Smith, B. R., Bergman, B. J., & Moss, T. W. (2016). Cooperation vs. competition: Alternative goal structures for motivating groups in a resource scarce environment. *Academy of Management Journal*, *59*(4), 1174–1198. https://doi.org/10.5465/amj.2014.0201

Kohler, T. (2016). Corporate accelerators: Building bridges between corporations and startups. *Business Horizons*, *59*(3), 347–357. https://doi.org/10.1016/j.bushor.2016.01.008

Kolympiris, C., & Klein, P. G. (2017). The effects of academic incubators on University innovation. *Strategic Entrepreneurship Journal*, *11*(2), 145–170. https://doi.org/10.1002/sej.1242

Kötting, M. (2019). Corporate incubators as knowledge brokers between business units and ventures. *European Journal of Innovation Management*, *23*(3), 474–499. https://doi.org/10.1108/EJIM-12-2017-0201

Kupp, M., Marval, M., & Borchers, P. (2017). Corporate accelerators: Fostering innovation while bringing together startups and large firms. *Journal of Business Strategy*, *38*(6), 47–53. https://doi.org/10.1108/JBS-12-2016-0145

Lall, S., Bowles, L., & Baird, R. (2013). Bridging the "pioneer gap": The role of accelerators in launching high-impact enterprises. *Innovations: Technology, Governance, Globalization*, *8*(3–4), 105–137. https://doi.org/10.1162/INOV_a_00191

Lamine, W., Mian, S., Fayolle, A., Wright, M., Klofsten, M., & Etzkowitz, H. (2018). Technology business incubation mechanisms and sustainable regional development. *The Journal of Technology Transfer*, *43*(5), 1121–1141. https://doi.org/10.1007/s10961-016-9537-9

Langley, A. (1999). Strategies for theorizing from process data. *Academy of Management Review*, *24*(4), 691–710. https://doi.org/10.5465/amr.1999.2553248

Langley, A. (2007). Process thinking in strategic organization. *Strategic Organization*, *5*(3), 271–282. https://doi.org/10.1177/1476127007079965

Leblebici, H., & Shah, N. (2004). The birth, transformation and regeneration of business incubators as new organisational forms: Understanding the interplay between organisational history and organisational theory. *Business History*, *46*(3), 353–380. https://doi.org/10.1080/0007679042000219175a

Lecluyse, L., Knockaert, M., & Spithoven, A. (2019). The contribution of science parks: A literature review and future research agenda. *The Journal of Technology Transfer*, *44*(2), 559–595. https://doi.org/10.1007/s10961-018-09712-x

Lerner, J. (2012). *Boulevard of broken dreams: Why public efforts to boost entrepreneurship and venture capital have failed-and what to do about it*. Princeton University Press.

Lerner, M., & Haber, S. (2001). Performance factors of small tourism ventures: The interface of tourism, entrepreneurship and the environment. *Journal of Business Venturing*, *16*(1), 77–100.

Levenda, A. M., & Tretter, E. (2020). The environmentalization of urban entrepreneurialism: From technopolis to start-up city. *Environment and Planning A: Economy and Space*, *52*(3), 490–509. https://doi.org/10.1177/0308518X19889970

Lichtenstein, G. A., & Lyons, T. S. (2006). Managing the community's pipeline of entrepreneurs and enterprises: A new way of thinking about business assets. *Economic Development Quarterly*, *20*(4), 377–386. https://doi.org/10.1177/0891242406289365

Littlewood, D. C., & Kiyumbu, W. L. (2018). "Hub" organisations in Kenya: What are they? What do they do? And what is their potential? *Technological Forecasting and Social Change*, *131*(7), 276–285. https://doi.org/10.1016/j.techfore.2017.09.031

Lukeš, M., Longo, M. C., & Zouhar, J. (2019). Do business incubators really enhance entrepreneurial growth? Evidence from a large sample of innovative Italian start-ups. *Technovation*, *82*, 25–34.

Mahmoud-Jouini, S. B., Duvert, C., & Esquirol, M. (2018). Key factors in building a corporate accelerator capability: Developing an effective corporate accelerator requires close attention to the relationships between startups and the sponsoring company. *Research-Technology Management*, *61*(4), 26–34.

Marimuthu, M., & Lakha, P. (2015). The importance and effectiveness of assistance programs in a business incubator. *Problems and Perspectives in Management*, *13*(3), 79–86.

Markman, G. D., Siegel, D. S., & Wright, M. (2008). Research and technology commercialization. *Journal of Management Studies*, *45*(8), 1401–1423. https://doi.org/10.1111/j.1467-6486.2008.00803.x

Markusen, A., & Oden, M. (1996). National laboratories as business incubators and region builders. *The Journal of Technology Transfer*, *21*(1–2), 93–108. https://doi.org/10.1007/BF02220312

Marlow, S., & McAdam, M. (2012). Analyzing the influence of gender upon high–technology venturing within the context of business incubation. *Entrepreneurship Theory and Practice*, *36*(4), 655–676. https://doi.org/10.1111/j.1540-6520.2010.00431.x

Marlow, S., & McAdam, M. (2015). Incubation or induction? Gendered identity work in the context of technology business incubation. *Entrepreneurship Theory and Practice*, *39*(4), 791–816. https://doi.org/10.1111/etap.12062

Martínez, K. R. G., Fernández-Laviada, A., & Crespo, Á. H. (2017). Influence of business incubators performance on entrepreneurial intentions and its antecedents during the pre-incubation stage. *Entrepreneurship Research Journal*, *8*(2).

Mathias, B. D., Williams, D. W., & Smith, A. R. (2015). Entrepreneurial inception: The role of imprinting in entrepreneurial action. *Journal of Business Venturing*, *30*(1), 11–28. https://doi.org/10.1016/j.jbusvent.2014.07.004

McAdam, M., & Marlow, S. (2007). Building futures or stealing secrets? Entrepreneurial cooperation and conflict within business incubators. *International Small Business Journal*, *25*(4), 361–382.

McAdam, M., & Marlow, S. (2008). A preliminary investigation into networking activities within the University incubator. *International Journal of Entrepreneurial Behavior & Research*, *14*(4), 219–241. https://doi.org/10.1108/13552550810887390

McAdam, M., & Marlow, S. (2011). Sense and sensibility: The role of business incubator client advisors in assisting high-technology entrepreneurs to make sense of investment readiness status. *Entrepreneurship & Regional Development*, *23*(7–8), 449–468. https://doi.org/10.1080/08985620903406749

McAdam, M., & McAdam, R. (2008). High tech start-ups in University Science Park incubators: The relationship between the start-up's lifecycle progression and use of the incubator's resources. *Technovation*, *28*(5), 277–290. https://doi.org/10.1016/j.technovation.2007.07.012

McCarthy, I. P., Silvestre, B. S., von Nordenflycht, A., & Breznitz, S. M. (2018). A typology of university research park strategies: What parks do and why it matters. *Journal of Engineering and Technology Management*, *47*(5), 110–122. https://doi.org/10.1016/j.jengtecman.2018.01.004

McGregor, D. (1948). The staff function in human relations. *Journal of Social Issues*, *4*(3), 5–22. https://doi.org/10.1111/j.1540-4560.1948.tb01507.x

McGregor, D. (1960). *The human side of enterprise*. McGraw-Hill.

McGregor, D. (1966). *Leadership and motivation*. MIT Press.

McMullen, J. S., & Dimov, D. (2013). Time and the entrepreneurial journey: The problems and promise of studying entrepreneurship as a process. *Journal of Management Studies*, *50*(8), 1481–1512. https://doi.org/10.1111/joms.12049

McMullen, J. S., & Shepherd, D. A. (2006). Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. *Academy of Management Review*, *31*(1), 132–152. https://doi.org/10.5465/amr.2006.19379628

Messeghem, K., Bakkali, C., Sammut, S., & Swalhi, A. (2018). Measuring nonprofit incubator performance: Toward an adapted balanced scorecard approach. *Journal of Small Business Management*, *56*(4), 658–680. https://doi.org/10.1111/jsbm.12317

Messeghem, K., Sammut, S., Gangloff, F., & Bakkali, C. (2017). Performance measurement of French incubators. *International Journal of Entrepreneurship and Small Business*, *30*(1), 4–21. https://doi.org/10.1504/IJESB.2017.081042

Mian, S., Lamine, W., & Fayolle, A. (2016). Technology business incubation: An overview of the state of knowledge. *Technovation*, *50–51*(2), 1–12. https://doi.org/10.1016/j.technovation.2016.02.005

Mian, S. A. (1996). Assessing value-added contributions of university technology business incubators to tenant firms. *Research Policy*, *25*(3), 325–335. https://doi.org/10.1016/0048-7333(95)00828-4

Mian, S. A. (1997). Assessing and managing the university technology business incubator: An integrative framework. *Journal of Business Venturing*, *12*(4), 251–285. https://doi.org/10.1016/S0883-9026(96)00063-8

Michelsen, C., Wolf, H., & Schwartz, M. (2013). Regional entrepreneurial opportunities in the biotech industry: Exploring the transition from award-winning nascent entrepreneurs to real start-ups. *European Planning Studies*, *21*(11), 1708–1734. https://doi.org/10.1080/09654313.2012.753693

Miles, M. P., de Vries, H., Harrison, G., Bliemel, M., de Klerk, S., & Kasouf, C. J. (2017). Accelerators as authentic training experiences for nascent entrepreneurs. *Education + Training*, *59*(7/8), 811–824. https://doi.org/10.1108/ET-01-2017-0007

Mmbaga, N. A., Mathias, B. D., Williams, D. W., & Cardon, M. S. (2020). A review of and future agenda for research on identity in entrepreneurship. *Journal of Business Venturing*, *35*(6), 106049. https://doi.org/10.1016/j.jbusvent.2020.106049

Moschner, S.-L., Fink, A. A., Kurpjuweit, S., Wagner, S. M., & Herstatt, C. (2019). Toward a better understanding of corporate accelerator models. *Business Horizons*, *62*(5), 637–647. https://doi.org/10.1016/j.bushor.2019.05.006

Neumeyer, X., Santos, S. C., & Morris, M. H. (2019). Who is left out: Exploring social boundaries in entrepreneurial ecosystems. *The Journal of Technology Transfer*, *44*(2), 462–484. https://doi.org/10.1007/s10961-018-9694-0

Ng, W. K. B., Appel-Meulenbroek, R., Cloodt, M., & Arentze, T. (2019). Towards a segmentation of science parks: A typology study on science parks in Europe. *Research Policy*, *48*(3), 719–732. https://doi.org/10.1016/j.respol.2018.11.004

Nicholls-Nixon, C. L., Valliere, D., Gedeon, S. A., & Wise, S. (2021). Entrepreneurial ecosystems and the lifecycle of university business incubators: An integrative case study. *International Entrepreneurship and Management Journal*, *17*(2), 809–837. https://doi.org/10.1007/s11365-019-00622-4

Nowak, M. J., & Grantham, C. E. (2000). The virtual incubator: Managing human capital in the software industry. *Research Policy*, *29*(2), 125–134. https://doi.org/10.1016/S0048-7333(99)00054-2

O'Neil, I., Ucbasaran, D., & York, J. G. (2020). The evolution of founder identity as an authenticity work process. *Journal of Business Venturing*, *17*(1), 106031. https://doi.org/10.1016/j.jbusvent.2020.106031

Pandey, S., Lall, S., Pandey, S. K., & Ahlawat, S. (2017). The appeal of social accelerators: What do social entrepreneurs value? *Journal of Social Entrepreneurship*, *8*(1), 88–109. https://doi.org/10.1080/19420676.2017.1299035

Patriotta, G. (2020). Writing Impactful review articles. *Journal of Management Studies*, *57*(6), 1272–1276. https://doi.org/10.1111/joms.12608

Patton, D., & Marlow, S. (2011). University technology business incubators: Helping new entrepreneurial firms to learn to grow. *Environment and Planning C: Government and Policy*, *29*(5), 911–926. https://doi.org/10.1068/c10198b

Pauwels, C., Clarysse, B., Wright, M., & Van Hove, J. (2016). Understanding a new generation incubation model: The accelerator. *Technovation*, *50–51*(2), 13–24. https://doi.org/10.1016/j.technovation.2015.09.003

Pettersen, I. B., Kubberød, E., Vangsal, F., & Zeiner, A. (2019). *From making gadgets to making talents: Exploring a university makerspace*. Education+ Training.

Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences: A practical guide*. Blackwell Publishing.

Peña, I. (2004). Business incubation centers and new firm growth in the Basque country. *Small Business Economics*, *22*(3/4), 223–236. https://doi.org/10.1023/B:SBEJ.0000022221.03667.82

Pfeffer, J., & Salancik, G. R. (2003). *The external control of organizations: A resource dependence perspective*. Stanford University Press.

Phan, P. H., Siegel, D. S., & Wright, M. (2005). Science parks and incubators: Observations, synthesis and future research. *Journal of Business Venturing*, *20*(2), 165–182. https://doi.org/10.1016/j.jbusvent.2003.12.001

Politis, D., Gabrielsson, J., Galan, N., & Abebe, S. A. (2019). Entrepreneurial learning in venture acceleration programs. *The Learning Organization*, *26*(6), 588–603. https://doi.org/10.1108/TLO-04-2018-0082

Pollio, A. (2019). Making the silicon Cape of Africa: Tales, theories and the narration of startup urbanism. *Urban Studies*, 0042098019884275.

Prashantham, S., & Floyd, S. W. (2019). Navigating liminality in new venture internationalization. *Journal of Business Venturing*, *34*(3), 513–527. https://doi.org/10.1016/j.jbusvent.2019.01.001

Prexl, K. M., Hubert, M., Beck, S., Heiden, C., & Prügl, R. (2019). Identifying and analysing the drivers of heterogeneity among ecosystem builder accelerators. *R&D Management*, *49*(4), 624–638.

Provan, K. G., Fish, A., & Sydow, J. (2007). Interorganizational networks at the network level: A review of the empirical literature on whole networks. *Journal of Management*, *33*(3), 479–516. https://doi.org/10.1177/0149206307302554

Pustovrh, A., Rangus, K., & Drnovšek, M. (2020). The role of open innovation in developing an entrepreneurial support ecosystem. *Technological Forecasting and Social Change*, *152*, 119892. https://doi.org/10.1016/j.techfore.2019.119892

Qian, H., Haynes, K. E., & Riggle, J. D. (2011). Incubation push or business pull? Investigating the geography of U.S. business incubators. *Economic Development Quarterly*, *25*(1), 79–90. https://doi.org/10.1177/0891242410383275

Qin, F., Wright, M., & Gao, J. (2019). Accelerators and intra-ecosystem variety: How entrepreneurial agency influences venture development in a time-compressed support program. *Industrial and Corporate Change*, *28*(4), 961–975. https://doi.org/10.1093/icc/dtz036

Radu Lefebvre, M., & Redien-Collot, R. (2013). "How to do things with words": The discursive dimension of experiential learning in entrepreneurial mentoring dyads. *Journal of Small Business Management*, *51*(3), 370–393. https://doi.org/10.1111/jsbm.12022

Ratinho, T., Amezcua, A., Honig, B., & Zeng, Z. (2020). Supporting entrepreneurs: A systematic review of literature and an agenda for research. *Technological Forecasting and Social Change*, *154*(10), 119956. https://doi.org/10.1016/j.techfore.2020.119956

Ratinho, T., & Henriques, E. (2010). The role of science parks and business incubators in converging countries: Evidence from Portugal. *Technovation*, *30*(4), 278–290. https://doi.org/10.1016/j.technovation.2009.09.002

Rauch, A. (2020). Opportunities and threats in reviewing entrepreneurship theory and practice. *Entrepreneurship Theory and Practice*, *44*(5), 847–860. https://doi.org/10.1177/1042258719879635

Resch, B., & Steyaert, C. (2020). Peer collaboration as a relational practice: Theorizing affective oscillation in radical democratic organizing. *Journal of Business Ethics*, *164*(4), 715–730. https://doi.org/10.1007/s10551-019-04395-2

Rice, M. P. (2002). Co-production of business assistance in business incubators: An exploratory study. *Journal of Business Venturing*, *17*(2), 163–187. https://doi.org/10.1016/S0883-9026(00)00055-0

Richter, N., Jackson, P., & Schildhauer, T. (2018). Outsourcing creativity: An abductive study of open innovation using corporate accelerators. *Creativity and Innovation Management*, *27*(1), 69–78. https://doi.org/10.1111/caim.12252

Rogers, C. (1951). *Client-centered therapy*. Houghton Mifflin.

Roig-Tierno, N., Alcázar, J., & Ribeiro-Navarrete, S. (2015). Use of infrastructures to support innovative entrepreneurship and business growth. *Journal of Business Research*, *68*(11), 2290–2294. https://doi.org/10.1016/j.jbusres.2015.06.013

Roper, S. (1999). Israel's technology incubators: Repeatable success or costly failure? *Regional Studies*, *33*(2), 175.

Rothaermel, F. T., & Thursby, M. (2005). Incubator firm failure or graduation? The role of university linkages. *Research Policy*, *34*(7), 1076–1090.

Roundy, P. T., Bradshaw, M., & Brockman, B. K. (2018). The emergence of entrepreneurial ecosystems: A complex adaptive systems approach. *Journal of Business Research*, *86*(1), 1–10. https://doi.org/10.1016/j.jbusres.2018.01.032

Roundy, P. T., Brockman, B. K., & Bradshaw, M. (2017). The resilience of entrepreneurial ecosystems. *Journal of Business Venturing Insights*, *8*(3), 99–104. https://doi.org/10.1016/j.jbvi.2017.08.002

Rubin, T. H., Aas, T. H., & Stead, A. (2015). Knowledge flow in technological business incubators: Evidence from Australia and Israel. *Technovation*, *41–42*(1–2), 11–24. https://doi.org/10.1016/j.technovation.2015.03.002

Sá, C., & Lee, H. (2012). Science, business, and innovation: Understanding networks in technology-based incubators. *R&D Management*, *42*(3), 243–253.

Sagath, D., van Burg, E., Cornelissen, J. P., & Giannopapa, C. (2019). Identifying design principles for business incubation in the European space sector. *Journal of Business Venturing Insights*, *11*(1), e00115. https://doi.org/10.1016/j.jbvi.2019.e00115

Sandberg, J., & Tsoukas, H. (2020). Sensemaking reconsidered: Towards a broader understanding through phenomenology. *Organization Theory*, *1*(1), 263178771987993. https://doi.org/10.1177/2631787719879937

Sarkar, S., Osiyevskyy, O., & Hayes, L. (2019). Talking your way into entrepreneurial support: An analysis of satisfaction drivers in entrepreneur mutual aid groups. *Journal of Small Business Management*, *57*(2), 275–297. https://doi.org/10.1111/jsbm.12384

Schumpeter, J. A. (1934). *The theory of economic development*. Harvard University Press.

Schwartz, M. (2009). Beyond incubation: An analysis of firm survival and exit dynamics in the post-graduation period. *The Journal of Technology Transfer*, *34*(4), 403–421. https://doi.org/10.1007/s10961-008-9095-x

Schwartz, M. (2011). Incubating an illusion? Long-term incubator firm performance after graduation. *Growth and Change*, *42*(4), 491–516. https://doi.org/10.1111/j.1468-2257.2011.00565.x

Schwartz, M. (2013). A control group study of incubators' impact to promote firm survival. *The Journal of Technology Transfer*, *38*(3), 302–331. https://doi.org/10.1007/s10961-012-9254-y

Schwartz, M., & Göthner, M. (2009). A multidimensional evaluation of the effectiveness of business incubators: An application of the PROMETHEE outranking method. *Environment and Planning C: Government and Policy*, *27*(6), 1072–1087. https://doi.org/10.1068/c0897b

Scillitoe, J. L., & Chakrabarti, A. K. (2010). The role of incubator interactions in assisting new ventures. *Technovation*, *30*(3), 155–167. https://doi.org/10.1016/j.technovation.2009.12.002

Sen, A. (2001). *Development as freedom*. Oxford Paperbacks.

Shankar, R. K., & Shepherd, D. A. (2019). Accelerating strategic fit or venture emergence: Different paths adopted by corporate accelerators. *Journal of Business Venturing*, *34*(5), 105886. https://doi.org/10.1016/j.jbusvent.2018.06.004

Shearmur, R., & Doloreux, D. (2000). Science parks: Actors or reactors? Canadian science parks in their urban context. *Environment and Planning A*, *32*(6), 1065–1082. https://doi.org/10.1068/a32126

Shepherd, D. A. (2015). Party on! A call for entrepreneurship research that is more interactive, activity based, cognitively hot, compassionate, and prosocial. *Journal of business Venturing*, *30*(4), 489–507. https://doi.org/10.1016/j.jbusvent.2015.02.001

Shepherd, D. A., Williams, T. A., & Patzelt, H. (2015). Thinking about entrepreneurial decision making: Review and research agenda. *Journal of Management*, *41*(1), 11–46.

Short, J. (2009). The art of writing a review article. *Journal of Management*, *35*(6), 1312–1317. https://doi.org/10.1177/0149206309337489

Short, J. C., Moss, T. W., & Lumpkin, G. T. (2009). Research in social entrepreneurship: Past contributions and future opportunities. *Strategic Entrepreneurship Journal*, *3*(2), 161–194. https://doi.org/10.1002/sej.69

Slade Shantz, A. F., Kistruck, G. M., Pacheco, D. F., & Webb, J. W. (2020). How formal and informal hierarchies shape conflict within cooperatives: A field experiment in Ghana. *Academy of Management Journal*, *63*(2), 503–529. https://doi.org/10.5465/amj.2018.0335

Smith, S. W., & Hannigan, T. J. (2015). Swinging for the fences: How do top accelerators impact the trajectories of new ventures. *Druid*, *15*, 15–17.

Smith, A., Judge, W., Pezeshkan, A., & Nair, A. (2016). Institutionalizing entrepreneurial expertise in subsistence economies. *Journal of World Business*, *51*(6), 910–922. https://doi.org/10.1016/j.jwb.2016.02.003

Smith, B. R., & Bergman, B. J. (2020). The other side of the coin: Investor identity and its role in resource provision. *Journal of Business Venturing Insights*, *14*, e00175. https://doi.org/10.1016/j.jbvi.2020.e00175

Soetanot, D. P., & van Geenhuizen, M. (2007). Technology incubators and knowledge networks: A rough set approach in comparative project analysis. *Environment and Planning B: Planning and Design*, *34*(6), 1011–1029. https://doi.org/10.1068/b3308

Spigel, B. (2017). The relational organization of entrepreneurial ecosystems. *Entrepreneurship Theory and Practice*, *41*(1), 49–72. https://doi.org/10.1111/etap.12167

Spigel, B., & Harrison, R. (2018). Toward a process theory of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, *12*(1), 151–168. https://doi.org/10.1002/sej.1268

St-Jean, E., & Audet, J. (2012). The role of mentoring in the learning development of the novice entrepreneur. *International Entrepreneurship and Management Journal*, *8*(1), 119–140. https://doi.org/10.1007/s11365-009-0130-7

Stayton, J., & Mangematin, V. (2019). Seed accelerators and the speed of new venture creation. *The Journal of Technology Transfer*, *44*(4), 1163–1187. https://doi.org/10.1007/s10961-017-9646-0

Stets, J. E., & Burke, P. J. (2000). Identity theory and social identity theory. *Social Psychology Quarterly*, *63*(3), 224–237. https://doi.org/10.2307/2695870

Stevenson, R., Josefy, M., McMullen, J. S., & Shepherd, D. (2020). Organizational and management theorizing using experiment-based entrepreneurship research: Covered terrain and new frontiers. *The Academy of Management Annals*, *14*(2), 759–796. https://doi.org/10.5465/annals.2018.0152

Stinchcombe, A. (1965). Social structure and organizations. *Handbook of Organizations*, 142–193.

Strike, V. M., & Rerup, C. (2016). Mediated sensemaking. *Academy of Management Journal*, *59*(3), 880–905. https://doi.org/10.5465/amj.2012.0665

Sutter, C., Bruton, G. D., & Chen, J. (2019). Entrepreneurship as a solution to extreme poverty: A review and future research directions. *Journal of Business Venturing*, *34*(1), 197–214. https://doi.org/10.1016/j.jbusvent.2018.06.003

Tamasy, C. (2007). Rethinking technology-oriented business incubators: Developing a robust policy instrument for entrepreneurship, innovation, and regional development? *Growth and Change*, *38*(3), 460–473. https://doi.org/10.1111/j.1468-2257.2007.00379.x

Tavoletti, E. (2013). Business incubators: Effective infrastructures or waste of public money? Looking for a theoretical framework, guidelines and criteria. *Journal of the Knowledge Economy*, *4*(4), 423–443. https://doi.org/10.1007/s13132-012-0090-y

Theodoraki, C., & Messeghem, K. (2017). Exploring the entrepreneurial ecosystem in the field of entrepreneurial support: A multi-level approach. *International Journal of Entrepreneurship and Small Business*, *31*(1), 47–66. https://doi.org/10.1504/IJESB.2017.083847

Theodorakopoulos, N., Kakabadse, N. K., & McGowan, C. (2014). What matters in business incubation? A literature review and a suggestion for situated theorising. *Journal of Small Business and Enterprise Development*, *21*(4), 602–622. https://doi.org/10.1108/JSBED-09-2014-0152

Thierstein, A., & Willhelm, B. (2001). Incubator, technology, and innovation centres in Switzerland: Features and policy implications. *Entrepreneurship & Regional Development*, *13*(4), 315–331. https://doi.org/10.1080/08985620110074469

Tötterman, H., & Sten, J. (2005). Start-ups: Business incubation and social capital. *International Small Business Journal*, *23*(5), 487–511.

Tracey, P., Dalpiaz, E., & Phillips, N. (2018). Fish out of water: Translation, legitimation, and new venture creation. *Academy of Management Journal*, *61*(5), 1627–1666. https://doi.org/10.5465/amj.2015.0264

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, *14*(3), 207–222. https://doi.org/10.1111/1467-8551.00375

Udell, G. G. (1990). Are business incubators really creating new jobs by creating new business and new products. *Journal of Product Innovation Management*, *7*(2), 108–122. https://doi.org/10.1111/1540-5885.720108

van Holm, E. J. (2017). Makerspaces and local economic development. *Economic Development Quarterly*, *31*(2), 164–173. https://doi.org/10.1177/0891242417690604

van Rijnsoever, F. J. (2020). Meeting, mating, and intermediating: How incubators can overcome weak network problems in entrepreneurial ecosystems. *Research Policy*, *49*(1), 103884. https://doi.org/10.1016/j.respol.2019.103884

Van Rijnsoever, F. J., Van Weele, M. A., & Eveleens, C. P. (2017). Network brokers or hit makers? Analyzing the influence of incubation on start-up investments. *International Entrepreneurship and Management Journal*, *13*(2), 605–629. https://doi.org/10.1007/s11365-016-0416-5

van Weele, M., van Rijnsoever, F. J., & Nauta, F. (2017). You can't always get what you want: How entrepreneur's perceived resource needs affect the incubator's assertiveness. *Technovation*, *59*, 18–33. https://doi.org/10.1016/j.technovation.2016.08.004

van Weele, M. A., van Rijnsoever, F. J., Groen, M., & Moors, E. H. M. (2020). Gimme shelter? Heterogeneous preferences for tangible and intangible resources when choosing an incubator. *The Journal of Technology Transfer*, *45*(4), 984–1015. https://doi.org/10.1007/s10961-019-09724-1

Vanderstraeten, J., van Witteloostuijn, A., Matthyssens, P., & Andreassi, T. (2016). Being flexible through customization − the impact of incubator focus and customization strategies on incubatee survival and growth. *Journal of Engineering and Technology Management*, *41*(1), 45–64. https://doi.org/10.1016/j.jengtecman.2016.06.003

Villani, E., Rasmussen, E., & Grimaldi, R. (2017). How intermediary organizations facilitate university–industry technology transfer: A proximity approach. *Technological Forecasting and Social Change*, *114*(3), 86–102. https://doi.org/10.1016/j.techfore.2016.06.004

Virtanen, M., & Laukkanen, M. (2002). Towards HEI-based new venture generation: The business lab of the University of Kuopio, Finland. *Industry and Higher Education*, *16*(3), 159–166.

Voisey, P., Gornall, L., Jones, P., & Thomas, B. (2006). The measurement of success in a business incubation project. *Journal of Small Business and Enterprise Development*, *13*(3), 454–468. https://doi.org/10.1108/14626000610680307

von Zedtwitz, M., & Grimaldi, R. (2006). Are service profiles incubator-specific? Results from an empirical investigation in Italy. *The Journal of Technology Transfer*, *31*(4), 459–468. https://doi.org/10.1007/s10961-006-0007-7

Waters-Lynch, J., & Potts, J. (2017). The social economy of coworking spaces: A focal point model of coordination. *Review of Social Economy*, *75*(4), 417–433. https://doi.org/10.1080/00346764.2016.1269938

Weiblen, T., & Chesbrough, H. W. (2015). Engaging with startups to enhance corporate innovation. *California Management Review*, *57*(2), 66–90. https://doi.org/10.1525/cmr.2015.57.2.66

Weick, K. E. (1995). *Sensemaking in organizations* (Vol. 3). Sage.

Westbrook, R. B. (1991). *John Dewey and American democracy*. Cornell University Press.

Wheeler, L., & Suls, J. (2020). A history of social comparison theory. *Social Comparison, Judgment, and Behavior*, 5–31.

Wiklund, J., Davidsson, P., Audretsch, D. B., & Karlsson, C. (2011). The future of entrepreneurship research. *Entrepreneurship Theory and Practice*, *35*(1), 1–9. https://doi.org/10.1111/j.1540-6520.2010.00420.x

Yang, S., Kher, R., & Lyons, T. S. (2018). Where do accelerators fit in the venture creation pipeline? Different values brought by different types of accelerators. *Entrepreneurship Research Journal*, *8*(4). https://doi.org/10.1515/erj-2017-0140

Younger, S., & Fisher, G. (2020). The exemplar enigma: New venture image formation in an emergent organizational category. *Journal of Business Venturing*, *35*(1), 105897. https://doi.org/10.1016/j.jbusvent.2018.09.002

Youtie, J., & Shapira, P. (2008). Building an innovation hub: A case study of the transformation of university roles in regional technological and economic development. *Research Policy*, *37*(8), 1188–1204. https://doi.org/10.1016/j.respol.2008.04.012

Yu, S. (2020). How do accelerators impact the performance of high-technology ventures? *Management Science*, *66*(2), 530–552. https://doi.org/10.1287/mnsc.2018.3256

Yusubova, A., Andries, P., & Clarysse, B. (2019). The role of incubators in overcoming technology ventures' resource gaps at different development stages. *R&D Management*, *49*(5), 803–818.

Yusuf, J. E. (2010). Meeting entrepreneurs' support needs: Are assistance programs effective? *Journal of Small Business and Enterprise Development*, *17*(2), 294–307. https://doi.org/10.1108/14626001011041283

Zahra, S. A. (2015). Corporate entrepreneurship as knowledge creation and conversion: The role of entrepreneurial hubs. *Small Business Economics*, *44*(4), 727–735. https://doi.org/10.1007/s11187-015-9650-4

Zedtwitz, M. V. (2003). Classification and management of incubators: Aligning strategic objectives and competitive scope for new business facilitation. *International Journal of Entrepreneurship and Innovation Management*, *3*(1–2), 176–196. https://doi.org/10.1504/IJEIM.2003.002227

Zhdanova, O. A., & Milyaev, K. V. (2016). Criteria for the selection of venture projects by the business accelerators. *International Journal of Applied Business and Economic Research*, *14*(14), 785–798.

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