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IDEAS IN COMMUNITIES: A MICRO-PERSPECTIVE ON ENTREPRENEURIAL
ECOSYSTEMS

By

Malcolm Armani Muhammad
B.S., Florida A&M University, 2012

A Dissertation
Submitted to the Faculty of the
College of Business of the University of Louisville
in Partial Fulfillment of the Requirements
for the Degree of

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in Entrepreneurship

Department of Management and Entrepreneurship
University of Louisville
Louisville, Kentucky

December 2022

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A Dissertation Approved on

November 29th, 2022

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Dr. Robert Garrett

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Dr. Stephann Gohmann

Dr. Simon Parker

DEDICATION

This dissertation is dedicated
to all the good friends we lost too soon.

ACKNOWLEDGEMENTS

I am deeply indebted to my rich foundation of strength and support, without which I would never be able to realize the completion of a dissertation or doctoral studies. First and foremost, all praise and glory are due to God, for delivering me through the countless situations where I was convinced that I would not finish, that I had reached the end of my road, or that I had made one too many mistakes. He consistently and continuously built my faith through endurance, and I have learned that I am nothing without it.

I must thank my dissertation committee, my chair Dr. Robert Garrett, Dr. Ryan Quinn, Dr. Steve Gohmann, and Dr. Simon Parker, for their expert contributions and assistance in preparing me to complete this dissertation. I am also thankful for the deep bonds that have sustained with family and friends and kept me motivated on this journey. My mother, Jackie, and sister, Marizza, moved to Louisville to be with me during the final year of my studies, and I needed that more than they know. They have been reliable in any circumstance, for my entire life. My father, Lenton Jr., has always been an exceptional source of wisdom and perspective when I need it most. Vik, Mike, and John, my first cousins and children of my one and only Aunt Linda, have always been there to make sure I don't forget who I am and what I'm capable of. My cousin Matt, son of Uncle Randy, has always kept me on my toes by seeking me out for advice, many times when I didn't even feel sure enough to advise myself. It's because of the way my family

regularly displays their belief in me that I felt and still feel such a great responsibility to make them proud. This can be summarized simply: “Family Over Everything.”

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ABSTRACT

IDEAS IN COMMUNITIES: A MICRO-PERSPECTIVE ON ENTREPRENEURIAL ECOSYSTEMS

Malcolm Muhammad

November 29th, 2022

Entrepreneurial ecosystems are seen as a stimulant of regional economic growth. Theory-building efforts on entrepreneurial ecosystems has sufficiently established an understanding of the macro-environment; the environmental infrastructure and conditions that support productive entrepreneurship. However, there has been a disproportionate lack of focus on the micro- and group-level dynamics that impact individual entrepreneurs and ventures within ecosystem. This has limited the availability of evidence to explain how and when ecosystems emerge and function at a high level. Therefore, this dissertation examines three distinct microfoundations that can be found in entrepreneurial ecosystem literature – community, learning, and venture development – to move toward a cohesive framework for understanding ecosystem development. Through semistructured interviews with entrepreneurs and entrepreneurial actors in coworking spaces in the Midwestern and Southeastern United States, this study develops contributions to economic growth via entrepreneurial ecosystems, and of entrepreneurial communities, entrepreneurial learning, and venture development.

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CHAPTER I

INTRODUCTION

Entrepreneurial ecosystems have emerged as a popular concept among researchers, policymakers, and practitioners who see them as mechanisms for economic growth (Cao & Shi, 2020). They are defined as geographic regions where entrepreneurial actors and the social, economic, political, institutional, and cultural factors within the region converge to support productive entrepreneurship (Spigel, 2017; Stam, 2015). Entrepreneurial actors include not only aspiring, nascent, and experienced entrepreneurs, but also the investors, advisors, mentors, workers, and professional service providers that exist to support them (Feld, 2012; Spigel, 2017).

Research on ecosystems has seemingly diverged into two disparate streams. The economic perspective focuses on the macro-level processes that support innovation and productive entrepreneurship, and produce economic growth in geographic regions (Acs et al., 2017; Belitski et al., 2019; Brown & Mason, 2017; Cao & Shi, 2020). It highlights how knowledge inputs such as entrepreneurship support organizations, universities, and R&D activity contribute to innovative growth in regional economies (Acs et al., 2017; Belitski et al., 2019; Brown & Mason, 2017; Cao & Shi, 2020; Nicotra et al., 2018; Romer, 1990). The social perspective focuses on the internal, micro-level processes that support productive entrepreneurship (Autio et al., 2018; Mack & Mayer, 2016; Motoyama & Knowlton, 2016; Spigel, 2017). It highlights how social embeddedness within the ecosystem stimulates relationships and interactions through which

entrepreneurs acquire knowledge and ideas that help them develop new ventures (Autio et al., 2018; Mack & Mayer, 2016; Motoyama & Knowlton, 2016; Spigel, 2017). This social learning process is formally known as collective learning; an interactive process of frequent and continuous knowledge flow, through which publicly available knowledge accumulates in defined boundaries (Capello, 1999).

Whereas the knowledge inputs offered by the economic perspective are quality indicators of an existing, well-functioning ecosystem, there is much less evidence of how the social context emerges to support and sustain the development of an ecosystem. It is thought that collective learning processes enable entrepreneurs to accumulate and apply knowledge within ecosystems to create new business models (Spigel & Harrison, 2018), and that the quantity of innovative business models that emerge from an ecosystem is its contribution to economic growth (Belitski et al., 2019). Research suggests that this takes place because entrepreneurs who are co-located in geographic regions have ample opportunities to develop relationships and learn from their peers in the process of venture development (Cao & Shi, 2020; Feld, 2012). This would make ecosystems an important source of collective learning for entrepreneurs (Belitski et al., 2019).

However, there is no empirical framework that connects these two thoughts and analyzes how collective learning processes come to be, and ultimately how they facilitate venture and ecosystem development, and ultimately economic growth. This is likely because the interpersonal knowledge flows that define collective learning are the least studied mechanism of knowledge sharing in regional economies (Lazzeretti et al., 2019). Entrepreneurial ecosystem studies in the geographic perspective tend to treat entrepreneurship as an aggregate outcome that is most often conceptualized and

measured in these analyses as the formation of new ventures in a region. This is an oversimplification of entrepreneurial activity, suggesting an underlying assumption that entrepreneurial activity is homogeneous, and will generate economic growth as long as knowledge is widely available in a region (Belitski et al., 2019; Plummer & Acs, 2014). However, entrepreneurship is inherently complex and multi-level, with widely varying outcomes, and this perspective does not account for individual differences in how entrepreneurs learn and accumulate knowledge, and ultimately how they succeed or fail at venture development (Belitski et al., 2019).

So even though it is acknowledged that collective learning processes drive the development and function of entrepreneurial ecosystems (Autio et al., 2018; Cavallo et al., 2018; Colombelli et al., 2019; Thomas & Autio, 2019), it is unclear how these collective learning processes emerge and how they are related to the individual learning and venture development processes of entrepreneurs in ecosystems (Pittaway et al., 2015; Politis et al., 2019; Wang & Chugh, 2014). The way that learning occurs in traditional organizational settings is thoroughly documented (Nielsen, 2006), but these frameworks are difficult to apply in the absence of authoritative and hierarchical relationships, as is the case with entrepreneurs in ecosystems.

This limits the understanding of how entrepreneurs learn via knowledge flow, and in turn how collective learning emerges in entrepreneurial ecosystems (Gilbert et al., 2020). Accordingly, empirical efforts don't always support the theory that regional investments in knowledge coupled with entrepreneurial activity generates economic growth (Tsvetkova, 2015). Most research efforts attempt to understand the top-down, macro-level interventions that are designed to stimulate economic growth through

ecosystems, and conclude that these interventions are generally ineffective (Spigel, 2018; Stam, 2015). As a result, this field still lacks the evidence to portray how entrepreneurial ecosystems emerge and develop. Therefore, this study explores the individual- and group-level social processes through which relationships form between entrepreneurs in ecosystems, in search of insights that can inform the emergence of productive entrepreneurship in regional economies. Formally, this study asks: what are the conditions of individual- and group-level social processes that facilitate knowledge flow and venture development among entrepreneurs?

This dissertation seeks to reconcile this disconnect and shed light on the micro-level contributions to ecosystem development by focusing on the communities within ecosystems, the knowledge flows that take place in these communities, and the resulting impact on venture development. Research on entrepreneurial ecosystems has indeed begun to acknowledge the concept of community, and this presents the opportunity to focus on knowledge flows that take place between entrepreneurs. Ecosystem communities have been defined as densely connected social networks of independent stakeholders that participate in and reinforce ecosystem development (Autio & Cao, 2019). These communities are an ideal context for the study of the social contextual influences on learning and other individual entrepreneurial behaviors within ecosystems (Kim et al., 2016). The concept of community introduces the possibility of analyzing the formation of relationships where knowledge flows take place, and the conditions that help or hurt this process (Hindle, 2010; Kim et al., 2016; Marquis et al., 2011). This dissertation thus seeks to understand the actual communities where entrepreneurs are interacting and the conditions that facilitate these knowledge flow.

Coworking spaces (CWS) are a specific type of ecosystem community that provide the research context for this study. They are physical spaces that perform an intermediary function in entrepreneurial ecosystems by providing a shared work environment that promotes proximity and interaction (Clayton et al., 2018; Spinuzzi et al., 2019). CWSs are theorized to be a valuable source of community and relationship building for entrepreneurs, and to facilitate collective learning processes among them (Garrett et al., 2017; Spinuzzi et al., 2019; Waters-Lynch & Duff, 2019). Thus, coworking spaces present an ideal context for the study of entrepreneurs in ecosystems, and how they experience community, learning, and venture development in ecosystems.

This study presents a comparative case study of entrepreneurs located in five coworking spaces throughout the Midwest and Southeastern United States to understand how they experience community, knowledge flow, and venture development. In doing so, this analysis presents three potential contributions. First, this study attempts to connect learning and venture development outcomes at a micro-level to ecosystem development and economic growth outcomes at a macro-level. By presenting a case for the emergence of collective learning based on the embeddedness of individual entrepreneurs in communities, the aim is to provide insights into the social settings and conditions that facilitate knowledge flow and venture development in ecosystems. This will contribute to economic growth theory and policy concerned with the investments and infrastructure that support productive entrepreneurship and ecosystems.

Second, the acquisition of knowledge via social interaction is of interest to entrepreneurial learning scholars who are concerned with how individual learning processes transform into collective learning (Capello, 1999; Pittaway et al., 2015; Politis

et al., 2019; Wang & Chugh, 2014). This study explores ecosystem communities in search of insights into when and why the community context facilitates the emergence of knowledge flows and collective learning. Finally, descriptions of community in entrepreneurship literature are limited, disconnected, and primarily descriptive (Hindle, 2010; Jennings et al., 2013; Lumpkin et al., 2018; Peredo & Chrisman, 2006). By developing a framework to explain the conditions of ecosystem communities that facilitate collective learning and venture development, this study seeks to establish a clear role for community contexts in entrepreneurship, and has practical implications for organizing entrepreneurial communities.

CHAPTER II

LITERATURE REVIEW

Entrepreneurial Ecosystem Framework

This study adopts concepts outside or peripheral to the entrepreneurial ecosystem literature to develop theory on the microfoundations of entrepreneurial ecosystems. The literature review that proceeds is an attempt to explain the importance of these microfoundations – community, knowledge flow, and productive entrepreneurship – and to adopt other literatures that can help to inform a developing theory of the micro-level functioning of entrepreneurial ecosystems. The objective is to address the need for bottom-up theorizing to help inform policy interests in stimulating regional economic growth through entrepreneurship.

Entrepreneurial ecosystems are sets of interdependent localized conditions that 1) support the agency of entrepreneurial actors to create and transform those conditions, and 2) enable productive entrepreneurship (Baumol, 1990; Wurth et al., 2021). Productive entrepreneurship is defined as “any entrepreneurial activity that contributes directly or indirectly to net output [or aggregate welfare] of the economy or to the capacity to produce additional output” (Baumol, 1990). It focuses on the producers of scalable ideas – high-growth firms, innovative startups, and entrepreneurial employees – that contribute to economic growth (Wurth et al., 2021). Research on entrepreneurial ecosystems has produced a framework to understand both the specific elements that compose the localized conditions (Spigel, 2017; Stam, 2015; Stam & van de Ven, 2021), and the

causal mechanisms that stimulate productive entrepreneurship (Stam & van de Ven, 2021; Wurth et al., 2021).

Stam and van de Ven (2021) identified ten key elements of entrepreneurial ecosystems that fall into a category of either resource endowments or institutional arrangements. They proposed that these elements are mutually interdependent, meaning they coevolve during the development of an ecosystem to continuously support productive entrepreneurship. The authors proposed that this happens through processes of both upward and downward causation. Upward causation is a process that occurs when the localized conditions or elements in an ecosystem combine to enable productive entrepreneurship. Downward causation occurs when the outcomes of productive entrepreneurship, namely successful entrepreneurs, feedback into the ecosystem in new roles, such as investors and mentors, to reinforce or recreate the localized conditions in the ecosystem. In this framework, it is necessary to stimulate productive entrepreneurship, so that productive entrepreneurs can re-enter the ecosystem and impact the conditions to support newer generations of entrepreneurs. Wurth et al. (2021) used these ten elements to expand on the causal mechanisms of the entrepreneurial ecosystem framework. In addition to the interdependencies between the elements, and downward and upward causation, these authors also highlight causal mechanisms between productive entrepreneurship and aggregate economic well-being indicators, and in the form of inter-ecosystem links between distinct regions.

Scholars agree that in order for research to inform policy interventions designed to stimulate thriving entrepreneurial ecosystems, more needs to be done to understand the micro-level processes that spawn productive entrepreneurship in ecosystem development

(Spigel, 2018; Stam & van de Ven, 2021; Wurth et al., 2021). In Stam and van de Ven's (2021) evolutionary model of entrepreneurial ecosystems, the process starts when the paths of independent entrepreneurs intersect, and they are faced with an opportunity to develop either cooperative or competitive relationships. When entrepreneurs discover interdependencies that can result in valuable flows of knowledge and ideas, they are likely to form cooperative relationships (Acs et al., 2017; Ben-Menahem et al., 2016; Storper, 1995; Tallman et al., 2004). In turn, these flows of knowledge and ideas are the foundation of entrepreneurial ecosystems and their contribution to economic growth (Acs et al., 2017; Romer, 1993; Spigel & Harrison, 2018). These microfoundations, specifically the intersections between entrepreneurs in ecosystems, represent an important stream of ecosystem research (Wurth et al., 2021), and provide the basis for exploration in this dissertation. In the sections that follow, I provide an overview of the literature that explores: 1) how these intersections take place in entrepreneurial ecosystem communities, 2) how learning takes place in these intersections through reciprocal flows of knowledge and ideas, and 3) how these knowledge flows can impact productive entrepreneurship.

Intersections in Ecosystem Communities

Entrepreneurial ecosystem research provides a perspective that has evolved from Marshall's (1920) concept of industrial clusters to understand coordinated regional economic activity. Both concepts acknowledge that shared regional benefits, called externalities, exist that can contribute to the competitiveness of firms (or entrepreneurs) in the region (Spigel, 2017). However, cluster research differs from entrepreneurial

ecosystem research by focusing on regional economic activity where actors can share localized economic benefits related to a common industry or technology. Entrepreneurial ecosystems researchers explore the localized benefits, regardless of any particular industry or technology, that are specific to the process of new venture development (Autio et al., 2018; Spigel, 2017).

Geographical closeness among entrepreneurs is a necessary ingredient in the development of an entrepreneurial ecosystem (Alvedalen & Boschma, 2017; R. A. Boschma, 2005; R. Boschma & Frenken, 2010; Motoyama & Knowlton, 2016; Spigel & Harrison, 2018). When entrepreneurs and entrepreneurial actors cross paths in entrepreneurial ecosystems, they are presented an opportunity to form a relationship and exchange knowledge and ideas. In entrepreneurial ecosystem research, these interactions are referred to as intersections (Stam & van de Ven, 2021). Researchers contends that these intersections are often facilitated by social contexts provided by intermediary physical spaces that exist in entrepreneurial ecosystems (Autio et al., 2018; Autio & Cao, 2019; Cao & Shi, 2020). These intermediary physical spaces – accelerators, coworking spaces, incubators, makerspaces, etc. – are designed to support productive entrepreneurship by facilitating a flow of knowledge and ideas, and providing a context that influences entrepreneurial action (Autio & Cao, 2019; Clayton et al., 2018; Kim et al., 2016). Spaces like these provide a clearly defined structure that is intended to support the formation of relationships and intersections for productive entrepreneurship and venture development. (Autio et al., 2018; Cao & Shi, 2020; Clayton et al., 2018).

For two reasons, this dissertation isolates coworking spaces from other intermediary spaces as a context for understanding intersections in ecosystems. First,

whereas incubators, accelerators, and makerspaces tend to be more formal, structured programs for entrepreneurs (Clayton et al., 2018), coworking spaces usually provide an informal option for entrepreneurs who want to meet people and rent low-cost workspace (Spinuzzi, 2012). They can function as “subsystems” that support the efforts of entrepreneurs to build ecosystems (Cloutier & Messeghem, 2021). Second, as will be discussed in the following paragraphs, substantial research has been dedicated toward understanding how entrepreneurs engage in a sense of community in coworking spaces. Exploring this sense of community within an entrepreneurial ecosystem framework can provide insight into the benefits that entrepreneurs perceive when choosing to engage with peers, and ultimately the conditions that facilitate intersections in entrepreneurial ecosystems. This dissertation thus seeks to understand how entrepreneurs in coworking space communities experience intersections, knowledge flow, and productive entrepreneurship. To do so, there needs to be a solid understanding what community means in coworking, why entrepreneurs in close proximity experience intersections and knowledge flow, and how this all impacts the output of productive entrepreneurship.

Relationships among entrepreneurs in ecosystems are described as heavily affective and interpersonal (Colombelli et al., 2019; Gilbert et al., 2020). They are supported by close-knit communities that are rich in material, cultural, and emotional resources (Autio & Cao, 2019; Lefebvre et al., 2015; Malecki, 2018; Roundy, 2017). These communities tend to be composed of peers who gain benefits beyond instrumental concerns regarding venture development; they also gain affective relational benefits like social exchange, reciprocity, and mutual support (Lefebvre et al., 2015). The intermediary spaces that facilitate intersections and interpersonal relationships often

function depending on their ability to develop a strong sense of community (Garrett et al., 2017; Spinuzzi et al., 2019; Waters-Lynch & Duff, 2019).

A sense of community is defined as “the perception of similarity to others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, and the feeling that one is part of a larger, dependable, and stable structure” (Jason et al., 2015; p. 974). Sense of community is an idea that has been consistently developing in research on coworking spaces. Coworking space research acknowledges that they are most effectively defined as a service that coordinates relationships and among entrepreneurs and entrepreneurial actors, rather than as a building or concrete product (Spinuzzi, 2012). Moriset (2014) described coworking spaces as agents or subsystems of entrepreneurial ecosystems where entrepreneurial actors can benefit from similar ecosystem externalities, like intersections and knowledge flow. The study concluded that the function of coworking spaces is to coordinate opportunities outside of the home or traditional office space for individuals to not only work, but to experience these externalities. The spontaneous nature of the intersections that take place in coworking spaces is especially important, given that it is difficult for entrepreneurs to recognize the value of relationships before choosing to engage or develop them (Engel et al., 2017). Without a coworking space or similar place, it is more difficult for them experience the serendipitous value of new intersections and relationships. However, there is not substantial evidence that this function is being performed in coworking spaces.

Existing research provides some insight into when and why coworking spaces perform this function. Parrino’s (2015) qualitative study on two coworking spaces

suggested that, for them to function effectively, they need to establish an organizational structure where intersections can be strategically induced using communication tools (Boschma, 2005). These tools consisted of a management staff dedicated to facilitating intersections and relationships, and technological platforms that provide an opportunity for entrepreneurs to intersect (Parrino, 2015).

The difficulty, though, is that strategic, collective organizational decisions are not easily applied in coworking spaces. As an organizational form, coworking spaces most closely resemble meta-organizations, or collectives of individuals who are bound together by shared meanings and goals, rather than by hierarchical or authoritative relationships (Gulati et al., 2012). Gulati and his colleagues (2012) provided a framework for categorizing and analyzing meta-organizations beyond the confines of traditional organizational analysis, according to the openness of organizational boundaries, and the stratification of decision making. In this framework, where relationships are voluntary rather than hierarchical, and decision-making is stratified rather than centralized, a sense of community can emerge from the autonomous behaviors and decisions of individuals to establish a binding organizational presence among coworking space members.

The dynamics of a strong coworking space community have yet to be fully understood in coworking space research. In a review of coworking space literature, Spinuzzi et al. (2019) articulated that the concepts of community and collaboration are inappropriately used, and often applied interchangeably to generally describe the activities that take place in coworking spaces. They suggest that the concept of community is often used incorrectly in coworking space research to assume that community and collaboration are automatically linked. These authors applied this notion

in a qualitative study of six coworking spaces in the United States, Italy, and Serbia and suggested instead that they should be categorized along a spectrum from purely competitive communities to purely collaborative communities (Spinuzzi et al., 2019). In this distinction, coworking space communities would adhere to an established typology of communities (Adler & Heckscher, 2006) in which competitive communities are characterized by individualism, independence, and deference to market principles, and collaborative communities are characterized by collectivism, interdependence, and deference to community principles. It is therefore important to acknowledge that the concept of community cannot be applied as a blanket term to describe coworking spaces, and that it is not sufficient to assume that a coworking space community automatically works as a mechanism to facilitate intersections.

Waters-Lynch & Duff (2019) further conceptualized the complexity in establishing a sense of community, using paradoxical terms of collective and individual rationality to understand why entrepreneurs will engage in a community. They contend that the necessary function of a coworking space is to balance members' need for a sense of community, which is rooted in collective rationality, with their need for valuable venture development resources, which is rooted in individual rationality. In other words, the resources the community yields to individuals has to justify their collective rationality and willingness to engage (Waters-Lynch & Duff, 2019). One potential solution to this paradox, they suggest, is effective management of knowledge resources, in which an entrepreneur's access to valuable knowledge flow opportunities is his or her incentive to engage in a collective sense of community (Waters-Lynch & Duff, 2019). Whatever the solution may be, it is important to understand the reasons why an entrepreneur who

would typically evoke individual rationality to develop an independent venture would instead choose to evoke collective rationality and engage in community with others. Though the importance of leveraging interdependencies to develop ventures is well documented (Acs et al., 2017; Storper, 1995; Tallman et al., 2004), it is not clear how entrepreneurs discover them (Ben-Menahem et al., 2016; Engel et al., 2017). To develop an entrepreneurial ecosystem, it is important to know how and when communities within the ecosystem help entrepreneurs to intersect and discover interdependencies.

Literature on sense of community as an institutional logic can help inform the conflict between collective and individual rationality that entrepreneurs face in ecosystem communities. A sense of community derives from community logics that provide normative social mechanisms, namely trust and reciprocity, that rationalize cooperative behaviors for individuals in group settings (Granovetter, 1985; Kim et al., 2016; Thornton et al., 2012). It focuses on the meaningful nature of relationships between community members as a rationale for interpersonal engagement and exchange (Almandoz et al., 2017; Thornton et al., 2012). A strong sense of community is defined by the extent to which community members prioritize inherent affective and emotional benefits in relation to material and instrumental benefits (Almandoz et al., 2017). It is reflected in the unity of community members and their belief in trust and reciprocity, a collective commitment to community values, and an economic rationale based on cooperation rather than competition (Almandoz et al., 2017; Thornton et al., 2012). Community rationales of autonomy, informal roles and relationships, and decentralized decision making are in stark contrast to financial efficiency rationales of transaction costs, vertical integration, and hierarchy (Gulati et al., 2012).

The institutional logics literature suggests that coworking space communities can facilitate intersections when entrepreneurs embrace collective rationality and adopt a sense of community. However, this requires entrepreneurs to resolve conflicting logics, as entrepreneurs are inherently predisposed to a financial logic that rationalizes profit maximization and individualism in the development of a new venture (Pittaway & Cope, 2007). Accounting for these conflicting logics requires an understanding of institutional orders and their ideal types, which are the categories of organizing dimensions that define each institutional order (Thornton et al., 2012), and institutional complexity, which is defined by the presence of multiple, distinct logics in a given context that yield conflicting influences and behavior patterns (Greenwood et al., 2010, 2011). Community and financial logics are each examples of institutional orders that, when simultaneously present, can cause institutional complexity.

Table 1 presents a layout of community and financial logics according to their ideal types. Ideal types are important because they provide a deeper explanation of the rationalizations of different social behaviors (Thornton et al., 2012). The behaviors of entrepreneurs in a community can be understood through the logics that rationalize their actions. That is, in a context of institutional complexity, entrepreneurial actions may be influenced by pressures from a dominant community or financial logic (Greenwood et al., 2010).

Insert Table 1 Here

Institutional logics literature provides examples of how a sense of community can conflict with financial logics and cause divergent behaviors. Almandoz (2014) studied bank founding teams and concluded that, when logics are shared by founding team members, teams with financial logics took more risks than teams with a strong sense of community. The results also indicated that the size of the teams intensified this relationship, suggesting that the influence of institutional logics is stronger in larger groups. The dominance of a specific logic matters; it produces distinct group behaviors, and as groups grow over time, the effect of a dominant logic becomes more prolific. This can have significant impact in coworking space communities in terms of how entrepreneurs come to intersect.

The likelihood of an entrepreneur in a coworking space community to intersect with another entrepreneur and form a relationship likely depends on how they rationalize social behaviors in contexts of institutional complexity. It can be useful to consider the resolution of a conflicting sense of community with financial logics through a means-ends framework. In a study of the founding of socially responsible investment (SRI) funds, Yan et al. (2019) found an inverted-U-shaped relationship between the prevalence of financial logics among SRI professionals and the establishment of new SRI funds, in which the relationship between financial logics and a sense of community went from complementary to competing. That is, a financial logic, which rationalizes individual interests in profit-maximization, and a sense of community, which rationalizes collective interests in the benefits of socially responsible investing, could be complementary to an extent, and support the founding of SRI funds. The shift to competing logics took place in contexts where financial logics became dominant and profit-maximization ends became

institutionalized. As a result, socially responsible investing was less likely to occur as the financial logic continued to strengthen. To find resolution in the conflict between financial logics and sense of community, these findings suggest that it is important to not treat them as mutually exclusive; financial logics can and will be an asset for an entrepreneur developing a new venture, but in order to benefit from community embeddedness, financial logics must defer to a sense of community.

A similar result was found in a case study of self-help groups established by an NGO in rural India (H. Venkataraman et al., 2016). The NGO relied on a sense of community to gain the trust of beneficiaries and their families; only then could they use financial logics to introduce and promote market-based activities that enabled beneficiaries to collectively improve local social and economic conditions through entrepreneurship. It appears that financial logics can be an effective complement to a sense of community, when the sense of community can rationalize collective interests over individual interests, and financial logics can be used to generate collective benefits over individual benefits. This is another example that shows the complementary nature of financial logics within communities; when collective goals are set and aligned based on a sense of community, financial logics can provide a valuable means towards achieving said goals.

Though some may expect financial logics to equate to better market performance when compared to a sense of community, that is not always the case. In a different study, (Almandoz, 2012) showed that bank founding teams dominated by sense of community rather than financial logics performed better in terms of successful bank establishment, likely due in large part to the support they received from the local community. This

confirms the possibility that entrepreneurs in community spaces can work together for the benefit of the collective, and still experience greater economic performance in their own venture. This study also found that teams that exhibited strong influences from both logics were more successful in periods of low economic turbulence, but less successful in periods of high economic turbulence (Almandoz, 2012). The authors attributed this finding to the existence of divergent factions in founding teams, which were more likely in periods of high economic turbulence. In turbulent times especially, it is beneficial for entrepreneurs to band together; and banding together is facilitated by a sense of community.

Knowledge Flow in Ecosystem Communities

Being embedded in a strong sense of community can be an asset to an entrepreneur in the process of developing a new venture, but they must overcome an inclination to prioritize competition for profits and self-interests. The community must provide some incentive to the entrepreneur to make the community valuable. One potential incentive is knowledge flow.

The ways that entrepreneurs resolve conflict between a sense of community and financial logics will impact their propensity to intersect, and ultimately how they approach these intersections as opportunities for knowledge flow. In developing a new venture or organization, knowledge is often treated as a private resource, to be protected as a source of competitive advantage, and transformed into economic value (Barley et al., 2018; Grant, 1996; Kamoche et al., 2011; Spender, 1996; Tallman et al., 2004). This is evident in the way entrepreneurs choose to rationalize their intersections and knowledge flow

opportunities. The two dominant schools of thought contend that entrepreneurs either view these intersections through the lens of cost efficiency, exchanging knowledge contingent on the value they receive from the specific transaction (Williamson, 1991), or view these intersections through the lens of social embeddedness, exchanging knowledge based on a belief in reciprocity that is normalized and deemed appropriate by trust and a sense of community (Granovetter, 1985).

Beyond the financial logics that may cause entrepreneurs to protect their knowledge rather than share it, there are other barriers that may inhibit knowledge flow in communities. In a qualitative study of a “bookless” library designed to function as a coworking space, (Bilandzic & Foth, 2013) found that knowledge flow between entrepreneurs is constrained by a lack of awareness of the interests and expertise of other entrepreneurs, as well as a general hesitancy to approach strangers. These authors further conclude that communities must have mechanisms to counteract these barriers, by coordinating opportunities for intersections and dialogue, and leveraging technology to establish relationships between strangers. Similarly, Bouncken and Aslam (2019) conducted an inductive study of a set of users of German coworking spaces and found that knowledge flow did not occur automatically; instead it occurred when knowledge management services (workshops, trainings, seminars, etc.) were prevalent in the space. Though these learning and knowledge management mechanisms can be useful, they do not address the main barrier to the social, informal type of knowledge flow that occurs in entrepreneurial ecosystems; a lack of trust (Capello, 1999; Huggins & Thompson, 2015; Nonaka, 1994; Romer, 1993; Spigel & Harrison, 2018).

Knowledge flow is often inhibited by fears of exploitation and opportunism, in which rewards are not reciprocated or evenly distributed (Capello, 1999; Romer, 1993). This impacts how an entrepreneur will rationalize intersections and potential knowledge flow opportunities, and is the core of the transaction costs argument that recommends a formal agreement on the terms of the exchange (Williamson, 1991). However, the social embeddedness argument contends that entrepreneurs reduce the transaction costs of knowledge costs and the risk of exploitation without a formal agreement when they are embedded in a strong, shared sense of community (Granovetter, 1985). Therefore, this dissertation explores the informal process of intersection and knowledge flow among entrepreneurs in ecosystem communities.

Entrepreneurial learning literature can provide some insight into the dynamics of informal knowledge flow in ecosystem communities. Specifically, collective learning is defined as a social process that relies on intersections and relationships to facilitate frequent and continuous knowledge flows between entrepreneurs in a community (Capello, 1999; Pittaway et al., 2015; Pittaway & Cope, 2007). A shared sense of community could be an important factor in stimulating learning in communities by facilitating strong emotional connections between entrepreneurs and a belief in trust and reciprocity that enables entrepreneurs to rationalize informal knowledge flows in intersections and relationships, resulting in collective learning (Nonaka, 1994; Thornton et al., 2012).

Collective learning is a subset of entrepreneurial learning literature that seeks to reconcile individual learning in pursuit of entrepreneurial opportunities with the cooperative, social learning that take place in entrepreneurial ecosystems communities

(Wang & Chugh, 2014). Understandings of collective learning are attributed to Capello (1999), who highlighted its social, cumulative, interactive, and public nature. This means that collective learning is facilitated by strong networks and relationships; is stabilized by relatively closed boundaries in which community-specific knowledge accumulates and is difficult to access by external actors; is characterized by community entrepreneurs who cooperate to develop innovative solutions to problems; and occurs when knowledge moves freely throughout the community, independent of the will of any originator or inventor (Capello, 1999). Though entrepreneurial learning literature acknowledges the importance of shared experiences and the social conditions in which knowledge flow takes place (Hamilton, 2011; Pittaway et al., 2015; Pittaway & Cope, 2007), there is still a disconnect in understanding how the social nature of collective learning reconciles with the individualistic rationality to protect your knowledge assets in the process of venture development (Pittaway et al., 2015; Politis et al., 2019; Wang & Chugh, 2014).

It is helpful to break down collective learning as a collective construct in order to conceptualize its relationship to individual entrepreneurial learning. Conceptualizing a collective construct requires an identification of the structure and function of the construct (Morgeson & Hofmann, 1999). The structure is defined as a series of event cycles, or continuous interactions, between the component parts of the construct. The component parts of collective learning are the individual learning processes of entrepreneurs; thus, the structure of collective learning is a series of knowledge flows between intersecting entrepreneurs. This is consistent with the established interactive nature of collective learning (Capello, 1999). It means that collective learning takes place in ecosystem communities when knowledge flows are frequent and continuous.

The function of collective constructs refers to the causal output or effect of the construct. Function is important for establishing composition models, which enable the exploration of how individual knowledge flows aggregate into collective learning (Rousseau, 1985). These composition models require that a common functional relationship exists between individual and collective learning (Rousseau, 1985). The function of both individual and collective learning in venture development is the accumulation of knowledge for the purpose of building competitive advantage (Tallman et al., 2004). Tallman et al. (2004) explained how the accumulation of collective knowledge within ecosystem communities should equip entrepreneurs in the community with a source of competitive advantage, and that these entrepreneurs' ability to accumulate venture-specific knowledge will determine the differences between individual entrepreneurs' competitive advantages within the community. Thus, collective and individual learning are functionally similar, and intersections between individual learning processes define the structure of collective learning. This suggests that, from a collective learning perspective, the benefits of ecosystem communities may be maximized when: 1) knowledge accumulates on the basis of frequent intersections and knowledge flow in the community, and 2) entrepreneurs maintain unique sources of knowledge as a basis for their own individual competitive advantage.

Informal knowledge flows and collective learning represent a distinct form of learning in the Knowledge Spillover Theory of Entrepreneurship (KSTE). At its inception, KSTE explained how incumbent firms drove economic growth by investing in knowledge creation activities such as research and development (Jones, 2019; Romer, 1986, 1990). According to Romer and his successors, this knowledge spread

automatically throughout the economy to generate economic growth. This process was explained by the concept of nonrivalry, which asserts that investments in knowledge bring increasing returns to scale; once knowledge is created it can be commercialized indefinitely by a variety of actors, increasing the output of innovative technology without increasing the cost of accessing the necessary knowledge. Romer provided the example of word processing software, describing how a writer can learn from a peer of word processing software as an alternative to a typewriter (Romer, 1993). This knowledge would save that individual a significant amount of time, make them more productive, and can be shared with other writers at little to no cost. Inherent in this description of knowledge is its social nature — being shared between individuals — and its content focused on new ways to improve business processes.

Despite this knowledge flow example provided by Romer, and his contention that economic analyses need to involve more micro-level examinations (Romer, 1993), the evolution of KSTE has remained overwhelmingly macro-focused. The primary focus tends to be either involuntary knowledge spillovers that occur when firms in close proximity can recreate knowledge through imitation or decomposition (Ács & Varga, 2005; Audretsch & Feldman, 1996; Audretsch & Lehmann, 2005; Delmar et al., 2011; Guerini & Rossi-Lamastra, 2014; Hervás-Oliver et al., 2017; Lasch et al., 2013; Qian et al., 2013), or voluntary formal knowledge spillovers in the form of interorganizational strategic alliances and R&D collaborations (Autio et al., 2004; Mueller, 2006; Shu et al., 2014). In either case, entrepreneurs are given a passive role dictated by the knowledge creation activities of incumbent firms. These incumbent firms are the drivers of entrepreneurial opportunities in geographic boundaries; the knowledge that they create,

when it penetrates the boundaries of the firm, becomes the source of innovation produced by entrepreneurs that can access it (Audretsch & Keilbach, 2007). Entrepreneurial activity is treated as a mediating mechanism that converts knowledge into economic growth by commercializing knowledge spillovers into new technology. This offers little insight into specifically how individual entrepreneurs in regional economies and ecosystems access and commercialize knowledge.

This theory draws a clear distinction between the role of incumbent firms – to create knowledge – and the role of entrepreneurs – to commercialize knowledge – in economic growth (Acs & Sanders, 2013). It has been shown that commercialization activities by entrepreneurs offer greater contributions to economic growth than knowledge creation activities of incumbents, because entrepreneurs have a greater capacity to apply knowledge toward innovative trajectories (Acs & Plummer, 2005; Braunerhjelm et al., 2010). Entrepreneurs are therefore treated as a macroeconomic stock of human capital; and higher stocks of entrepreneurs are expected to contribute more to economic growth (Acs et al., 2013). However, the specific actions that entrepreneurs take to fulfill this responsibility – to access and commercialize knowledge in entrepreneurial ecosystems – seem to be taken for granted. Attempts to understand these actions are extremely scarce and focused on entrepreneurial intentions to form a new venture (Dohse & Walter, 2012; Walter & Dohse, 2012), which aligns with the dominant focus in KSTE on new venture creation as the uniform, macro-level indicator of entrepreneurial activity that generates economic growth. The ways that entrepreneurs intersect and learn from a social perspective are largely overlooked in the KSTE framework (Audretsch et al., 2020; Belitski et al., 2019).

The intersections and knowledge flows that occur among entrepreneurs in ecosystems represent the convergence of the KSTE and entrepreneurial ecosystem approach. One of the primary indicators of a well-functioning entrepreneurial ecosystem is the existence of strong networks that support the emergence of intersections and relationships for knowledge flow (Spigel & Harrison, 2018). Though not empirical, there is work in the KSTE literature that contends that the ability of entrepreneurs to commercialize knowledge and contribute to economic growth is moderated by the networks, intersections, and relationships that grant them access to knowledge (Huggins & Thompson, 2015). Providing insight into the nature, causes, and effects of these intersections is the objective of this dissertation.

Existing research suggests that intersections and interpersonal relationships are the vehicle for knowledge flow in ecosystems. The ties within an entrepreneur's network can be a source of knowledge and competitive advantage (Parker, 2008). Knowledge flow in this context must be distinguished from the strategic management perspective, where flows are within or across organizational boundaries, and moderated by either employee agreements or formal alliances (Barley et al., 2018; Grant, 1996; Gulati, 1998; Spender, 1996). Organizational knowledge flows are aggregated into knowledge stocks that companies use to inform a unified organizational strategy (Decarolis & Deeds, 1999).

By contrast, knowledge flow in entrepreneurial ecosystems are likely to be severely constrained by organizational influence (Parker, 2008). This means that if there is a central organizing presence designed to manage and coordinate knowledge flow, they tend to actually impede knowledge flow with hierarchy and bureaucracy. Entrepreneurs

operate with autonomy that is often limited within traditional organizational structures; they engage in knowledge flow voluntarily, and are faced with potentially competing or conflicting motives. They commercialize knowledge towards their own venture development goals, rather than as a contribution to a unified organizational strategy (Spinuzzi, 2012).

The entrepreneurial ecosystem perspective addresses knowledge flow in two ways: 1) distinguishing it from other forms of knowledge flow, and 2) describing contexts where knowledge flow is likely to occur. Cao & Shi (2020) described that knowledge flows in entrepreneurial ecosystems are distinguished by the direction of the flow, and whether knowledge flow is voluntary or involuntary. They describe that the knowledge flows in traditional clusters, which tend to be spatially concentrated around industrial or technological value chains, are characterized by vertical networking and horizontal competition. This means that firms in different stages of a value chain are incentivized to network and collaborate with each other, leading to voluntary knowledge flows in vertical value chain relationships. Firms in the same value chain stage are likely to be substitutes for each other, causing these horizontal relationships to be characterized by competition rather than collaboration, and therefore involuntary knowledge flow through means such as imitation and decomposition.

The authors contrast these knowledge flows with those that are more likely take place in entrepreneurial ecosystems. Rather than vertical networking and horizontal competition, knowledge flows in entrepreneurial ecosystems are characterized by horizontal networking and vertical competition. Vertical competition describes the relationship between entrepreneurs and the incumbent firms in a region. Entrepreneurs in

the region can benefit from involuntary knowledge flows from incumbent firms, and commercialize knowledge towards their own opportunities. Rather than integrating into the existing business models of incumbent firms, entrepreneurs can use the knowledge they access to develop new business models (Autio et al., 2018). This creates competition for knowledge between entrepreneurs and incumbent firms in ecosystems. This also means that voluntary knowledge flows – through horizontal networking – are more likely to take place between entrepreneurial peers (Cao & Shi, 2020). Entrepreneurs in ecosystems are primarily interested in scaling towards global competition, and therefore are willing to cooperate with their local peers. Thus, knowledge flows in entrepreneurial ecosystem communities are described as voluntary exchanges that are grounded in the relationships between entrepreneurs in ecosystems.

This type of knowledge flow most commonly occurs through dialogue; through direct, shared experiences, that rely on mutual trust (Nonaka, 1994). In the absence of trust, knowledge flows are viewed more like financial transactions, and a lack of incentives will be a significant barrier to knowledge flow (Romer, 1993). Knowledge flow requires a strong social context – characterized by affective relationships, trust, and reciprocity – where intersections are more likely to occur (Boschma, 2005; Nonaka, 1994).

Though it is apparent that developing an entrepreneurial ecosystem includes creating spaces for entrepreneurs to intersect, there is little evidence to describe the dynamics of these social contexts and how they facilitate intersections, relationships, and knowledge flow. Understanding the ways that entrepreneurs experience intersections and establish relationships where knowledge flows occur is imperative for entrepreneurial

ecosystem development. Coworking space communities offer a context where community membership could rationalize beliefs in reciprocity, and incentivize cooperation and knowledge flow.

Productive Entrepreneurship in Ecosystem Communities

Entrepreneurs are productive when they develop ideas that produce valuable outputs such as jobs or GDP to a region (Baumol, 1990; Romer, 1990; Wurth et al., 2021). In many ways, knowledge is the source of this value creation for entrepreneurs. They attempt to locate knowledge, and transform it into economic value via commercialization, or the production of goods and services (Acs et al., 2018; Baumol, 1968). Entrepreneurs in ecosystems “tend to emphasize service and business model innovation, as opposed to technology-push, product, or process as the key source of opportunities for start-up and scale-up” (Autio et al., 2018; Autio & Cao, 2019, p. 5431). Developing new business models involves generating knowledge within distinct business functions and weaving it together to describe how a venture creates, delivers, and captures value (Chesbrough, 2010; Clauss, 2017; Zott & Amit, 2007). An entrepreneur’s knowledge is his or her stock of decomposed facts and ideas that can be assembled into new business models and commercialized (Romer, 1993). In other words, entrepreneurs rely on ideas about packaging, marketing, distribution, inventory control, payments systems, information systems, transactions processing, quality control, worker motivation, etc. that can be combined in a unique way to create a valuable business model (Romer, 1993). Diverse experiences in functional areas related to venture development (i.e. accounting and finance, business administration, marketing and sales,

personnel, production, and R&D and engineering) equip entrepreneurs with the knowledge needed to be successful (Chen & Thompson, 2016; Lazear, 2004). The development and organization of new ventures and business models to commercialize knowledge is entrepreneurs' contribution to economic growth (Belitski et al., 2019; Romer, 1990).

Knowledge in this regard is consistent with conceptualizations of specific knowledge in entrepreneurship literature, in which entrepreneurs generate value with knowledge that is not widely known and is inextricably tied to circumstances of time and place (Fiet, 1996; Hayek, 1945; S. Venkataraman, 1997). Sharing this type of knowledge involves exchanges in which individuals directly share experiences, often through dialogue, and attempt to relate the past experience of one individual to the current, specific circumstance of another (Nonaka, 1994; Tsoukas, 2009). Entrepreneurs can use decomposed knowledge and ideas that they learn from peers to build their own distinct business models (Romer, 1993). This is how knowledge flow occurs in entrepreneurial ecosystems (Autio et al., 2018; Belitski et al., 2019; Cao & Shi, 2020). Knowledge flows enable entrepreneurs to share, develop, criticize, and refine their ideas (Foss & Saebi, 2017; Nonaka, 1994).

When knowledge flows and accumulates within the boundaries of an ecosystem community, entrepreneurs are exposed to increased opportunities to commercialize knowledge, which can become a community-specific competitive advantage for the entrepreneurs in the community (Belitski et al., 2019; Capello, 1999; Parker, 2008; Spigel & Harrison, 2018; Tallman et al., 2004). Intersections are key to knowledge accumulation in a community, as they enable entrepreneurs to develop reciprocal, trust-based

relationships that support frequent and mutual knowledge flows (Storper, 1995; Tallman et al., 2004). Knowledge accumulates as a result of this process and facilitates the emergence of externalities (Capello, 1999). Externalities represent the public and decentralized circulation of ideas in a community; ideas that entrepreneurs can access and use to develop new business models (Autio et al., 2018; Belitski et al., 2019; Juhász, 2019; Spigel & Harrison, 2018). When they exist, these externalities provide a source of defensible competitive advantage, as they are only accessible by entrepreneurs who are embedded in the community (Capello, 1999; Tallman et al., 2004). This embeddedness equips entrepreneurs with a social structure that lessens the cost of accessing valuable knowledge and resources (Granovetter, 1985; Kim et al., 2016), and can help them better satisfy the complex social requirements of the venture development process (Burt, 2004; Perry-Smith & Mannucci, 2017).

In order to reap the benefits of community embeddedness, entrepreneurs also have to contribute the community. Relationships in entrepreneurial ecosystem communities should produce mutual benefits based on trust and reciprocity; and this trust and reciprocity is the source of legitimacy that sustains relationship bonds in ecosystem communities (Thornton et al., 2012). An entrepreneur's willingness to engage in knowledge flow in an ecosystem community impacts the likelihood that knowledge flows will be reciprocated and that they will receive material benefits from their embeddedness in the community (Spigel & Harrison, 2018). In other words, an entrepreneur's ability to access knowledge depends on their willingness to share knowledge with others.

Entrepreneurs who intersect in ecosystem communities can build strong, trust-based,

reciprocal relationships that will help them acquire the knowledge and resources that are necessary for the survival and growth of their venture (Spigel & Harrison, 2018).

Though the benefits of knowledge flow in ecosystem communities are apparent, there is no guarantee that the knowledge will be relevant to the venture development process, or that it will accumulate and sustain long enough to be a valuable competitive advantage for the community. Ecosystem communities rely on a strong group of entrepreneurs to lead the community and support each other in the venture development process (Feld, 2012; Spigel & Harrison, 2018; Stam, 2015). This is not always the case though, as these communities often include a wide variety of individuals who are independent workers. The category of independent workers includes entrepreneurs, but also includes individuals involved in project-based work, independent contracting, freelancing, and virtual work (Gandini, 2015; Spinuzzi, 2012). This broad class of workers is attracted to new models of work in knowledge-intensive and creative industries where work is separated from traditional workplaces (Waters-Lynch & Duff, 2019; Waters-Lynch & Potts, 2017). Though non-entrepreneur independent workers bring diverse knowledge to communities that can contribute to knowledge flow and accumulation, it is harder to establish a community competitive advantage without a common knowledge base of the venture development experience (Boschma, 2005).

The venture development process involves the actions taken to move from an initial idea for a new venture, to either the abandonment or the successful emergence of the venture (Davidsson, 2015; Dimov, 2010; Shim & Davidsson, 2018). Venture and business model development involves some common gestation activities, or “different behaviors commonly taken by nascent entrepreneurs during their startup processes (e.g.,

doing initial market research, setting up a cofounding team, asking for funding)” (Arenius et al., 2017; p. 87). An entrepreneur’s experiences with gestation activities and the venture development process form the foundation of a common knowledge base that makes ecosystem communities valuable (Autio et al., 2018; Cao & Shi, 2020). The more a community is composed of independent workers who don’t have experience with entrepreneurship and venture development, the less likely it will be that an ecosystem community develops a competitive advantage. Further, given the variety in types and stages of entrepreneurship and venture development, it is important to understand the dynamics of a common, relevant knowledge base even within the confines of entrepreneurship.

For example, the knowledge bases of individual entrepreneurs can be too similar, and still work to limit a community competitive advantage. If the knowledge and experiences of entrepreneurs in a community are redundant or overlapping, competitive advantage could suffer as it becomes more difficult to identify and access sources of new or different knowledge (Boschma, 2005; Nonaka, 1994). The more entrepreneurs in the community share a common knowledge base, the more difficult it will be for them to identify and incorporate alternative perspectives that help to generate new ideas and business models (Capello, 1999; Nonaka, 1994; Romer, 1993; Schumpeter, 1934). Therefore, it is important to understand the conditions under which entrepreneurs find alignment and complementarity that supports continuous, valuable knowledge flow in ecosystem communities.

It is also possible that communal relationships and a sense of community between entrepreneurs can limit a community competitive advantage. Strong, affective

relationships between entrepreneurs in a community can result in no regard for material benefits to knowledge flow, new business models, venture development, or productive entrepreneurship (Boschma, 2005). Community competitive advantage requires communities serve dual purposes, as a basis for intersections and affective, reciprocal, trust-based relationships, and as a means of continuously accessing necessary knowledge and resources for productive entrepreneurship and venture development (Marquis et al., 2011). Therefore, in order to understand entrepreneurial ecosystem development, one must understand the content of knowledge flows that contributes to productive entrepreneurship, and how certain types of knowledge are valuable to certain types of entrepreneurs. It is important to understand what stimulates intersections, relationships and knowledge flow, when relevant knowledge accumulates, and how this contributes to productive entrepreneurship.

CHAPTER III

METHODS

Data Collection

This study employs a comparative case study research design to explore the question: How can coworking space communities facilitate learning and venture development in ecosystems? Given the contemporary nature of the coworking space phenomenon, especially as situated in entrepreneurial ecosystems, the comparative case study methodology is well-suited to develop explanations of community-building processes and outcomes (Yin, 2018).

Two sets of guidelines have been used to develop the research design for this comparative case study: one to properly design a case study that will be useful towards developing a theory of community-building in entrepreneurial ecosystems (Eisenhardt, 1989), and another to meet some minimum standards of conceptualization and appropriate interpretation of the research design (Krehl & Weck, 2020). In order to effectively develop theory from case studies, Eisenhardt (1989) suggests beginning the design with five actions: 1) defining a research question, 2) identifying potential constructs, 3) avoiding theoretical hypotheses development, 4) specifying a population, and 5) theoretical rather than random sampling. In order to achieve transparency, replicability, and more robust interpretation in the research design, Krehl and Weck (2020) suggests being explicit about: 1) the frame of reference and starting point, 2) the ambition towards generalizability and theory-building, 3) case selection, 4) the objective

of comparison, and 5) any trade-offs made in research design decisions. The remainder of this section explains the decisions made regarding case selection and the basis of comparison for this study.

The intention of this study is to move toward a generalizable theory of community entrepreneurship – of community-building efforts in entrepreneurial ecosystems. It is designed to address the need for more micro-perspectives in the literature on entrepreneurial ecosystem development (Spigel, 2018). The objective of comparison is thus the community experiences of coworking space members, including both the process of community-building employed by operators and the collective behaviors and activities of members. By exploring this community experience and its outcomes across multiple cases, this study observes the paths, patterns, convergences, and divergences of individual entrepreneurial agents as it relates to community contexts. In doing so, abstraction and generalizability is prioritized over the robustness and detail of any individual case. Due to this tradeoff between generalizability and depth of analysis that is common to qualitative research, only one interview was conducted with each respondent. The objective was to lean towards variance of responses rather than depth of inquiry in each case.

The population for this study consists of coworking spaces in the United States. There are approximately 5,000 coworking spaces operating in the United States today (Mazareanu, 2020). Coworking spaces are still an adolescent organizational phenomenon; there are no existing databases on the activities of coworking space organizations that are suited for empirical analysis. However, there is an online platform, Coworker, that is intended to connect prospective members with coworking spaces. The

Coworker directory lists profiles of verified coworking spaces, on which individuals can book tours and purchase memberships. There are approximately 20,000 coworking spaces in existence worldwide (Hobson, 2019), 14,000 of which are listed on the Coworker online database. The profiles of coworking spaces on the Coworker database offer information in the following categories: a general overview, desk and office prices, amenities, geographical location, and customer reviews. Freelance professionals were hired to extract information on coworking spaces from the Coworker website. This resulted in a database of 2,324 coworking spaces located in the 50 United States and Washington D.C. This database lists the name, physical address, website, and email address of each coworking space organization. Given the saturation of the global population of coworking spaces on the Coworker database, it is sufficient to generalize from coworking spaces that are extracted from this database to the intended population.

Based on preliminary research gather from this database, along with phone conversations and brief surveys, five cases were selected that provide a foundation both for analytical generalizability and to control for variation. Each case satisfies the following requirements in order to ensure analytical generalizability: 1) it primarily operates as a coworking space as opposed to other intermediaries such as incubators, accelerators, and makerspaces, 2) it is located in the United States, 3) it is independently owned and operated (i.e. not affiliated with a parent corporation, university, public institution, etc.), and 4) it acknowledges a specific focus on supporting entrepreneurs.

In addition, the five cases exhibit variation at the level of the individual in which differences can be observed from their membership in different spaces, as well as in different geographical contexts. This is a useful variation towards understanding the

experiences of entrepreneurs within ecosystem communities. The geographical location of the five cases breaks down as follows: two spaces in Louisville, KY, one space in Greenville, SC, one space in Atlanta, GA, and one space in Cincinnati, OH.

Based on phone conversations, brief surveys, and in-person visits, the spaces were categorized as either small or large memberships, and identified according to their leadership structure. Space A is located in the upper midwestern United States, has a large membership, and has a team of people that manage the space. Space B is located in the southeastern United States, has a small membership, and has a team of people that manage the space. Space C is located in the lower midwestern United States, has a large membership, and has a team of people that manage the space. Space D is located in the southeastern United States, has a small membership, and is owned and operated by the members of the space. Space E is located in the lower midwestern United States, has a small membership, and is managed by a single owner.

In each coworking space, there was a manager or operator of the space that helped secure participants for the interviews. Managers were informed of the objectives and protocols of the research, and then invited to help by reaching out to members inviting them to participate in 45-60-minute interviews. Managers were given only requirement when considering members for potential participation: they had to have or have previously had a formal membership at the coworking space. This was sufficient to the research objective, which was to maximize the variation in individual coworking space experiences, and for the respondents to accurately reflect the population of members in each space. Significant variation was achieved in both the membership tenure and the work roles of the members.

Table 2 provides a breakdown of the participants according to the spaces where they have memberships and their work role, and other descriptive information. Qualifying questions were asked to sort participants into a work role category of either founder, freelancer, employee of a startup organization, or employee of a corporate organization. The entrepreneurs in this study fell into a category of either founder or freelancer. Founders were considered those who acknowledged a desire to build an organization by scaling, building teams, etc., and freelancers were considered those whose only desire was to support their lifestyle by developing and maintaining client relationships. In order to determine this categorization, participants were asked: Do you consider yourself a founder? What are some goals that you have in your business moving forward? Do you have a desire to scale this business, and if so, how?

Insert Table 2 Here

Between May and August of 2022, 23 total semistructured interviews were conducted with members of the five coworking spaces in our case selection. One interview was dropped from the study because the respondent was a current employee of the coworking space and was not a member, leaving a total of 22 interviews in the final sample. These interviews ranged from 24 to 73 minutes, with an average of 49 minutes per interview. They were conducted and transcribed virtually using Microsoft Teams. Manual quality checks were also conducted to confirm the accuracy of the transcriptions.

Comparative case methods can employ different perspectives. The main distinction that needs to be acknowledged is between the traditional approach that begins with a variable-centered analytical approach to draw generalizable conclusions, and a relational approach that begins with little to no predetermined framework and seeks to uncover detailed, emergent insights into a specific case (Krehl & Weck, 2020). Given the ambition to develop theory and generalizations, this study adopts the traditional variable-centered approach. While there is no expectation of specific relationships between constructs, this study uses the following constructs to categorize its inquiry: community-building, organization, collective learning, venture development, innovation, and entrepreneurial ecosystem interaction. These concepts are all consistently discussed in frameworks that seek to explain how ecosystems function, but are disjointed and not examined in conjunction to explore how ecosystems develop. Therefore, these concepts were used in this study to develop specific questions to guide interviews with participants. Further, the objective was to discover relationships between these concepts that could inform how ecosystems and entrepreneurial communities develop. Though these constructs provide guidance to the case studies, it is accepted that they are not guaranteed a place in the final analysis; they are tentative and subject to shift during the research process.

Data Analysis

Five general guiding questions, based on the concepts that make up the variable-centered approach to this study, were used for interviews with participants: 1) what makes you feel a shared sense of community with other members, 2) how does the

coworking space organization or community management team help you feel a sense of community, 3) how and where have you learned new information in this community that helped you increase your performance or productivity in your work role, 4) what business growth and development have you experienced as a member of this coworking space, and 5) How has this coworking space community impacted your experience in the local ecosystem, and vice versa? These guiding questions lead to more detailed and clarifying questions during the course of interviews. These questions changed slightly as more interviews were conducted, based on theoretical iteration.

This investigation involved analysis of 27 hours and 42 minutes of interviews, transcribed into a total of 734 pages. Following the guidance of Eisenhardt (1989) for using a qualitative, comparative case study approach, the goal was to identify emergent concepts from the interview data that would suggest a theoretical explanation of the social learning behaviors of entrepreneurs in communities. The first step was to read through each interview transcript to identify codes – recurring concepts, ideas, and topics – that were discussed by the interviewees. A coding software called Delve was used to categorize and track the codes that emerged from each interview. This initial coding process was guided by this study’s objective to explore community-building, organization, collective learning, and venture development in entrepreneurial ecosystem contexts, but the process also emphasized and prioritized flexibility to allow new categories to emerge from the interview transcripts.

After this initial coding process was completed, the interview transcripts were analyzed again to create a brief summary of each case included in the study. The objective in this stage was to recognize relationships between the codes and categories in

each case, and to identify which of these relationships consistently applied across all cases in the study. Based on the patterns and relationships that remained consistent among the codes in each case, axial coding was used to organize themes into appropriate second-order themes, and then into aggregate dimensions. The final representation of the categories, themes, and dimensions that emerged from the data is displayed in Figure 1.

Insert Figure 1 Here

The iterative process of data coding and analysis employed in this study involved revisiting theoretical lenses multiple times until a theory that sufficiently explained the data was discovered. Initially, the intention was to explore entrepreneurial communities from an organizational structure perspective (i.e. hierarchy vs. heterarchy), so more questions were asked about respondents' experiences with community management teams to see how activities like planning and decision-making impacted members' community experiences. It became clear based on the data that formal structures, management teams, and processes made no impact on a community experience, as members were largely unaware of the planning and decision-making strategies implemented in the community and how those strategies dictated operations within the community. Community processes were instead more informal and organic, so organizing structure for community was eliminated as a theoretical possibility.

Additionally, initial interviews included questions about business model innovation, but it limited the scope of ideas to solely startup entrepreneurs, when it was

becoming clear that the ideas that were being exchanged in these communities were more inclusive of different work roles. Further, it was apparent that entrepreneurs do not think nearly as consciously and structurally about ideas as researchers and educators do, so questions about specific elements of business model innovation didn't produce much insight. It became clear that the emergence of ideas was more insightful; the way ideas became a socially accumulated externality. Therefore, the focus was broadened to venture development to focus on general activities undertaken by entrepreneurs to grow a business. These ideas also translated well to non-entrepreneurs who would exchange ideas in these communities.

Another theoretical iteration involved a shift to a focus on the community leader, because it was clear that they had made some significant impact on most participants' community experiences. Data emphasized that community leaders were highly valued for their mentorship, vision, and networking, but these are very distinct research trajectories and there was no clear pattern across the cases and communities. The role of leadership in an entrepreneurial community is undoubtedly a fruitful area for more research, particularly qualitative interviews with the leaders themselves, but that shift would have completely altered the scope of this research objective by taking the focus off of the individual members. Ultimately, data insights coalesced into a framework based on theories of collective learning and knowledge creation to describe the social context of entrepreneurial communities. This theoretical framework is explained in more detail in the findings section.

CHAPTER IV

FINDINGS

Knowledge creation theory and collective learning provided a framework for understanding how entrepreneurs discover and access ideas in entrepreneurial communities and ecosystems. Knowledge creation theory describes that an appropriate social context is necessary to stimulate interpersonal interaction and the conceptualization of new ideas (Nonaka, 1994). Collective learning describes the emergence of externalities in regions as a vital component of innovative economic growth and development (Capello, 1999). This study combines these two theoretical perspectives to explain 1) the content of idea externalities in entrepreneurial communities and processes through which they emerge, and 2) the elements of the social context that facilitate these processes. Consistent with the definition of externalities in collective learning literature, idea externalities accumulated through frequent and continuous social interactions, they were taken-for-granted, meaning that they were not always consciously acknowledged and the originator of ideas were not always known, and they were often accessible simply by being physically present in the community. The emergence of these externalities in this framework was a result of the social context defined by three organizing processes: engagement, embeddedness, and entrance. Each process had a distinct role in establishing the social context, and consisted of specific elements that will be described in the following sections.

Emergence

The emergence of idea externalities is the primary outcome of this framework for entrepreneurial communities. Entrepreneurial communities provided value to their members as a social context that supported and catalyzed the emergence of externalities. Members accessed new ideas – knowledge or information that inspired an imagined future state not previously conceived by the member (Davidsson, 2015) – as they were striving towards the achievement of a work-related goal. This process was characterized by emergent events, or non-linear outcomes, that helped members progress to new stages of development in their work by simultaneously constraining the complexity of the journey and increasing the capacity of future outcomes (Selden & Fletcher, 2015). Developing new ideas has already been described as an emergent event in entrepreneurship literature; Lichtenstein (2016) articulated emergent outcomes in entrepreneurship as tangible expressions of what has been or can be created, including “teams, projects, innovations, ventures, organizations, companies, alliances, social innovations, community initiatives, and some institutions” (p. 45). Emergent ideas also include the intermediate ideas that contribute to the development or creation of these tangible outcomes (Davidsson, 2015).

Additionally, literature has suggested that serendipitous interactions are a major source of emergent ideas. While acknowledging the importance of social networking in communally developing, adapting, and transforming venture ideas, Engel et al. (2017) noted that, due to the uncertainty and emergence inherent in the ideation process, it is particularly difficult to know or identify target ties as a source of relevant knowledge and resources. For this reason, these authors suggest that goal-directed networking should not

be a priority, and that an altruistic approach to networking is more conducive to the unexpected emergence and transformation of ideas. This made entrepreneurial communities distinctly valuable as a context where members could experience these serendipitous interactions and the emergence of externalities. Idea externalities also make entrepreneurial communities valuable as an economic phenomenon, considering the implications of increasing members' ability to access ideas, and thus their ability to commercialize ideas and contribute to economic growth (Baumol, 1968; Belitski et al., 2019; Jones, 2019; Romer, 1993).

Insert Table 3 Here

An important finding in the process of emergence was the content of externalities. Ideas emerged in many different forms from the interactions between members in entrepreneurial communities. Table 3 outlines the ideas that members acknowledge had been discovered through processes of emergence by providing definitions of different types of ideas and representative quotes from members. Two characteristics of externalities are worth highlighting based these examples of ideas provided by members: 1) discovery of ideas was much more emergent and serendipitous rather than specifically targeted, and 2) most of the examples of ideas provided can be directly tied to positive economic outcomes for entrepreneurs and other types of workers. The representative quotes show how members' experiences discovering ideas were most often

unpredictable, spur of the moment encounters that happened because of their presence in the community. Additionally, ideas in categories like collaboration opportunities, new clients, business development assistance, mentorship, feedback, problem-solving, new skills, pivots, new opportunities, referrals, and resources all have a direct connection to increase the capacity or effectiveness of performance in work roles or venture development, which defines tangible economic contributions.

Every member included in this study experienced externalities to some extent, with the exception of two members who had just joined their respective communities 2-3 weeks before the interview, and another member who showed no interest in interaction, stating that there would be no benefit to their business. In the cases of the newer members, they both articulated an expectation that they would eventually experience externalities in some form. One of them explained that they had not yet made any connections in the space, but still remained optimistic:

I really haven't made any new relationship here, but I'm sure that that's bound to happen soon.

In describing why they expected to experience externalities over time, they mentioned a potential collaborative opportunity that they could already sense:

It would be great to team up with her [the community leader] even if we just do some marketing with her. That way people can know more about what she has to offer. That would be a good start because again, I haven't really met anyone that's a part of it yet.

The member who saw no incentive to interact with others provided insight into their reasoning as well:

It doesn't benefit me in my business to network ... the kind of business I'm in is helping large companies with a project management tool that I'm a system admin for, and a lot of people here are working in a small business capacity, or they're working for a company, but they don't have those kinds of decision-making roles.

There were other instances where members communicated that they had not experienced externalities. However, those members described examples of externalities interactions in other parts of their interview, further confirming the emergent and serendipitous nature of externalities and suggesting that they are not always consciously encountered. Worker O explained how they didn't feel the community could benefit their business and therefore didn't feel very engaged in externalities:

I didn't feel like I needed help on the business side of things in terms of coaching, and I didn't expect to get that from the community at Space D. I'm aware that there's a bunch of entrepreneurs there, but when you're at Space D, you're at the beginning of your journey, not necessarily at the end, and that just tends to be the clientele there.

This example and the example of the member who saw no incentive to interact both highlight the ineffectiveness of goal-directed networking. They both adopted a very focused perspective on the value of interaction and the potential of externalities, deciding that it could only be productive if it led to new clients. However, Table 3 presented earlier displays the vast array of ideas that could benefit members in an entrepreneurial community. Serendipitous interactions and externalities can still emerge for these members, as Worker O explained how they could observe and learn from the actions of other members and use them to improve their own decision-making:

I'm trying to remember the full name of their company, but they had a really interesting business model. I won't get into all the details of that,

but they tried to hire a very entry-level developer and they wanted them to implement what I would consider a particularly fancy feature. They were like, well, we gave them like three weeks to do it and our developer probably could have done it in a couple of days. Even at the end of the three weeks, it wasn't working correctly. So those kinds of things we would see and we'd be like, yeah, we're not going to do that. I'm a senior software developer and I've run teams and stuff before, so I probably would have already advised against that, like I've got a hunch this isn't going to work well, but then actually seeing them do it and it fail is like yep, hunch confirmed. That's not a good idea. Let's not do that.

This example further crystallizes the unconscious nature of externalities. Though Worker O did not directly attribute any development in their work to interactions or experiences in the community, it is difficult to disqualify the value of being surrounded by other individuals in a community and learning from their actions and perspectives. In this manner, externalities can occur both through direct interaction and indirect observation, similar to the way that knowledge spillovers have been theorized to occur in entrepreneurial ecosystems (Autio et al., 2018).

Proposition 1: The primary benefit that members get from entrepreneurial communities is access to externalities that can help them progress in their work role.

Proposition 2: Members experience externalities in entrepreneurial communities through processes of emergence and serendipitous interaction, and externalities can be experienced unconsciously when they don't directly acknowledge the community as a contributor to progress in their work role.

Engagement

For the participants in this study, externalities emerged and was supported by three community processes of engagement, embeddedness, and entrance. The process of

engagement describes the conversations and social interactions that provide a platform for potential externalities to accumulate in entrepreneurial communities. It is analogous to what entrepreneurial ecosystem literature describes as a willingness to engage, in which community members engage with the community and build dense, trust-based social networks that “should increase their ability to acquire resources such as knowledge, financing, human capital, and market leads, helping improve their survival and competitive advantage” (Spigel & Harrison, 2018, p. 159). Engagement described in this manner is vitally important in an entrepreneurial community, as such flows of ideas can remove barriers to venture development and access to knowledge and resources that entrepreneurs need to succeed (Romer, 1993). When these interactions happen frequently in an entrepreneurial community, externalities and innovative outcomes are more likely to emerge (Capello, 1999). Three elements of the social context influenced the prevalence of engagement processes in these entrepreneurial communities: intersections, dedicated leadership, and the richness of social context.

Intersections

Members who most often found themselves immersed in externalities were those who would encounter the most intersections – opportunities for relationships and engagement. The saliency of this element was reflected in the frequency of member-to-member intersections, and the number of relationship ties that a given member had with other members in the community. Intersections occurred when members would cross paths with another community member with whom they did not have an established relationship. They were valuable because they served as an entry point to conversations

and interactions where ideas could emerge. One member who had described many examples of discussing ideas of all types explained how frequently these intersections could take place in a community:

I would say at least once a week there were new people coming into this space or even coming into the floor or greater area. So there are definitely a lot of people to meet and usually it was through events or a one-off when I was going to heat up my lunch in the microwave or I was eating at a kitchen table where I was meeting somebody new.

Another member who has an interior design business highlighted the serendipitous nature of these intersections and described how easy it was for them to lead to conversation:

Whether I'm outside grabbing coffee or I'm setting up some samples out on the floor by the light so I can see accurate paint color and someone just comes up. It's like why are you always lugging around all this crap? What do you do? And I'm like, well, hi, this is me, and this is what I do, what do you do? So it is really just unintentional.

By contrast, it was also noticeable how members who did not experience frequent intersections also did not experience externalities. One of the members who did not recollect any externalities described their lack of intersections:

The section of Space B that I work in is a section that has what they call dedicated desks. You pay a monthly fee and you come back to that same spot each and every day where you get your monitor already set up. So, it's not a private office, but it's a big open workspace that has probably 25 desks and, on average, there might be five to six other people there at most. And they're there on a regular basis, but again, not a lot of new people coming in to this particular space.

In addition to frequent intersections, members also experienced more externalities when they had developed a variety of relationships with other members in the community. Many times, these relationships were personal and affective, and venture

development benefits were a secondary concern. Still, they provided another platform for conversation, interaction, and the emergence of ideas:

We still are friends with and work with those people to this day. So like [name redacted] with [company redacted], [name redacted] with [company redacted], and [name redacted] with [company redacted]. There are others I'm not thinking of right now, but these are a few businesses where not only are we still friends with them and we keep in touch with them, but they also continue to bring us business, which is really awesome.

Dedicated Leadership

More opportunities for engagement meant more opportunities to experience externalities for members of entrepreneurial communities. This relationship was even stronger when these communities also had dedicated leaders and a rich social context, as the members who experienced these factors also experienced greater opportunities for engagement. Dedicated leaders consistently and intentionally performed two functions – they designed opportunities for members to connect with one another, and they introduced members to one another. Designing opportunities involved finding innovative and varied ways to encourage and support member-to-member interaction:

They do things to activate the space to encourage togetherness. They'll have people speak or they'll have presentations or they'll have people set-up a pop up and sort of informally canvas or solicit ideas from other folks, or they'll have on the walls a TV that rotates and shows you different things that are going on in the community, here's what people are doing, or here's an event that someone was part of recently, here's some exciting news from ABC Company that wants to talk about that they're doing. I think they do a lot to sort of spark those connections between different members of Space A.

Many members also discussed the usefulness of the social outings created by leaders to encourage interaction:

The leadership of [community leader] that tries to promote social activities and create both times and places where people can talk and they can commune together, so they can be known and they can know others. That is, I feel like a hallmark of what is happening in Space D that is different from what's happening at some of the other, you know, places where you can just rent a desk or an office. Those events would sometimes be, hey, we're just going have beers together, or have lunch together, that [community leader] would organize.

In addition to creating opportunities to make their own connections, leaders would also make substantial efforts to introduce members to one another directly:

Community managers specifically are always trying to connect to people in this space, like hey, I want to introduce you to [name redacted], he's been a member here for a few years. He does website design. Something that you guys might have in common, you both have rescue dogs. They established that common point, that something you have in common with someone that's new and then they introduce you to each other. They really try to push that sense of community from the top down, from leadership down and even the owner of Space B is the same. He's always trying to connect people. He's very approachable, always out there talking to people and like, oh, hey, I was talking to so and so, you need to talk to them. They need help with their website. They're always trying to promote their members to other members.

Richness

These examples show how the actions and intentions of community leaders impact the opportunities that members have to interaction with one another. Another contributor to these opportunities is the social context of the community – one that incentivizes interaction by making relevant and valuable perspectives of other members visible and accessible. When members didn't feel immersed in such a context they tended

to avoid interaction and focus solely on work. Worker P didn't acknowledge or describe any examples of engagement, any valuable qualities of the social context, and didn't communicate that they experienced externalities. They instead described a clear focus on work:

I haven't been a little bit more engaged in the community because I am kind of comfortable where I am with me just focused building our business. We have been working so hard since I've been a member in this Space C coworking community and I basically live under a rock. I basically work really hard on building our business and making sure that we're of service to our customers. And I think a result of that is that I just haven't had much time to really connect with all the people and the programming that's been made available to me by Space C.

This points to important qualities of the social context as it relates to externalities – that members of the same community can experience the social context in different ways, and that if valuable knowledge and ideas are not visible to a given member, then they may see engagement as a tradeoff with work productivity. This could work against them in certain challenges or goals where they could benefit from the serendipitous emergence of ideas.

Members commonly described three dimensions that created a rich social context for them: a strong network consisting of many potentially valuable contacts, commonalities with other members, and their own willingness to be proactive in seeking interaction. Strong networks curtailed many of the obstacles to obtaining ideas and resources, and made engagement a worthwhile endeavor in an entrepreneurial community. One member described the value of such a network:

I really learned the concept of closed mouths don't get fed. If you do not share what you're doing, what you're working on, what you need help with, people are not just going to automatically offer you help. But I also learned that there's way more people willing to help you than what you would anticipate. I don't know if there's ever been a time where I

asked for help or shared something that I was struggling with within the coworking space and did not walk away with either help on the spot or a resource that I could reach out to that ended up being extremely helpful.

Not only does this show the value of a strong network, but also the importance of seeking interaction to activate these networks. This is one explanation for how members of the same community can experience the same social context in different ways. In addition, it was important for members to share commonalities with one another to establish a foundation for connection and interpersonal engagement. Members tended to share common experiences, industries, and personal interests the most. These commonalities made conversation easier:

There's some other guys that were there that were also software developers. So obviously when you're working in the same field that can be exciting because you have a shared vocabulary already. So when you're talking about stuff it's like, OK, yeah, I can talk about things that I'm doing on the job and they can understand it.

Again, much of the onus was on the members themselves to seek interaction and ask questions in order to discover commonalities and activate the strong network:

It's definitely more intentional. So it's either like you're at the networking event and you're standing there and saying well what brought you here? Why are you coming to this? Because no one comes just to stand around or just for the free food. Or if [community leaders] make an introduction or if I'm working in the coworking space or if I'm making coffee or heating up my lunch and somebody is standing right there and eating theirs I'm just starting a conversation. What brings you here? How did you start working at Space A? What do you do for work? It definitely has to be sort of cold started. It's not like we walk around with name tags on or what your role is or your job or like a big placard. It's more about being intentional when you're in the space and starting those conversations when you have the opportunity.

These three factors, opportunities for engagement, dedicated leadership, and a rich social context are all mutually reinforcing dynamics that stimulate interactions and conversations and allow externalities to emerge for members.

Proposition 3: Members experience externalities in entrepreneurial communities when they are exposed to many opportunities for engagement, dedicated leadership, and a rich social context.

Proposition 4: Dedicated leadership and the richness of the social context increases the opportunities for engagement that members are exposed to.

Proposition 5: Members of the same community can experience a different social context depending on the extent to which they are proactive in seeking interaction.

Embeddedness

Adoption of Community Logics

In addition to processes of engagement and interaction, members in entrepreneurial communities underwent processes that bound them together with other members and caused them to prioritize actions that contributed to and were perceived by the community in a positive way. Two elements of the social context, adoption of community logics and community integration, compose the process of embeddedness. This process is defined by Mark Granovetter as the extent to which members' work-related behaviors were constrained by their relationships with other members in the community (Granovetter, 1985). In other words, members would adopt a sense of belonging to the community in which they would adopt a collective, community rationality that seemingly contradicts individual rationality. This idea of social

embeddedness is a direct contrast to the theory of transaction costs, particularly as it relates to the sharing of ideas by entrepreneurs. Transaction cost economics would suggest that formal governance and coordination procedures like contracts should be enacted to direct exchanges of knowledge and resources and outline the conditions of surplus allocation – that idea flows between members would be most effectively governed and treated as formal transactions (Williamson, 1991). Interestingly, though, there was no evidence of transaction governance mechanisms being implemented between members engaged in idea flow. This is consistent with the contention that it is difficult to enforce such means on exchanges of intangible ideas between individuals (Romer, 1993). Instead, members expressed a willingness to share ideas on the basis of social motivations such as trust, reciprocity, and altruism.

While processes of engagement reflected that members were experiencing frequent conversations and interaction, the content of these exchanges did not always include work- or venture-focused ideas, and thus did not always reflect idea flow. It is possible that some members were willing to engage, but were not fully comfortable sharing or discussing ideas that they needed to leverage or commercialize for their own benefit. In this regard, feelings of embeddedness in the community would help members feel reassured that they would not risk being exploited by sharing ideas that they deemed valuable. In expressing their willingness to share and receive ideas without formal governance, members communicated a sense of deference and belonging to the community that impacted the way they engaged with others and approached their work while in the community. Rather than adopting financial logics that would lead members to prioritize individual profit and incentive maximization, members primarily seemed to

adopt community logics that prioritized shared values, cooperation, and maintaining the strength and legitimacy of the group. These community logics were commonly articulated by members through six specific dimensions: friendliness, respect, inclusivity, support, comfort, and collaboration. Definitions of these dimensions are presented in Table 4, along with representative quotes from members. The quotes in the table encapsulate how members experienced each of these six logics in the community in a way that helped them feel a sense of belonging. Members described these logics as rationalizations that were shared among community members and strengthened the connections that members shared with one another and with the community as a whole.

Insert Table 4 Here

Community Integration Mechanisms

When members adopted these logics, it brought a sense of wholeness and togetherness to the community, which then enabled members to approach interactions and relationships with the trust necessary to openly share ideas. The likelihood that members adopted these logics was significantly influenced by two community integration mechanisms: leader embodiment and leader introductions. Leader embodiment occurred when leaders were at the forefront of the community logics – they established and exhibited the values and logics that were present in the community. One member described how the logics of respect and comfort were established and embodied by the community leader:

I think a community is about respect too. I've been in other spaces where they kind of let you do whatever, leave your stuff wherever, but [the community leader] does a really good job of having a very strict guideline policy just to make sure that everybody in this space is respected and comfortable. Nobody's in there yelling on the phone or anything and they don't have crud laying around and whatnot. And I think that all of those things went well.

Another member emphasized how community leaders could establish a vision that members could buy into and feel a part of the community:

When I'm there I don't want to leave. In part it's [the community leader] herself. She has an energy about her that is just electrifying, and you want to be a part of what she's doing.

In most instances, this seemed to culminate in an inseparability between the community and its leader, in which the community was whatever the leader embodied. One member explained:

[The community leader] was Space C. When I say [community leader] or Space C, to me like, from how long I've been here, they're almost interchangeable. Space C means [community leader], and [community leader] was the same as Space C and her network is what really launched me into this world.

It is difficult to overstate the impact that community leadership had in establishing entrepreneurial communities. Dedicated leaders are instrumental in facilitating engagement, and they are also vital to the embeddedness process in their role of embodying the logics and values that bring communities together. Leaders also had an additional role in community integration – getting members introduced to the community. This is different from introducing members to each other; introduction in community integration regards the ways that members are introduced to the sense of community and given the opportunity to adopt community logics. Leader introductions occurred when

leaders made intentional efforts to make new members knowledgeable about what the community has to offer and what it means to be a part of it. One member explained the lengths that a leader can go to make that introduction and share their vision:

After we saw the space we signed up. And as we were leaving, she was like I'm going to add you to our Facebook group. Once we got in the Facebook group we see, the things that she's posting, trying to get people involved, she wants to do book clubs and things like that, have events for the people and the community. So, I was talking to her about it, she was telling me, all the things she wants to do, she wants to get everybody together and we all do our headshots together. Get everybody together and we do a course on business law so that we know what we need to do. Do a course on business taxes so we can get our stuff together, basically creating that community of people where we all grow together.

It was evident in these communities that members felt more comfortable sharing their ideas when they felt a sense of belonging to the community, and that there was a lot that leaders could do to integrate members into the community to establish that sense of belonging.

Proposition 6: Members are most likely to experience externalities when they both frequently engage with other members, and become embedded in the community by adopting community logics.

Proposition 7: Members were more likely to adopt community logics when leaders intentionally embodied community logics and introduced them to the sense of community.

Entrance

Material Resources

Entrepreneurial communities that stimulate innovation and externalities rely on a consistent inflow of members who bring new backgrounds, experiences, and perspectives

(Capello, 1999). It is therefore important to recognize what entices new members to enter and value entrepreneurial communities. Members in this study found value in the community from two elements of the social context: material resources and satisfying their desire for interaction. Further, members were enticed by business development resources that could increase the capacity, effectiveness, or efficiency of their work, and by amenity-type resources that equipped members with increased prestige or legitimacy, or an enhanced experience in the community. Members discussed how resources like conference room space provided a direct benefit to their business:

I think it's been huge for me to be able to have client meetings in-house now rather than having to pack up my crap and go to my clients all the time. That's been a game changer. I think it's sets the tone of a certain level of professionalism when you can welcome your clients to your space and have a nice space to do presentations and, again, there's something to say about me being a designer and my clients coming into a well-designed space to meet with me. My business has boomed.

Members also expressed how valuable amenities like a prime physical location, mailbox, and kitchen resources were:

I love the 2nd floor kitchen because it has the most space out of anywhere and it has an ice machine. I like the big fridges there. There's always space for my lunch unless there's leftover catering. And there's coffee machines, I can make iced coffee. It's really useful.

Another member specifically discussed the value of having a mailbox:

I have a platinum membership that also gives me a virtual mailbox. So now I can separate my business from my home address. I now have a business address there so I don't have to have it tied up to my home.

Desire for Interaction

Members also entered entrepreneurial communities due to a desire to be around other people. This desire was motivated by one of three primary reasons – members sought a network where they could access valuable knowledge and resources, they sought a remedy to the isolation of working alone or at home, or they sought an opportunity to connect with other like-minded individuals. One member described the unique appeal of entrepreneurial communities that provide access to a valuable network:

I want somebody else to tell me about some really cool thing they're working on that I've never heard of. That may open the door for something cool for a freelance client I'm working with, I might be able to bring it over to [the company they work for]. Those sorts of things, you don't get that in an office. I truly believe you don't. Where you're all working for the same company on the same thing, and you definitely don't get that working at home by yourself because you need to have that experience of talking to other people that are doing other things that have different backgrounds. I feel like when I joined my first coworking space, my skills leveled up significantly. It was like a 5x return on what I was doing just because I got to talk to other people about how they tackled problems.

Another member shared both the sentiment that it was valuable to work somewhere other than home or alone to remedy the feeling of isolation, and to work around like-minded others:

I worked from home. I had a studio at home and it's been a game changer for me to get out of my house and to be around other entrepreneurs doing the same thing that I'm doing in the hustle and bustle as far as the energy goes.

Entrepreneurial communities clearly provide valuable, tangible benefits that can draw new members into the community. This is vital to the continued performance of entrepreneurial communities in terms of stimulating the emergence of externalities. These

communities are attractive to new members when they provide tangible resources, and appeal to members' desires for interaction.

Proposition 8: New members are enticed to enter entrepreneurial communities by tangible resources and amenities, and their desire for interaction.

Founders and Freelancers

Literature has suggested that entrepreneurial communities can be strategically designed with user-selection mechanisms to target and develop a specific audience (Bouncken & Reuschl, 2018). There was a significant disparity in this study between founders and freelancers, and employees in terms of their experiences with externalities. Two explanations emerged as to why founders and freelancers more clearly acknowledged the value of externalities. First, entrepreneurship is a complex and uncertain endeavor that forces entrepreneurs to depend on others for knowledge and resources to develop ventures. Founders and freelancers have a more obvious need for knowledge than employees. One member articulated this knowledge need well:

From the beginning it just felt like a struggle because I didn't have any idea what I was doing. I didn't know what it really meant to be a founder. I did not know what path to take. I was just doing something that I was passionate about. So the conversation was started with me, it wasn't me going to anyone else because I didn't know what to ask because I didn't know what I was doing. It was just the conversation of what you're doing is great, I think that this is an opportunity for you to have a company of your own. Let me help you. And then from there, it was really just strategic scheduling, a strategy session of how to move forward, what it can look like, resources to help me get it off the ground. And then from there it just blossomed into something that I never really imagined for myself. Talking about scaling and things like that this year, which two years ago I didn't even know what it meant to scale a business. Also through that conversation being introduced to others in the coworking space, who could be a resource for me and how I'm trying to scale now. I really would not have the opportunities

that I have when it comes to my own business if it wasn't for being in the coworking space. If I'm being honest.

Second, founders and freelancers share cognitive proximity with each other that enables them to share challenges and experiences in conversations that lead to solutions and ideas:

I think with an entrepreneur, it's kind of like you're in the same boat. We're going through the same rigors of being an entrepreneur or startup, you wear many hats. So people understand what that looks like, as opposed to a well-established enterprise organization like the Home Depots of the world where everyone is in a very defined swim lane, and they do one thing well. Entrepreneurs and people that work out of Space B, we're all just figuring out as we go, and that's where we all kind of help each other. Like, hey, I've used this CPA person, completely changed how I manage my company and they're very helpful. We share that kind of knowledge and with each other.

Entrepreneurial communities should therefore be organized to attract and empower founders and freelancers and to establish a context that supports interactions from which externalities can emerge.

Proposition 9: Founders and freelancers benefit the most from externalities in entrepreneurial communities due to their profound need for knowledge inherent in the entrepreneurship process and the cognitive proximity that exists between entrepreneurs.

CHAPTER V

DISCUSSION, LIMITATIONS, AND CONCLUSION

Discussion

This study was conducted to explore the experiences of entrepreneurs in ecosystems, and uncover insights into effective entrepreneurial ecosystem development. It represented a divergence from predominant themes in entrepreneurial ecosystem literature by presenting a micro-level examination of the development of entrepreneurs and entrepreneurial agents, rather than a macro-level examination of the environmental conditions and institutional interventions intended to stimulate their development. The specific objective was to understand the communities where entrepreneurs actually spend their time in ecosystems, and how the social conditions of these communities facilitated learning and venture development.

There's an expectation that well-functioning ecosystems can be organized with formal structures; ecosystem research expects public interventions by governments and institutions to develop ecosystems, and coworking space organizational structures have been explored to understand their function as well. This study highlights the value informal organizing in entrepreneurial communities. Informal organizing in entrepreneurial ecosystems starts with empowering these systems from the bottom-up; from the entrepreneurs. The social context elements offered by this framework are designed to produce idea externalities. This advances knowledge creation theory by introducing a different perspective on the outcomes of knowledge creation: that of an

entrepreneur in an ecosystem. This also advances collective learning by addressing a pressing question: how do we produce externalities? The externalities have been described as necessary in ecosystems, but not much has been said about their content or how they are produced.

The findings that materialized from this study pinpointed a specific type of knowledge that was exchanged in these entrepreneurial communities – ideas. Ideas represented new possibilities that could extend and expand the capabilities and capacities of not only entrepreneurs, but also startup and corporate employees that worked in these communities. Knowledge creation theory supports the notion that idea externalities can emerge from a field of interaction, or a shared space for emerging relationships (Nonaka & Konno, 1998). This theory describes the social context for conceptualizing ideas as shared spaces characterized by face-to-face encounters where feelings, emotions, and mental models are exchanged. The interactions that originate in these shared spaces catalyze cycles of continuous interactions and knowledge flows, and eventually produce crystallized concepts that represent new knowledge and ideas.

This theory is an appropriate starting point to describe what took place among entrepreneurial community members in this study. Externalities were an emergent outcome of members' social experiences in these communities; the communities provided the social context where relationships and interactions could emerge to catalyze externalities. Figure 2 shows how entrepreneurial communities operate as systems of processes and outputs that lead members to experience externalities. The elements of the social context described in this study are inputs into three simultaneous organizing processes occur in these communities – entrance, embeddedness, and engagement. These

three processes produce three associated outputs – new members, belonging, and idea flow – that combine to stimulate a fourth process: the emergence of externalities.

Insert Figure 2 Here

The framework developed through this study presents an extension of knowledge creation theory beyond traditional organizational contexts characterized by hierarchy and bureaucracy. Entrepreneurial communities are a more modern form of informal organizing characterized by decentralized, autonomous decision-making and social rather than hierarchical relationships (Gulati et al., 2012; Marquis et al., 2011), and established literature on knowledge creation theory has taken for granted these alternative types of organizing by assuming the homogeneity of organizational setting (Ben Arfi & Hikkerova, 2021; Nonaka, 1994; Nonaka et al., 2000; Nonaka & Konno, 1998). Without the hierarchical authority and defined roles and structures inherent in traditional organizations, though, alternate mechanisms are required to establish interpersonal bonds for social interaction and the emergence of externalities. The framework developed here offers such alternative mechanisms in the form of eight elements of a social context, and provides a starting point to explore varying types of organizational arrangements and their capacity to stimulate knowledge creation and idea emergence based on the presence of social context elements and informal organizing processes.

Further, knowledge creation theory offers four types of shared social space, or social contexts, that can be found in a single organization, all with a distinct role in catalyzing the emergence of knowledge that can be integrated and applied towards that organization's common goals. Members of entrepreneurial communities do not share common organizational goals, but rather are striving towards individual, divergent goals tailored to their specific work role. The shared space that was evident in the entrepreneurial communities studied emphasized organic, unplanned interactions, but shared spaces in knowledge creation theory also include those that focus on consciously constructed and planned interactions to apply and experiment with new ideas, virtual interactions using technology to collaborate and document and store ideas, and institutional interactions to implement and disseminate new ideas organization-wide. These other three types and functions of shared space are not relevant to members of entrepreneurial communities as they have no need to integrate and apply knowledge jointly. Rather, they have autonomy to interpret and apply ideas as they see fit. Thus, it is possible that knowledge creation theory can be usefully applied differently in the context of entrepreneurial ecosystems. Coworking spaces are a specific type of entrepreneurial community where externalities emerge through serendipitous and unplanned interactions; they're the shared social space where social interactions originate and ideas are conceptualized. This theory should be tested and applied in other types of communities and organizations within entrepreneurial ecosystems – incubators, accelerators, makerspaces, support organizations, and new ventures themselves – to explore and outline the functions that they perform as shared spaces for the emergence of idea

externalities and other knowledge and learning requirements of the venture development process.

This entrepreneurial community framework, rooted in knowledge creation theory, also advances literature on entrepreneurial ecosystems by incorporating concepts of community entrepreneurship and collective learning to formulate a working theory of entrepreneurial ecosystem development. It presents a bottom-up perspective that emphasizes support and empowerment of the venture development efforts of entrepreneurial individuals and teams, rather than a top-down perspective that emphasizes infrastructure and public policy interventions (Spigel, 2018).

This framework positions the actions of entrepreneurs and entrepreneurial actors in the context of communities, a meso-level construct that can be used to connect micro- and macro-level concepts of venture development and entrepreneurial ecosystems (Kim et al., 2016). Communities have been established as an asset to resource constrained entrepreneurs (Ganioudis et al., 2021; Marquis et al., 2011), but the concept of community has to this point been fragmented in entrepreneurship literature. Inquiries into the concept have ranged across disparate typologies of communities of place, identity, interest, and practice, and across their roles as beneficiaries, context and resource, supporters and partners, and creators of entrepreneurial opportunities (Bacq et al., 2020; Lumpkin et al., 2018). This study presents an attempt to define and clarify a specific conceptualization of community entrepreneurship within this vast landscape by explaining how community contexts can enable productive entrepreneurship; specifically, how entrepreneurial communities provide members with access to externalities. In other words, entrepreneurial communities facilitate collective learning and venture development.

Entrepreneurial learning researchers have sought causal mechanisms to explain the relationship between individual learning and collective learning – that is, how do externalities emerge from the individual learning behaviors of entrepreneurs. In these entrepreneurial communities, collective learning occurred when the individual learning paths of members intersected, knowledge combined in emergent, serendipitous, and unpredictable ways, and externalities accumulated in an informally organized social context. It is therefore insightful to consider that collective learning is facilitated by the social contexts experienced by members in entrepreneurial communities. In terms of entrepreneurial ecosystem development, efforts should be made to organize these social contexts where entrepreneurs and entrepreneurial actors can intersect and interact and externalities can emerge through collective learning processes. These externalities support the development of productive ventures at collective levels, which is the primary outcome of successful entrepreneurial ecosystems. More research undoubtedly needs to be done to validate this framework, particularly by applying this entrepreneurial community framework in other types of community contexts within ecosystems.

Future research should also explore in more detail the role of mentorship in venture development. Researchers have already begun to establish the value of mentorship in incubating the development of new ventures (Assenova, 2020). The leaders of the entrepreneurial communities in this study were often credited for the valuable mentorship and assistance they offered to members in the community. Mentorship was considered as part of a theoretical framework focused on the role of community leaders to explain how entrepreneurs in communities access externalities, but that relationship did not hold in all cases – many community members did not acknowledge the presence of a

mentor or discussed widely varying descriptions of the role of community leaders. However, this study's findings do suggest an important role for mentorship that should be explored, particularly regarding the content and dynamics of interpersonal relationships between mentors and mentees, and the role of entrepreneurial communities in establishing these relationships. This would add to the contention that these communities function as a relationship coordination mechanism in entrepreneurial ecosystems (Waters-Lynch & Potts, 2017).

Practical Implications

Entrepreneurial ecosystems consist of public institutions, support organizations, and many individuals who consider themselves ecosystem builders or community organizers. All of these entities tend to share a common goal to develop a supportive environment for entrepreneurs to build productive ventures. This study offers guidelines for developing strategies to achieve these means by organizing community spaces where entrepreneurs can experience idea emergence. The eight social context elements are provided to catalyze the three informal organizing process – entrance, embeddedness, and engagement – that can produce the emergence of externalities in entrepreneurial communities. Organizers can employ these guidelines to stimulate community and ecosystem development. This framework can be used to either design communities or diagnose existing communities to develop entrepreneurial ecosystems. Future research should translate these qualitative insights into quantitative instruments that can measure processes of entrance, embeddedness, engagement, and idea emergence in entrepreneurial communities.

The Entrance Process

The objective of the entrance process is to establish a consistent flow of new members into the community. Organizers should activate three social context elements to facilitate this process: 1) provide valuable material resources to community members, 2) target new members who have a desire to interact, and 3) target new members who are founders and freelancers. Communities that exhibit these elements should produce idea externalities based on the extent to which potential members are incentivized by material resources, and the proportion of the community that is composed of founders and freelancers and individuals who have a desire to interact.

The Embeddedness Process

The objective of the embeddedness process is to establish a sense of belonging among the members in the community. Organizers should activate two social context elements to facilitate this process: 1) the adoption of group community logics, and 2) community integration mechanisms. Communities that exhibit these elements should produce idea externalities based on the extent to which members are enticed to adopt community logics by community leaders who connect members with ways to stay engaged and informed in the community, and embody the logics and values that they want the community to represent.

The Engagement Process

The objective of the engagement process is to establish a consistent flow of knowledge and ideas between members in the community. Organizers should activate three social context elements to facilitate this process: 1) consistent intersections and relationship formation, 2) leaders who design opportunities for connection, and 3) and a

rich social context consisting of a strong network, commonalities between members, and proactive members who seek interaction. Communities that exhibit these elements should produce idea externalities based on the extent to which leader-designed opportunities for connection and the richness of the social context stimulate frequent and consistent intersections between members in the community.

Limitations

This study has several limitations. First, there is the risk of self-selection by participants who are already predisposed to value coworking spaces and entrepreneurial communities, and the social interaction that comes with them. While there were participants who did not prioritize social interaction and mainly focused on work while in these communities, future research should explore the decision to become a member of an entrepreneurial community in more detail, perhaps by observing potential members who decided against obtaining a community membership. This study offers a framework for observing the community entrance process. Second, the generalizability of this study is limited by the fact that all of the participants came from communities located in the midwestern and southeastern areas of the United States. Though there is not an obvious reason to expect that these communities that exist to support entrepreneurship would differ in other geographical areas, the framework presented should be replicated and validated in other contexts. Additionally, in choosing to prioritize variance over the depth of analysis in any individual case, only one interview was conducted with each respondent. Though the variance helped to develop a more generalizable framework, the richness of the insights is limited, and should be further explored by future research.

Finally, the single-observer method used in this study concedes that there may be other perspectives or theories that can explain the data. That is a common limitation of qualitative research, and efforts were made to counteract it by considering alternative theories, primarily that of transaction cost economics and mentorship. The framework that is ultimately rooted in knowledge creation theory is presented with sufficient confidence.

Conclusion

This study sought out to understand when and why entrepreneurs and entrepreneurial actors find themselves immersed in social interaction and idea emergence. The findings suggest that externalities are the core of thriving entrepreneurial communities, and provide insights for researchers and organizers who are concerned with entrepreneurial ecosystem development. There are also implications for research on entrepreneurial learning and community entrepreneurship. The meso-level community framework is useful for connection micro-level learning and venture development with macro-level ecosystem development. More work should be done to validate and establish connections in a multilevel model.

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APPENDICES

Appendix A: Tables

Table 1. Community, Financial, and Corporate Logic Ideal Types

Organizing Dimensions	Institutional Orders	
	Community	Financial
Root Metaphor	Common boundary	Transaction
Sources of Legitimacy	Unity of will; Belief in trust & reciprocity	Share price
Sources of Authority	Commitment to community values & ideology	Shareholder activism
Sources of Identity	Emotional connection; Ego-satisfaction & reputation	Faceless
Basis of Norms	Group membership	Self-interest
Basis of Attention	Personal investment in group	Status in market
Basis of Strategy	Increase status & honor of members & practices	Increase efficiency profit
Informal Control Mechanisms	Visibility of actions	Industry analysts
Economic System	Cooperative capitalism	Market capitalism

Source: Thornton et al. (2012)

Table 2. General Characteristics of Participants

Member Identifier	Coworking Space Membership	Membership Tenure	Work Role	Year Started in Work Role	Work Role Description	Serial Entrepreneur	Team Members in the Space
Worker A	Space E	2 weeks	Founder/Entrepreneur	2020	Founder of a talent agency	yes	1
Worker B	Space A	2 weeks	Startup Employee	2022	VP of a nonprofit organization that educates and economically empowers Black professionals	yes	1
Worker C	Space D	1 month	Founder/Entrepreneur	2022	Founder of a startup marketing company	yes	1
Worker D	Space E	5 months	Freelancer	2020	Independent realtor	no	0
Worker E	Space E	6 months	Founder/Entrepreneur	2020	Founder of a lifestyle healing brand	yes	0
Worker F	Space E	7 months	Founder/Entrepreneur		Founder of a holistic lifestyle company	no	0
Worker G	Space A	8 months	Startup Employee	2021	Employee of a marketing startup	no	multiple
Worker H	Space C	7 months	Freelancer	2020	Freelance interior designer	no	0
Worker J	Space A	9 months	Startup Employee	2021	Employee of a healthcare automation company	no	0
Worker K	Space A	1 year	Startup Employee	2020	Employee of a property management software startup	no	multiple
Worker L	Space A	14 months	Corporate Employee	2022	Employee of a sports talent representation firm	no	0
Worker M	Space D	7 months	Freelancer	2021	Freelance software developer	yes	0
Worker N	Space B	10 months	Freelancer	2014	Freelance software consultant	no	0
Worker O	Space D	2 years	Freelancer	2017	Freelance software developer	yes	1

Worker P	Space C	18 months	Founder/Entrepreneur	2015	Founder of a virtual home staging and design company for real estate professionals	yes	0
Worker Q	Space B	2 years	Freelancer	2014	Freelance web design and digital marketing professional	no	0
Worker R	Space A	4 years	Startup Employee	2018	Program manager for a startup social enterprise accelerator	no	1
Worker S	Space C	5 years	Founder/Entrepreneur	2017	Founder of an LGBTQ digital media platform	no	0
Worker T	Space A	2 years	Startup Employee	2017	Employee of a learning design platform company	no	1
Worker U	Space D	5 years	Freelancer	2015	Freelance photo, video, graphic, and web design	no	1
Worker V	Space C	1 year	Founder/Entrepreneur	2017	Founder of a company that produces superfood cocktail mixers	no	1
Worker X	Space C	3 years	Founder/Entrepreneur	2019	Founder of a company that helps corporations develop diverse, equitable, and inclusive cultures	no	1

Table 3. New Ideas Representative Quotes

New Ideas First-Order Categories	Definition	Representative Quotes
Collaboration opportunities	Potential partnerships or joint arrangements with other members that can create mutual value.	"We can go to other partner organizations and say, hey, we're a tiny accelerator, we have no resources, we're about to run an 8 week program for some new companies, and your organization is really good at X. Would you want to come help us out with bookkeeping legal services? And we would do it pro bono and call that like an in kind sponsorship."
Inspiration from the work of others	Motivation to take a particular action based on what you heard or observed from another member.	"I'm seeing a Space D member or two go through that program. Seeing those two folks go through that program is what put it on my radar and made me want to go through it because I heard good things from them."
New sales or clients	Acquiring new customers and/or sources of revenue.	"You get business because you might help someone out at Space D and they introduce you to someone else and then that person needs something, or they start referring business to you, even if they're not a member. But they might come in, actually do their quarterly meetings in there, but they're actually not a member on like a consistent basis. So it's definitely exponentially helped. Definitely I would say about 50% of my new business comes just from being in that location."
Business development knowledge or assistance	Insights from experts or professional service providers in the primary business functions (i.e., accounting/finance, marketing, operations, etc.).	"This guy who's a member, he doesn't have an office, but he always sits right outside my office. He's a financial guy. And I've asked him, I have a CPA, but I've asked him basic questions about like dates and taxes and things like that. Just a couple questions here and there or like vented to him about something. And he's like, Oh yeah, that sounds right or that doesn't sound right or something like that."
Mentorship or advice	Insights from community members who have experienced success in a given domain or task.	"I think her title was CEO at the time and she since transitioned to some other roles outside of Space C, but she then and now has been incredibly helpful. She is definitely one of our best resources and has provided the most support to us because she's really become a mentor to our business and has really helped connect us with a number of investors and has really worked a lot with us on our pitch deck so that we were prepared and ready and we felt like we had a really strong pitch to give investors."
Feedback	Responses and/or reactions from potential customers, collaborators, or other stakeholders that can be used towards further development of a given output.	"Several of us ended up in the conference room just working and you know, we just kind of started talking and like they're like, I do this and this is my business and blah blah blah and this is what I'm working on. I was able to give out some products and say hey, can you test this and give me some feedback and other things like that. And so it was just really, it was really nice."
Problem-solving	Insights that help resolve work issues or challenges.	"Just yesterday, I heard somebody having a conversation, they were talking about HubSpot and how they didn't really know how to use it and they were new to HubSpot. And so I just introduced myself and said, hey, like HubSpot is what we use for our CRM. I'm happy to give you any pointers. So he just had one or two questions, but that's the sort of natural interactions that take place. I hadn't met him before, so I wouldn't be surprised if he followed up and said I'm trying to do this sort of report, how do I make that work?"

Non-business related	Helpful insights that are not directly related to a member's work role.	"I did a vision board this year for the first time ever. It wasn't business related but I will say that it was a result of a function that they had here at Space E that I came to that had vendors and folks here to help with the vision boards and just to help us focus and learn all those things. So obviously I would not have done that if I wasn't here and didn't come to that."
New skills	New abilities that increase the capacity, effectiveness, productivity, or quality of a member's performance in their work role.	"There's several people that I've seen like working in Illustrator. I remember it was a little bit intrusive, but I remember seeing them working on something and it was a pretty simple effect, but again, I was kind of getting started with Illustrator. I saw they had this really wavy dashed line. Again, really simple effect. But I was like hey could I ask you a quick question on that, because it's like a lot of the designs that we have on our website and I was gonna use it for one of the animations. So I asked about how to do that and then, you know, they showed me. It's like OK wow that took like 2 seconds and I learned something that I'm still kind of using today on a lot of the Illustrator file work that I have."
Pivots	Significant shifts in work goals or strategies towards objectives that are perceived to be more beneficial.	"Space D helped us pivot more towards working with businesses versus individuals. When we first started out doing photography, we're doing a lot more family photo shoots, newborn photo shoots, weddings, but being a part of Space D definitely helped us pivot more so into business photography. Whether that was headshots or product shots or lifestyle shoots for them to be able to use on social media and their websites."
New opportunities	Awareness of new possibilities to achieve desired benefits (i.e. new jobs, projects, or ventures).	"I forget exactly how it happened, I think he quit his job or he was looking for a new job, and he was talking to another member in our coworking space and ultimately ended up working for their company. It was just this cool bond and that happened probably, I would say five times when I was there, like people would partner together on projects or they would even end up working for the same company or starting their own business together just through meeting at Space D and through those different events."
Referrals	Recommendations from other members to new customers, partners, opportunities, etc.	"People will come knock at my door or stop me somewhere if they've recently heard of an entrepreneur or a company who's doing something in the social impact space. And they're like, oh hey, I need to make an e-mail introduction because we're sort of a niche in the area in that regard. We're the only startup support organization that is totally social impact focused. So we've sort of put a flag in the ground on that, which means that nine times out of ten someone is stopping me to tell me about some social justice initiative that they just heard about."
New perspectives	Insights and/or observations that alter the way a member thinks about their work roles and goals.	"It goes back to those panel discussions that they host. I can remember specifically there was one that involved students that were entrepreneurs. And what I learned was that entrepreneurs come in all shapes, sizes, ages and backgrounds, and you know, I'm 32 years old. I've always kind of thought, well, I'm not experienced enough to start my own business. I'm not this and that. And then you just sit there and you watch these college kids get up there and talk about the companies that they're creating in Web3, and finance, and sustainability and it's like, how are you doing this? And you learn that when there's a will, there's a way, I suppose. And things don't have to be so strategic and planned. Action sort of trumps strategy when it

comes to people that are go getters, and that's one big take away that I've had being around people like that and listening to some of these panel discussions. "

Resources

New tools and/or assets that can increase a member's capacity and productivity in their work role.

"There's someone in the space who works for a company that does a lot of data research and turns that into custom surveys for companies to utilize to gain data from clients or platforms that they need, and that is a feature that I'm currently working on is data collection for my company, so now as I'm preparing to scale and I'm thinking of development and things like that, I now have this resource to provide me with something that I do not have expertise in and that I would have had to hire out anyway. It took that stress off of my shoulders because now I know that I have someone who can provide me with something that I need."

Table 4. Community Logics Representative Quotes

Community Logics First-Order Categories	Definition	Representative Quotes
Friendliness	Members find it easy to form kinship bonds and have conversations with other members.	"Everybody's just so friendly there. Everybody's so willing to open up and have a conversation or even start a conversation themselves."
Respect	Members hold reverence and high regard for the time and space that they share with other members.	"I think there's a certain level of professionalism that we all share as far as respect for one another, no loud phone calls, just stuff like that. I think the level of professionalism we all share across the board."
Inclusivity	Community members are accepting of the diverse backgrounds of other members.	"I like the diversity because some coworking spaces, you're just going to see like one type of person or one type of group. In this space I've seen a lot of different type of races and different levels from corporate all the way to people that may not even have anywhere to work or maybe they're somebody's assistant or something, or a business owner. So I think that that's unique and I think the fact that a Black woman owned something like that in that area is also very unique as well."
Support	Members are helpful to each other in business or personal matters without an expectation of compensation.	"I do remember one time this one piece of code on my website, I just couldn't get it to work for this client and somebody was able to just pop in and help out with it. And I obviously wanted to pay them but they wouldn't let me. So just really sweet genuine people there that are looking to care, looking to help others and were really caring and able to give quick answers or solutions that I wouldn't otherwise have. Sometimes you can't type in on the Internet."
Comfort	Members feel welcomed and relaxed in the community.	"It definitely feels more personal. I attribute that some to the space itself because t the decor and everything is very warm and such. But a big part of that is [the community leader] herself. Honestly, we didn't tour any other spaces, but we definitely made

Collaboration	Members can establish cooperative relationships with would-be competitors.	<p>phone calls, to talk with people and see if it was a space that we might want to tour and you just didn't get the same sense of welcome that we got from [the community leader] when we met with her and talked with her."</p> <p>"I'm more about collaboration, I don't really feel like there's anybody there that I'm competing with, I don't get that feel from that space."</p> <p>"The people are so much more friendly. We're always looking to help each other out, they feel like family in a sense when you come in, everyone knows everyone who works out of this coworking space on a first name basis. We even do lunches together, even though we're different companies or there are people who do the exact same thing I do, which would be considered competitors, but we still all just have this sense of community."</p>
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Appendix B: Figures

Figure 1. Representative Evidence

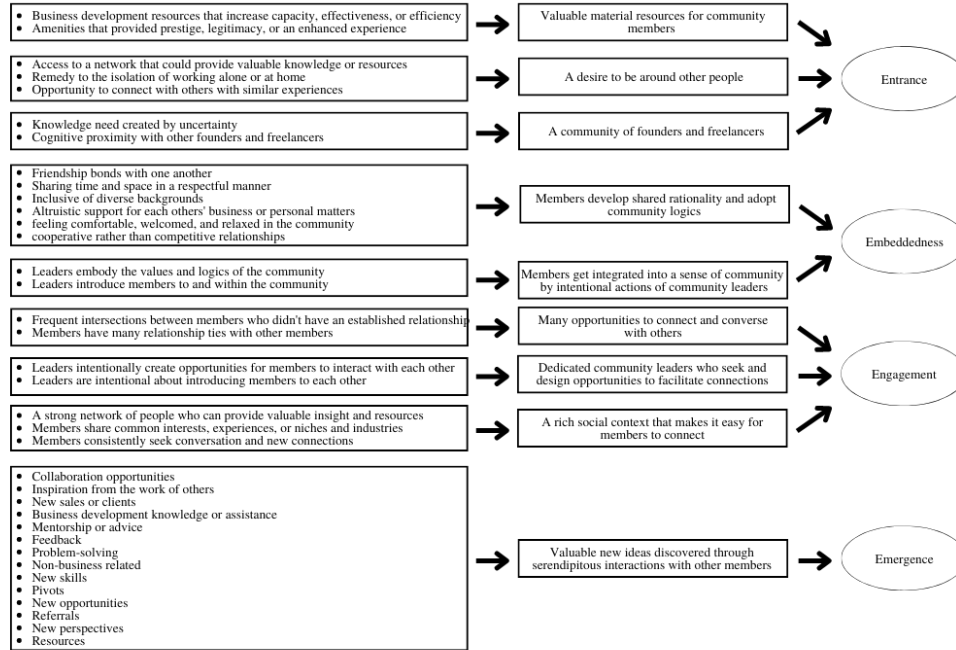
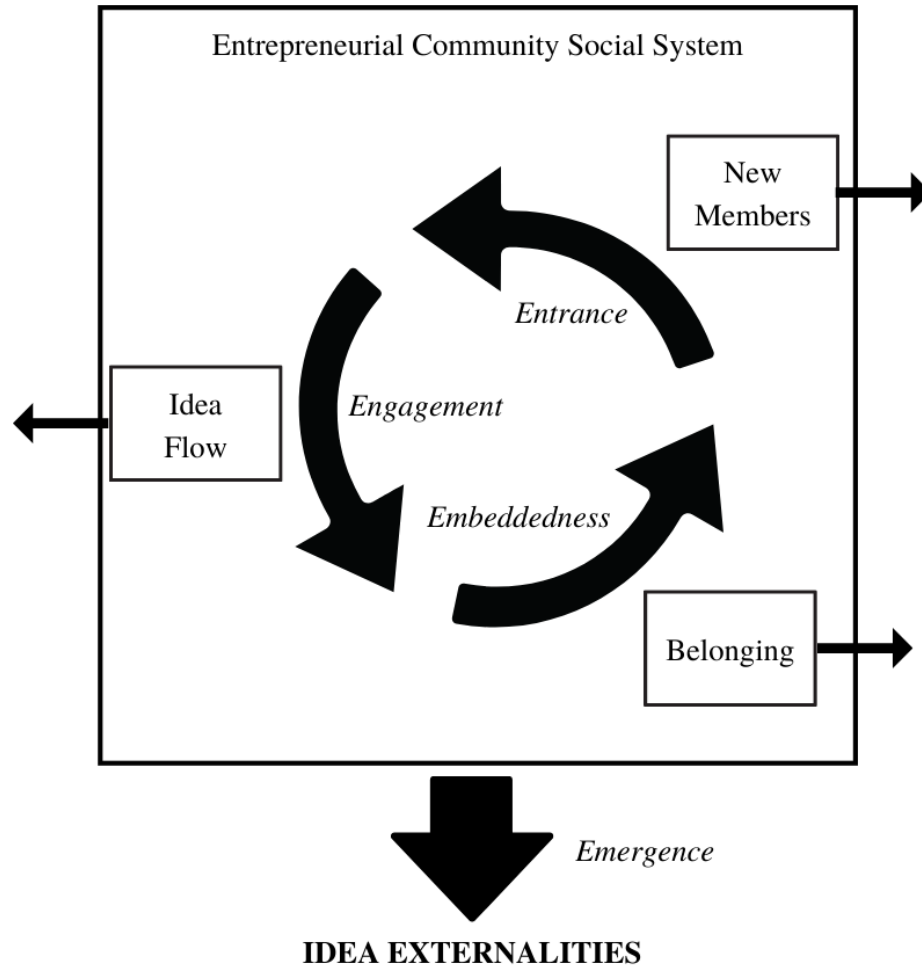


Figure 2. Theoretical Framework



CURRICULUM VITA

Malcolm Muhammad, Ph.D.

EDUCATION

Doctor of Philosophy in Entrepreneurship

December 2022

University of Louisville

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Spring 2016

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Bachelor of Science in Business Administration

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DISSERTATION

Title: Community, Learning, and Venture Development in Entrepreneurial Ecosystems

Advisor: Dr. Robert Garrett

Committee: Dr. Stephan Gohmann

Dr. Ryan Quinn

Dr. Simon Parker

Description: I study entrepreneurs who are members of coworking spaces to understand how they experience a shared sense of community; how do they build relationships and exchange knowledge and ideas, and ultimately how does this help them to develop productive ventures?

RESEARCH

Publications

Ganiodis, P., Muhammad, M.A., Chen, W. Social Venture Scaling in Distressed Communities. *Social Entrepreneurship (Business and Society 360, Vol. 5)*.

In Progress

Muhammad, M.A. Microfoundations of Entrepreneurial Ecosystems. Working Paper.

Garrett, R.P., Covin, J.G., Bouncken, R., Muhammad, M.A. Venture relatedness, affordable loss, and the locus of responsibility for internal corporate venture planning. Under Review.

Conference Presentations

Muhammad, M.A. Collective Learning in Entrepreneurial Ecosystem Communities. *PDW: Entrepreneurial Ecosystems and Territories, June 2021 BCERC.*

Black Male Edquity Network. *November 2020 Council of Postsecondary Education Higher Equity Symposium: The Urgency of N.O.W. – No Opportunity Wasted.*

Ganiodis, P., Muhammad, M.A. Venture Scaling in Depressed Urban Environments: Evidence from the Hill District. *February 2020 Sustainability, Ethics, and Entrepreneurship Conference, San Juan, Puerto Rico.*

Muhammad, M.A., Atkinson, L., Bullock, K., Periera, I., Ahuja, M. Social Integration and Knowledge Spillover Entrepreneurship. *August 2019 Academy of Management Conference, Boston, MA.*

Atkinson, L., Muhammad, M.A. Labor Unions and Entrepreneurship: An Occupational Choice Analysis of the Shifting US Labor Market. *August 2019 Academy of Management Conference, Boston, MA.*

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AWARDS, HONORS, AND SCHOLARSHIPS

- 2021 STR Division Doctoral Consortium, *Academy of Management Annual Conference*
- 2019 Graduate Student Council Travel Grant (2x)
- 2019 The Medici Summer School in Management Studies, *Commercialization of Culture and Science*, HEC Paris
- 2019 PhD Consortium, *Symposium on Free Market Solutions to Urban Grand Challenges*,
Johns Hopkins University
- 2018 The PhD Project
- 2017 Doctoral Scholar, Southern Regional Education Board
- 2017 Presidential Fellow, University of Louisville

PhD CURRICULUM HIGHLIGHTS

Coursework

- 2019 Structural Equation Modeling
- 2018 Research Design II
- 2018 Multivariate Statistics
- 2018 Entrepreneurship: Strategic Perspective
- 2018 Organizational Behavior
- 2018 Entrepreneurial Discovery
- 2018 Philosophy of Science
- 2017 Research Design
- 2017 Venture Capital
- 2017 Foundations of Entrepreneurship
- 2017 Advanced Statistics

Guest Seminars

- 2019 Dr. Scott Shane, Current Trends in Entrepreneurship Research
- 2019 Dr. Tom Lumpkin, Seminar in Social Entrepreneurship
- 2019 Dr. Jim Chrisman, Seminar in Family Business
- 2019 Dr. Howard Aldrich, Sociological Foundations of Entrepreneurship
- 2018 Dr. Simon Parker, Entrepreneurship from an Economic Perspective
- 2018 Dr. Dean Shepherd, Entrepreneurship from a Psychological Perspective
- 2018 Dr. Per Davidsson, Quantitative Approach to Entrepreneurship Research

SERVICE/COMMUNITY

Interviewer, Director of Graduate Recruitment and Diversity Retention, University of Louisville

Organizer, Startup Grind Louisville Chapter. 2019 - 2020

Founding Member, Black Male Edquity Network

Host, Startup Grind Fireside Chat w/ Meagan Shaver of Louisville Scoop. March 2020

Panelist, The Dark Side of Diversity: Disruption in Academia Through HR. 2020 Derby Diversity & Business Summit

Organizer, “Black Women in Entrepreneurship: Louisville” Virtual Panel Discussion. August 2020

Organizer, “Education, Talent Development, and the Digital Divide in Louisville” Virtual Panel Discussion. December 2020

Lecture, “Entrepreneurial Capabilities.” University of Louisville College of Business Digital Transformation Academy. July 2021

Guest Lecture, “Leveraging Tech in Entrepreneurship.” Technology in the 21st Century, Simmons College. March 2022

Panelist, “The Intersection of Sports and Entrepreneurship.” Network & Chill. April 2022.

Instructor/Program Manager, University of Louisville “Engage” Program (Startup-Focused Federal Work Study Program). November 2021

Instructional Coach, Governor’s School for Entrepreneurs. June – July 2022

Panel Moderator, “Entrepreneurship Incubator and Accelerator Resources.” West Louisville Economic Mobility Summit. October 2022