Going Viral or Growing Like an Oak Tree?

Towards Sustainable Local Development through Entrepreneurship

Suntae Kim

Carroll School of Management

Boston College

suntae.kim@bc.edu

Anna Kim

Desautels Faculty of Management

McGill University

anna.kim@mcgill.ca

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ABSTRACT

Nurturing venture-capital-backed, high-growth entrepreneurship has been strongly promoted as an effective means to achieve local development in impoverished places. Yet growing evidence suggests that, despite its notable successes in resource-rich regions, this approach creates limited impact in economically challenged locales. We address this conundrum by calling into question the crux of high-growth entrepreneurship – the pursuit of quick scaling through venture capital financing. Our field research in two entrepreneurship-nurturing organizations in Detroit reveals important heterogeneity in resourcing modes and venture growth in time and space. Specifically, we find that ventures developed through different modes of resourcing (financing vs. local bricolage) grow at different spatiotemporal scales (*scaling up* towards fast geographical expansion vs. *scaling deep* towards locally anchored endurance), and consequently generate distinctive yet complementary contributions to their depleted place of origin. Unlike scaling-up ventures whose local impact was explosive yet short-lived, scaling-deep ventures created jobs, products/services, and spillover effects that stayed local and addressed specific local problems. Building on these findings, we challenge the exclusive pursuit of high-growth entrepreneurship for poverty alleviation and suggest that entrepreneurship-driven local development requires cohabitation of ventures growing at varying scales.

In response to rising inequality between regions and economic polarization around the world, there has been a growing emphasis on local and regional development, defined as "the establishment of conditions and institutions that foster the realization of the potential of the capacities and faculties of the human mind in people, communities and ... places" (Pike, Rodríguez-Pose, & Tomaney, 2007: 1263). And recently, there has been an increasing attention to socially and ecologically sustainable local development, which not only produces economic growth but also enhances social inclusion, cultural diversity, and environmental sustainability across generations (Pike et al., 2007, 2016). As a powerful means of addressing the urgent demands of local development, entrepreneurship has been strongly promoted (Sutter, Bruton, & Chen, 2019). In places ranging from decaying urban centers in post-industrial cities to impoverished regions in developing countries, numerous entrepreneurial initiatives have been implemented in the hope of creating high-growth entrepreneurship that has propelled local

prosperity in places like Silicon Valley (Lerner, 2009; Pages, Freedman, & Von Bargen, 2003). Financial resources have been poured in through venture capital and microcredit (Ahlstrom & Bruton, 2006; Chliova, Brinckmann, & Rosenbusch, 2015), and business accelerators and other training programs have proliferated to enhance human capital in poverty-stricken places (Dutt, Hawn, Vidal, Chatterji, McGahan, & Mitchell, 2016; de Mel, McKenzie, & Woodruff, 2014).

Despite noble intentions, however, nurturing entrepreneurship in materially disadvantaged places has failed to fully achieve the expected impact (Alvarez & Barney, 2014; Peredo & Chrisman, 2006; Sautet, 2013). High-growth entrepreneurship's proven success in developed countries has yet to be replicated in emerging economies (Valliere & Peterson, 2010), and developing innovative high-tech sectors has not created anticipated trickle-down effects to alleviate local poverty (Lee & Rodríguez-Pose, 2016); in some cases, it has instead exacerbated local inequality (Florida & Mellander, 2015; Hathaway, 2016; Lee, 2011). Despite a widespread belief that venture-capital-backed, high-growth entrepreneurship creates "the businesses that will take people out of poverty" (Shane, 2009: 146), the wildly successful Silicon Valley model does not seem to effectively replicate its success in economically challenged places, like Detroit.

We address this conundrum by problematizing implicit assumptions about entrepreneurial resourcing and the spatiotemporal attributes of venture growth in conventional approaches to entrepreneurship for local development. The prevalent focus on high-growth entrepreneurship assumes that economic growth in poverty-stricken regions requires venture-capital-backed, 'transformational' entrepreneurs whose ventures grow quickly to the global level and exploit systemic opportunities (Sautet, 2013; Schoar, 2010; Shane, 2009). Yet this assumption overlooks important heterogeneity in how ventures are resourced and how they grow in time and space. While equity or debt financing is clearly a predominant way in which entrepreneurs mobilize

resources (Clough, Fang, Vissa, & Wu, 2019), studies on entrepreneurship in penurious environments reveal the effectiveness of bricolage – making do with what is at hand – as an alternative mode of resourcing (Baker & Nelson, 2005; Di Domenico, Haugh, & Tracey, 2010). Furthermore, while ventures growing at a rapid pace to reach the global market are highly visible and celebrated as "the true engines of growth" (Schoar, 2010: 59), the time-space lens reveals that venture growth processes can unfold at various spatial and temporal scales (Bansal, Kim, & Wood, 2018). Quick and widespread growth may not be the only desirable way ventures grow and contribute to local development; some firms may generate meaningful economic and social contributions while persistently staying local and growing gradually (Burlingham, 2007). Drawing on these overlooked heterogeneities in resourcing modes and the spatiotemporal attributes of venture growth, we put into question the widespread belief that pursuing high-growth entrepreneurship is the most viable path towards poverty alleviation.

We therefore apply a time-space lens to resourcing and local development to investigate how entrepreneurship can contribute to the sustainable development of impoverished locales. The context of our research is Detroit, Michigan in the 2010s, when various attempts proliferated to rebuild the decaying city through business creation (Bischke, 2011). We conducted a 22-month ethnography between 2012 and 2014 in two organizations nurturing nascent ventures, which pursued the same objective of revitalizing Detroit in vastly different ways. With a strong processual orientation (Langley & Tsoukas, 2010), we first took a closer look into the contrasting ways in which early-stage ventures were designed in each organization. We then extended our focus to the following six years to trace the growth trajectories of all 27 ventures that were fostered by the two organizations during our observation period.

This investigation reveals critical heterogeneity in how the nascent ventures were

resourced, which then led them to grow differently in time and space. Ventures from one organization relied exclusively on financing from venture capitalists and then 'scaled up': pursuing to quickly achieve broad geographical coverage, just like the frequently evoked image of 'going viral' in entrepreneurship practice. Ventures from the other organization engaged in bricolage of local resources and 'scaled deep': pursuing gradual yet long-lasting growth deeply rooted in Detroit – like 'an oak tree,' as our informants observed. These different spatiotemporal patterns of growth generated contrasting contributions to Detroit. Scaling-up ventures quickly achieved large impact at the national if not global level, but a substantial portion of the local impact vanished from Detroit. In contrast, scaling-deep ventures did not demonstrate explosive growth like their scaling-up counterparts, but persistently addressed Detroit-specific economic, social, and environmental issues in locally customized ways. Building on these findings, we theorize that different modes of resourcing shape different spatiotemporal scales of venture growth, which in turn generate contrasting and potentially complementary contributions to revitalizing the venture's impoverished place of origin.

By illuminating the novel implications of resourcing and the scale of venture growth, we advance the current understanding of how entrepreneurship can facilitate sustainable local development. Specifically, we challenge the prevalent emphasis on high-growth ventures by suggesting that the exclusive pursuit of scaling up may not be sufficient to deliver sustainable development in poverty-stricken communities and regions. Such pursuits, we find, need to be complemented by businesses that draw on the region's endogenous strengths and therefore grow persistently in place. Our study ultimately suggests that revitalizing depleted locales requires nurturing organizations that grow at diverse spatiotemporal scales.

THEORETICAL BACKGROUND

Research on Entrepreneurship and Local Development

Wealth inequality and uneven development across places are persistent features of capitalism (Piketty, 2014; Smith, 2010), generating impoverished locales around the world. Impoverished locales are places in which poverty has become highly concentrated through the interplay of various social, economic, and historical factors, such as the structure of economic activities, the level and distribution of resources, and their suitability as sites for capital investment (Cotter, 2002; Tickamyer & Duncan, 1990). Regional inequality has been further exacerbated in recent decades by globalization and economic deregulation, whose benefits were concentrated in a small number of places (Harvey, 2005; Pike et al., 2006). As a result, inequality and economic polarization intensified – both at the global level among different countries and at the national level among different regions (Manduca, 2019; Milanović, 2016). Worsening regional inequality constitutes one of the grand challenges of our time, posing a critical threat to the stability of many societies (The Economist, 2017; OECD, 2016).

In response, demand for effective local and regional development has been rising. While traditional approaches to local development focused on economic growth via building infrastructure and attracting industrial firms, the focus has begun to shift towards sustainable local development (United Nations, 2015). This novel approach broadens the traditional economic focus to include social and environmental sustainability by prioritizing "equity and long-term thinking in access to and use of resources within and between current and future generations" (Pike et al., 2007: 1264). By taking an intergenerational perspective, the proponents of sustainable local development recognize that sustaining local development across generations requires long-term approaches to economic development as well as pursuing more socially and ecologically sustainable forms of local development (Anglin, 2011; Purvis, & Grainger, 2004;

Weinberg, Pellow, & Schnaiberg, 2000).

Interest in entrepreneurship as a strategy to facilitate local development has soared since the 1970s (McMullen, 2010). This interest was inspired by the regional clusters of innovative ventures that emerged across the United States and around the world, such as Silicon Valley, the Route 128 corridor near Boston (Saxenian, 1994), the M4 corridor in the UK, and southern Bavaria in Germany (Bell, Tracey, & Heide, 2009; Markusen, 1996; Pike et al., 2016). In these clusters, successful startup companies provided innovative products and services, achieving exponential growth and creating new jobs in the region (Glaeser, Kerr, & Kerr, 2015; Reynolds, Hay, & Camp, 1999). Between 2003 and 2007, startup companies generated more jobs than the net job creation in the US private sector (Haltiwanger, 2015), and the high-tech entrepreneurship sector has demonstrated a large multiplying effect whereby one additional job in the sector created nearly five new jobs in other sectors (Moretti, 2010). Furthermore, entrepreneurship contributed to local economies not only through job creation but also through spillover effects, whereby tacit knowledge generated from successful ventures was transferred to local entrepreneurs, stimulating more entrepreneurial activities (Acs, Audretsch, & Lehmann, 2013; Owen-Smith & Powell, 2004).

Encouraged by these success stories, policy makers increasingly promoted entrepreneurship as a means of moving communities, cities, and regions out of poverty (Baker & Powell, 2016). Various policies were implemented to promote entrepreneurship for local development (Lerner, 2009; Pages et al., 2003), microcredit and venture capital investment became increasingly available in developing economies and depleted communities (Ahlstrom & Bruton, 2006; Chliova et al., 2015), and business accelerators proliferated in post-industrial cities and rural towns (Hathaway, 2016). Programs like Venture for America dispatched graduates

from elite colleges to impoverished parts of the country with a mission to revive local economies through new venture creation. Silicon Valley–style entrepreneurial ecosystems sprawled in emerging economies (Dutt et al., 2016; Roberts & Kempner, 2017; Rosen, 2015), and business creation was actively encouraged in Indigenous communities (Peredo & McLean, 2010) as well as at the base of the pyramid in developing countries (Chliova & Ringov, 2017; London, 2016).

These attempts to promote entrepreneurship-driven local development, however, generated outcomes that are "discouraging in terms of their implications for poverty alleviation" (Sutter et al., 2019: 205). Microcredit is "not transformational for many of the desired outcomes" despite some moderate positive effects reported (Chliova et al., 2015: 477), and training programs for marginalized entrepreneurs were found to have little impact on profitability and growth of their businesses (de Mel et al., 2014). Even after resource scarcity was alleviated, entrepreneurs in depressed regions rarely achieved growth (La Porta & Shleifer, 2014), and entrepreneurial initiatives for underprivileged communities often stopped short of addressing urgent local problems (Peredo & McLean, 2010). A comparison of entrepreneurship's local impact across developed and emerging economies concludes that "emerging economies need to reach a threshold level of development before entrepreneurship can fully contribute to economic growth" (Valliere & Peterson, 2010: 476).

Entrepreneurship scholars attribute these disappointing outcomes to the specific type of entrepreneurship prevalent in impoverished locales. They argue that ventures in poor regions do not grow but experience higher mortality rates because entrepreneurs pursue necessity-based local opportunities, which results in the proliferation of subsistence entrepreneurship (Alvarez & Barney, 2014; Sautet, 2013; Schoar, 2010). Instead, scholars call for a radical shift towards exploiting systemic opportunities and generating transformational entrepreneurship (Sautet,

2013; Schoar, 2010), which will create high-growth ventures that will take people out of poverty (Shane, 2009). Yet studies find that the institutional infrastructure for high-growth entrepreneurship is difficult to replicate (Alvarez & Barney, 2014; Mair, Marti, & Ventresca, 2012), and emerging evidence suggests that even when a high-growth technology sector emerges, it is still insufficient to address local poverty. High-tech sectors in poor regions rarely generated the anticipated trickle-down effect to benefit the region's poorest residents (Hathaway, 2016; Lee & Rodríguez-Pose, 2016), and their local presence was instead associated with a higher degree of inequality (Florida & Mellander, 2016; Lee, 2011).

In contrast to this discouraging set of evidence, an emerging body of research is beginning to illuminate a more hopeful vision of entrepreneurship's role in sustainable local development, but not by focusing on venture-capital-backed, high-growth ventures. Specifically, these studies raise a perhaps ironic possibility that the kind of entrepreneurship that works in resource-poor regions may stem not from pouring resources into the region but rather from creatively repurposing resources that are already in place. For example, Kodithuwakku and Rosa's (2002) ethnographic investigation of Sri Lankan rural communities reveals that while the farmers who relied on traditional financing through banks entered a vicious cycle of increasing debt and losing control of land, a small number of farmers successfully established themselves as agricultural entrepreneurs by putting together slack resources in their community and collectively pursuing location-specific opportunities. Similarly, Johnstone and Lionais (2004) analyzed successful entrepreneurial initiatives in depleted communities and found that while the communities were materially depleted, they retained rich social relationships and shared commitment to the place, which enabled entrepreneurs to mobilize underutilized resources within the community.

In a similar vein, Johannisson and Olauson (2007) found that, in disaster-stricken local communities in Sweden, entrepreneurs spontaneously integrated resources possessed by different local actors to address the needs of emergency situations. Di Domenico and colleagues (2010) also observed that locally embedded entrepreneurs were able to identify hidden or untapped local assets by encouraging stakeholder participation, while other organizations failed to recognize the value of such assets and convert them into resources. Repurposing can be pursued with institutional resources, as well. For example, Mair and colleagues (2012) documented how a local intermediary in rural Bangladesh repurposed existing local institutions to support underprivileged entrepreneurs. These findings resonate with Peredo and Chrisman's (2006: 311-312) postulation that "conventional approaches to entrepreneurship in materially disadvantaged societies will yield minimal results" because they tend to ignore "the strength of local organizations." They propose that an alternative, community-based form of entrepreneurship that harnesses the strengths of the place can be more effective in achieving the sustainable and resilient development of poverty-ridden places.

Underappreciated Role of Resourcing and Spatiotemporal Attributes of Venture Growth

Juxtaposing the above two streams of research highlights different types of entrepreneurship that diverge in two notable ways. First, the modes of resourcing differ radically. Entrepreneurial resourcing is the process whereby entrepreneurs mobilize financial, human, social, or other forms of resources to execute an opportunity (Clough et al., 2019). Resource mobilization is a key process in business creation because entrepreneurial success depends on effectively making "judgmental decisions about the coordination of scarce resources" (Casson, 2003: 225), which entrepreneurs often do not personally own (Bygrave, 1993). In line with Feldman's (2004) notion of resourcing, which emphasizes the importance of practical actions

that turn potentially useful assets into resources, the key difference between the conventional and alternative approaches lies in resourcing, not just resources per se.

In conventional entrepreneurship research, poverty is seen as a lack of resources (Sutter et al., 2019), and therefore it is nearly taken for granted that ventures in impoverished locales must overcome this limitation by financing resources (e.g., by securing loans or equity investment) from external sources (e.g., venture capitalists or microfinance institutions). The alternative approach, however, highlights that ventures can turn what is already in place into valuable resources through entrepreneurial bricolage, "making do by applying combinations of the resources at hand to new problems and opportunities" (Baker & Nelson, 2005: 333). Studies of alternative approaches commonly document ventures that engage in entrepreneurial bricolage at the level of local communities, where entrepreneurs exploit locally specific opportunities by repurposing and recombining assets that exist in the place (Di Domenico et al., 2010; Johannisson & Olauson, 2007). In these cases, new businesses were "often built with, rather than on, the bits and pieces" of resources scattered throughout the local landscape (Mair et al., 2012: 822). This observation is puzzling because successful financing – such as raising venture capital investment – has a long track record of enabling innovations and regional prosperity (Metrick & Yasuda, 2010), while bricolage is typically understood as the refurbishment and combination of cheap, slack, or discarded assets that are often associated with substandard offerings (Baker & Nelson, 2005). It is unclear why financing had limited effectiveness while bricolage showed promise for entrepreneurs in poverty-stricken places.

Second, the conventional and alternative approaches diverge also in terms of how ventures grow in time and space. The conceptual lens of time and space has become increasingly prominent in management studies (Ancona, Goodman, Lawrence, & Tushman, 2001; Feldman,

Reid, & Mazmanian, 2020; Stephenson, Kuismin, Putnam, & Sivunen, 2020). Like biophysical processes, organizational processes exhibit temporal attributes, such as speed and duration, and spatial attributes, such as geographical coverage (Gibson, Ostrom, & Ahn, 2000). For example, biophysical processes like tornadoes grow and dissipate quickly, affecting limited regions, while other processes like climate change unfold over centuries, affecting the entire planet (Clark, 1987). Similarly, some social processes (e.g., managing team projects with weekly deliverables) exhibit drastically different temporal rhythms and spatial coverage than others (e.g., achieving the United Nations Sustainable Development Goals, which cover 15 years and address issues across the globe). The focus on the spatiotemporal attributes of a process – or its scale (Bansal et al., 2018; Bowen, Bansal, & Slawinski, 2018) – has enriched the understanding of various organizing processes such as innovation (Oborn, Barrett, Orlikowski, & Kim, 2019), organizational responses to normative pressures (Durand, Hawn, & Ioannou, 2019), and strategic responses to crises (Wenzel, Stanske, & Lieberman, 2020).

Although in its infancy, the time-space lens is also making inroads into entrepreneurship research building on the recent rise of a processual view that sees venture growth as an ongoing process of organizing (Moroz & Hindle, 2011; Steyaert, 2007). Scholars have begun to discern that a venture's growth trajectory can vary spatially and temporally. Ventures may grow by expanding to various geographical regions or by going deeper in its original location (Smith & Stevens, 2010; Zahra, Gedajlovic, Neubaum, & Shulman, 2009). Similarly, some ventures "grow rapidly," while others grow "moderately and consistently" (Shepherd & Wiklund, 2009: 108), and even the same growth rate can be achieved quickly and dramatically or steadily and gradually (Delmar, Davidsson, & Gartner, 2003).

Conventional entrepreneurship literature commonly maintains that what lifts regions out of

poverty are transformational entrepreneurs who "build rapidly growing companies with global ambitions" (Schoar, 2010: 78), and these high-growth ventures exploit systemic opportunities whose spatial scope goes beyond the original location (Sautet, 2013). In contrast, the alternative approaches demonstrate a strong local and long-term focus. Studies of alternative approaches document that entrepreneurs actively cooperate at the local level to creatively put together local resources by mobilizing a shared long-term commitment to the place (Johnstone & Lionais, 2004). It is unclear why quickly achieving widespread growth – a quintessential characteristic of successful ventures – is found to be inadequate in impoverished places, while growing locally at a gradual pace – a feature of ventures often disparaged as "subsistence" or "lifetime" – has shown potentials in restoring depleted communities.

The salient contrast between conventional and alternative approaches to entrepreneurship-driven local development presents a puzzle: in economically challenged contexts, what deviates from the successful template on core dimensions – resourcing and scale of venture growth – was found to be more promising. This puzzling observation suggests an unexplored possibility that resourcing and spatiotemporal attributes (i.e., scale) of venture growth may play a significant role in shaping entrepreneurship's potential to alleviate poverty and promote sustainable development of impoverished places. We investigate this possibility by addressing the following research question: *how are different resourcing modes and the scale of venture growth related to sustainable development of impoverished locales?*

METHODS

Research Context

One of the most pervasive elements of entrepreneurship development strategies is business incubators and accelerators (Dutt et al., 2016). Business incubators provide a nurturing

environment for early-stage ventures where entrepreneurs receive mentoring, technical services, and physical space to develop their venture ideas (Hackett & Dilts, 2004). Business accelerators perform similar functions but put a more explicit emphasis on helping nascent ventures secure venture capital investment by providing intensive guidance on idea development, market testing, and fundraising (Cohen & Hochberg, 2014). Both incubators and accelerators – commonly referred to as "organizational sponsors" (Amezcua, Grimes, Bradley, & Wiklund, 2013) – provide a great empirical window to observe critical early stages of venture development in which entrepreneurial insights transform into more or less stabilized business models.

With the increasing interest in entrepreneurship as a local development tool, these organizational sponsors rapidly diffused into economically challenged regions (Sentementes, 2011), and Detroit was no exception to this trend. Once deemed the world's innovation capital, the city has experienced a painful decades-long economic downfall. It has lost 93% of its manufacturing jobs since 1947, mostly from its flagship automotive industry. The proportion of residents living in poverty (36%) is more than triple the national average, making Detroit the poorest big city in the US (MacDonald & Chambers, 2018). The epitome of its seemingly endless decline was the city's 2013 bankruptcy, the largest municipal bankruptcy in the nation's history. In the early 2010s, at the alleged bottom of this decades-long decline, Detroit began to experience an upsurge of entrepreneurial activities aimed at revitalizing the city. A host of organizations have proliferated to assist with the rising levels of entrepreneurship, and among these are the two organizations in which we conducted extensive fieldwork: ACCEL and GREEN. We use pseudonyms for all organizations and individuals in our study.

ACCEL: Business accelerator. ACCEL is a non-profit organization owned by a large company headquartered in Detroit. In 2012, it transitioned from a traditional incubator to an

accelerator by adopting the practices of leading business accelerators. With the explicit aspiration of "turning Detroit into the next Silicon Valley within a decade," ACCEL required its participating founders to move to the city for the duration of its accelerator program and mandated monthly job-creation reports. ACCEL's program exhibited prototypical features of business accelerators (Cohen & Hochberg, 2014). Twice a year, it selected a cohort of four to six ventures, and once selected, each venture received initial funding of $25,000 in exchange for 8% equity. For as long as six months, founders developed their business ideas through training, mentorship, and prototyping. At the end of the program, founders gave the final pitch to win $100,000 investment from ACCEL.

GREEN: Alternative business incubator. GREEN was established in 2012 as a for-profit business incubator whose main revenue came from renting workspaces to small businesses. GREEN was founded upon the mission of "sustainable revitalization of Detroit" and developed its unique venture-development strategy as a critical reaction to accelerators. GREEN incubated only one business at a time, and the length of the incubation period varied from 18 weeks to several months. Each incubation process involved weekly meetings with mentors and community participants, such as fellow GREEN founders and volunteers from the local community. Importantly, GREEN discouraged early-stage fundraising, making the comparison between ACCEL and GREEN an ideal setting to investigate the impact of different resourcing modes.

Data Collection

We first conducted ethnography of ACCEL and GREEN and then collected extensive archival data to pursue the leads that emerged from the ethnography. Initially, we chose the two organizations to compare conventional versus social entrepreneurship. However, we soon realized that the organizations' entrepreneurial intentions were much more complex than a

simple social/commercial dichotomy. Entrepreneurs in ACCEL had explicit social and environmental aspirations, while entrepreneurs in GREEN had a clear profit focus. Instead, the two organizations were most critically distinguished by the ways in which they developed venture ideas. With this realization, we focused on different processes of venture development – which we studied through ethnography – as well as their consequences for venture growth and impact – which we studied through archival data.

Ethnography. The first author conducted ethnography in ACCEL and GREEN for 22 months (from July 2012 to April 2014). He travelled to Detroit at least two days per week, and during the seven months of full-time observation (from September 2013 to March 2014), he was in the field for all weekdays. He observed all idea development meetings for four startups in two organizations: Medicine Pocket and Dog Pound from GREEN, and Boutique Buy and Wait Less from ACCEL. The ventures were chosen to ensure comparability across contexts. Although audio-recording idea development meetings was not allowed, the first author documented the conversations to the fullest extent possible by recording the gist (if not the exact words) of every speech, creating field notes that took the form of pseudo-transcripts. He also participated in workshops, carried out informal conversations, and conducted interviews with founders, mentors, and community participants. The second author joined the project in 2015 and participated in regular follow-up visits, interviews, and archival data collection until 2020. All the interviews were audio-recorded and transcribed. In all, we observed 148 one- to five-hour meetings/events and conducted 67 one- to two-hour interviews (see Table 1 for details).

[Insert Table 1 about here]

Archival data. The ethnographic data provided a rich account of how venture ideas were initially shaped. We then collected archival data to reconstruct in detail the subsequent growth of

these ventures, as well as their contributions. In this stage, we expanded our coverage to the entire set of ventures (n=27) that were developed in ACCEL and GREEN during the time of our fieldwork (2012-2014). The main body of data was 620 news articles (23 articles per venture on average) that we collected by using company names as search terms in the Factiva and LexisNexis news archives. This dataset was supplemented by other sources such as company websites and social media postings. We continued to collect archival data until June 2020, including information on the ventures' responses to the COVID-19 pandemic.

Data Analysis

Our analysis unfolded in two broad stages. First, using ethnographic data, we constructed rich processual accounts of idea development for the four ventures and compared them across ACCEL and GREEN. We threaded key moments of 'doing' to form each venture's 'becoming' process (Langley, Smallman, Tsoukas, & Van de Ven, 2013; Jarzabkowski, Le, & Spee, 2017), from which emerged insights on different modes of resourcing and different ways ventures grow in time and space. In the second stage, we analyzed archival data to illuminate how observed ventures (and other ventures developed in the same context) grew in time and space for the next several years and what specific contributions they made to Detroit's local economy. This two-stage analysis enabled us to capture how processual differences in the early-stage development created long-term variation in venture growth and impact (see Table 2 for our analytic process).

[Insert Table 2 about here]

Phase 1: Open coding. First, we conducted open coding of all fieldnotes and interview transcripts (Locke, 2001). We noticed that most of the conversations during the meetings were either about the focal venture idea, or about the context's approach to idea development. Therefore, we coded them separately, generating two major types of codes: idea development

approach codes (approach codes) and venture idea codes (idea codes). Approach codes clearly reflected the two organizations' different resourcing modes. For example, ACCEL's codes included "focusing on investors' preference/perception" and "designing based on expected investor communication," while meetings at GREEN generated such codes as "developing business idea in relation to ecosystem" and "designing ideas with a focus on relationships."

Idea codes reflected discrete meaning elements constituting a new venture idea as a whole. These codes encompassed various aspects of a venture idea, including products/services, value propositions, customers, and future development plans. Each of the four ventures had on average 84 idea codes. In line with strong process ontology (Langley & Tsoukas, 2010), we treated a venture idea not as a static entity but rather as a constantly changing process. To capture this process, we created timelines for all four ventures that chronologically summarized all the moments when each idea code was added, retained, or discarded (see Table 3 for an excerpt from Boutique Buy's timeline). This procedure resulted in four timelines in the spreadsheet form that on average had 558 total rows per venture. The detailed processual analysis led us to notice an intriguing pattern: over time, initial ideas at ACCEL and GREEN morphed into ventures that would later grow differently in time and space.

[Insert Table 3 about here]

Phase 2: Tracing the emergence of spatiotemporal orientations in venture ideas. We pursued this lead by re-categorizing our idea codes to identify the "time-space idea codes" that had direct implications for the resulting venture's growth in time and space. These time-space codes include, for example, "working with local shelters" (Dog Pound) because this idea element affected the spatial scope of the venture's future growth. Another example is "sales rep to recruit retailers" (Boutique Buy), which sped up the venture's geographical expansion. Identifying these

time-space codes and seeing how certain time-space codes became increasingly dominant in the entire venture idea gradually clarified our view: by going through ACCEL and GREEN's programs, ventures were infused with orientations to grow in a particular spatiotemporal pattern. We traced how these orientations emerged over time by analyzing 'idea code chains' for each time-space code (see Figure 1 for an excerpt of the analysis). This analysis captured the chain of moments leading up to the introduction of each time-space code, which led us to delve into critical scenes of interaction when a particular spatiotemporal orientation was increasingly infused into the venture idea.

[Insert Figure 1 about here]

Phase 3: Analyzing key scenes that infuse spatiotemporal orientations. We then went back to our field notes to analyze how the interaction among actors changed the spatiotemporal orientations of the venture idea. In this step, we turned the raw forms of ethnographic experiences into vignettes and process narratives that embodied meaningful patterns of actions, interactions, and their impacts (Golden-Biddle & Locke, 1993; Jarzabkowski, Bednarek, & Lê, 2014). Analyzing interactions among founders and mentors indicated that contrasting spatiotemporal orientations were related to different ways of resourcing. Many idea changes in ACCEL were driven by the need to meet investor preferences, while those in GREEN stemmed from the need to draw "energy" from the local ecosystem. This observation and iteration with the literature on entrepreneurial resourcing clarified our view that tight entanglement between resourcing modes and spatiotemporal growth orientations defined the differences in idea development processes across ACCEL and GREEN.

Phase 4: Documenting venture growth and its impact on Detroit. We turned to our archival data to examine whether the orientations for different spatiotemporal growth affected

ventures' actual growth and their contributions to Detroit. For each of the 27 ventures, we constructed a timeline of key growth events, including founding, fundraising, launch/expansion of products/services, recognition (awards, event featuring), relocation, and closure/acquisition. We then analyzed these timelines to build two tables (Tables 4 and 5 in Findings) that summarize venture growth patterns and contributions.

Going through this extended analysis process enabled us to empirically capture the whole picture of venture development, ranging from idea development to subsequent growth and contributions to Detroit. We made theoretical sense of this years-long process by iterating with the research on entrepreneurship and local development, which guided us to develop a theoretical model on relationships among the modes of resourcing, the scales of venture growth, and the ventures' contributions to and beyond the impoverished place of origin (Figure 4 in Discussion).

FINDINGS

Although ACCEL and GREEN started at similar times with the same goal of revitalizing Detroit through entrepreneurship, they generated ventures that subsequently made radically different contributions to Detroit's local development. In the following four subsections, we show how this difference was generated. The first two sections focus on four ventures whose development we closely followed through ethnography and show how their initial ideas developed following different modes of resourcing, which infused different spatiotemporal orientations in the ventures. We then expand our focus to all ventures that hatched out of both organizations to show how the different spatiotemporal orientations resulted in actual growth that unfolded differently in time and space. In the last section, we show how the different growth patterns generated contrasting impacts on Detroit and beyond.

Scaling Up at ACCEL: Focus on Investors and Designing for Fast/Broad Growth

Robin, the founder of Boutique Buy, joined ACCEL's accelerator program with a strong passion for "empowering" Detroit's "0.0 boutiques" – her words to describe brick-and-mortar fashion retailers without an online presence. Boutique Buy embodied her desire to support these retailers by creating their online "showroom," providing inventory management systems, and offering an online "hold-in-store" feature for subsequent in-store purchases. Jack, the founder of Wait Less, started with a similar local focus embodied by the idea of creating a mobile application that collects and broadcasts the wait time information for local restaurants and bars, to be embedded in a city guide app. Through their time at ACCEL, these initial business models changed significantly – new activities were added and existing ones were dropped, which shaped the ventures to pursue radically different opportunities. Figure 2 summarizes these changes by specifying the interim stages and explaining changes between stages.

[Insert Figure 2 about here]

We found that both ventures' business models changed over time in a way that allowed the resulting venture to grow rapidly over broad geographical areas (represented in the figure by the upward movement of venture ideas). This change was driven primarily by the goal of securing venture capital investment.

Primary driver: Securing external investment. Boutique Buy's idea started to change from the very first meeting, when Diana, an ACCEL mentor, questioned the feasibility of developing online inventories for brick-and-mortar retailers on a large scale:

> My question is, how likely is it that you'll ever be able to do this to all the stores nationwide? […] I can tell you my concern is that human-intensive consulting like this cannot be scalable. You'll get a lot of questions like this from investors. (Boutique Buy, Week 1)

Although Robin's initial idea focused exclusively on brick-and-mortar retailers, Diana's feedback from the outset suggested that this idea was inconsistent with the anticipated investor

preference. Accordingly, Robin began to adjust her idea by relaxing her exclusive focus on brick-and-mortar retailers and including boutiques that already had websites.

This explicit concern about investor preference was the main driver of changes in the ACCEL ventures' business models because the success or failure of an idea was ultimately determined by whether it raised venture capital investment. ACCEL promised that only a few very successful ventures would gain the opportunity to pitch for the $100,000 investment at the end of the program. The structure effectively defined successful business ideas as ones that meet investor preferences. This was also salient in the early days of Wait Less. One of the first pieces of advice that Jack received was not about how to start a business but about how to end one well. During the first weeks in the program, one of the mentors said:

> Think about the value you add to prospective acquirers. [Wait Less] is not going public but this is gonna be bought. […] It could be Open Table or Yelp. If I'm Open Table, Wait Less gets me more traffic. If I'm Yelp, Wait Less gives me the immediacy, real time. (Wait Less, Week 3)

In this scene, Jack was guided to design his fledgling business into a form that can be easily acquired by another company. While Jack, a nascent entrepreneur, found it surprising, this up-front focus on a lucrative exit was prevalent in ACCEL, because acquisitions are one of the primary ways venture capitalists realize the returns on their investment.

Focus on fundraising drove the pursuit of speedy growth. The focus on securing external investment typically generated pressing concerns about speed. During a discussion on financial projection, Robin was chastised for her naivety:

> Diana: My guess is that the model of sales rep makes sense. You'd probably need to think through that for every state, as you build the five-year financial model.
> Robin: I already started. I have a lot of personal relationships with stores in other states, like boutiques in Chicago and Minnesota. I'd do it myself. (noticing Diana frowning) Do you think it's crazy…?
> Diana: (immediately) You have to think about your time... Is that the best use of Robin as CEO's time? As a company that has to be able to scale, you have to have other

people do it. (Boutique Buy, Week 5)

Here, time is characterized as limited, and to maximize the use of such limited time, a new element – hiring sales representatives – was added to the business model. Another important change was made during a later conversation on customer acquisition cost:

Diana: Are you charging stores enough?
Robin: I don't think so. The time that I'm taking to get things into the [inventory] database is crazy.
Diana: (sternly) So, it's not a scalable service.
Robin: (hesitating) In the big picture, it is not scalable. (Boutique Buy, Week 10)

Although inventory management for brick-and-mortar retailers was one of the key features in her original idea, in this scene Robin finally succumbed to Diana's constant criticism. It was an idea that took too much time to meet investors' focus on quick growth; therefore, it had to be dropped. And this further accelerated Boutique Buy's shift towards online boutiques.

As these scenes show, the desire for speed became a main force in changing business models in ACCEL. Relying primarily on fundraising put the venture in the strict timeframe of venture capital investment, and a venture's growth was increasingly boiled down to a three- to five-year financial projection. This rigid temporal structure defined the participating founders' reality. Charles, an ACCEL mentor, likened ventures to an airplane on a "burning" runway. If the airplane "does not accelerate, if it does not reach a certain velocity, [it] will never get off" the burning runway, and the only way to extend the runway is to finance more money. Charles elaborated on this point during an interview:

> There's a threshold during which its speed has to increase so that during the acceleration phase, a lift is created and [the venture] arises. There has to be an ever-increasing speed to what's going on or we'll never get the results. […] If we don't do that faster and faster and faster, then revenue less expenses is always going to be flat.

Pursuit of speedy growth created pressures for broad expansion. Along with the intensive pursuit of speed, spatial expansion emerged as a major mandate. The business models of

Boutique Buy and Wait Less increasingly included ideas that would enable expansion to multiple regional markets or to a nationwide customer base. In the middle of the program, Jack pivoted from local restaurants to sports and entertainment venues to achieve scalability. Charles pushed Jack in this direction, predicting that "it's a matter of time" before "this huge ripple in the professional sports to digitize and improve in-game experiences gets to college sports." With this pivot, the geographical focus of Wait Less significantly expanded from local diners in Downtown Detroit to the national market of professional and college sports venues.

Wait Less' pivot represented the mandate for geographical expansion that was prevalent in ACCEL. All participating founders went through the mental exercise of estimating TAM (total accessible market), SAM (serviceable accessible market), and the target market. This exercise led founders to imagine their fledgling ventures at a national scale and implicitly normalized geographical expansion. For every activity in a business model, the founders were asked if it was replicable "in all fifty states." This strong emphasis on spatial expansion further reinforced Boutique Buy's diversion from its initial commitment to Detroit. Although Robin's original business model included organizing fashion-related events in collaboration with local retailers, this idea had to be scrapped in the face of the expansion mandate, as Diana explained:

> You can do it in Detroit, but you are not gonna do that in Kansas. [...] This is not gonna be your primary source of revenue. You have to ask yourself if this is something you can do all over the country. (Boutique Buy, Week 7)

This emphasis on spatial expansion gradually shaped the ventures' product/service offerings to match *immediate* and *general* customer demands, and this match was most directly evaluated through market tests. Founders in ACCEL were encouraged to quickly develop their "MVPs" (minimum viable products) and bring them to the market for instant customer validation. If the products did poorly in market tests, founders were encouraged to reorient the

venture towards a new opportunity aligned with the customers' needs. This pivot was especially difficult for Boutique Buy. Disappointing initial results from the market test led Robin to drop the "hold-in-store" feature – the last remaining piece of her original idea. Noting that few used the feature in the market test, Diana quickly declared the failure of Robin's original vision:

> Here's my recommendation. Don't pitch for funding yet. […] I can tell you right now that based on what you have now, we wouldn't invest 100K. (Boutique Buy, Week 12)

Robin reacted emotionally to this disappointing verdict:

> What we have built with the [initial] funding we got from ACCEL was a tool where local retailers can upload their products. To me that's not a false positive, this is real! [voice shaking] I came here with a big vision. And then it was broken down to pieces and I built something for just one piece.

Despite her initial resistance, Robin eventually altered the course of her business by removing the features that did not meet immediate and general customer demands. Through constant pivots like this, both ventures' ideas evolved from ones that would have addressed specific local needs (e.g., local brick-and-mortar boutiques' lack of access to online customers, long lines in Detroit restaurants) to ones that tackled more universal demands (e.g., online shopping for products from nationwide boutiques, receiving wait time information for any sporting venue).

Pursuit of fast/broad growth generated greater demands for further financing. Through these changes, both ventures' business models ended up requiring more investment. Boutique Buy's original model initially required little investment and mentors kept asking, "What do you need money for?" Yet through the program, it evolved into an expensive proposition that includes new elements for quick nationwide expansion (e.g., hiring sales reps). Similarly, Wait Less pivoted from its labor-intensive original idea (hiring local employees as "Wait Less Ambassadors") to capital-intensive, technology-based solutions, in which wait time information was no longer updated by human agents but measured using geolocation technology and

artificial intelligence. With this change, Wait Less transformed from a mobile app developer to a provider of automation technology for sporting venues – a service that was more easily replicable but required greater investment up front.

Scaling up at ACCEL. This detailed look into the early processes of Boutique Buy and Wait Less reveals how the need to secure investment kept ACCEL ventures on the route to *scaling up*, which we define as the process whereby an organization pursues fast expansion. The pursuit of financing as a primary mode of resourcing placed the venture's development in a rigid timeframe of venture capital investment that requires speedy growth. This temporal orientation for speed then bred the spatial orientation towards geographical expansion, which led founders to drop elements that required cultivating in-depth local relations and add others that addressed ubiquitous, readily exploitable customer demands. These changes tended to require more external resources, putting the venture in greater need of further financing, which reinforced the mutually amplifying cycle of financing and fast expansion.

Scaling Deep at GREEN: Local Bricolage and Designing for Anchored/Enduring Growth

Upon joining GREEN, the sibling cofounders of Medicine Pocket, Mike and Jane, already had a product – a medication management tool for elders – that had attracted buyout offers from major retail pharmacies. However, thinking that "merely adding another product to [a pharmacy's] shelf" was not the business they wanted to pursue, the founders rejected the offers and joined GREEN with the hope of realizing the full potential of their original product. Amanda, the founder of Dog Pound and a veteran veterinary technician, joined GREEN wishing to open a retail store where she would sell reclaimed pet products. Like their ACCEL counterparts, these initial business models underwent significant transformation. In contrast to ACCEL ventures, they unfolded not towards quick expansion but towards anchored persistence

in Detroit. This change is visualized in Figure 3, in which GREEN's evolving venture ideas moved in the opposite direction of ACCEL's. As in ACCEL, this trajectory was strongly driven by the particular mode of resourcing at GREEN.

[Insert Figure 3 about here]

Primary driver: Pursuing local bricolage. In stark contrast to ACCEL, GREEN mentors strongly discouraged founders from seeking external investment. GREEN's founder Ted believed that the prevalent model of starting a business by "borrowing money up front" could impose unaffordable risks on typical Detroit entrepreneurs:

> [Venture capitalists] can assume all those risks, but the people here that I'm working with, they can't assume those risks. [...] Let's just say it's $100,000. [...] Nobody here can afford to lose $100,000. [...] It is not like zero cost to go through a bankruptcy.

Even if the founders could avoid debt obligations (e.g., by securing equity financing), Ted believed the conventional model could pose further risks to the livelihood of typical Detroiters, due to the contextual difference between Detroit and other places known for entrepreneurship. He argued that when a venture fails, a Silicon Valley founder "with a master's degree in computer science" can quickly jump to the next startup, but a typical Detroit business owner, without much education or a "next job to jump to," would end up "standing in the soup line."

Given this view, GREEN founders were encouraged to focus on designing a business like "a living organism" that would naturally draw resources from (and give yields back to) the surrounding local environment. Therefore, idea development at GREEN focused not on shaping an idea that would attract investors, but on discovering what resources were available in the local environment and making use of them – a mode of resourcing akin to bricolage at the local level. Speaking of existing infrastructure and assets in Detroit, Ted explained that GREEN ventures were designed to "utilize the ones that are already there."

Pursuing local bricolage deepened ventures' anchors to Detroit. Unlike ACCEL ventures whose local roots gradually became thinner to facilitate national expansion, GREEN ventures' anchors to Detroit became stronger over time. Medicine Pocket and Dog Pound spent their first month in the program "observing and interacting with nature" to see how the "land" could support the growth of the ventures' "seed." Founders and community participants conducted an "ecosystem analysis" that identified potentially relevant local actors, mapped the relationships among them, and imagined how the relationships would change as the venture entered the ecosystem. This process generated an "ecosystem map," and Dog Pound's map featured local actors who would be potentially relevant to Amanda's initial idea, such as vets, pet stores, and animal shelters. Analogous to ACCEL's exercise of calculating market sizes, but having the opposite effect, this process implicitly enclosed the emerging venture's future growth within Detroit's local ecosystem.

Simply surveying the landscape, however, did not immediately reveal how founders would engage in local bricolage; ways to productively repurpose local resources emerged gradually as the founders achieved a clear understanding of who they were and what they wanted to do. After the ecosystem mapping, both ventures engaged in a series of deep reflections where their venture idea was "grounded" in a "deep root," which Ted defined as "something that stayed with [the founder] for a long time, which the person is passionate about and has the potential to benefit others." This search for a "deep root" reflects the idea that productively relating with others in the local ecosystem is possible only when the venture clearly understands its own identity, from which flows an understanding of what it needs, who can provide it, and what it can give back in exchange. Ted emphasized this by using a nature metaphor:

> [Once you figure out your deep root, others would say] oh well, now I can have a direct relationship with you because now you're an oak tree and I am a squirrel and eat acorns.

So now, there's a reason for us to relate.

Dog Pound's deep root became clearer as mentors kept asking *why* Amanda wanted to pursue her original idea. To answer this question, Amanda went through rounds of reflections with mentors and community participants, which increasingly clarified her personal views around animal companionship and eventually the "deep root" of her venture. This gradual process is captured in the conversation below:

> Amanda: It's hard to explain to people how to be compassionate with animals without bringing up a human conception. But pets are not humans.
> Pam (a community participant): That's so true! We train dogs for hours and hours to make them behave like humans.
> Amanda: You can have respectful relationship even with the animals you eat, or with the animals you use for other purposes.
> Ted: Before the conversation, I didn't even think about this term, pet owner... but now I'm thinking, 'are we subscribing to the term that we don't even ethically believe in?'
> Nelson (a community participant): Do you think every customer for your future shop should think in this way?
> Amanda: I think all pet owners should problematize the concept of pet ownership.
> Nelson: So your business is making them think in a different way.
> Jim (a community participant): Then your business can help people have different motivations for owning animals. (Dog Pound, Week 5)

Discussions like this progressively revealed how her unique philosophy could be translated into a novel business idea, which eventually led Amanda to shift her plan from a pet product retailer to a service provider who addresses relational problems between humans and animal companions by altering the human owner's notion of pet ownership. In one meeting, after presenting this shift, she broke down in tears, declaring "I think I found my voice."

Upon achieving clarity around her aspiration, Amanda then shifted her focus outwards to specific local actors and their specific problems she could help with, which led multiple service ideas to blossom. For local animal shelters that experienced high return rates and for the city government that suffered from stray dog problems, Dog Pound developed "companionship

readiness assessment services" and case-specific consultation services. For bustling Midtown's apartment complexes that experienced an influx of young adults and accompanying pet-related conflicts, Dog Pound designed mass educational seminars on managing relationship issues with animal companions. Amanda further designed variations of the educational services for local corporations and school districts. As a result, Dog Pound's final business model included six different types of services offered to various local clients.

Medicine Pocket's idea went through a similar transformation. Instead of refining its existing product, the cofounders and community participants went through weeks of reflection on the cofounders' family history behind the original product, which gradually clarified the venture's deep root: a design service firm that helps elders and caregivers collectively develop organic solutions to their own problems. With this change, Medicine Pocket identified specific local actors such as senior communities, hospitals, pharmacies, and health insurance companies that have various issues the venture's emerging service could address. This development dramatically changed the venture's spatial orientation, as shown in Mike's reflection:

> Walgreen's wanted to pick us up. They wanted to fund all this money for inventory and they wanted us to do this big scale model. […] They wanted us to go to China or India or somewhere where it's cheaper to make and they were making these demands on us. [Now with a new business model] we really have to engage the community and it really has to be local. We are not going to be anytime soon flying all over the country because community work is very localized, very high-touch, relationship-intensive. Growth has many forms—growth as employment, growth as money, but [also] growth in your community. We consider those things equally or as more important than those other growths. I'm completely fine with […] seeing the growth happen in community not necessarily in this way [widely stretching his arms], but growth in *depth*.

Deepening roots in Detroit bred orientation for long-term growth. As the emerging business models became increasingly anchored in Detroit's local context, they also shaped the resulting ventures to persist longer. Ventures developed plans to forge in-depth relationships and build credentials, all of which take a long time. Amanda's plan to build collaborative

relationships with local actors raised the need to develop her credentials, so she incorporated into her plan a two-year process to obtain a relevant certificate. Adding two years of no revenue would have been impermissible at ACCEL, but GREEN entrepreneurs were encouraged to take time to develop their ventures because what mattered the most for their survival was forming deep relationships with local actors, not speeding things up. This was well articulated by Mike's oak tree metaphor. During an interview, he aspired to build his business like "an oak tree that takes all of its energy for the first 20 to 50 years to set deep, deep roots" and then "produces a lot of deep, rich offspring," thereby becoming "the anchor of the ecosystem."

This orientation towards open-ended, long-term growth was also supported by the sense of reduced competitive pressure. Developing Amanda's service in the relational context among local actors raised the concern that her service might "step on the toes of veterinarians." This then led to articulating Dog Pound's unique niche: "a social worker for animals." Identifying a unique niche alleviated the sense of urgency to win the competition. Ted told Amanda:

> Your business grows from something that is deep within you, something that can't be stolen by anyone because it is so uniquely yours that anyone else who tried to execute your idea would fail. (Dog Pound, Week 20)

Scaling deep at GREEN. Our in-depth look into the idea development processes of two GREEN ventures reveals how the pursuit of local bricolage guided them towards *scaling deep*, which we define as a process whereby an organization pursues enduring growth anchored to its original location. As an alternative to seeking external investment, GREEN founders developed their ventures to productively utilize what was available in the local environment. Thus, the ventures needed to develop a deep spatial anchor to Detroit's local environment, and this was coupled with the temporal orientation towards taking time to build deep relationships, rather than quickly making shallow connections. To enable enduring and locally anchored growth, the

business models changed to address locally specific demands, rather than universal demands. These business models deviated from what would typically attract venture capital investment, and this deviation locked the ventures into the continued pursuit of local bricolage. Local bricolage and scaling deep reinforced each other at GREEN, just as financing and scaling up reinforced each other at ACCEL.

Contrasting Scales of Subsequent Venture Growth

Following the radically different growth orientations infused during initial development, ventures from the two organizations showed contrasting growth patterns over the next several years. The contrast is clear across all ventures fostered by ACCEL and GREEN during our observation. Table 4 presents the spatial and temporal growth of the ventures, summarizing key growth-related events and metrics.

[Insert Table 4 about here]

ACCEL ventures' fast/broad growth. Regardless of their specific products or services, most ventures from ACCEL quickly expanded beyond Detroit. Within 13 months on average (ranging from 0 to 36 months), most firms began to serve customers beyond the local market. They achieved this quick expansion by utilizing e-commerce platforms (e.g., Sun Health on Amazon, GuideApp on Apple App Store); collaborating with nationwide retailers (e.g., Kits 4 Cakes), regional contractors (e.g., Solar Design), and relevant online services (e.g., GroupOrder on Yelp); or directly developing a nationwide client network (e.g., Healthy Delivery).

These ventures' outward expansion was driven by the continued iteration between financing and revising business models towards more scalable opportunities. Wait Less secured its first out-of-state client less than three years after launching; soon after, it raised nearly $1 million through equity investment. With this, the company expanded globally, filing patents in

Australia and Europe and signing a deal with its first client outside the US within 3.5 years of its start. As of 2020, the company had implemented its service in five sporting venues in three different countries. Another venture in the same cohort, Rentals Online, similarly grew through cycles of fundraising and expansion. Shortly after the acceleration program, it raised $660,000 investment, with which it expanded to 15 college towns. The traction allowed the company to secure another $2 million funding, which enabled it to expand to 170 college towns.

Just as the ventures' expansion was rapid, their lifecycles also progressed fast. In many cases, this shortened the duration of their presence in Detroit. While many early-stage ventures tend to be short-lived due to frequent business failures, failures were not the only reason for the ACCEL ventures' relatively short local presence; successful ones also left the city because they were acquired. Four firms were acquired by larger companies after less than four years on average. Except in one case of local acquisition, the acquiring companies were based elsewhere.

Other successful ACCEL ventures voluntarily left Detroit, citing the city's lack of capital and talent. An online food delivery startup, GroupOrder, left for Chicago after successfully raising $750,000 from Detroit local investors. The founder attributed the move to the abundance of venture capital investment, office spaces, and talent in Chicago. Another 'star' venture in ACCEL, Team Online, moved to Kansas City to participate in an accelerator program there and raised a $120,000 investment from the program. Upon relocation, the founder praised the city's "welcoming startup environment" that he "did not feel in Detroit." ProVideo, a digital contents management firm founded by one of ACCEL's own staff members, successfully raised nearly $400,000 local investment before it left for Seattle to participate in another accelerator program. On its departure, its stated goal was to "hire top programming talent and bring them back to Detroit," but after finishing the program, the company stayed in Seattle, citing "so much support

from the creative community here." The company ended up being acquired by a Seattle-based company. As both failed and successful ventures increasingly disappeared from Detroit, only 4 out of 19 ACCEL ventures continued to operate in Detroit as of 2020.

GREEN ventures' anchored/enduring growth. During the same period, GREEN incubated eight businesses. In drastic contrast to their ACCEL peers, none of them grew their operation beyond Detroit or raised venture capital investment. Instead, they grew by expanding their collaborations with increasingly diverse local actors, deepening their roots in Detroit. For example, Good Food Network, a network organization supporting underprivileged food entrepreneurs, combined underused kitchens in local churches and day care centers with the distribution capacities of the city's largest farmers' market to create shared kitchen spaces, where its members gained access to licensed kitchens and wide exposure to local customers. One successful bricolage led to another. Merging the capacities of local restaurants, local chefs, and urban farmers, the organization built a pop-up restaurant to showcase its member businesses. Through a series of bricolage activities within Detroit, the organization grew from 15 to more than 200 members in five years, achieving collective revenues of $7 million in 2019.

A similar iteration between local bricolage and business model development also marked Medicine Pocket's growth. It partnered with Detroit-area fire departments, healthcare organizations, and health insurers to design the city's first community paramedicine program, in which community paramedics were mobilized to assist with elders' transition care as they moved from hospitals to homes. The venture also partnered with Detroit's largest senior residence community and facilitated the design process of the city's first affordable senior housing. The venture's deep root – serving as a design process facilitator in eldercare issues – manifested in diverse services when it was combined with various local actors' specific needs and capacities.

These ventures' deepening roots enabled gradual but persistent growth. For example, a fresh food provider Healthy Corner increased its distribution channels by repurposing existing corner stores, community centers, and local schools – from 20 posts in the first year to 35 in the second year to 66 in the seventh year. Its revenue also grew gradually (year 1: $60,000, year 3: $172,000, year 7: $360,000), as it increasingly provided healthy food options to the city's distressed neighborhoods. Although this growth was slower compared to ACCEL ventures, they stayed in Detroit. Of the eight ventures incubated during our observation period, six were still in operation in Detroit as of 2020 – a significantly higher proportion than ACCEL ventures (75% vs. 16%). Except for one venture that ceased operation due to the founder's unexpected health issues, all ventures operated for more than four years. GREEN ventures often experienced pressure to extend their lifespan because once mutually beneficial relationships had been built, the partners wanted them to persist. For example, Good Food Network has repeatedly partnered with the city's network of urban farms through multiple collaborative projects since 2014.

ACCEL and GREEN Ventures' Distinctive Contributions to Detroit

The ventures, which grew at strikingly different spatiotemporal scales, also generated contributions of contrasting scales. Table 5 summarizes the global and local impacts of ACCEL and GREEN ventures, including job creation, product/service provision, and spillover effects.

[Insert Table 5 about here]

Job creation. Ventures from ACCEL and GREEN created jobs at different scales that mirror the scales of their growth. As of 2020, ACCEL ventures maintained 30 local jobs, while GREEN ventures had 15. While this cross-sectional comparison gives an impression that ACCEL ventures have created twice as many jobs in Detroit as GREEN ventures, this overlooks the radically different longitudinal dynamics underlying the snapshots. Job creation by ACCEL

ventures was explosive but relatively impermanent. While they collectively created 125 jobs at their peak operation, only a portion of these jobs (24%) remained in Detroit six years out. This is because ACCEL ventures grew fast but also left Detroit fast, both in the case of failure (business closure) and success (relocation, acquisition). In contrast, GREEN ventures created fewer jobs more gradually (18), but they were more enduring, as 83% of them survived the first six years. Furthermore, given their focus on local partnerships, GREEN ventures' impact on job creation is not fully captured by merely counting the jobs they directly created. For example, Good Food Network's member businesses have collectively created more than 250 new jobs in the city.

Notably, we found these two types of jobs could complement each other. For example, the GREEN venture Healthy Corner offered a catering service to scaling-up ventures in Downtown Detroit and used the proceeds to subsidize its main operations in the city's underprivileged neighborhoods. Examples like this suggest that while they were relatively impermanent, the jobs created by scaling-up ventures filled Downtown offices and collectively generated a concentration of wealth that scaling-deep ventures then utilized as available local resources.

Product/service provision. The contrasting scales are also salient when we compare the types of customer needs the ventures addressed. ACCEL ventures' products and services created value for customers over broader geographic areas. Wait Less' solution has been used by 16 million users from 924 events across three continents, and its technology has been considered for the upcoming Tokyo Olympics. GroupOrder processed more than 10,000 online food delivery orders by 7,300 users over 250 cities in 32 states, before it successfully exited through acquisition. Solar Design completed solar system design in 32 US states and 6 countries, contributing to renewable energy projects across the world.

While these large-scale contributions have certainly benefitted some Detroit customers

who shared the demand for these firms' products and services, they left many Detroit-specific needs unaddressed, and GREEN ventures filled this gap. Through repeatedly engaging in local bricolage, GREEN ventures' deep roots morphed into locally customized ways to address specific problems within Detroit. For example, Amanda utilized her unique animal companion ethics to address Detroit's stray dog epidemic and neglected pet problems. Her venture partnered with a neighborhood block club to conduct educational campaigns and provide individual consultations to community members and worked with community organizers to write and pass a new anti-tethering ordinance in Detroit. These efforts contributed to a significant decrease in the number of neglected animals and enhanced public safety in the city.

In the same vein, DetroiTires tackled the city's waste tire problem, caused by more than 1 million waste tires filling its vacant lots. Although the founder initially planned a $6 million waste tire processing plant, she reoriented the business model during her time at GREEN. Instead of building a plant, DetroiTires partnered with local neighborhood associations to mobilize local residents to clean up waste tires in their block and create artworks out of reclaimed tires. The venture then collaborated with a local college's architecture program to develop products made out of recycled tires. These efforts removed more than 12,000 waste tires between 2013 and 2020. Similarly, Healthy Corner addressed Detroit's food desert problem by delivering fresh food to malnourished city residents through repurposed neighborhood party stores, gas stations, and community centers. By partnering with 87 locations, the company sold 110,000 servings of healthy food, achieving $263,000 in sales. One of the partners testified to the impact:

> I think it is really a beautiful thing anytime you have healthy food, fruits, and vegetables in an underserved community such as ours here. [...] I have lived in south-west Detroit and my family has owned businesses here for 25 years so there is obviously a big gap. […] Having these options allows [us] not only to raise awareness but also to advocate for healthy eating habits.

The differences in the scale of contributions across ACCEL and GREEN were clearly demonstrated by the ventures' responses to the COVID-19 pandemic. GREEN ventures mobilized to directly address the local surge of infections in Detroit. For example, Healthy Corner repurposed its distribution and delivery capacity to provide meals to the front-line medical professionals during the peak of the city's initial outbreak. In contrast, ACCEL ventures looked for ways to address more general demands caused by the pandemic. For example, Wait Less partnered with a large technology company to develop crowd-management solutions for the safe reopening of large entertainment venues everywhere.

Spillover effects. In addition to direct employment and service/product provision, ACCEL and GREEN ventures commonly generated spillover effects, although their scales again varied significantly. The knowledge spillover from ACCEL ventures was hardly confined to Detroit. Their technological advances and know-how often benefitted other companies in relevant industries based elsewhere. Through acquisition, ProVideo's technology was integrated into a larger, Seattle-based platform. After Rentals Online closed, its cofounders went to work for a San Francisco-based former competitor, carrying with them the knowledge they had accumulated through four years of operation. In contrast, local bricolage by GREEN ventures generated a different type of spillover by developing the productive capabilities of local partners. For example, Good Food Network's support for underprivileged food entrepreneurs also benefitted local collaborators who were involved in the process, such as Detroit's urban farmers, farmers' market, and kitchen-sharing organizations. With Good Food Network growing, farmers expanded their distribution channels, the farmers' market diversified their offerings, and local churches increased utilization rates of their facilities. The venture's founder put it in this way:

> Different organizations and groups are really willing to work together as a system and collaborate with one another – and that makes everybody stronger.

These contrasting contributions do not mean that GREEN ventures were inherently more committed to local issues. As our ethnographic data show, Robin of Boutique Buy (ACCEL) started her venture with a strong commitment to brick-and-mortar boutiques in Detroit, and Medicine Pocket (GREEN) started with an idea that could have quickly scaled globally. What ultimately drove the difference were the idea development processes, which relied on different modes of resourcing. The need to secure external investment guided ACCEL founders to focus on large-scale problems, while the focus on 'making do' with locally available resources led GREEN founders to attend to Detroit-specific needs.

ENTREPRENEURIAL RESOURCING, VENTURE GROWTH SCALE, AND SUSTAINABLE LOCAL DEVELOPMENT

We started the paper by asking how entrepreneurship's effectiveness in facilitating local development is related to the venture's mode of resourcing and the scale of the venture's growth. Our comparison of two entrepreneurship-nurturing organizations in Detroit offers an answer, presented in our theoretical model (Figure 4). The model juxtaposes the two different ways in which ventures grow in time and space. The vertical axis represents the spatial scale of a venture's contribution, while the horizontal axis represents time. Figure 4a shows the scaling-up process inferred from ACCEL ventures, whereby ventures repeat the cycle of financing and pivoting towards universal demands (represented by repeating circles at the center), eventually moving out of the original location to make widespread contributions to broad geographical areas (see the repeating circles escaping from the original location to cover the map of the entire US). Figure 4b presents the scaling-deep process that GREEN ventures demonstrated. In this process, ventures constantly iterate between local bricolage and changing their business models to meet locally specific demands (again represented by repeating circles). Consequently, they

become more deeply embedded in the local economy and generate impact that reverberates throughout the impoverished locale (see the repeating circles penetrating deeply into the original location). Notably, the slope of the scaling-up process is steeper than that of the scaling-deep process, visually signaling that the former unfolds more rapidly than the latter.

[Insert Figure 4 about here]

The juxtaposition of these two models summarizes our core argument. Venture growth can unfold differently across time and space (scaling up vs. scaling deep). These different patterns are shaped by different resourcing modes (financing vs. local bricolage) and result in contributions at different scales (explosive and widespread contributions vs. locally focused and enduring contributions). For the sustainable development of the impoverished place of origin, this difference in the scale of contributions can be critical. Below, we discuss each part of this argument in detail.

Scale of Venture Growth

The key to our theoretical innovation is bringing the time-space perspective into the study of entrepreneurship, providing a new way of seeing venture growth. While in conventional entrepreneurship and organizational literature, scaling is often equated with rapid growth in size (DeSantola & Gulati, 2017; Eisenmann & Wagonfeld, 2012; Harnish, 2014), we view scaling from the ecological perspective in which scale is defined as "the spatial and temporal attributes of processes" (Bansal et al., 2018: 220). Applying this notion to the context of organizational growth, we define scaling as a process whereby an organization pursues growth that unfolds at a particular spatiotemporal scale.

This reconceptualization of scaling reveals previously undertheorized heterogeneity in venture growth, which we conceptualize as *scaling up* versus *scaling deep*. The two modes are

clearly distinguished by the two-by-two matrix presented in Figure 5. The horizontal axis of the diagram reflects the temporal dimension of organizing processes (fast vs. slow), while the vertical axis represents the spatial dimension (local vs. global). The off-diagonal cells in this matrix denote the processes that exhibit the natural tendency of spatiotemporal coupling (Clark, 1987; Holling et al., 2002), where small-scale organizing unfolds rapidly over small geographic areas (e.g., local organizing projects) and large-scale organizing unfolds slowly over broad geographic areas (e.g., operation of intergovernmental organizations).

Our findings suggest that these are not the only spatiotemporal scales at which an organization can grow. Diagonal cells represent deviations from this natural time-space coupling. Combining fast temporality and global spatiality, a scaling-up venture quickly grows out of its impoverished place of origin and curtails its local roots, rapidly establishing a national, if not global, presence serving a widespread customer base. In contrast, a scaling-deep venture's growth is characterized by slow temporality and local spatiality. Its growth process is slower than that of its scaling-up counterparts, but over time, it develops durable and locally embedded operations that address local demand. By applying the time-space lens, we not only expand the conventional notion of scaling but also articulate what drives the different patterns of scaling: different modes of resourcing.

[Insert Figure 5 about here]

From Resourcing to Scaling

From financing to scaling up. Through ethnography of the development processes of nascent business ideas, we find that different scales of venture growth result from the spatiotemporal implications of different modes of resourcing. The pressure for speed in scaling-up ventures ultimately stems from the nature of financing, in which time critically affects the

value of money. When entrepreneurs develop their nascent business ideas through financing, they seek to secure access to scarce resources whose utility is widely known (i.e., money). This naturally engenders competition – against other entrepreneurs who want the same resources. To win this competition, the entrepreneur must promise not just the largest returns but also the largest returns in the shortest time. This is because financing essentially involves borrowing from the venture's expected future value for the present use (Carruthers, 2005; Harari, 2014; Simmel, 1900), and given the time value of money, the longer the investment timeframe is, the more heavily the same future value gets discounted (Bansal & DesJardine, 2014). This imperative to promise the greatest possible return within the shortest possible time breeds a pressure for speed. Once a venture resorts to venture capital investment, it is placed in a "speed trap," where "before VC money [runs] out," it needs "to move more quickly to achieve [the growth] necessary to get their desired valuation" for the next round of fundraising (Perlow, Okhuysen, & Repenning, 2001: 937). The temporal pressure to achieve speedy growth is translated into the spatial mandate for expansion because achieving a large valuation is enabled by serving a mass market, which typically requires going beyond the local market and expanding to the national or global market (Giddens, 1991; Harvey, 1989).

This spatiotemporal orientation induced by financing then shapes the venture's process of opportunity identification, embodied by the changes in its business model – "the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities" (Amit & Zott, 2001: 511). Our findings reveal that the mandate to quickly expand to a broader market changes elements of the business model, such as transaction participants (e.g., nationwide online stores replacing local brick-and-mortar boutiques) and transaction structure (e.g., shifting from product reservation to direct sales). This gradually

pushes the venture to pivot towards more immediately exploitable and ubiquitous customer needs (Grimes, 2018; McDonald & Gao, 2019). The updated business model is then likely to require more investment, further amplifying the need for more financing. This entanglement of financing, pressures to expand quickly, and pivoting towards universal demands only deepens as the venture grows, ultimately placing the venture on the trajectory of scaling up.

From local bricolage to scaling deep. In parallel, the spatiality of scaling-deep ventures arises from local bricolage, whose spatial scope is by definition confined to a particular place. Building on the concept of entrepreneurial bricolage (Baker & Nelson, 2005) and social bricolage (Johannison & Olaison, 2007), we term the resourcing mode of GREEN ventures *local bricolage,* in which entrepreneurs make do by applying combinations of locally available resources to locally specific problems and opportunities. For local bricoleur entrepreneurs, the main task is to unlock the utility of potential resources that are already available but have been devalued or cannot easily be mobilized by others (Di Domenico et al., 2010; Johnstone & Lionais, 2004; Kodithuwakku & Rosa, 2002). They face a completely different kind of challenge from that of their financing peers. For financing entrepreneurs, what is uncertain is their access to valuable resources. But for bricoleur entrepreneurs, what is unknown is the utility of what is already accessible. Therefore, successful local bricolage comes not from ensuring fast/large returns, but from having a rich understanding of what is available in the local environment and creatively generating conditions under which what is available becomes also useful.

These requirements breed momentum for the venture to grow towards deeper embeddedness in the local environment. This in turn extends the venture's temporal scale, because the time needed to build social capital – the trust, norms, and networks in the local community that enable the mobilization of locally available resources (Coleman, 1988; Di

Domenico et al., 2010) – is hardly compressible (Ostrom, 2000; Rosa, 2016). Furthermore, successful bricolage benefits local actors who are 'resourced,' so these actors not only want to continue the productive collaboration but also facilitate connections to more local resources, which lead to more local bricolage. Consequently, unlike financing ventures whose growth is akin to a race against time, bricoleur ventures morph into an enduring mechanism that generates locally specific yields; in this case, duration trumps speed.

The need to achieve locally anchored persistence again iteratively shapes the venture's business model. As our findings show, the contents of transactions change as new local collaborators are identified (e.g., neighborhood associations and local farmers), and the transaction structure also changes as new ways are constantly imagined to recombine various local resources (e.g., to support local food entrepreneurs, a farmers' market and restaurants provide distribution channels, churches and preschools provide production spaces, and urban farmers provide raw produce). These changes shape the venture to increasingly address locally specific demands via locally customized solutions. As these changes accumulate, the venture gradually diverges from mainstream investors' preferences and becomes further locked into the continuous pursuit of local bricolage (Baker & Nelson, 2005). The ongoing cycle of local bricolage, the orientation to stay local, and business model changes to address local demands ultimately shapes the venture to grow along the path of scaling deep.

From Scaling to Venture Contributions

The scale of a venture's growth has important implications for the development of its original location. Venture contributions are products of an ongoing process of venture growth. Just as climate systems such as tornadoes generate precipitation, venture growth produces contributions to the surrounding environment by creating jobs, satisfying customer demands, and

generating spillover effects. Importantly, the spatiotemporal scale of these contributions follows that of venture growth.

Rapidly expanding ventures on the scaling-up path quickly generate contributions to broad geographical areas beyond the impoverished place of origin. Their innovative products and services cater to widespread customer demands, potentially transforming the lives of people all over the world (Brynjolfsson & McAfee, 2014; Chliova & Ringov, 2017). Through exponential growth, scaling-up ventures also create a large number of jobs in a short time, becoming primary drivers of economic growth (Haltiwanger, 2015). In addition, the knowledge generated by scaling-up ventures creates positive spillover, vertically benefitting other firms in the value chain or horizontally facilitating the creation of other ventures in the same industry (Acs et al., 2013; Spencer, 2008). However, the scale of these contributions may not fully match what is needed for sustainable local development – jobs, products/services, and spillover effects that stay local over an extended time, enabling local self-reliance that can last for generations.

The literature suggests that sustainable local development requires contributions of a particular temporal and spatial scale (Anglin, 2011; Hlebik, 2017). The idea of sustainable development is built on temporality, with an aspiration to meet both short- and long-term needs across generations (Kim, Bansal, & Haugh, 2019; Pike et al., 2007; WCED, 1987). Local development is fundamentally a spatial notion that requires attention to the particular conditions of poverty and inequality in a target geographical area, as well as focused efforts to build prosperity and well-being in that specific place (Abram, 1998; Pike et al., 2007). Thus, sustainable development of impoverished locales requires not wide and explosive contributions but rather enduring ones whose benefits stay within the place – contributions that enable the

"*local* and *durable* self-reliance" of a place-based community (Peredo & Chrisman, 2006: 311, emphasis added).

When we look through the lens of scale, it becomes evident that the contributions of scaling-up ventures may be insufficient to fully support sustainable development of their impoverished places of origin. Their contributions may not stay local because the more successful scaling-up ventures are, the more pressures they experience to move out of the impoverished area. Scaling up requires continuous infusion of financial resources, recruitment and retention of sophisticated talents, and access to industry-specific knowledge, all of which are typically scarce in impoverished regions and not easily transferred from one place to another (Florida, 2002; Nanda & Rhodes-Kropf, 2016; von Hippel, 1994). Furthermore, scaling-up ventures' inherently mobile design facilitates their departure. As described in our findings, scaling-up ventures are designed from the outset to minimize their anchors to the original location because addressing locally specific demands is by nature unscalable. Motivated by local resource deficiency and enabled by their mobile design, successful scaling-up ventures are likely to leave their impoverished home regions, either through relocation to wealthier places or through acquisition by larger firms based elsewhere. The jobs they have created follow the departing ventures, partially offsetting their initially explosive local contributions, and locally specific problems/demands are left unaddressed. While this may create wealth for founders and investors, it fails to build durable self-reliance in the impoverished place of origin.

We find that scaling-up ventures' inadequacy for sustainable local development can be alleviated when their contributions are complemented by those of scaling-deep ventures. Scaling-deep ventures are unlikely to generate huge return on investment or create numerous local jobs, but they can help restore devastated locales to the state of self-reliance. As their business models

are anchored in the local context and thus less mobile by nature, scaling-deep ventures can create more longstanding jobs in the original location, providing a source of basic income for the residents in poverty. Furthermore, scaling-deep ventures offer otherwise unavailable solutions for specific problems endemic to impoverished places, such as food insecurity, lack of safety, and hazardous environmental conditions. Addressing these social, economic, and environmental problems contributes to more sustainable forms of local development. In addition, scaling-deep ventures by design collaborate with local actors; through collaboration, the local actors can discover previously unknown utilities of their assets and develop their own capacities. These ripple effects can critically enhance the place's internal capacity for self-reliance and resilience (Haugh & Brady, 2020; Peredo & Chrisman, 2006). In doing so, scaling-deep ventures can help bringing the locale to the state where local residents are capable of addressing the place's urgent problems that impede normal functioning of the local economy, which consequently shapes a necessary condition to build a thriving local economy.

Our observation provides a glimpse of the complementarity between the two types of ventures. Scaling-up ventures can generate wealth in delimited areas of the locale (e.g., for the duration of basing in Detroit, ACCEL ventures can increase revenues for landlords, retailers, and restaurants in Downtown Detroit). This can then become the local resources that scaling-deep ventures can creatively repurpose (e.g., Healthy Corner provided catering services to Downtown businesses and used the proceeds to subsidize its operations in poverty-stricken neighborhoods). Although preliminary, these observations raise the possibility that some short-lived local contributions of scaling-up ventures can be captured and redistributed by scaling-deep ventures to address urgent local problems (Lee & Rodriguez-Pose, 2016). This suggests that vigorous and durable revitalization of impoverished locales may require cohabitation in a place of businesses

that grow at diverse spatiotemporal scales.

DISCUSSION

Contributions to the Research on Entrepreneurship-driven Local Development

By combining the conceptual lenses of resourcing and time-space, this study proposes important changes to the current thinking about entrepreneurship-driven local development. First, we call into question conventional assumptions of how to support regional development through entrepreneurship. In response to entrepreneurship's disappointing track record in poverty alleviation, many entrepreneurship scholars emphasize the importance of nurturing high-growth, transformative entrepreneurship (Alvarez & Barney, 2014; Sautet, 2013; Schoar, 2010; Shane, 2009). While there are good reasons to focus on high-growth ventures, our study suggests that the very concept of growth needs to be more refined. When seen through the time-space lens, the explosive growth demonstrated by scaling-up ventures is just one type of growth. We find that growth can take many different forms in time and space, and sustainable local development requires more than just quickly and widely proliferating 'gazelles.'

Although venture-capital-backed high-growth startups indeed generate a large impact quickly, our findings show that the spatiality and temporality of such impact may not be fully aligned with the needs of impoverished locales. This misalignment is critical because it can potentially decouple the venture's success from that of the region. High-growth ventures have difficulty emerging amid poverty (Alvarez & Barney, 2014). Even when they do emerge, the very pursuit of exponential growth curtails their local roots; consequently, their success at the global level is not fully channeled into their original location's long-term development. The lens of spatiotemporal scale clarifies why the promise of high-growth entrepreneurship has often been elusive in environments of abject poverty.

Our findings suggest that the shortfall of investment-centered, high-growth ventures in penurious environments can be addressed by alternative types of ventures that grow through local bricolage. While this theme has been emerging in research on alternative models of entrepreneurship (e.g., Peredo & Chrisman, 2006), we consolidate it by illuminating the mechanism, again by adopting the time-space lens. Although outsiders may see a region as devoid of resources and institutional infrastructure, the place is likely to have native institutions, culture, and relational infrastructure that have long sustained its unique way of life (Bothello, Nason, & Schnyder, 2019). When ventures grow by repurposing such assets, they tend to stay local because their viability is enhanced rather than impeded by remaining local. Furthermore, their success does not create incentives to move out but strengthens the local partners who participated in bricolage, which creates more pressure to stay put. Since they are designed to feed on their region's idiosyncratic resource environment, their growth is inextricably tied to the region's restoration.

Furthermore, our analysis suggests that the two types of ventures are complementary, as scaling-deep ventures can provide an effective mechanism to capture the wealth created by scaling-up ventures and channel it to areas of extreme poverty in the region, thereby realizing the much-sought-after trickle-down effects of high-growth entrepreneurship (Lee & Rodriguez-Pose, 2016). By doing so, scaling-deep ventures can fill the gap in the current strategies of entrepreneurship-driven local development. High-growth ventures do contribute to local development, but only in locations above a certain threshold level of development (Valliere & Peterson, 2010). Although scaling-deep ventures may never turn a Detroit into a Silicon Valley, they would be able to do the critical work of lifting impoverished locales to the state of sustained self-reliance, at which point the places could seriously benefit from thriving scaling-up ventures.

Contributions to Venture Growth Research

This study advances the research on venture growth by providing a novel conceptual apparatus to understand how new businesses grow. Entrepreneurship scholars increasingly call for directing more attention to 'how' ventures grow in different ways, not just 'how much' they grow (McKelvie & Wiklund, 2010). Responding to this call, we propose that a deeper understanding of spatiotemporal scale can provide useful dimensions to describe different ways in which ventures grow, such as speed of growth, geographic coverage, and the duration of operation in a specific place.

This conceptualization reveals previously overlooked heterogeneity in venture growth. For example, the same growth rates in terms of sales or employment can be achieved by two ventures that follow very different spatial trajectories, such as expanding to national markets versus diversifying within the original location (Smith & Stevens, 2010). The scale lens also enables researchers to conceptually discern different temporal ways in which ventures achieve the same growth rates (Delmar et al., 2003). Recognizing and appreciating that an increase in organizational size can unfold at different paces and cover different geographical areas would help overcome the currently disproportional focus on venture-capital-backed high-growth entrepreneurship (Aldrich & Ruef, 2018). Our reconceptualization of growth suggests that one form of spatiotemporal growth is not necessarily better than others, and different types of spatiotemporal growth have their own unique contributions and limitations. This view will help future research illuminate underappreciated values of 'everyday' entrepreneurship (Welter, Baker, Audretsch, & Gartner, 2017).

Contributions to the Research on Entrepreneurial Bricolage

This study advances the concept of entrepreneurial bricolage (Baker & Nelson, 2005;

Garud & Karnøe, 2003) by extending it to the local level and highlighting its underappreciated potential for local development. By extending the scope of bricolage from individual entrepreneurs to place-based communities, we show that bricolage not only enhances viability and performance of an individual venture, but also has a strong potential to generate unique contributions to surrounding locales. This helps to shift our view of bricolage from a marginal substitute to a complementary alternative to venture capital investment.

Our longitudinal, in-depth investigation also uncovers processual details of performing local bricolage. Our findings reveal that a necessary step for successful bricolage may be deep reflections whereby venture ideas are grounded in a founder's unique individuality, which in turn enables the founder to identify what locally available resources could be repurposed, and how. Fundamentally, bricolage requires creativity to turn what seems to be useless into something useful. GREEN's process suggests that one source of such creativity is to achieve an in-depth understanding of the founder's own aspiration and personal identity, from which arises clarity around what the venture is about and how the place can support it. Analogous to Penrose's (1959) insight that each organization has an inherent capacity to uniquely utilize potential resources, and consistent with prior research emphasizing the pivotal role of founder identities (Powell & Baker, 2014; Sarasvathy, 2001), we find that different founders' unique identities enable varying forms of bricolage in the same resource environment. Extending prior research that emphasizes an outward focus on external stakeholder mobilization (Di Domenico et al., 2010), we argue that successful bricolage also involves inward reflection whereby founders creatively reinterpret their environment through the lens of their own identity.

Limitations and Future Research

One may reasonably question whether what we observe in scaling-up ventures is due to the

peculiarity of venture capital investment, not to financing itself as a general mode of resourcing. At first glance, this may seem like a valid point: different vehicles of financing come with different terms, and not all of them require quick and high returns like venture capital investment. However, it is also important to note that venture capital investment requires higher returns to compensate for the inherently high risks of new ventures. Therefore, when it comes to entrepreneurial financing, the lender would have to require large returns or a large collateral to mitigate the high risks, and either case intensifies the pressure for quick growth. An interesting trend nowadays involves alternatives to venture capital investment, such as 'patient capital' (Ivashina & Lerner, 2019) and 'slow money' (Jayashankar, Ashta, & Rasmussen, 2015). Future research may look into these different venture financing vehicles and investigate how they shape invested ventures' scale of growth and subsequent impact on local economies.

To maintain the focus and coherence of our study, we chose not to examine other interesting patterns salient in our research context. One such example is the dynamics between incubating contexts and participating entrepreneurs. Our findings suggest that the influence of incubating contexts was neither entirely deterministic (treatment effect) nor completely driven by the predisposition of participants (selection effect). Although incubating contexts indeed exert significant influence over the nested founders' attention and search behaviors (Cohen, Bingham, & Hallen, 2018), different founders have various responses to similar environmental influences, ranging from conformity to resistance (Grimes, 2018), which we also observed in both contexts. Future research may take this insight further by systematically examining how individual entrepreneurs' responses to environmental influence leave different imprints on the way the resulting ventures grow.

To conclude, our findings suggest that useful insights on sustainable local development can

stem from looking to the restoration of natural ecosystems, which are healthiest when species growing at different scales co-exist and complement one another (Elmqvist et al., 2003). While classical approaches to local development focused on securing external aid, there is a growing demand to involve diverse local actors and nurture location-specific potential (Pike et al., 2016). Local development in its fullest sense may stem from the dynamic interaction between the two, enabled through the complementarity between scaling-up and scaling-deep ventures. Future research can delve more deeply into how ventures growing at different scales build connections and create synergies, and what kinds of local ecosystems facilitate such collaborations (Thompson et al., 2018). The need for greater scale diversity among ventures also suggests important policy changes. While policy makers often call for infusing more venture capital investment to revitalize economically challenged locales, our study suggests that the prevalent focus on financing can obscure perhaps more important needs: nurturing entrepreneurial imagination to unlock the generative potential of existing assets in what seems like a barren landscape to outsiders. When both approaches are combined, entrepreneurship's contributions towards sustainable local development will become more palpable.

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Table 1. Description of Observed Ventures and Data Collection in Ethnography

	GREEN		ACCEL	
Business name	**Medicine Pocket**	**Dog Pound**	**Wait Less**	**Boutique Buy**
Incubating period	Nov 2012 to Mar 2013 (18 weeks)	Mar 2013 to Sep 2013 (23 weeks)	Sep 2013 to Mar 2014 (17 weeks)	Sep 2013 to Mar 2014 (17 weeks)
Original service/product idea	Medication management tool for elders	Community pet store selling reclaimed pet care products	Mobile app providing wait time information for local restaurants	Inventory management and online listing service for local fashion retailers
Final service/product idea	Facilitating community-based process that designs relationship-specific solutions to issues in eldercare	Consulting and education services on the relationship problem between humans and animal companions	Technological infrastructure that collects and broadcasts real-time wait time information for sports venues	Ecommerce portal connecting nation-wide fashion retailers and online shoppers
Founder background	Technology consultant in a major firm (Mike), Nonprofit on interfaith relations (Jennifer)	Veterinary technician (Amanda)	Architectural consultant (Jack)	Fashion design and retail (Robin), Software development (Mary)
In-process observations	18	19	23	24
Post-process observations	7	4	0	0
Context observations	30		23	
In-process interviews w/ entrepreneurs[a]	3	4	5	3
Post-process interviews w/ entrepreneurs	9	2	0	0
In-process interviews w/ community participants[b]	3	3	n/a	
Interviews w/ mentors[c]	25		10	
Additional data	Photos, artifacts from design sessions, online documentation of business design process, archives of external communication, etc.		Pitch decks, financial projection template, photos, marketing materials, workshop materials	

[a] The focus of these interviews included ongoing changes in their ideas, the sources of and rationale behind those changes, and their expectations of how the ideas would develop further.

[b] These interviews focused on gaining third-party reflections on the process, which helped us to triangulate entrepreneurs' and mentors' perceptions of the idea development process.

[c] In these interviews, mentors were asked to share their reflections on the development of individual ventures.

Note: The number of observations refers to the number of events (e.g., meetings) observed.

Table 2. Data Analysis Process

	Stage 1: Ethnographic Data			Stage 2: Archival Data
	Phase 1	Phase 2	Phase 3	Phase 4
Analytic Focus	Open coding idea development approaches and venture ideas	Among all idea codes, identifying time-space idea codes and analyzing code chains for time-space codes	Analyzing key moments of interaction when time-space idea codes emerged	Tracing venture growth and contributions
Main Data Analyzed	Observational data on idea development meetings of 4 ventures (2 from each context) and interviews on 4 ventures	Observational data on idea development meetings (idea code timelines)	Observational data on idea development meetings (idea code chain)	News articles, social media archives, and in-person interviews on 27 ventures incubated during the same period
Literature Iterated with		Literature on time-space, research on venture growth	Research on entrepreneurial resourcing	Research on entrepreneurship and local development
Analytic Outcome	Idea development approach codes; Venture idea codes; 4 timelines (1 per venture)	List of time-space codes; 'Idea code chains' for each time-space code	Thick description of key interaction scenes; Key interactions table	Timelines of key growth events for 27 ventures; Tables summarizing venture growth patterns and contributions at the local and global level
Reflection on the Outcome	A key difference in venture development processes across ACCEL and GREEN involved how the resulting ventures would grow in time and space	An orientation towards a particular spatiotemporal pattern of growth increased through the idea development process	Different approaches to resource nascent ventures were tightly connected to the emerging orientations towards a particular spatiotemporal growth pattern	Different resourcing modes led ventures to grow differently in time and space, which in turn affected the ventures' contributions to local development

Table 3. An Excerpt from Boutique Buy's Timeline

Event	Inter-action #	Interaction log	Venture Idea Codes: problems/ opportunity	Venture Idea Codes: product/service	Venture Idea Codes: marketing	Venture Idea Codes: market test
Weekly strategy meeting w/ Diana (week 12)	332	The increase in the number of users is not as big as hoped. To Diana's question, Robin explains where the new users were coming from.			Marketing through social media User acquisition through users PR campaign	
	333	17 days after launch, only one hold-in-store happened. Robin thinks it takes time for consumers to learn more about hold-in-store function.				**Need for educating customers** **Lack of conversion**
	334	To negative outcome from the market test, Robin emphasizes the value Boutique Buy provides in a defensive manner – Diana responds to this by saying don't pitch for 100K funding.		Homepage for retailers Providing marketing service		**Few hold-in-store**
	335	Robin reacts quite emotionally and Diana suggests shifting focus of the market test from the viability of hold-in-store function to actual payment from retailers.				**Retailer payment being the focus of test**
	336	While reflecting on the reasons for negative market feedback, Robin points out that the problem is "two-pronged business model": Boutique Buy addresses the problems of retailers as well as consumers.				**Two-pronged business model**
	337	To Diana's question, Robin responds that retailers' problem is that few of them have online presence	B&M retailers have no online presence			
	338	To this, Diana suggests that retailers may not want or need to have online presence.	**Retailers may not need online presence**			
	339	To Diana's probe, Robin gives a guess on the market size, which leads to a lengthy and heated discussion between the two.	**Market size**			
	340	At the end of debate, Diana shows her skepticism on the opportunity that Robin purports.				Two-pronged business model

Note: The timeline was excerpted from Boutique Buy meeting #12. Other code categories were omitted for presentation purposes. Bold codes represent the codes first introduced.

Table 4. Spatial and Temporal Growth of ACCEL and GREEN Ventures

Name (A: ACCEL, G: GREEN)	Product/service category	Operation status as of 2020	Spatiotemporal growth trajectory*	Time to go beyond Detroit **	Time to close	Time to relocation	Time to acquisition
Healthy Delivery (A)	Fitness	Active	36 months: provided thousands of products across 30 brands to sports teams, universities, and airlines	36	n/a	n/a	n/a
Wait Less (A)	Software	Active	34 months: reached a deal with a client in Indiana 41 months: reached a deal with a client in Australia	34	n/a	n/a	n/a
Solar Design (A)	Solar energy system design	Active	24 months: completed projects in 32 US states and six countries in four continents	24	n/a	n/a	n/a
JustMarried (A)	Event video production	Active (relocated)	36 months: relocated to Farmington Hills, Michigan	0	n/a	36	n/a
Team Online (A)	Enterprise software	Active (relocated)	40 months: participated in a corporate acceleration program in Kansas 45 months: relocated to Kansas City	0	n/a	45	n/a
Boutique Buy (A)	E-Commerce, Fashion	Acquired	During incubation: the ecommerce platform included retailers out of Michigan 48 months: the platform featured retailers from four different states and was acquired by a Detroit-based company	0	n/a	n/a	48
GroupOrder (A)	Food delivery	Acquired	34 months: partnered with a restaurant review site and expanded to serve 250 cities in 32 states 40 months: relocated to Chicago 57 months: acquired by a company based in New York City	34	n/a	40	57
ProVideo (A)	Video production	Acquired	15 months: participated in a corporate acceleration program in Seattle (began gradual relocation) 24 months: served over 100 nationwide customers across marketing, finance, retail industries 60 months: acquired by a Seattle-based company	24	n/a	15	60
School Supplies (A)	E-Commerce, Education	Acquired	6 months: offered 30,000 products and free next-day delivery to 90 percent of the country 28 months: acquired by a company based in Novi, Michigan	6	n/a	n/a	28
Employee Marketing (A)	Social media marketing	Closed		n/a	15	n/a	*n/a*
GuideApp (A)	Local business directory	Closed	20 months: developed and launched a new app for Columbus, Ohio	20	40	n/a	n/a
Home Report (A)	Real estate search engine	Closed		n/a	6	n/a	n/a
Kits 4 Cakes (A)	Cooking	Closed	During incubation: reached a deal with a national-level retailer	0	12	n/a	n/a
Rentals Online (A)	Real estate search engine	Closed	7 months: participated in a prominent accelerator program in Mountain View, California 12 months: expanded from 1 to 15 college towns 16 months: coverage expanded to 170 college towns	12	48	n/a	n/a
Sun Health (A)	Health supplement	Closed	3 months: sold products to nationwide customers through Amazon	3	7	n/a	n/a
Blog & Brand (A)	Online marketing	Closed	During incubation: about 1,000 bloggers used the platform, reaching about 6.2 million people	0	36	n/a	n/a
Cosmetics Detroit (A)	Beauty, Cosmetics	Closed	During incubation: featured and sponsored fashion events in New York and Miami	0	18	n/a	n/a
RapBattle.com (A)	Entertainment, Music	Closed	12 months: relocated to San Francisco to participate in another accelerator program	0	24	12	n/a

Table 4. Spatial and Temporal Growth of ACCEL and GREEN Ventures (continued)

Name (A: ACCEL, G: GREEN)	Product/service category	Operation status	Spatiotemporal growth trajectory*	Time to go beyond Detroit **	Time to close	Time to relocation	Time to acquisition
SolarGrid (A)	Software	Closed		n/a	24	n/a	n/a
DetroiTires (G)	Waste tire clean-up and repurposing	Active	12 months: first project cleaned up around 1,800 tires in one of Detroit neighborhoods by mobilizing local volunteers and financial support from a local foundation 54 months: removed more than 12,000 tires from Detroit neighborhoods	n/a	n/a	n/a	n/a
Dog Pound (G)	Dog training, consultancy	Active	22 months: developed a feline behavior testing model with a local animal shelter 34 months: the founder earned a master's degree in Canine Life Sciences 35 months: the founder worked for a year as an instructor for guide dog training 43 months: successfully campaigned with other local organizations to pass anti-tethering ordinance in Detroit	n/a	n/a	n/a	n/a
Good Food Network (G)	Food business incubation, consultancy	Active	6 months: offered the first "boot camp" for aspiring local food entrepreneurs 9 months: collaborated with local farmers' market and churches to launch a shared kitchen project for 22 local food businesses 48 months: served more than 200 local food businesses members in Detroit 66 months: formed a partnership with an organization in Australia, which wanted to replicate the company's model in Sydney 74 months: planned to build a neighborhood food hall where member businesses can have a retail space	n/a	n/a	n/a	n/a
Healthy Corner (G)	Food retail, catering	Active	12 months: sold healthy food in 20 Detroit stores 24 months: expanded to 35 local corner stores 36 months: started delivery and catering services in Downtown Detroit 48 months: began pop-up restaurants in neighborhood community centers across Detroit, ultimately launching 87 pop-ups 72 months: partnered with a local government agency to provide fresh food through local gas stations 108 months: partnered with local restaurants and a local hospital to provide meals for frontline healthcare workers in Detroit during the COVID-19 crisis	n/a	n/a	n/a	n/a
Pocket Neighborhood (G)	Real estate development	Active	24 months: prototyped the concept by another local residential complex development project 48 months: purchased two properties to develop and in the process of addressing local residents' concerns about development	n/a	n/a	n/a	n/a
Video Story (G)	Video production	Active	12 months: expanded from video content creation to storytelling, messaging, story-boarding, blogging 72 months: served clients ranging from local social enterprises to large for-profit and non-profit organizations in Detroit	n/a	n/a	n/a	n/a
Medicine Pocket (G)	Eldercare solution development	Closed	6 months: prototyped the design process with two local organizations 12 months: developed community paramedic program to assist elders' in-home transition care 18 months: implemented its process with a local senior residence by redesigning its community connect initiative	n/a	40	n/a	n/a
AllHerbs (G)	Herbal tea/cosmetics	Closed		n/a	12	n/a	n/a

* Time from incubation/acceleration: major event related to spatial expansion

** Time to expand to markets beyond Detroit; "0" denotes firms that started serving customers outside Detroit during incubation/acceleration period

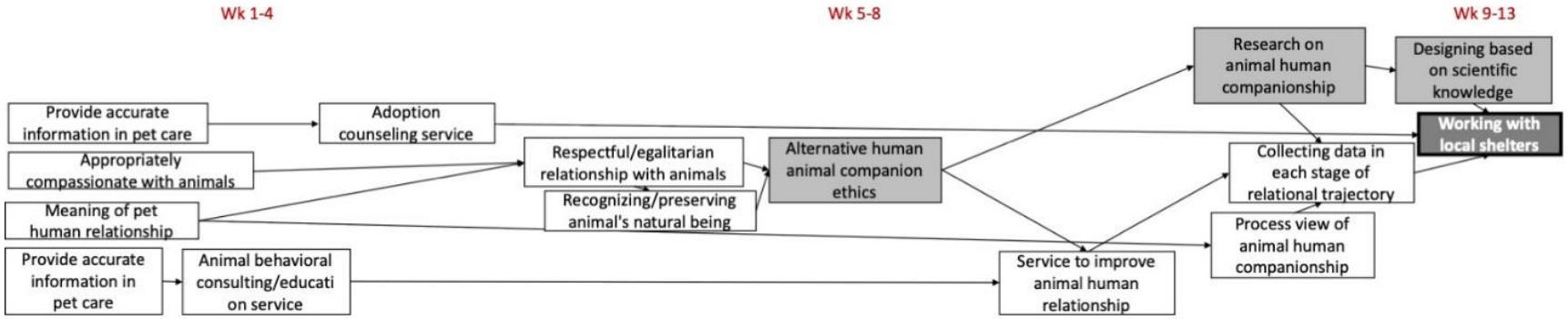
Table 5. Global and Local Impact by ACCEL and GREEN Ventures

Name	Jobs at peak	Local jobs (as of 2020)	Global impact	Local impact
Healthy Delivery (A)	10	6	Serving 32 organizations nationwide (businesses, sports teams, universities)	Providing healthy snack products to a large corporation in Detroit
Wait Less (A)	14	10	Has served 16 million users from 924 events in three different countries	Currently no client served in Detroit
Solar Design (A)	22	14	Received a renewable energy innovation award; Named a winner of global energy competition; Signed a deal with one of North America's largest solar companies that serve California customers; Signed a deal with a large solar provider in New England	Serving local customers; Designed solar roof for a religious private school in Detroit suburb
JustMarried (A)	4	n/a		
Team Online (A)	7	n/a		
Boutique Buy (A)	2	n/a	Created online presence and ecommerce channel for small fashion retailers across four different states	Created online presence and ecommerce channel for local boutique owners
GroupOrder (A)	10	n/a	Served food delivery needs of 7,300 users over 250 cities in 32 states, processed 10,000 orders	
ProVideo (A)	7	n/a	Served over 100 customers across marketing, finance, retail and other industries; After acquisition, currently part of a platform serving 10 million users in 85,000 organizations	
School Supplies (A)	12	n/a	Recognized as one of 15 "2013 Best Young Companies to Work for"	
Employee Marketing (A)	2	n/a		
GuideApp (A)		n/a	Supported over 33,000 users through its apps for two major college towns in Midwest	
Home Report (A)	1	n/a		
Kits 4 Cakes (A)	1	n/a		
Rentals Online (A)	11	n/a	Facilitated rental property search in 170 college towns	
Sun Health (A)	4	n/a		
Blog & Brand (A)	3	n/a		
Cosmetics Detroit (A)	1	n/a		
RapBattle.com (A)	6	n/a		
SolarGrid (A)	8	n/a		
DetroiTires (G)	1	1		Removed more than 12,000 illegally disposed tires from Detroit neighborhoods by mobilizing community members; Designed products out of recycled rubber through collaboration with local schools
Dog Pound (G)	1	1		Conducted educational campaigns and developed educational mobile app for local pet owners; Developed animal behavior testing model with local animal shelter; Led a grassroot campaign to pass anti-tethering law in Detroit; Consulted local landlords on pet policies for renters
Good Food Network (G)	5	5	Inspired a similar project in Sydney, Australia	Incubated and supported more than 200 local food businesses that collectively generated 250 jobs and $7 million in revenue; Launched a shared kitchen project that used kitchens in three local churches as for 22 local food businesses

Table 5. Global and Local Impact by ACCEL and GREEN Ventures (continued)

Healthy Corner (G)	4	4	Recognized by SCORE (Small Business Administration's mentoring arm) as 2014 Young Entrepreneur of the year; The founder made the Forbes 30 under 30 list in the Social Entrepreneurs Category	Providing healthy and affordable (less than $5 a meal) food options to the city's residents through 66 store locations and 21 community centers and schools; Provided more than 110,000 servings of fresh food ($263,000 in revenue); Won Michigan Social Enterprise Challenge in 2013; Recognized as Top Emerging Social Enterprise in 2013 by Michigan Economic Development
Pocket Neighborhood (G)	1	1		
Video Story (G)	3	3		Produced documentary-like marketing videos and other marketing contents for Detroit organizations
Medicine Pocket (G)	2	n/a		Partnering with city council, fire departments, and local hospitals to facilitate a design process for the first community paramedic program in Detroit; Partnering with a local senior residence, facilitated a design process for the city's first low-income senior residence
AllHerbs (G)	1	n/a		

Figure 1. An Excerpt from the Idea Code Chain Analysis



Note: This excerpt is the idea code chain analysis for the code "working with shelters" (Dog Pound). Each box represents an individual code, and its horizontal location represents the time when the code was introduced. Dark grey boxes represent idea codes that anchor Dog Pound to Detroit spatially, and light grey boxes represent idea codes that extend temporality of Dog Pound's future growth. These boxes are connected by arrows, which identify all the previous codes that were mentioned when the focal code was introduced, indicating that the meaning of the 'source' code(s) contributed to the generation of the focal code. For example, the code "working with local shelters" (the box at the end of the chain) received arrows from two previously introduced codes: "designing based on scientific knowledge" and "collecting data in each stage of relational trajectory." This indicates that Dog Pound's plan to work with local shelters emerged out of previous discussions to base Dog Pound's service on 1) existing knowledge in veterinary science and 2) information on each stage of the human-animal relationship.

Figure 2a. Boutique Buy Idea Development Process

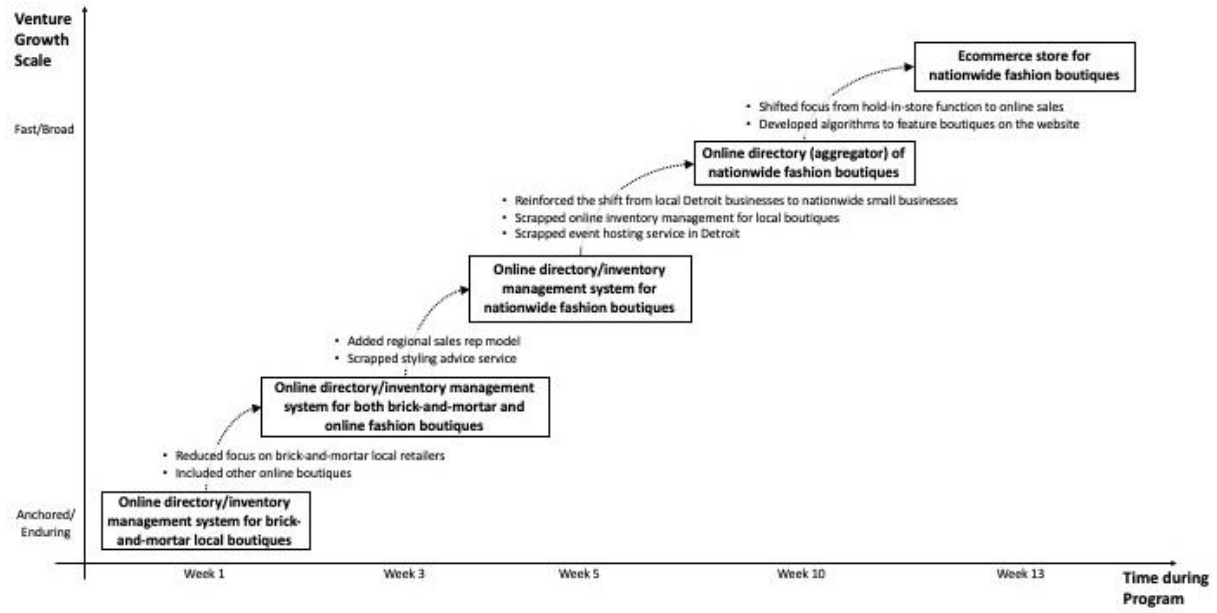


Figure 2b. Wait Less Idea Development Process

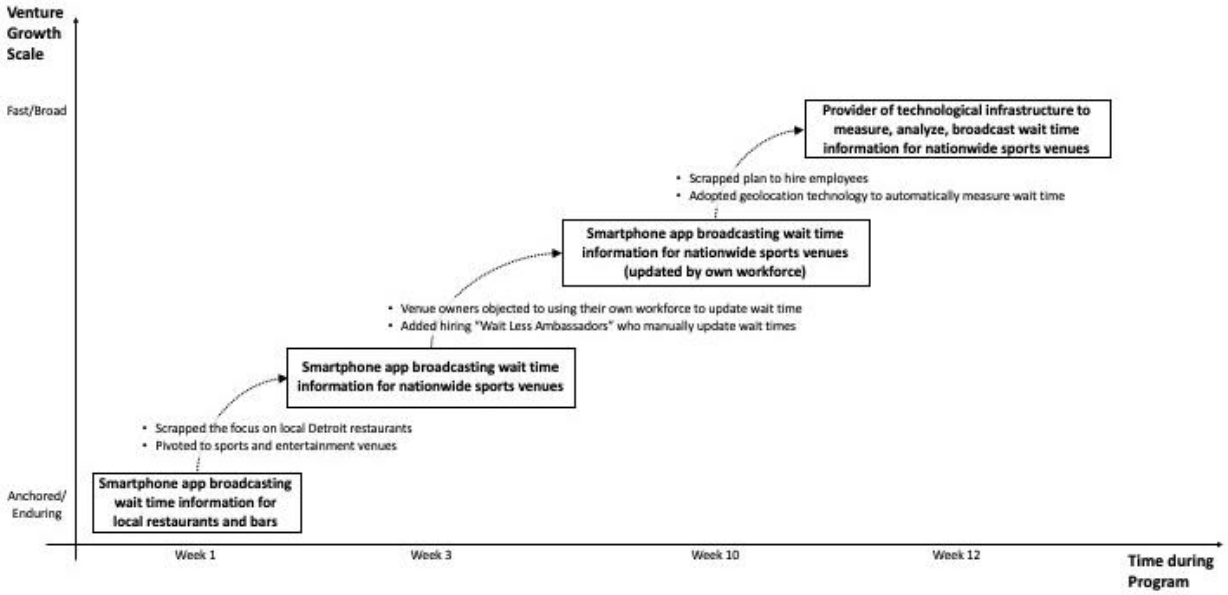


Figure 3a. Dog Pound Idea Development Process

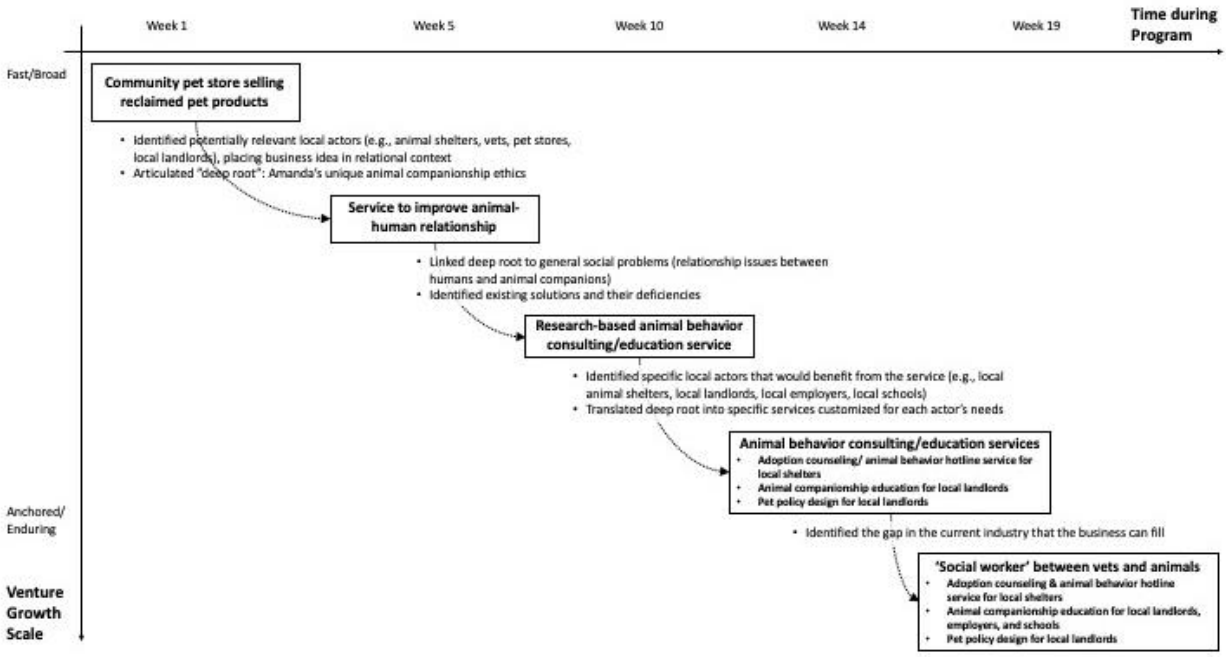


Figure 3b. Medicine Pocket Idea Development Process

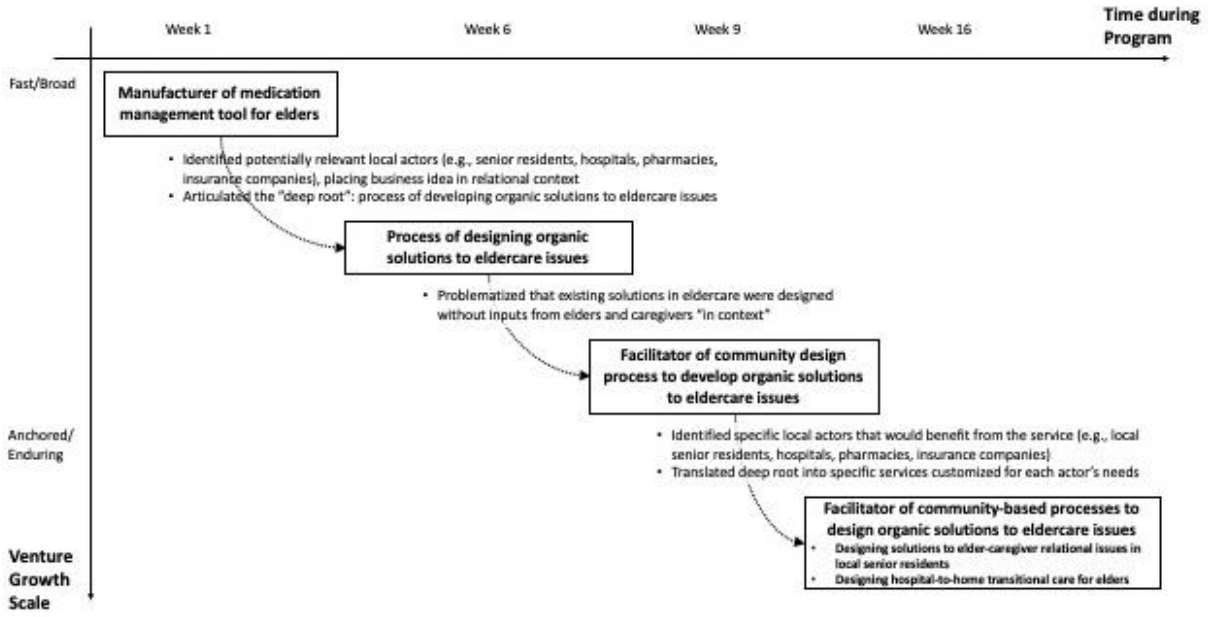


Figure 4. Theoretical Model: Contrasting Types of Venture Growth and Contributions in Time and Space

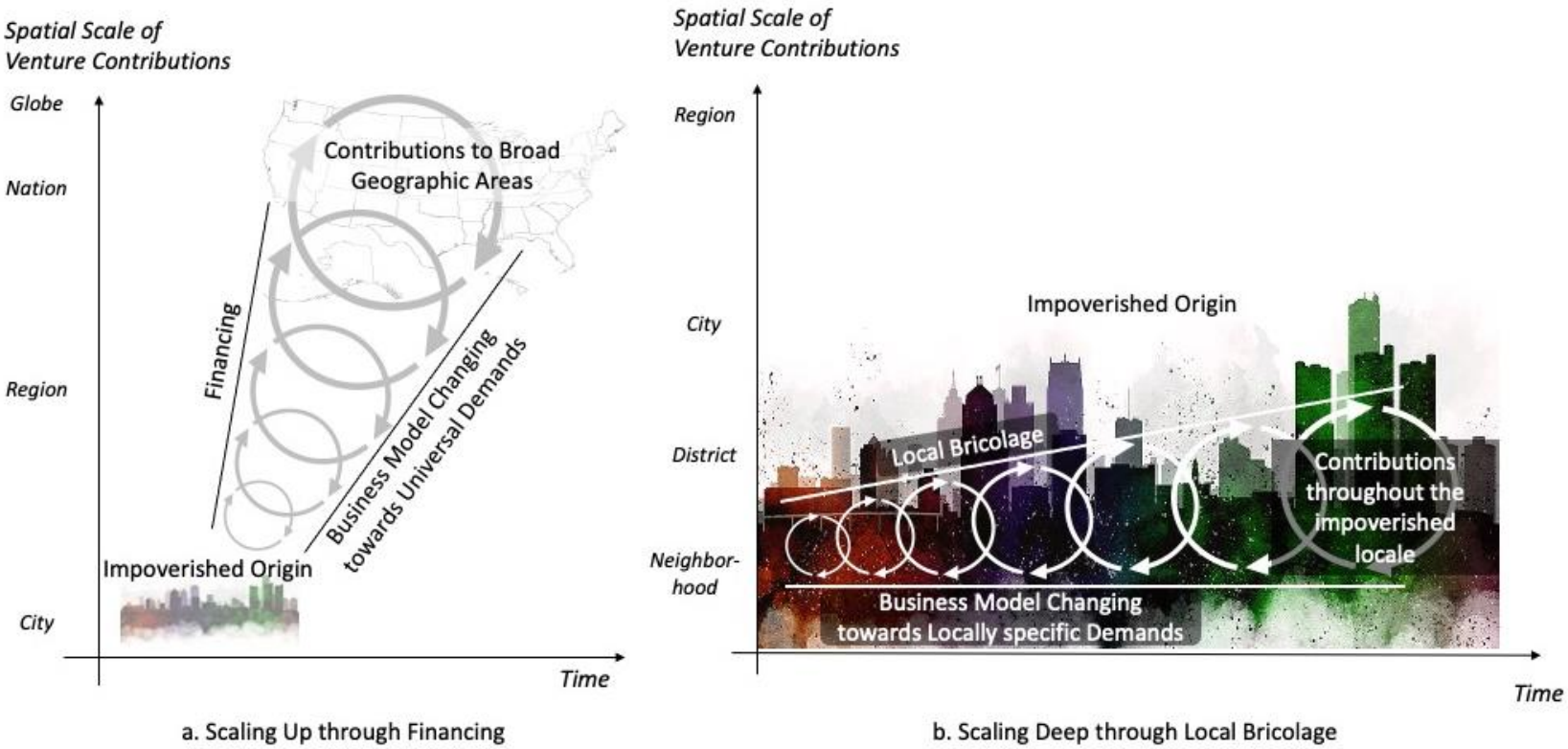
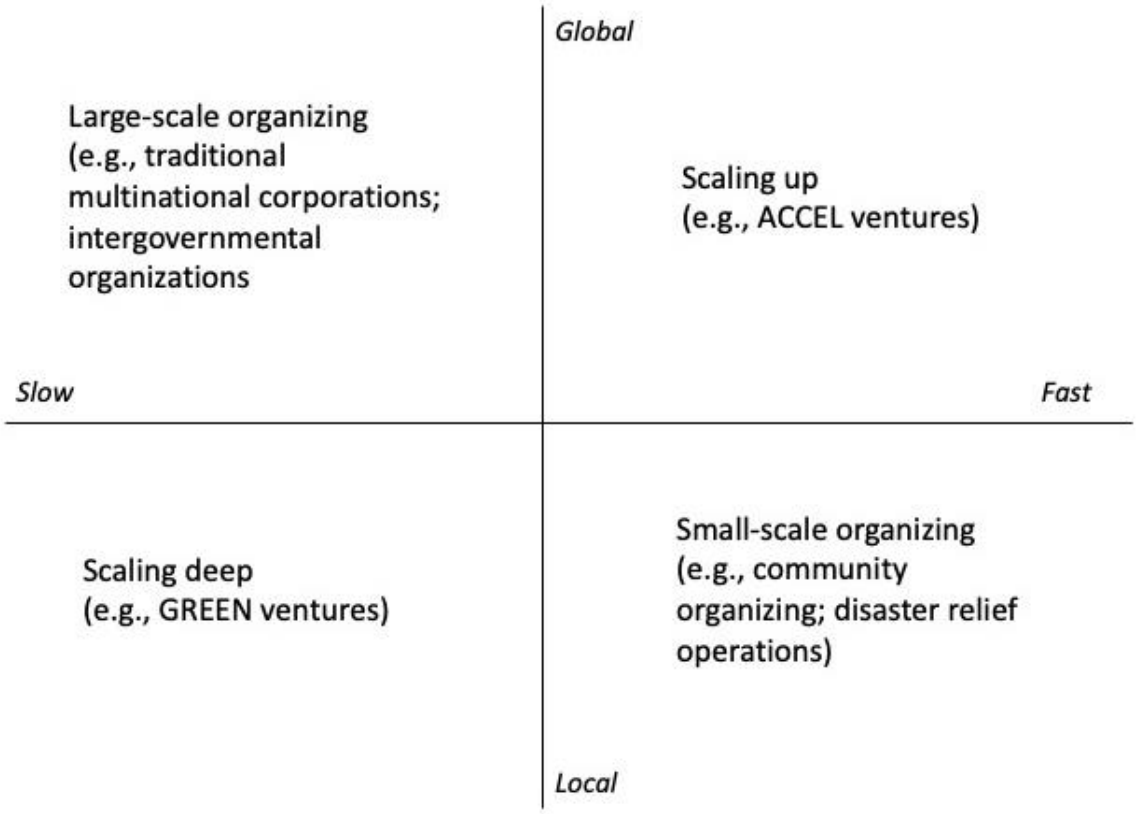


Figure 5. Spatial and Temporal Patterns of Organizing Processes



Suntae Kim is Assistant Professor of Management and Organization at Boston College's Carroll School of Management. He studies processes whereby new forms of organizing emerge in response to adversities. He received his doctoral degree in Business Administration from University of Michigan.

Anna Kim is Assistant Professor in Management for Sustainability at Desautels Faculty of Management, McGill University. She received her PhD from the University of Cambridge. Her research explores sustainable development through the lens of time and space, with a particular focus on the coordination of short- and long-term considerations in impoverished communities.