

A New **FRONTIER:**

Entrepreneurship Ecosystems in Bozeman and Missoula, Montana

Yasuyuki Motoyama
Christina Henderson
Paul Gladen
Emily Fetsch
Sarah Davis



**MONTANA
HIGH TECH
BUSINESS ALLIANCE**

Blackstone LaunchPad



MONTEC

Blackstone LaunchPad



**MONTANA
STATE UNIVERSITY**

ACKNOWLEDGEMENTS

This research was funded by the Ewing Marion Kauffman Foundation.

The authors thank Dane Stangler and Michelle St. Clair at the Kauffman Foundation.

We also thank the members of the Montana High Tech Business Alliance for initiating this report and providing ongoing financial support and guidance, in particular board members Greg Gianforte, Rob Gilmore, David Hayden, Jason Mittelstaedt, Lance Tinseth, Jeff Trom, and Paige Williams.

We appreciate Dr. Joe Fanguy, president of the Montana Technology Enterprise Center, for serving as administrator and fiscal agent and a primary partner in planning and executing the research and written report.

We are grateful to Greg Gianforte, founder of RightNow Technologies, for assisting with the map of RightNow spinoffs and to Dr. Larry Johnson, president of the Montana Photonics Industry Alliance, for providing data for the cluster map of the Montana photonics industry.

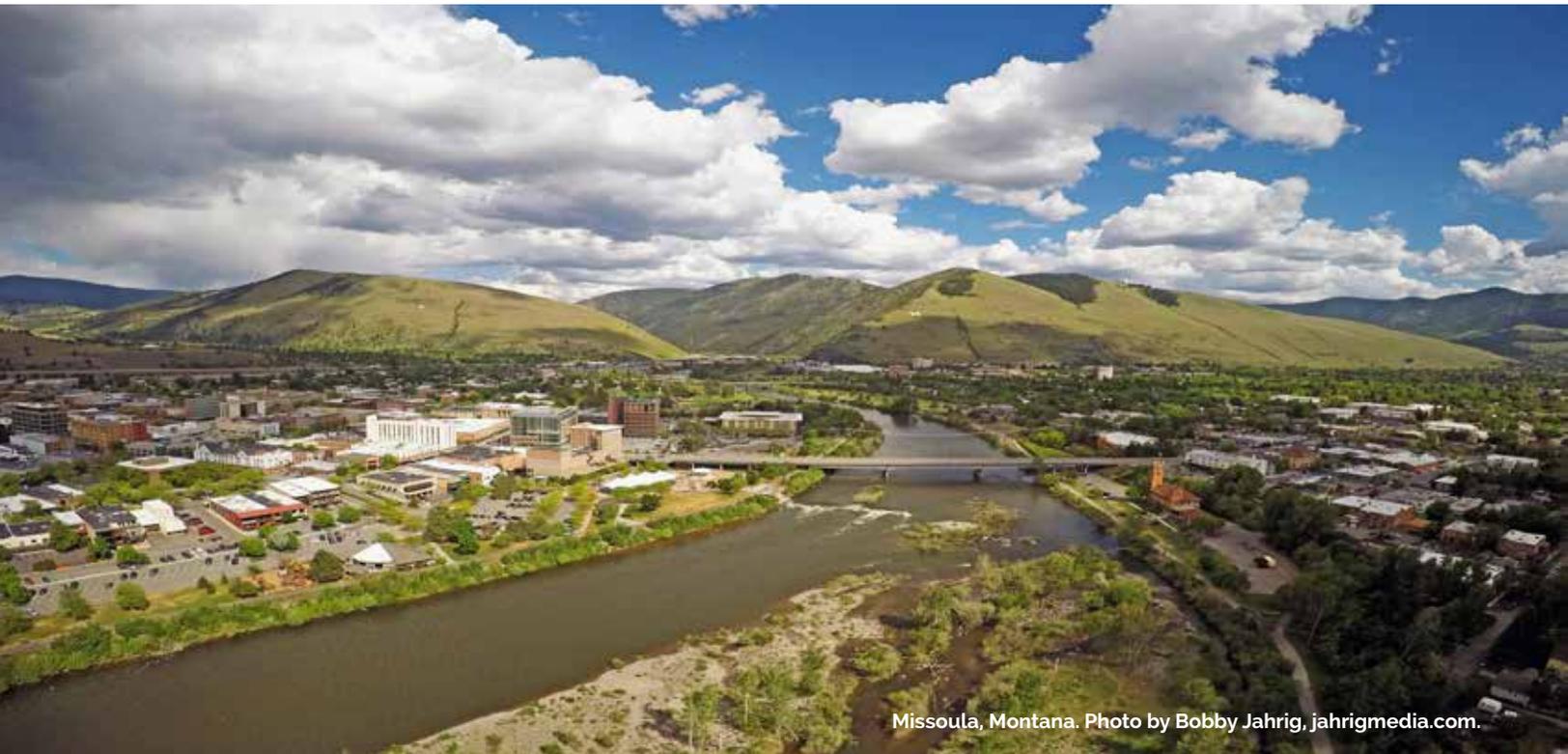
We thank the University of Montana Bureau of Business and Economic Research led by Dr. Patrick Barkey for conducting the survey of Montana businesses, and John Baldrige, director of survey research, for guidance in developing the questionnaire and management of the survey.

We appreciate Les Craig, director of the Blackstone LaunchPad at Montana State University for his assistance in planning and facilitating interviews.

We thank Shannon Furniss for editing and designing the report, Autumn Spaulding for design and publications assistance, Rachel Meidinger, Shellie Nelson, and Shauna Pernsteiner for transcription.

We would like to thank our launch event sponsors:





Missoula, Montana. Photo by Bobby Jahrig, jahrigmedia.com.

A NEW FRONTIER: ENTREPRENEURSHIP ECOSYSTEMS IN BOZEMAN AND MISSOULA, MONTANA

EXECUTIVE SUMMARY

In this report, we examine the local entrepreneurship ecosystems primarily in Bozeman and Missoula but also in surrounding areas in Montana. Studying the ecosystems in these areas is important because there have been few entrepreneurship studies of small cities, yet some of those small cities exhibit nationally high levels of entrepreneurship activities. To the authors' knowledge, this is the first major study of the Montana ecosystems. The study is jointly conducted by academic researchers and local practitioners and funded by the Ewing Marion Kauffman Foundation, a leading national philanthropic organization. The findings are as follows:

- Both Bozeman and Missoula present a very high level of entrepreneurship measured by macroeconomic Census data, spinoff activities, Inc. high-growth companies, and private-equity investments.
- The high level of entrepreneurship is leveraged by dense networks of active local support organizations (non-profits, university-related organizations, government, and individuals), which were well perceived and utilized by entrepreneurs.
- Entrepreneurs in Montana seek out resources, participate in events, and meet mentors beyond their home towns, often 200-300 miles away.
- Entrepreneurs in Montana have diverse backgrounds, coming from all over the country, with Silicon Valley or international experiences.
- With exception of a few companies that work specifically in a local environment, Montana companies target national and international markets and procure their inputs globally.
- Montana companies enjoy the high level of workforce locally, with a high retention rate built upon the quality-of-life offered in the region.

1. INTRODUCTION

Local Ecosystems of Entrepreneurs

Conversations about entrepreneurship often focus on entrepreneurs in Silicon Valley. In other minor cases, scholars have discussed Boston, Massachusetts (Saxenian 1994); Austin, Texas (Wiggins and Gibson 2003); the Research Triangle in

Statistics present that small towns and rural areas are not void of entrepreneurship, but, in fact, some of those areas enjoy the highest level of entrepreneurship in the nation.



Bozeman, Montana. Montana State University photo by Kelly Gorham.

North Carolina (Link and Scott 2003); and, Boulder, Colorado (Feld 2012). In the series of Metropolitan and City Studies, the Kauffman Foundation extended its entrepreneurship research in understudied cities such as Kansas City, Missouri (Motoyama et al. 2013); St. Louis, Missouri (Motoyama and Knowlton 2014); Indianapolis, Indiana (Desai and Motoyama 2015); and Chattanooga, Tennessee (Motoyama et al. 2016). Those studies have uncovered that different local 'ecosystems' of entrepreneurship produce different resources and successful entrepreneurs by cities, with fundamental common denominators among ecosystems such as the interactions and learning feedback between entrepreneurs and support organizations. However, the examined cases were still mid-sized or larger cities with millions of inhabitants; even with the case of Chattanooga, the metropolitan population was over half a million, and Boulder was about 300,000. Moreover, those cities enjoyed a relative proximity to larger cities such as Nashville for Chattanooga and Denver for Boulder.

In the meantime, small towns and rural areas were typically described as disadvantageous for entrepreneurship, with poor, isolated communities, a culture that does not support entrepreneurship, distance to markets and resources, and without an industry cluster or other entrepreneurs (Foster 2001; Acs and Malecki 2003; Simpkins 2005; Macke 2006). However, statistics present that small towns and rural areas are not void of entrepreneurship, but, in fact, some of those areas enjoy the highest level of entrepreneurship in the nation. At the state level, the highest entrepreneurship ratio (new firms over all firms) is observed in Florida and the Rocky Mountain

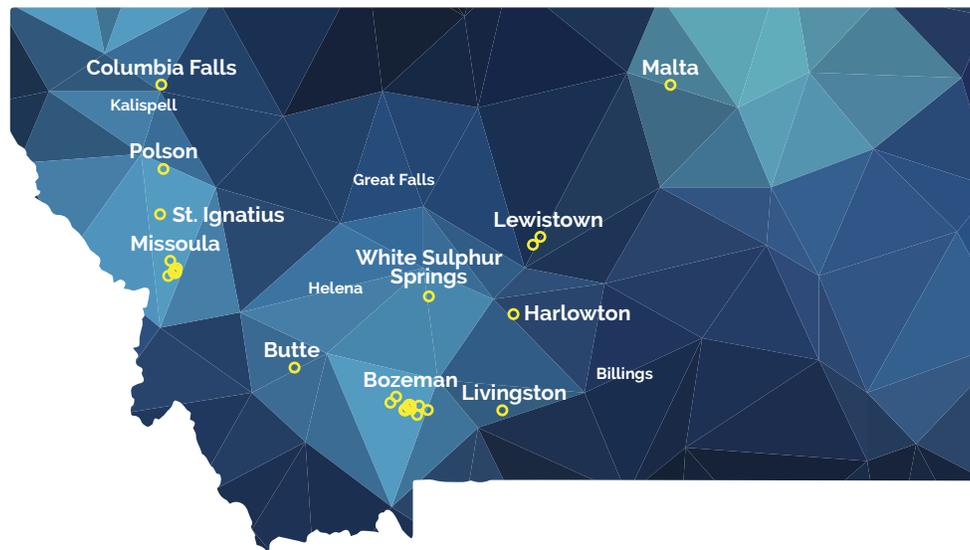
states, including Montana (Acs and Malecki 2003; Kauffman Foundation 2016). While the entrepreneurship data at the sub-state level is limited, Acs and Armington (2006) used the Longitudinal Establishment and Enterprise Microdata (LEEM) in 394 Labor Market Areas (LMAs) and identified that the 10 highest areas were primarily small areas, such as Laramie, Wyoming; Grand Junction, Colorado; Bend, Oregon; and, St. George, Utah. While there are two cities in populated Florida, Miami and Fort Myers, Missoula and Bozeman in Montana ranked 9th and 12th on this list, respectively. Thus, it becomes evident that small towns and rural areas have not received sufficient scholarly attention on entrepreneurship despite their high level of importance and activities. The purpose of this paper is to fill in this gap of knowledge.

Geographic Scope

To clarify the geographic scope of this paper, our focus on small towns and rural areas does not include an examination of the whole state of Montana. The fourth largest state, after Alaska, Texas, and California, Montana stretches more than 600 miles east to west and 350 miles north to south. Our focus is on the Bozeman and Missoula areas, as well as surrounding regions. While both Missoula and Bozeman are the second and fourth largest cities in Montana, the population of each city was about 69,000 and 30,000 in 2013, respectively. Even as metropolitan or micropolitan areas, each area hosts 114,000 and 97,000 inhabitants, respectively. Thus, each area is still a small town compared to the previous studies of

Figure 1

Locations of Interviewees in Montana



entrepreneurship ecosystems with millions of inhabitants. We did not confine our study strictly to each metropolitan area but expanded our scope to surrounding areas because we have hypothesized that small towns may not offer a full range of resources, and entrepreneurs may travel elsewhere to look for resources. In addition, the area between Bozeman and Missoula includes Helena, and its access to the state capital allows us to observe any interactions between companies and support organizations in those two cities and state agencies.

Research Rationale and Approach

Since there was almost no previous study about entrepreneurship ecosystems in Montana, the objective of this paper is exploratory to understand the structure of local ecosystems. We employed interviews as the primary data collection method, as well as the survey to supplement. However, we noted that interviews, particularly based on a snowballing, will bias the sample. We tried to minimize those biases by, first, collaborating with multiple local organizations. The local authors of this report come from Montana High Tech Business Alliance, the Blackstone LaunchPad of University of Montana, and Montana Technology Enterprise Center (MonTEC). We believe that this collection of networks and interviewees from multiple organizations will cultivate multiple types of samples. Second, we reflected this strategy of multiple sampling framework by stratifying our samples based on the following four criterion.

First, we stratified our sample by geography, and the breakdown is 16 interviews in Bozeman, 17 in Missoula, and 9 in other surrounding areas. Figure 1 shows the visual and geographic distribution. Second, we considered that it was critical to examine the entrepreneurship ecosystem from both the perspectives of companies and support organizations. Thus, we sampled startup companies (12), companies that

have achieved certain scale and further growth (hereafter 'high-growth' firms: 18), and support organizations (12). Last and perhaps most critically, we did not rely on the existing networks of our local collaborators, but intentionally reached out to companies and support organizations outside of our existing networks. We used a variety of external sources to identify other companies and organizations, such as websites, newspapers, *Inc.* magazine's list of fast-growing companies, and a database of venture capital-backed companies. It resulted in interviewing 27 companies and organizations directly inside our networks, as well as 15 outside ones.

2. INTERVIEW FINDINGS

2.1 HIGH LEVEL OF ENTREPRENEURIAL ACTIVITIES

Overall, we find a very high level of entrepreneurial activities of startup, high-growth companies, successful role model entrepreneurs, and rich supporting networks in Montana. Earlier, we have noted the high level of startup activities by macroeconomic LEEM data (Acs and Armington 2006). Here, we further supplement by adding data on growth companies.

First, we analyzed the regional presence of high-growth Inc. firms. These firms have achieved at least \$2 million in annual revenue and continue to achieve high growth based on OECD's definition – 20 percent per year for three consecutive years (2010). With this data, Bozeman hosts three high-growth companies, which makes the Inc. ratio (normalized by population size) of 29.8 in 2015. This is much higher than nearby Boise, Idaho (7.4). It is even higher than the Denver metropolitan area (25.6), which was ranked 9th highest in the nation in the 2000s. The ratio is lower than that of the Washington, D.C.

Table 1

Inc. Companies in Selected Montana and Other Regions

	Inc. Firm	2011 Pop (K)	Inc. Ratio	Inc. Firm	2015 Pop (K)	Inc. Ratio
Bozeman	3	91.3	32.8	3	100.7	29.8
Missoula	1	110.1	9.1	1	114.2	8.8
Billings	0	160.1	0.0	0	168.3	0.0
Boise	3	627.7	4.8	5	676.9	7.4
Denver	61	2,599.5	23.5	72	2,814.3	25.6
Washington, D.C.	248	5,703.9	43.5	273	6,097.7	44.8

Source: Inc. magazine (2011, 2015); Census Bureau's American FactFinder.

metropolitan area (44.8), the highest in the nation (Motoyama and Danley 2012); however, it does indicate that this normalized ratio of Bozeman is one of the highest even compared to large metropolitan areas. This pattern of high-growth firms in Bozeman is consistent throughout the 2010s, and Table 1 demonstrates the data in 2011 and 2015. However, this Inc. ratio is not high for Missoula, but it still is higher than Boise.

Additionally, we extracted data on private equity-backed companies in Montana since 2010 (Table 2). Missoula and Bozeman are the two major gravity points, and there have been sizable investments considering the scale of the regions since the mid-2010s, particularly after Next Frontier Capital,

a venture capital firm, started its operation in Bozeman. More importantly, those companies received investments from major metropolitan areas in the nation, such as the San Francisco Bay Area, New York, Washington, D.C., and Minneapolis.

Similarly, we can also observe these high-level entrepreneurial activities in spinoff entrepreneurial patterns. Our first example on page 8 illustrates the spinoffs centered around RightNow Technologies, a company that developed customer relationship management software, employed more than 1,100, and was acquired by Oracle for \$1.8 billion in 2012. The acquisition was not the end of the entrepreneurial activities. Former RightNow Technologies employees started at least 15 new companies in the 2010s – not only in related sectors, such as Internet, IT service, software, and network security, but also in other sectors such as marketing consulting, consumer electronics, and package delivery. Some of these companies now employ dozens to a hundred employees, and at least three of them have further received private equity investment: Ignite Feedback (\$300K), CrossTX (\$700K), and Quiq (formerly Centricent) (\$6.5 million). There is a live photonics cluster in the region that continued to generate a series of companies in every decade at least since the 1980s in collaboration with support organizations, such as Spectrum Lab and Optical Technology Center (OpTeC) at Montana State University, and the Montana Photonics Industry Alliance.

Table 2

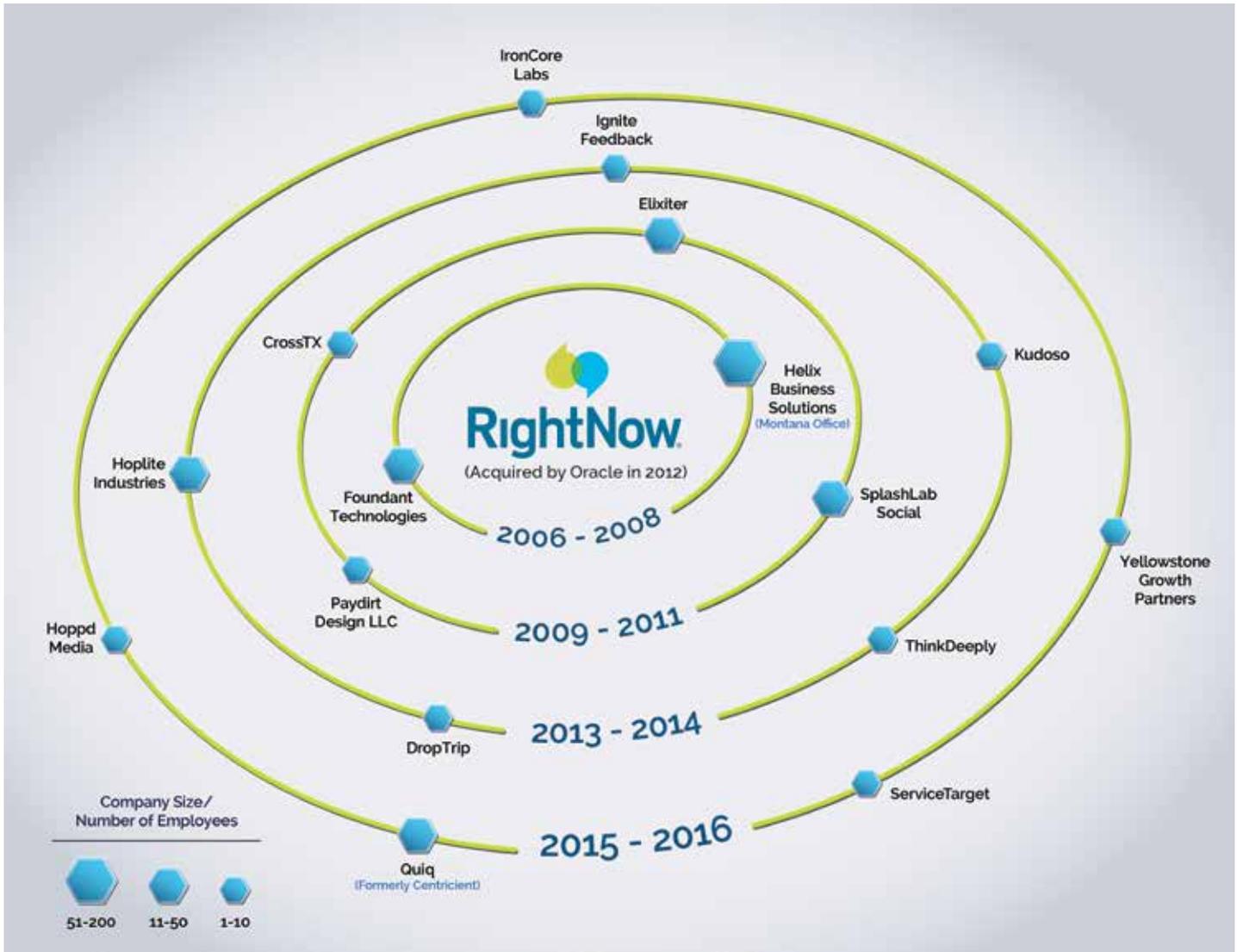
Private Equity-Backed Companies in Montana Since 2010

Company	Sector	Region	Year	Amount (millions)	Investor Location
Goomzee	Software	Missoula	2010	1.5	Boise
Rivertop Renewables	Clean Technology	Missoula	2011	1.5	Indianapolis
Exinda	Software	Helena	2012	12.0	Baltimore, Boston
Submittable	Curated Web	Missoula	2012	0.8	NY, LA, SF, Mexico
TerraEchos	Security	Missoula	2012	NA	San Francisco
Sikernes Risk Management	Software	Bozeman	2013	NA	Washington, D.C.
Augustus Energy Partners	Clean Technology	Billings	2014	96.7	Hartford, CT
Rivertop Renewables	Clean Technology	Missoula	2014	26.0	Minneapolis
Beartooth	IT Hardware	Bozeman	2015	2.0	NY, SF
GTUIT	Clean Energy	Billings	2015	NA	Houston
IgniteFeedback	Software	Bozeman	2015	0.3	Polson, MT
SiteOne Therapeutics	Biotechnology	Bozeman	2015	1.3	Bozeman
Submittable	Curated Web	Missoula	2015	1.3	MT, FL, NM, CA
Audience Awards	Marketing	Missoula	2016	0.5	Seattle
Blackmore Sensors	Photonics	Bozeman	2016	3.5	Bozeman
Clearas Water Recovery	Biotechnology	Missoula	2016	4.0	Bozeman
Orbital Shift	Software	Missoula	2016	1.3	Bozeman, Polson
Quiq (formerly Centricent)	Software	Bozeman	2016	6.5	CA, Bozeman
CrossTX	Software	Bozeman	2017	0.7	Polson, MT
SiteOne Therapeutics	Biotechnology	Bozeman	2017	15.0	CA, Bozeman

Source: CrunchBase (2017) and authors' tabulation.

Figure 2

RightNow Technologies Spinoff Map



2.2 BREADTH OF ENTREPRENEURSHIP SUPPORT NETWORKS

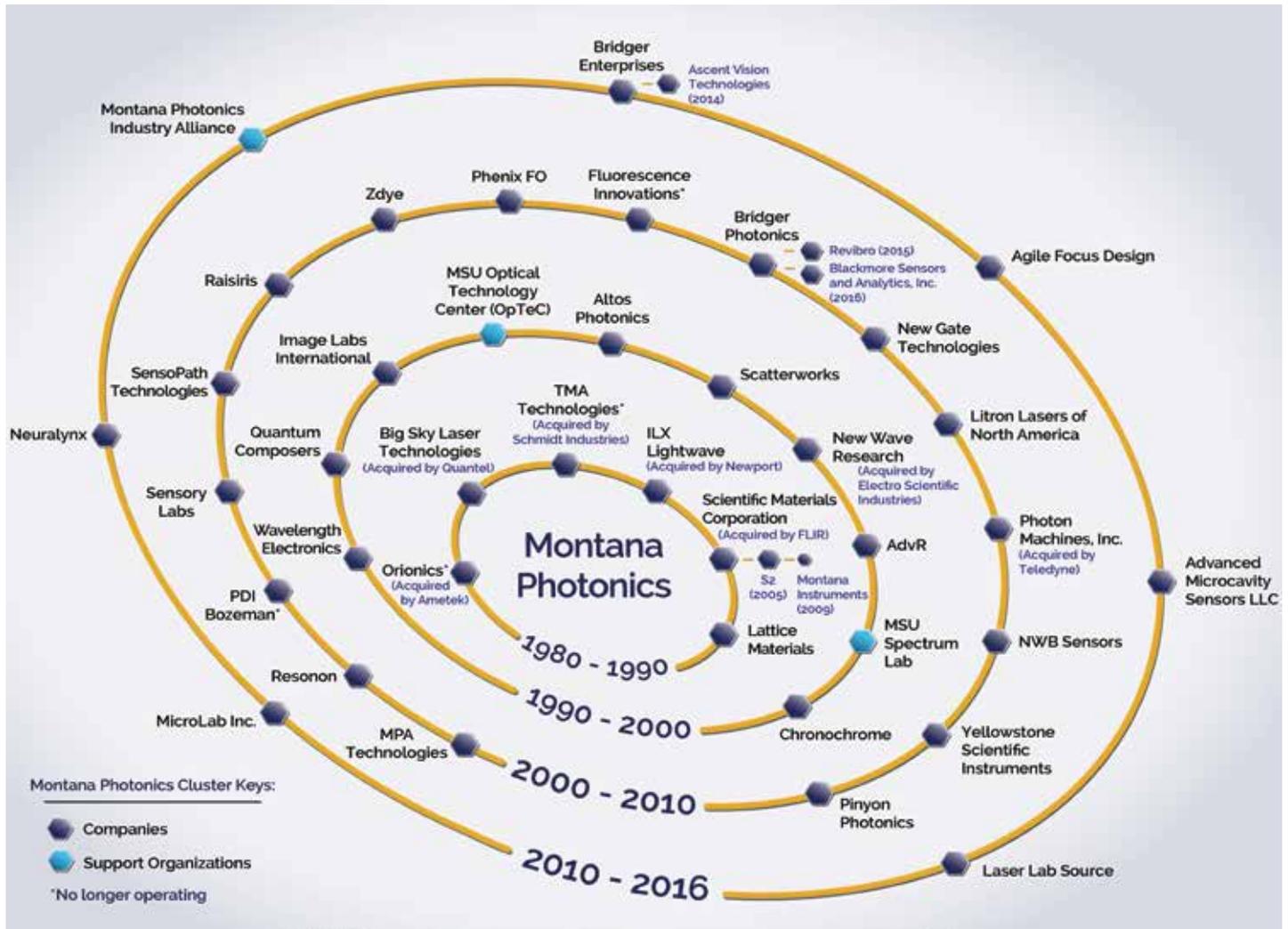
The high-level of entrepreneurship activities in Montana was based on a broad and dense supporting infrastructure. Despite the small scale of the region, a number of organizations provided entrepreneurship support, sometimes at different stages and for different sectors of the economy. Moreover, many entrepreneurs interviewed were aware of those support organizations, relied on multiple organizations, and built individual mentor relationships with experienced entrepreneurs.

To demonstrate the breadth and density of support networks, Tables 3, 4, and 5 (page 10) list organizations and individuals that entrepreneurs cited as resources that have supported them. However, there are two caveats. First, we built

this information from the perspective of entrepreneurs who have used regional resources, which was concrete evidence. We then supplemented the information from the perspective of entrepreneurship support organizations. Relying only on the latter source could present a skewed view of what support services those organizations intended to provide, which we do not consider concrete evidence of the usefulness and function of the ecosystem. In fact, there were cases, for instance in Atlanta, where a number of support organizations existed and operated with good intentions but were invisible to entrepreneurs and did not function effectively (Breznitz and Taylor 2014).

Second, we are well aware of the selection bias of our interviewing method. In other words, if we interviewed companies that had received support in the past from our local, collaborating organizations, the support relationships

Figure 3
Montana Photonics Cluster Map



existed by definition. As discussed earlier in the methodology explanation, we addressed this limitation by reaching out to companies outside the network that did not have formal relationships with our local partners. The findings about the dense support network were matched between 17 inside and 13 outside network companies. In addition, the objective of this section is not to identify or rank which organization was mentioned more, but to present the multitude of support networks expressed by many companies. Please note that there were many other organizations mentioned, but we spared them here for the brevity of this report.

Support Organizations and Individuals Mentioned by Entrepreneurs

After identifying a number of support organizations and individuals, we classified the list into three groups: a) non-profit business resources, b) companies and individual mentors,

and c) government resources. Among non-profit business resources, we listed 17¹ organizations that were mentioned by at least five entrepreneurs, which ranged from universities (University of Montana and Montana State University), industry networks (Montana High Tech Business Alliance, Montana Photonics Industry Alliance, etc.), publicly funded organizations (Montana Manufacturing Extension Center), and other kinds of organizations run by volunteers or people with no formal organizational affiliations (Montana Code School or 1 Million Cups). Note that entrepreneurs mentioned universities in various contexts. The two major state universities happen to have Blackstone LaunchPads – which primarily support student entrepreneurship – and there are other units or events

1 As references, Motoyama and Knowlton (2016) interviewed 55 companies and identified 17 support organizations mentioned by at least two entrepreneurs in St. Louis, a metropolitan area of 2.8 million. In a survey of 108 companies, Motoyama et al. (2014) identified 10 support organizations that were used by at least five entrepreneurs in Kansas City, a metropolitan area of 2.1 million.

Tables 3, 4, and 5

Business Resources Mentioned by at Least Five Interviewees

Business Resources
Montana High Tech Business Alliance
Hellgate Venture Network
Blackstone LaunchPad - University of Montana
Business Startup Challenge - University of Montana
MonTEC
Blackstone LaunchPad - Montana State University
Missoula Economic Partnership
University of Montana (other units or functions)
Montana Photonics Industry Alliance
Montana State University (other units or functions)
TechRanch
Montana Code School
Montana Manufacturing Extension Center
1 Million Cups - Missoula
Dorsey & Whitney

Companies and Mentors Mentioned by at Least Five Interviewees

Companies and Mentors	Location
Submittable, Michael FitzGerald	Missoula
Audience Awards, Paige Williams	Missoula
Advanced Technology Group, Tom Stergios	Missoula
RightNow Technologies, Greg Gianforte	Bozeman
Bridger Photonics, Pete Roos	Bozeman
Elixiter, Andrew Hull	Bozeman
Mystery Ranch, Dana Gleason	Bozeman
Scientific Materials, Ralph Hutchinson	Bozeman
Workiva, Jeff Trom	Bozeman

Government Support Mentioned by at Least Five Interviewees

Government Resources
Federal Government Contracts or Partnerships
Small Business Development Center (SBDC)
Jon Tester, U.S. Senator from Montana
Steve Daines, U.S. Senator from Montana
Max Baucus, former U.S. Senator from Montana
Montana Trade Show Assistance Grant
SBIR/STTR Innovation Grants
MT Board of Research and Commercialization Technology
Montana Department of Commerce
Procurement Technical Assistance Center (PTAC)
SBIR Consultants - MTIP, Marti Elder, Ray Friesenhahn
Steve Bullock, Governor of Montana

such as MonTEC and Business Startup Challenge that are affiliated with University of Montana.

Second, there were many active role-model entrepreneurs who have successfully run companies and mentored the next generation of entrepreneurs. These individuals resided in either Missoula or Bozeman, but their mentees were located in various parts of the state.

Third, it is important to point out that entrepreneurs in Montana mentioned various supports provided by government or elected officials. This was a sharp contrast to cases in other larger cities, such as Kansas City, St. Louis, Indianapolis, and Atlanta, because government was usually mentioned with a negative connotation, such as barriers for entrepreneurship or onerous regulations. In contrast, Montana entrepreneurs have leveraged support from i) federal government for grants, consultation, and procurement, ii) state government for trade shows or grants, and iii) elected officials such as senators and the governor. Support from elected officials was particularly noteworthy because entrepreneurs reported referrals from the governor or senators, considered them the 'champions' of entrepreneurship, and expressed trustful relations.

Some business support organizations have been operating in Montana for decades. The Montana Manufacturing Extension Center (MMEC) out of Montana State University is a statewide resource for manufacturers, offering consulting in areas such as increasing sales, developing new products, and helping with process improvements such as lean manufacturing. The law firm Dorsey & Whitney has had an office in Montana for more than 25 years and has provided corporate legal counsel for large Montana firms, while also serving startups pro bono or at a significantly reduced cost. Other longstanding supports include university and government programs. The Montana Academy of Distinguished Entrepreneurs (MADE) and the Ruffatto Business Startup Challenge at the University of Montana – and Small Business Development Centers located statewide – provided advice on business plans, introductions to mentors, and access to capital.

Eight high-growth companies interviewed have benefited from incubators at either Montana State University in Bozeman (TechRanch) or the University of Montana in Missoula (MonTEC), which both opened in 2001 (Business Service Firm C, F, J, L, M, N, Manufacturing Firm I, J). According to the firms, these facilities have provided services such as affordable lab and office space, business advice, referrals to specialized law firms or CPAs, introductions to co-founders, connections to peer businesses, and grants to attend trade shows. Both incubators experienced drastic changes in recent years.

Though perceived as valuable by entrepreneurs, MSU's TechRanch was shuttered in 2010 when the federal funding it relied on was cut. MonTEC nearly had to close its doors in 2011 when the economic development group that managed it dissolved. MonTEC reopened in 2012 and has promoted

Montana entrepreneurs held bootstrapping in high regard. Some believed growing their company with little to no outside capital had allowed them to build a more sustainable enterprise.

several entrepreneurial support initiatives, including a Missoula coalition called Accelerate Montana, which is comprised of the UM Blackstone Launchpad, the Montana Small Business Development Center, the Montana Code School, the Montana Procurement Technical Assistance Center, and the Montana World Trade Center.

A number of interviewees noted a significant increase in both entrepreneurial activity and entrepreneurial support in Missoula and Bozeman in the past five years. In 2011, the City of Missoula launched a new economic development organization, the Missoula Economic Partnership (MEP), and the City of Bozeman opened its own Office of Economic Development in 2012. Both groups were cited as helpful by entrepreneurs interviewed. Missoula area entrepreneurs described situations in which MEP introduced them to mentors, referred them to available grants, provided opportunities to pitch investors, and led efforts to reduce the cost of air travel, a key pain point. One Bozeman area startup said:

The City of Bozeman and its Director of Economic Development have been such a great example of what someone at a city level can do to support a business community and support growth and add value, actually getting involved, following up, getting results, and being a true champion for business here. The city has been such a great partner for us during our growth. [Manufacturing Firm C].

In February 2014, reflected in part by the efforts of Sen. Jon Tester and his staff, the Blackstone Charitable Foundation chose Montana as one of a handful of sites to locate the Blackstone LaunchPad, with offices on the campuses of the University of Montana and Montana State University. Over the past three years, these LaunchPads have functioned as a one-stop shop for students, alumni, and faculty entrepreneurs, coaching them to explore multi-dimensional aspects of the entrepreneurship journey – such as business plan, financing, and team building – and connecting them to other local support resources.

As described in the previous section, the funding in Montana started to increase in the 2010s. In May 2015, access to capital in Montana improved significantly when Next Frontier Capital, a Bozeman-based venture capital firm, announced the initial closing of its inaugural \$21 million fund. Next Frontier Capital aimed to serve as a “bridge between capital from out of

Montana and the interesting opportunities from within the state” and joined existing investment funds Goodworks Ventures in Missoula and Frontier Angel Fund II in Polson. Montana startups have also leveraged online platforms such as Kickstarter to raise funds. One firm interviewed raised more than \$350,000 in presales [Manufacturing Firm A].

Montana entrepreneurs held bootstrapping in high regard. Some believed growing their company with little to no outside capital had allowed them to build a more sustainable enterprise. One software-as-a-service company that had attended a national incubator in Silicon Valley said:

There's nothing easier than spending somebody else's money poorly. I mean, now that we have a lot of money coming through the company, I find myself more lackadaisical about [hiring]. I imagine if somebody just gave me \$20 million, oh my God, I would have done the dumbest stuff with that. So I think there's total value in building companies, starting companies outside. I would highly recommend it to people. I think it's so much more valuable for you to start your company in the middle of nowhere and really like, you're forging something. Like you're in this crucible that then makes you sort of indestructible [Business Service Firm G].

Another manufacturing company said early bootstrapping had allowed him to embrace long-term thinking and maintain more control in negotiations with investors.

We've always been, I don't want to say anti-VC. That's not correct. It's just a lot of times outside funding, the interests aren't aligned. They want to see their money out. They want to see a financial return. They're not necessarily worried about the health of the company and health of the employees and the future of all those parties. My biggest thing, I never wanted our company to be beholden to short-term financial decisions and have shareholders demanding a return on something that was so blatantly harmful in the long term to our company. And as a result, again, we didn't take a dollar for two years [Manufacturing Firm C].

Entrepreneurial Networking Groups

Entrepreneurial networking groups in Montana, both formal and informal, were primarily launched from within the business community. The Hellgate Venture Network (HVN) was started in Missoula in 2009, which evolved from an informal happy hour and networking once a month. HVN continues to meet in Missoula and has inspired similar groups to form in Butte and Central Montana. Missoula area entrepreneurs began meeting for coffee under the Kauffman Foundation's 1 Million Cups program in April 2015 and in Bozeman in November 2015, serving as a feedback place for early-stage business ideas.

Encouraged by local economic developers, industry leaders in Bozeman launched new trade associations in late 2013 and early 2014, including the Montana Photonics Industry Alliance (MPIA), an association serving photonics companies in the Bozeman area, and the Montana High Tech Business Alliance (MHTBA), a statewide association serving high-tech and manufacturing firms. These organizations supported high-growth businesses and startups, facilitating networking and communication among members, posting jobs online to boost recruiting, and helping companies with marketing and promotion. MPIA also coordinated representation for Montana companies at international photonics conferences. Entrepreneurs who attended MHTBA member receptions met co-founders, mentors, potential investors, or specialists such as export consultants at those events.

A number of entrepreneurs also received support through informal peer relationships, meeting periodically with other founders for beers or lunch. One leader of a fast-growing startup described connecting with the founder of another local tech firm when both spoke at an event at Montana State University:



The problems of a CEO in a cash-strapped tech startup are unique, and so he and I have a great relationship. Generally, once a week we go on a run together where we just talk about CEO problems. 'Here's what I've got going on, here's what you've got going on.' So we just trade ideas and trade strategies on how we're dealing with stuff [Manufacturing Firm C].

In other cases, Montana entrepreneurs sought peer-to-peer advice, sometimes out-of-state, through CEO development groups like Young Presidents' Organization, Vistage, or CEO Connection. Such groups typically had a minimum revenue requirement and offered regular, structured meetings where founders received assistance with business challenges and learned from larger companies. These peer groups also allowed Montana entrepreneurs to expand and maintain their networks outside of the local community [Business Service Firm C, P, Manufacturing Firm F, H].

Small Degrees of Separation

While we have observed various types and levels of support connections between entrepreneurs and supporters, it was not easy to disentangle how those connections were made. At the bottom line, Montanans knew each other well and felt comfortable giving referrals, and those connections were built out of open relationships with small degrees of separation. One entrepreneur described "a sense of giving back and mentorship of the growing businesses by the more established leaders, which helps promote growth." He noted:



These are people that have been willing to meet for lunch, spend time on a phone call etc. to help me process issues or opportunities. ...I feel confident I could call just about any business leader in Montana and they would jump to help if they could [Manufacturing Firm H].

An investor observed that in Montana, "it's very easy to approach people. They're not protected or hidden behind assistants and security guards that make it hard." Indeed, multiple startup founders related instances when they had contacted experienced executives "out of the blue" and received ongoing mentorship and advice. The small scale of the region encouraged the close, comfortable, and serendipitous interactions among people observed in other vibrant entrepreneurial communities. Manufacturing Firm D produced outdoor apparel and described the beginning of support connection as follows:



I got that book, *Small Business for Dummies*, and was reading it in a coffee shop the very first weekend I was in town. A guy noticed the book, and we got to talking. It turns out for 20 years he had done production and design for Patagonia. And I was sitting there [thinking], 'Come on, this is not how it really works, is it?' Then he gave me his card, and I went to his shop a week later, and he gave me loads of contacts and advice. And then he just said, 'You're on to something big here. I think you need to move on this now.' And he continues to be one of my top advisors. He's on my board to this day [Manufacturing Firm D].

This high level of accessibility extended to government leaders as well. As one startup executive noted:



The good thing about Montana being a small town is I know the governor, I know Sen. Tester. Because it's a small town, you get access to your leaders. And they really help support you in any way that they can and also talk about you a lot [Business Service Firm J].

Manufacturing Firm F mentioned that she would text to the mayor or governor. Entrepreneurs in Montana, even those in remote rural towns, frequently mentioned receiving phone calls, visits, and invitations from elected officials and their staff. One rural manufacturer marveled that:



It is incredible that a small company like this has that direct [line] of contact. [Sen.] Tester and [former Sen.] Baucus have both been here. They know who we are. When I see them on the street, they know me by name. [Sen.] Daines knew who I was. He was never here, but we had a good relationship. What other state can you have this? Can you imagine California, [that you] have the governor's ear? Or the senator's ear? We have pictures of Baucus bringing a whole delegation of foreign ambassadors here to tour our place, and one of them was an Australian ambassador, and we were building systems for Australia at that time. So it was pretty cool for him to see that. [Manufacturing Firm G]

Multiple companies mentioned active support from Montana's congressional delegation in making introductions to customers, breaking through problems with government contracts, or helping with matters related to federal policy.

2.3 NETWORKS BEYOND HOMETOWNS

People conventionally assume that entrepreneurial activities are structured at the local or metropolitan scale. In other words, if there is a place with high-venture activities, there must be unique local assets there. Academics in geography and business have followed the same assumption. There have been a number of studies examining how Silicon Valley's unique assets contributed to the regional entrepreneurial success (Saxenian 1994; Kenney 2000; Lecuyer 2006). Another set of economics and regional science studies attempted to understand this phenomenon by quantifying and regressing local inputs and outputs of entrepreneurship (Acs and Armington 2006; Glaeser and Kerr 2009; Qian et al. 2012; Motoyama and Bell-Masterson 2014). This study of Montana revealed that the reality of entrepreneurial process was far more complex: Entrepreneurs in Montana frequently traveled hundreds of miles to seek and receive feedback, advice, and inspiration. Likewise, entrepreneurship support organizations planned events that recruited entrepreneurs and even provided referrals beyond their home region.

Trans-Regional Connections

This trans-regional connection was visibly observed between Bozeman and Missoula, the corridor of 200 miles on

Interstate 90. For instance, Manufacturing Firm A was based in Bozeman and sought advice from the Blackstone LaunchPad at Montana State University in Bozeman. The director gave a referral to a law firm based in Missoula. This connection was crucial for Manufacturing Firm A because it needed to obtain information and file patents related to Computer Numerical Control (CNC) milling for its machinery product, and the law firm had an attorney who specialized in that area. Business Service Firm H in Missoula traveled to Bozeman to speak at the Montana High Tech Jobs Summit hosted by Sen. Daines in 2015. A tech startup in Missoula [Manufacturing Firm J] ventured 350 miles to Billings in 2016 to attend the Innovate Montana Symposium hosted by the Governor's Office.

The trans-regional connection was not only between the cities in Montana, but also between rural parts and cities. The founder of Manufacturing Firm B was based in Lewistown, but he regularly met his mentor in Billings, a 128-mile distance. Similarly, Service Firm A selectively attended an event at its hometown in Malta organized by HiLine Technology Roundup. Additionally, the founder of this company traveled from Malta to other networking events outside the region: to Havre (90-mile distance) organized by Triangle Communications; to Bozeman (300-mile) organized by the Blackstone LaunchPad at Montana State University; and, to Kalispell (350-mile) organized by the Montana High Tech Business Alliance. The founder further described that she benefited from these networks that went beyond her industry:



At first, I thought, 'what am I going to get out of farming technology?' But it was really, really neat. I am so glad I went. It was neat to meet other people and see what they're doing. And it was also really cool to see so many members of the community be excited about what we're doing. ... [Describing another event] That also just was refreshing to see what people were doing. To see how welcome [my company] was at the table. I really wasn't expecting to say anything, but it was neat to feel like I had a voice there and meet some of the people who were excited about more opportunity in Montana.

Successful rural founders were also willing to travel to the cities to mentor up-and-coming entrepreneurs. The CEO of Business Service Firm O in St. Ignatius traveled 160 miles to Butte to speak at the Montana Jobs Summit, hosted by former Montana Sen. Max Baucus in 2013, and 40 miles to Missoula to speak to the Entrepreneurship Club and American Indian Business Leaders at the University of Montana. Likewise, the co-founder of Manufacturing Firm F traveled 120 miles to Missoula to mentor entrepreneurial female students in the UM Pursue Your Passions program in 2016.

2.4 GLOBAL CONNECTIONS FOR BUSINESS INPUTS AND CUSTOMERS

Because of the small size, Montana companies were aware of limited markets within their surrounding areas. Thus, the majority of companies did not provide location-constrained services or products but aimed at national or international markets. Additionally, Montana companies operated with global reach of business inputs and customer base. For instance, Manufacturing Company C produced camera sensor systems for drones and cultivated a core component supplier in Australia. Consequently, this company also operated a manufacturing and R&D center in Australia and synchronized with their core operation in Montana. Such a pattern of global commodity chain of Montana companies was observed not only in technology-intensive sectors but also in traditional sectors. Manufacturing Company D provided apparel products but procured cotton canvas from India because the fabric was no longer produced in the U.S. Because the Montana company's core strength was in the design and marketing of the products, it also outsourced its production in Seattle.

We found multiple entrepreneurs with prior work experience at well-known global companies. Business Service Company C was founded by two entrepreneurs – one of them had been a software engineer at IBM, and the other had years of experience in Silicon Valley. Because of the connections of the second founder, the company often got advice from his peers in Silicon Valley. Moreover, this company provided services to more than 200,000 customers in the U.S. and also overseas in locations such as the United Kingdom, Canada, and Australia. Such services were possible because of their core competency in a software platform that provided marketing, customer acquisition, and e-commerce experience, as well as their collaboration with local fulfillment partners. Manufacturing Company E developed its core technology of biological wastewater treatment with algae with a partner in Europe who had cutting-edge academic knowledge of this technology and aquaculture markets.

Two firms - Manufacturing Company F and H – participated in the 10,000 Small Business Programs of Goldman Sachs at Babson College in Massachusetts and used the connections to receive feedback from entrepreneurs from other sectors. The two entrepreneurs of one participating company established a similar network of their own peers in the same industry in Montana where they primarily interacted through a closed Facebook group, posting questions that they could not otherwise ask publicly and commenting on others' questions. More Montana firms have taken advantage of national accelerators in recent years. One growth company (Business Service Firm G) had attended the prestigious Y Combinator accelerator in California in 2012. Montana support organizations helped at least two startup companies get into 500 Startups and Techstars programs in 2016.

Targeting Global Markets

Of 30 companies we interviewed, only two companies expressed that they had targeted only local markets and with a specific local strategy. For instance, Business Service Firm A developed a database for ranch management, and their connection to key local ranches, along with experimentation and innovation with their customers, was crucial. In another case, Business Service Firm D sold landscaping services and plants on a wholesale basis, which required specific knowledge and connection to local governments.

The rest of the 28 companies targeted national and/or international markets. Business Service Firm E consulted with organizations across the nation to implement marketing software and develop customers' capacity to conduct marketing analysis. Most consultation with customers took place via conference calls and hands-on online communications, but they periodically brought their customers to Montana for intensive workshops and brainstorming meetings. Business Service Firm F developed a platform that enables foundations to manage online grant applications, which could be marketed to foundations across the country. Business Service Firm G created a centralized system where publishers and authors may submit and track their manuscript submissions, which has been used by thousands of publishers and 2.3 million authors. Alternatively, the Montana companies had nationally known companies as customers, including Eli Lilly, Fidelity, General Motors, Toyota, GoDaddy, Hallmark, Hilton, Kodak, *New Yorker* magazine, Pfizer, Salesforce.com, Subaru, Verizon, and Zipcar.

2.5 EXCELLENT WORKERS

Many Montana companies have been able to establish national and global reach by leveraging the high level of workforce in the region. In case after case, entrepreneurs and managers expressed that their workers were excellent. For instance, Business Service Firm C established their virtual platform of customer service by employing staff mostly from small towns such as Livingston, Roundup, Two Dot, Harlowton, and Big Timber. They noted that talent in small towns was important for customer service, the core strength of the company, because "they are genuinely nice people" who would not mind spending extra minutes with customers on each occasion.

Three manufacturing companies (B, E, and G) noted the high-level mechanical workforce in the region, and reported that they had no trouble recruiting the talent. In addition to graduates from University of Montana and Montana State University, Manufacturing Firm E recruited engineers who could do "aerospace-grade welding" from Montana Tech and Highlands College in Butte. It was not just the quality of each worker, but entrepreneurs additionally commented on the ability to integrate a balanced combination of academically trained and non-academic but bright workforce in Montana.



I think Montana is unique in the sense that you can take highly educated, well-informed people and combine them with people who maybe have no academic background but are just brilliant, hard-working, willing to get it done. You put those two together – one is kind of a boots on the ground, let's move some dirt, and the other is kind of the academic, more structured, know-how behind it. Those two coming together is unique in my experience [Service Firm B].

the business environment as well. People are willing to take that hardship, to make things work and hopefully, eventually, they come up successful [Business Service Firm N].

This combination of highly-educated and less-educated but gutsy workforce became possible through the characteristic of regional people. Entrepreneurs frequently mentioned that Montanans were good employees because they did not have a sense of entitlement yet had a high 'work ethic' (Business Service Firm H). Moreover, it was easy to achieve the work-life balance (Business Service Firm I), principally about the laid-back life and work style with plentiful outdoor and recreational opportunities, which we will discuss in the next section. These factors led to high retention of employees, which kept the competitive edge of each company (Business Service Firm E & H; Service Firm B).

A number of company founders expressed the common sentiment that Montana's untamed landscape, and the type of people who are drawn to it, have shaped the state's business culture and its inclination toward entrepreneurship. As one out-of-state transplant phrased it:



When a tractor breaks in Montana, you don't pay someone to come fix it, you fix it. There's this do-it-yourself attitude out here that is so prevalent. It takes a little bit of a heartier type of person to live here because of the elements, because of the outdoors, [and the need to be] situationally aware. I love it when friends come to visit and they're like, 'Oh, bear spray? You're taking bear spray on a hike? That's a joke, right?' It's like, 'No, you have to take it' [Support Organization B].

Similarly, when asked to explain the forces driving Montana's entrepreneurial community, a foreign-born founder agreed that:



Part of it has to do with the people that live here. If you come here, you are not expecting that things are given to you. You expect that you have to work hard to do things. At least, from my own experience, I came here to enjoy nature and do something. I love being out for weeks camping and stuff like that – you don't make it easy on yourself. And I think that transpires into

While most entrepreneurs were content with the supply of high-level workforce in the region, some were concerned that more programmers were needed, particularly if a company grew rapidly and needed to hire at a pace of 50 to 100 programmers (Business Service Firm J; Manufacturing Firm C; Support Organization A). Reflecting on this demand, the Montana Code School was launched in the summer of 2015 as a community-driven initiative to expand the pipeline of programming talent available to Montana businesses by taking individuals with little or no programming skills and developing them into junior developers in just 12 weeks. This School has produced 52 graduates since inception, and the employment rate after completing the course is 95 percent.

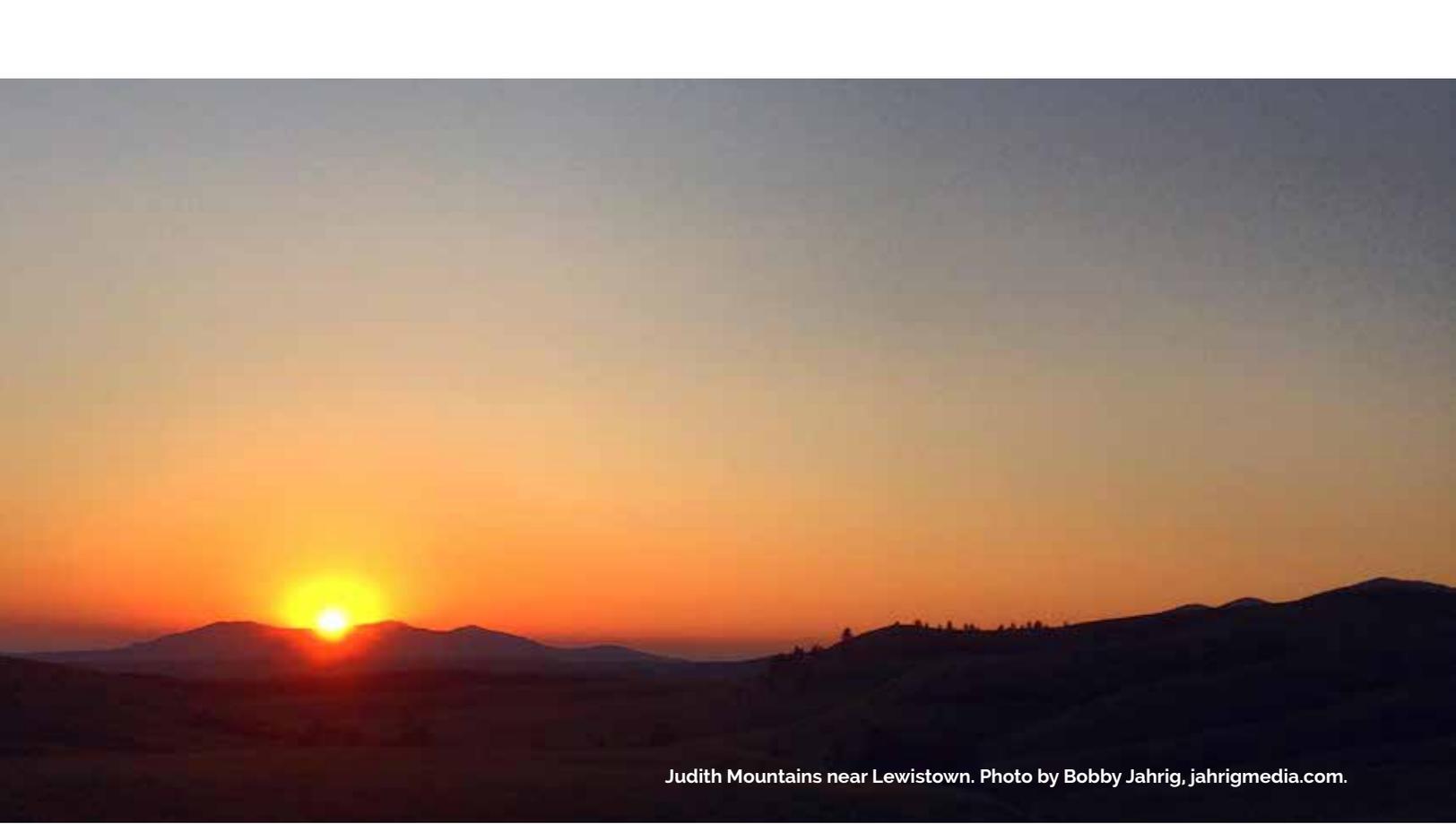
2.6 QUALITY OF LIFE

Extending from the high quality of workforce and work-life balance, we found that many entrepreneurs referred to the quality of life as an important asset for work and business strength. In sum, Montana entrepreneurs perceived that the quality of life was the gravity force for both the employers (entrepreneurs) and employees, and it contributed to the high retention rate of workforce. It also was the reason many entrepreneurs moved to Montana to start a business.

Of 52 individuals represented in the 42 interviews, only 20 of them (38 percent) were Montana natives, and the rest were from different parts of the country. It was easy to imagine that some of them came from states in the Pacific Northwest, such as Idaho, Washington, and Oregon, but many others were from other parts of the country, such as Connecticut, Illinois, Louisiana, Michigan, Mississippi, Ohio, and Wisconsin, or even from large cities of the coasts, such as California, New York, and Pennsylvania.

There were a number of local university graduates, 12 from University of Montana and another nine from Montana State University, who preferred to stay in the area after graduation. In addition, we found various patterns among people for the decision to move to Montana, including: spending summer and falling in love with Montana; spouse from Montana; spending vacation in Montana in childhood and always planning to come back; attending military training in Montana and deciding to stay; or, family farming background perfectly matching to the life in Montana.

Montana was the destination of four Ivy League graduates, two from Stanford, one from West Point, one from the U.S. Naval Academy, and one graduate from University of Oxford in the United Kingdom. Moreover, 10 of them had work experience in the Silicon Valley, and 19 had international experience.



Judith Mountains near Lewistown. Photo by Bobby Jahrig, jahrigmedia.com.

“Montana Mystique” Attracts Entrepreneurs

The ways that people described the source of quality of life or work-life balance varied, but it was principally based around the outdoor and recreational opportunities: mountains, hiking opportunities, and proximity to great national parks. One father had two children who were nationally competitive in skiing, and the family wanted to relocate from California to Bozeman for a better training environment. Others favored attractive downtowns, valued good public schools, and considered Montana a great place to raise children. Another entrepreneur described that the access to every part of town within 15 minutes was a luxury after his experience in the big cities of Chicago, Atlanta, and Seattle. Entrepreneurs often matched this quality of life and outdoor opportunities with happy hours with free ice cream or beer, supplied by local microbreweries.

As one Missoula entrepreneur described the attraction of the community:



People are outside walking their dogs, mountain biking, hiking, on the river, surfing on their lunch break. That is a celebration of balance that we don't work to live and live to work, but both [Business Service Firm I].

Multiple firms mentioned that Montana is an attractive destination for their clients to visit for training or business meetings. One Missoula technology firm said:



And now [our customers are] starting to come here. The word's out. Summer in Montana is a great place to be. So last week, as a matter of fact ... we had 26 people fly in from 12 different states. ...We got some fly fishing guides to help teach people how to catch a fish. And you know they're tweeting out there, they're on Facebook [posting], 'Hard day at work here in Montana – fly fishing with a microbrew' [Business Service Firm H].

Another company in Bozeman noted the same trend:



We're increasingly encouraging clients to come to Montana because it gets them out of the office. They get a chance to unplug while we do training for them, and it's a beautiful place and they love it. So we're seeing more clients that want to do training here, versus us flying and doing training with them [Business Service Firm E].

Some used the term “Montana mystique” to describe the state's allure. Four different individuals who relocated to Montana from out-of-state said novels like “Lonesome Dove” or movies like “A River Runs Through It” influenced their decision to move there.

In sum, we found the high mobility of in- and out-migration to Montana of people with national and international connections and experiences. Entrepreneurs valued the

Some used the term “Montana mystique” to describe the state’s allure. Four different individuals who relocated to Montana from out-of-state said novels like “Lonesome Dove” or movies like “A River Runs Through It” influenced their decision to move there.



Montana traffic jam, Rock Creek. Photo by Bobby Jahrig, jahrigmedia.com.

quality of life that Montana offered and built the company work style around it, which contributed to the higher retention of workforce. While we found a few entrepreneurs who conducted a national tour to select where to live next, it was the minority of cases. Note that the way entrepreneurs ended up in Montana and valued their lives was a sharp contrast to the currently popular creative class theory by Richard Florida (2002, 2005) in which young professionals - often depicted as millennials - gravitated toward large cosmopolitan areas with hip and urban amenities. Rather, entrepreneurs were motivated to start companies in Montana to create jobs for themselves and others that would allow them to live in the state (Manufacturing Firm A; Business Service Firm A, E, H, K & L).

When a major international pharmaceutical company recently consolidated its research and development teams on the East Coast, 15 researchers from the corporation’s shuttered Montana lab joined forces to start their own biotech firm rather than leave the state. The startup’s CEO described the process and result:



We don’t have any employee turnover. When people come here, and they come here because of the lifestyle, they’ll stay for as long as we have money to pay them. So, we have a group of 15 people that have an average of over 15 years’ pharmaceutical industry experience at a small biotech company. You won’t find that in Boston. You won’t find it San Francisco. You won’t find it in San Diego [Manufacturing Firm J].

For some Montana entrepreneurs, larger college towns like Missoula and Bozeman didn’t have the same appeal as tight-knit, rural communities. As one founder explained her decision to move to a small ranching town:



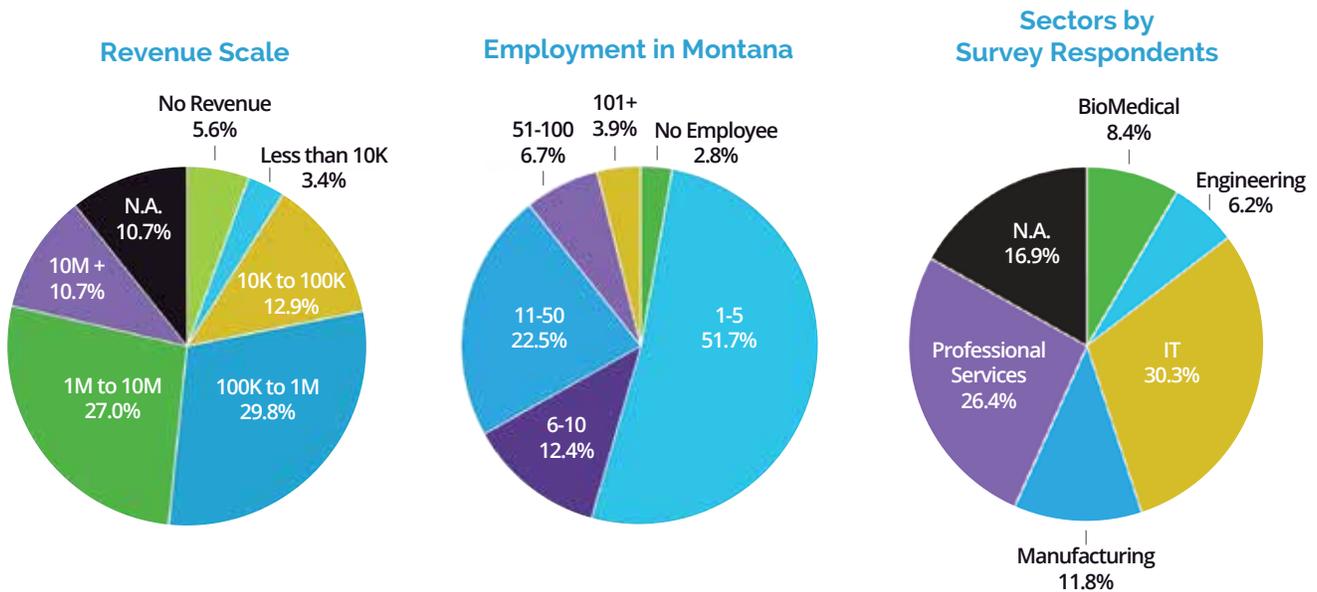
I wanted an old man friend, and to know the [high school girls] on the volleyball team. I wanted that, and in a small town you can really do that, and it forces you to find commonalities with people that you otherwise wouldn’t. And I think there’s great value in that, and it makes your character a lot richer and just kind of strengthens you as a person [Manufacturing Firm D].

Rural founders also saw entrepreneurship as a way to bring jobs and opportunity to the communities in which they grew up. One manufacturer in an agricultural region believed that the company’s “fundamental mission is to help create jobs for Central Montanans. Decent jobs you can live on” [Manufacturing Firm G].

Entrepreneurship is also creating wealth and jobs in Montana’s Native American communities. Three individuals interviewed were enrolled tribal members who grew up on Montana reservations, and in some cases, Native-owned companies have brought dozens of jobs and millions of dollars in revenue and payroll to their tribes. As one Native American entrepreneur explained the appeal of returning home to Montana to start a company:

Figure 4

Revenue Scale, Employment in Montana, and Sectors by Survey Respondents



I started thinking about the people here that are living at or below poverty, and especially about my reservation and all the problems – all the social problems that [it] has, like poverty, suicide, crime, drug use – and thought, if there was any way that I could help, I would do that. ...I've been through a lot of issues that tend to be common among Native people. And I really want to help other Natives understand that you can't let your past dictate your future. [Service Firm A]

3. SURVEY FINDINGS

In addition to the interviews, we also conducted a regional survey of startup and high-growth companies. By building on an existing industry survey and recruiting companies outside of our local networks, we were able to expand the external validity and test the applicability of our interview findings at a wider scale.

In order to maximize responses and neutrality, the survey was distributed by the Bureau of Business and Economic Research (BBER) at the University of Montana between December 2016 and February 2017. This effort was an extension of the third annual Montana high-tech industry survey conducted by BBER, which was distributed to 242 high-tech and manufacturing firms that are members of the Montana High Tech Business Alliance as well as 304 non-member

firms. For compatibility, we selected outside network firms in the similar high-tech and manufacturing industries based on member lists from trade associations, referrals from support organizations, newspaper articles, etc. Among 218 responses, we eliminated 40 responses that had major missing answers, which resulted in 178 responses in total to analyze.

The descriptive information of the respondents is illustrated in Figure 4. Overall, we captured both startup companies and high-growth companies. In terms of revenue, there was a small portion of companies with no revenue (5.6 percent) or less than \$10,000 (3.4 percent), but the rest of companies had sizable revenue: 37.7 percent of companies had more than \$1 million in annual revenues, of which 10.79 percent reported more than \$10 million. Two companies reported higher than \$2 billion.

In terms of each company's employment size in Montana (excluding employment outside Montana), the majority of companies were very small (2.8 percent for no employee, 51.7 percent for 1-5 employees). Yet 6.7 percent of companies employed more than 50, and 3.9 percent of companies had more than 100.

In terms of industrial sectors, IT (30.3 percent) and Professional Services (26.4 percent) were the two largest, but our sample also included Manufacturing (11.8 percent), Biomedical (8.4 percent), and Engineering (6.2 percent) companies.

Table 6

The Average Score of Business Climate by Selected States

Rank	State	Avg. Score	# of Responses
1	DC	4.286	50
2	TX	4.158	1,097
3	LA	4.048	83
4	UT	4.025	118
5	GA	3.968	472
6	TN	3.952	212
7	VA	3.949	371
8	KS	3.935	77
9	AL	3.922	51
10	CO	3.919	436
11	NV	3.918	136
	MONTANA	3.910	178
12	KY	3.907	75
13	OK	3.897	87
14	NC	3.890	486
25	OR	3.725	256
28	NY	3.679	631
29	WA	3.673	388
31	CA	3.559	1,878
34	CT	3.379	170
	National	3.782	12,661

3.1 PERCEPTION OF BUSINESS CLIMATE

One of the questions in our survey was compatible with thumbtack.com’s *Small Business Friendliness Survey* and asked about the perception of business climate in the state. While the original thumbtack.com survey collected more than 12,000 responses nationally, there were only five responses from Montana, which was too small for statistical comparison. In our survey, we extrapolated the result by importing the same question: “Do you discourage or encourage starting a business in your state?” (1: Highly discourage – 5: Highly encourage).

The average score among 178 responses in our survey was 3.91, which would rank Montana 12th among 34 states and District of Columbia that had 50 or more responses. This confirms the interview findings that Montana entrepreneurs favor the business environment even compared to other states.

3.2 NETWORK ANALYSIS

As we found the high-level and broad kinds of entrepreneurship support in the previous section, we extend our analysis to the connections and networks between companies and support organizations in the survey. Based on

the mentions in the company interviews, we developed four lists of support organizations and individuals by categories and asked survey respondents whether each resource has been beneficial to the company. Our four lists² included 1) 20 business resources, 2) 11 types of financing sources, 3) 19 government units and programs, including elected officials, and 4) 15 individuals and companies who often served as mentors.

The combined four lists were broad and totaled 65 resources.³ Among 178 respondents, 18 companies reported zero connection (isolated nodes), while the rest of the companies had the mean of 6.23 connections, the median of 5, and the maximum of 23.

Academics have investigated whether the number of connections was related to firm performance, and, in general, there have been no statistically significant correlations between the network size and performance (Hoang and Antoncic 2003; Nijkamp 2003; Witt 2004; Quan and Motoyama 2010). Also, our sample is not ideal to identify more or most commonly used resources due to the potential sampling biases. Here, instead, we focus on identifying different types of communities within these entrepreneurship resources.

Of 160 out of 178 companies that reported at least one resource connection, the leading edge Eigenvale method⁴ identified four kinds of communities (Table 7, page 20). Group 1 is colored orange and has 14 associated support resources and 28 companies. Among the 14 support resources, the affiliated companies in this group heavily used state government supports, such as the Montana Manufacturing Extension Center, the Montana Board of Research and Commercialization Technology Grant, the state’s Job Service Program, the City of Bozeman, and the two U.S. senators from different aisles, Steve Daines and Jon Tester. Regression results⁵ indicate that these were companies less likely to be in the IT and Professional Services sectors.

Group 2 is colored light blue and has 14 affiliated support resources and 47 companies. The companies here heavily used the Montana High Tech Business Alliance, the LaunchPad at Montana State University, and the Montana

2 The full four lists are available in the survey, and we attach the survey in the supplementary document.

3 Note that we have no intention to argue that our lists were comprehensive, and it is likely that we were missing some other commonly used resources for entrepreneurship. However, such limitation does not necessarily undermine our next analysis of detecting types of communities because our objective here is the community detection and possible divisions. As a reference, one of the authors conducted a similar study with the same sampling framework in St. Louis, which resulted in 14 support organizations after 55 company interviews (Motoyama and Knowlton 2016).

4 We also conducted the fast and greedy method (identifying 5 communities) and the edge betweenness method (131 communities), but decided to present the most parsimonious leading edge method in this paper.

5 We provide the model explanation and results in the supplementary document.

Code School. They got referrals from Greg Gianforte of RightNow Technologies and Jack Manning at Dorsey and Whitney, a law firm, and used bootstrapping as their primary financing method. These companies tended to be smaller, in the Professional Services sector, and located in Bozeman.

Group 3 is colored green and has 17 support resources and 60 companies. They relied on banks, private investors, the Big Sky Trust Fund, and the U.S. Small Business Administration (SBA) loan guarantee for financing, and they received referrals from the former U.S. Sen. Max Baucus. In addition, these companies tended to have lower scores with the question about encouraging others to start businesses in the state. These companies tended to be larger in revenue.⁶

Finally, Group 4 is colored yellow and has 20 support resources and 25 companies. The companies in this group leveraged the Blackstone LaunchPad, MonTEC, and other functions of the University of Montana, along with the Hellgate Venture Network, the Small Business Development Center (SBDC), and Governor Steve Bullock. These companies tended to have a better perception of business climate in Montana and were likely in the IT sector.

SUMMARY AND IMPLICATIONS

This study of Montana presented a unique case of high entrepreneurial activities in small towns. In sum, the smallness did not hinder entrepreneurship by lacking the critical mass of entrepreneurs or support organizations. Instead, entrepreneurs in small towns were highly active, well connected to local resources, including government officials and services, and had a better perception of the business environment. Being aware of the smallness, Montana entrepreneurs sought out resources, participated in events, and met mentors and supporters outside of their cities, even at distances of 200–300 miles. A number of Montana entrepreneurs have had Silicon Valley and international working experience. The Montana companies procured business inputs globally, and, in most cases, supplied to national and international customers. Companies enjoyed the high-level of workforce locally, whether customer service or mechanical engineering, with a high retention rate based on the work-life balance and the quality of life offered in the region. Based on these assets and combined with identified issues throughout our interviews and survey, we would like to offer a handful of recommendations.

- **Keep building the Montana-unique ecosystem for Montana companies.**

Throughout the interviews, we heard multiple comments that people diagnosed the limitations or disadvantages of the region by comparing Montana to Silicon Valley or to Boulder-Denver, Colorado. In general, we do not recommend to set Silicon Valley as the goal because hundreds of cities throughout the world have tried and

⁶ Though statistically significant only at 90 percent. For other regressions, the findings were statistically significant at 95 percent or higher.

failed. In addition, we have observed that the recent rising cities in other parts of the country are not imitating Silicon Valley but building their own entrepreneurship ecosystems. It becomes apparent that entrepreneurs in Montana benefit from having locally based assets reflected upon the local culture. Montana should set its own goals and its own ways to achieve them.

- **Identify regional strategies for recruitment of qualified employees.**

While many companies were satisfied with the quality of recruited workers, other companies expressed the concerns for hiring specific kinds of workers or recruitment on a large scale. This is not an easy issue to solve, and we have several caveats. First, while many companies expect local universities to train specific skills for their companies, it is not easy for universities to respond. The identified yet lacking skills had quite a range: young software developers, experienced software developers, qualified sales staff, people with great management experience, senior leaders, and so on. Even within each skill group, the expectations from companies are different or often not well articulated, and granting more computer science or engineering degrees is not necessarily a solution for the region. Furthermore, universities have their own bureaucracies with different certification and accreditation processes by disciplines, which are governed by national associations. It could take years to start a new program, but then the skills in demand (especially for computer programming) may shift. In short, universities are not nimble enough to respond to ever-changing specific skill needs, but are able to produce a steady number of graduates with more fundamental thinking processes and skills.

This limits the options to recruit from outside the state or to train internally. Our interviews indicated that many companies chose the internal training method. However, some rapidly growing companies wanted to hire dozens of people with specific skills per year, which would be beyond the capacity of local universities. Then, the remaining option is to recruit outside. Keep in mind that skilled and qualified people are in demand everywhere. Even though internationally known Silicon Valley companies attracted talents nationally, that was still not sufficient, and they also had to recruit heavily from foreign countries, such as China and India (Saxenian 2006). It took decades for them to establish the better environment for those foreign nationals. If Montana chooses this route of recruiting foreign nationals, Montana companies need to prepare for a more diverse environment.

- **Review air access.**

We found multiple concerns about the limited air access and high airfare prices. Indeed, a random search

provides that, for instance in an off-summer season, flights from Kansas City (MCI) to Bozeman (BZN) are about \$100 higher than MCI to Boise (BOI), or \$120-130 higher than to Spokane (GEG) or Cheyenne (CYS). Various options should be discussed between users, government, and airlines.

- **Expand the support networks beyond political boundaries.**

It is natural for humans, including entrepreneurs, to receive referrals and support from people they know. At the same time, the four identified groups seemed to reflect more than the sectoral categories and the size or stage of businesses. Put in one way, the networks likely reflected the political environment of Montana, which could be a microcosm of the divided political scene at the national level.

However, we should not constrain the support network of entrepreneurs based on political views or a group of supporters who are politically divided. For instance, the dense and broad networks in Montana were largely informally established, and entrepreneurs of one sector have spoken of benefits from interactions and mentorship from another sector. This kind of inter-sectoral interaction was also observed in the startup scene in St. Louis (Motoyama and Watkins 2014). The success of entrepreneurs will benefit whole regions, and discussing and promoting entrepreneurship should be an end for the public at large as well as for entrepreneurs, not a means to achieving different political goals.



REFERENCES

Acs, Zoltan, and Edward J. Malecki. 2003. "Entrepreneurship in Rural America: The Big Picture." In *Main Streets of Tomorrow: Growing and Financing Rural Entrepreneurs*, edited by M. Drabenstott, 21-29. Kansas City, MO: Federal Reserve Bank of Kansas City.

Acs, Zoltán J., and Catherine Armington. 2006. *Entrepreneurship, Geography, and American Economic Growth*. Cambridge: Cambridge University Press.

Breznitz, Dan, and Mollie Taylor. 2014. "The Communal Roots of Entrepreneurial - Technological Growth - Social Fragmentation and Stagnation: Reflection on Atlanta's Technology Cluster." *Entrepreneurship and Regional Development* 26 (3-4):375-396.

Desai, Sameeksha, and Yasuyuki Motoyama. 2015. The Regional Environment in Indianapolis: Insights from High-growth Companies. In *Kauffman Foundation Research Paper Series*. Kansas City, MO: Ewing Marion Kauffman Foundation.

Feld, Bradley. 2012. *Startup Communities: Building an Entrepreneurial Ecosystem in your City*. Hoboken, NJ: John Wiley & Sons.

Florida, Richard. 2002. *The Rise of the Creative Class: And How it's Transforming Work, Leisure, Community and Everyday Life*: Basic Books.

Florida, Richard L. 2005. *Cities and the Creative Class*. New York: Routledge.

Foster, Nikki. 2001. Entrepreneurship in Rural Communities: An Emerging Strategy Presents Opportunities and Challenges. In *Community Dividend*: Minneapolis.

Glaeser, Edward L., and William R. Kerr. 2009. "Local Industrial Conditions and Entrepreneurship: How Much of the Spatial Distribution Can We Explain?" *Journal of Economics and Management Strategy* 18 (3):623-663.

Hoang, Ha, and Bostjan Antoncic. 2003. "Network-based Research in Entrepreneurship: A Critical Review." *Journal of Business Venturing* 18:165-187.

Kauffman Foundation. 2016. Kauffman Index of Entrepreneurial Activities. Kansas City, MO: Ewing Marion Kauffman Foundation.

Kenney, Martin. 2000. *Understanding Silicon Valley: The Anatomy of an Entrepreneurial Region*. Palo Alto: Stanford University Press.

Lecuyer, Christophe. 2006. *Making Silicon Valley: Innovation and the Growth of High Tech, 1930-1970*. Cambridge, MA: MIT Press.

Link, Albert N., and John T. Scott. 2003. "The Growth of Research Triangle Park." *Small Business Economics* 20:167-175.

Macke, Donald. 2006. Entrepreneurship in Rural America. In *Rural Research Report*. Macomb, IL: Western Illinois University.

Motoyama, Yasuyuki, Brian Danley, Jordan Bell-Masterson, Kate Maxwell, and Arnobio Morelix. 2013. Leveraging Regional Assets: Insights from High-growth Companies in Kansas City. In *Kauffman Foundation Research Paper*. Kansas City, MO: Kauffman Foundation.

Motoyama, Yasuyuki, and Jordan Bell-Masterson. 2014. Beyond Metropolitan Startup Rates: Regional Factors Associated with Startup Growth. In *Kauffman Foundation Research Paper*. Kansas City, MO: Kauffman Foundation.

Motoyama, Yasuyuki, and Karren Watkins. 2014. Examining Connections within the Startup Ecosystem: A Case Study of St. Louis. In *Kauffman Foundation Research Paper*. Kansas City, MO: Kauffman Foundation.

Motoyama, Yasuyuki, Jared Konczal, Jordan Bell-Masterson, and Arnobio Morelix. 2014. Think Locally, Act Locally: Building a Robust Entrepreneurial Ecosystem. In *Kauffman Foundation Research Paper Series*. Kansas City, MO: Ewing Marion Kauffman Foundation.

Motoyama, Yasuyuki, and Karren Knowlton. 2016. "From Resource Munificence to Ecosystem Integration: The Case of Government Sponsorship in St. Louis." *Entrepreneurship and Regional Development* 28 (5-6):448-470.

Motoyama, Yasuyuki, Emily Fetsch, Chris Jackson, and Jason Wiens. 2016. Little Town, Layered Ecosystem: A Case Study of Chattanooga. Kansas City, MO: Ewing Marion Kauffman Foundation.

Nijkamp, Peter. 2003. "Entrepreneurship in a Modern Network Economy." *Regional Studies* 37 (4):395-405.

OECD. 2010. High-growth Enterprises: What Governments Can Do to Make a Difference. Paris: Organization for Economic Cooperation and Development.

Qian, Haifeng, Zoltan Acs, and Roger R. Strough. 2012. "Regional Systems of Entrepreneurship: The Nexus of Human Capital, Knowledge and New Firm Formation." *Journal of Economic Geography* 13 (4):559-587.

Quan, Xiaohong, and Yasuyuki Motoyama. 2010. "Empirical Disaggregation of Social Networks: A Study of Ethnic Professional Associations and Entrepreneurship in Silicon Valley." *Journal of Small Business and Entrepreneurship* 23 (4):509-526.

Saxenian, AnnaLee. 1994. *Regional Advantage: Culture and Competition in Silicon Valley and Route 128*. Cambridge, Mass.: Harvard University Press.

Saxenian, AnnaLee. 2006. *The New Argonauts: Regional Advantage in a Global Economy*. Cambridge, MA: Harvard University Press.

Simpkins, Amy B. 2005. Strategies for Rural Development: It Takes a Region to Raise an Entrepreneur. St. Louis: Federal Reserve Bank of St. Louis.

Wiggins, Joel, and David V. Gibson. 2003. "Overview of US incubators and the Case of the Austin Technology Incubator." *International Journal of Entrepreneurship and Innovation Management* 3 (1/2):56-66.

Witt, Peter. 2004. "Entrepreneurs' Networks and the Success of Startups." *Entrepreneurship and Regional Development* 16 (5):391-412.

AUTHORS



Yasuyuki (Yas) Motoyama, Ph.D., is an incoming assistant professor at the Department of Geography and School of Business at the University of Kansas. He was previously Director of Research at the Ewing Marion Kauffman Foundation and a post-doctoral scholar at the University of California, Santa Barbara, and the University of California, Los Angeles. He holds a B.A., with triple majors in History, International Relations, and Political Science from the University of Wisconsin - Madison, a Master of Public Administration from Cornell University, and a Ph.D. in City and Regional Planning from the University of California, Berkeley.



Christina Quick Henderson is founding executive director of the Montana High Tech Business Alliance, a statewide association of more than 300 high tech and manufacturing firms and affiliates. She is also an adjunct instructor of Management and Organizational Behavior at the University of Montana School of Business. Christina holds a B.A. in English Education from the University of Iowa and an MBA from the University of Montana- Missoula.



Paul Gladen is director of the Blackstone LaunchPad at the University of Montana, a program that helps students, alumni, faculty, and staff explore entrepreneurship. He is co-founder of the research and consulting firm, Muzeview, and co-founder of the Hellgate Venture Network, a networking group for Montana entrepreneurs. Paul is also a founding team member of the Montana Code School. A native of England, Paul has an M.A. in Mathematics from Oxford University and an MBA from Manchester Business School. He spent the first 14 years of his career working for Arthur Andersen, one of the world's largest accounting and consulting firms. He has lived and worked in London, New York, Rome, Dublin, and Chicago before moving to Missoula in 2008.



Emily Fetsch was a research assistant at the Ewing Marion Kauffman Foundation. Her prior experience includes serving as project manager at the Public Religion Research Institute and associate director at the National Religious Partnership for the Environment. She holds a B.A., with double majors in Political Science and Justice and Peace Studies from the University of St. Thomas, and a Master of Arts in Political Science from the University of Kansas.



Sarah Davis is an Education Program Manager at the University of Kansas where she has managed community-based research, training, and service projects for the past 15 years. She holds a Masters of Social Work Degree and especially enjoys consulting on qualitative research projects.



We would like to thank Advanced Technology Group for sponsoring the printing of this report.

