

# 1. Introduction: Promoting entrepreneurship, but what kind?

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## 1.1 A TALE OF TWO ENTREPRENEURS

Joe Anderson has finally taken his first step as an entrepreneur. He opened his first office at the Cambridge Innovation Center (CIC) in St. Louis, Missouri. The facility is a glass-walled building funded by a local private university and the City of St. Louis. His 2,000-square-foot office space is not large but spacious enough for now, and he will use one half of the open space as lab space and the other half as workstation space. He envisions being able to seat three to four people easily and having a meeting space with a whiteboard, glass wall, and projector.

Joe's niche in business is cutting-edge nanotechnology. With his background in chemistry, he has been a postdoctoral researcher at a local private university for the past four years and worked on various nanotechnology projects for a physics professor. The professor invented the Plasma Shower Method to include a lithium atom inside a molecule made only of carbons. This carbon-made "buckyball," or  $C_{60}$  fullerene to use the technical term, is the hardest material on earth, like carbon nanotubes or diamonds, and will hold its shape and characteristics under any external shocks except fires. Including a lithium atom inside was novel because the lithium holding  $C_{60}$  will be negatively charged and can form a very stable molecule with a positively charged atom. It will be a source for new materials that can be used for, literally, anything.

During his postdoctoral tenure, Joe and his professor filed several patents, and the US Patent and Trademark Office (USPTO) officially granted the first patent two months ago. Then, last month, Joe applied for a small startup fund from his university, which was initiated by the university's provost office several years ago to increase its commitment to the local economy. The \$100,000 award is only the beginning, and Joe has a financing plan. He will apply

for Small Business Innovation Research (SBIR) grants from the federal government in a year or two and seek venture capital funds in three to four years. Now, he needs to concentrate on successfully mass-producing the carbon-made molecule. His background is ideal because he can extract the right molecule using his chemical method, with which he has had initial success in the past year. In about two years, Joe anticipates he will start selling his molecule products to major chemical, petroleum, and likely pharmaceutical companies.

Charlie Hopp is also about to start his business, but in a very different style. Ever since he attended the Startup Weekend in St. Louis two years ago, an event at which attendees form a business plan within 54 hours, Charlie has been fascinated by the idea of starting his own business. He did not have a business idea then, so he has just joined another group for the weekend. He has been looking for his idea for two years and thinks he has finally found one: A background check service for employers.

Charlie studied political science as an undergraduate with the intention of advancing to law school, but he decided that was not his path. However, he became involved with a research project about criminal background checks and found it was a nightmare to identify comprehensive background records because the court and legal systems' technologies in this area were extremely backward. In theory, most such information is publicly accessible, but courts maintain and present each type of information – that is, violence, felony, traffic violations, and so on – in a different way, often through paper documents. There was no online system to obtain all this information, with the exception of the sex offender registry. He has repeatedly heard from friends working in human resources about this need for more comprehensive background information to be available. An employer might investigate the record of one or two individuals or hire a detective, but not when hiring dozens or hundreds of new employees: It would be an extremely labor-intensive process of navigating through different documents, city, county, and state-level courts, and integrating information from different police and court branches.

Charlie currently works for Express Scripts, a major pharmacy benefits management company in St. Louis, and has gained a little familiarity with the company's large database. But he knows that he is not a trained software engineer, so he has been partnering with an engineer who was also part of Startup Weekend two years ago. In the

next three months, the two will keep their day jobs and work nights and weekends to develop the business. Their goal is to come up with the first version of the background system within three months, and Charlie plans to begin service to a few local companies where his friends have informed him of the need. Charlie and his partner have no plan to seek or receive external funds. They will develop the database first and consider hiring people after they make the first sales – a classic case of bootstrapping.

For this entrepreneurial activity, Charlie and his partner work between home and their new “office,” which is not a traditional company office, but a cubical space Charlie is renting at T-REX, a so-called co-working space in downtown St. Louis. T-REX occupies five floors in a commercial building with 160,000 square feet, and provides “low-cost and flexible enterprise space” (T-REX 2017). This open-space facility is home to 110 startup companies and several entrepreneurship support organizations. The rent for a workstation space is \$75 monthly, but what Charlie values most are the events organized by T-REX, such as a guest speaker series, and the constant interaction with other entrepreneurial-minded people.

This is a tale of two entrepreneurs working very different styles. Two important questions to ask: Which entrepreneur is likely to succeed? Which entrepreneur should the public sector support? One is a scientist with knowledge of cutting-edge nanotechnology; the other is an ordinary college graduate. One is setting up his base with support from his professor at a state-of-the-art incubator, while the other is more or less informally starting the entrepreneurial journey with his engineer partner at a co-working space and at home. One already has funding and a patent, while the other has no funding and no plans to pursue a patent. In short, Joe Anderson is a classic example of the 21st-century entrepreneur most innovation theories would support. Charlie Hopp, in contrast, is a casual entrepreneur who may fail or succeed, and his life will still go on. The answer, then, seems obvious: If you were an investor, you would bet on Joe Anderson, or his kind of entrepreneurship, as most likely to succeed. Who cares about Charlie Hopp?

We should start here with the crude baseline fact that neither of these two companies may exist five years from now. There is a 5-50 rule in entrepreneurship: just about 50 percent of companies survive five years. This pattern has been consistent across different industries and locations for the last 25 years, even during the Great Recession

years since 2008 (SBA 2011; Bureau of Labor Statistics 2017). Yes, starting and running a successful new company is just like tossing a coin.

Setting this fact aside, we start this book with our bold hypothesis that the real answer to “Which entrepreneur?” is Charlie, the casual entrepreneur. The answer to the question why is the main theme we will explore in this book. Unmasking these reasons has many important implications in practice: What kind of support environment do entrepreneurs need? How might the public and non-profit sectors support entrepreneurship? Moreover, it has critical implications for the theories of innovations and entrepreneurship.

## 1.2 PLAN OF THE BOOK

The fundamental premise of this book is that entrepreneurship is about people – entrepreneurs. You will see how individual entrepreneurs learn the process of starting, running, and growing businesses. Contrary to the dominant theories of innovation, we do not find that scientific knowledge or cutting-edge technologies spill over to entrepreneurial activities, at least not easily, even if entrepreneurs, universities, and venture funds co-exist in the same region. Instead, the spillover of knowledge takes place between people, primarily entrepreneurs, and there must be specific social and organizational mechanisms to make it happen.

This finding draws from another premise. In entrepreneurship and innovation, there is no single right answer. Since entrepreneurs are the people to offer commercial value by trying something new, there are a million different ways to make it happen. Also, whatever the brilliant idea is, the original business plan by an entrepreneur may not (and usually does not) work right. The entrepreneur has to experiment and adjust continually. In this circumstance, you cannot pick winners or structure the most efficient plan in a linear way. Instead, continuous learning, primarily from other local entrepreneurs and active supporters, is the crucial information source for entrepreneurs. In this localized feedback mechanism, entrepreneurs obtain an array of knowledge about how to start and develop their businesses. For instance, how to define the market, how to define your product, and how to sell your product are all different skills. Entrepreneurs also need to learn how to manage their company’s finance (not necessar-

ily finding venture capitals or investors), how to hire people, how to fire people, how to communicate with employees, how to incentivize employees, and so on. In addition, they need to learn how to balance their work life and private life. In other words, it is everything about how to run your business, and there are no born-to-be entrepreneurs. They have to keep learning as their businesses grow and their markets change.

In this book, we triangulate various data to investigate entrepreneurship at the individual and regional levels. While it is not easy to measure innovations and entrepreneurship, we employ different quantitative data to get as close as possible to the core of these two topics. We further supplement with rich qualitative data.

Chapter 2 reviews theories of innovation and entrepreneurship, which are considered the two most critical sources of economic development and which most scholars treat as two sides of the same coin. However, as we disentangle these concepts, we demonstrate that innovation studies are biased toward high-tech sectors and primarily examine inputs of innovation, such as R&D activities, science and engineering workforce, and patents, and are weak to connect the mechanism that links inputs to outputs. Instead, we propose to examine entrepreneurship as the driver of economic development by assuming that entrepreneurship requires a different set of inputs and resources from innovation.

In Chapter 3, we examine the quantitative dimension of entrepreneurship at the metropolitan level throughout the U.S. We discuss various measures of entrepreneurship. As with innovations, there is no perfect measure for entrepreneurship. Each measure comes with major pros and cons. To overcome those limitations, we employ three kinds of entrepreneurship measures as dependent variables and analyze regional factors. We demonstrate that research activities, patents, and funding, the core components in the innovation theories, have no statistical relationship to entrepreneurship rates. Instead, we find that education-related human capital factors are important.

Chapters 4 and 5 further explore those human capital factors in the context of entrepreneurship through in-depth regional studies in Kansas City and St. Louis. The cases of these two cities allow us to examine the local system of entrepreneurship beyond Silicon Valley and Boston, the regions that are both most frequently studied and dominated by world-class universities and the previous innovation studies. Theorizing based on anomalies is not the most effective way

to understand how entrepreneurship works in hundreds of more typical regions. Kansas City and St. Louis each have a relatively high level of entrepreneurship, according to the Business Dynamics Statistics (Census Bureau 2016), and they have experienced remarkable transformations in entrepreneurship activities over the past few years.

Chapter 4 features the case of Kansas City, the City of the Fountains famous for barbecue. Little known outside, this city has planned entrepreneurship as one of the economic pillars of the region. In 2012, the regional chamber of commerce launched the Big Five Initiative, with one of its goals being to promote entrepreneurship (Greater Kansas City Chamber 2011). Kansas City is the home of the Kauffman Foundation, a \$2 billion philanthropic organization dedicated to the promotion of entrepreneurship, and the legacy of its founder, Ewing Marion Kauffman, is still present today through spin-offs from his pharmaceutical company, the Marion Labs, and through mentorship. We use a survey of more than 200 companies in the so-called high-tech sectors, and identify that Kansas City companies value access to high-quality people and mentors as the sources of company growth instead of access to research and universities. Then, based on interviews and focus groups, we analyze how and why people participate in 1 Million Cups, a weekly interactive session between entrepreneurs and audience, which starts to demonstrate more learning process by entrepreneurs.

Chapter 5 presents the somewhat different approach to entrepreneurship espoused by St. Louis. St. Louis has enjoyed the legacy of the transportation and manufacturing sectors, but those industries have suffered numerous closures and relocations in the past 20 years and never regained their strength. As a result, political and civic leaders had come to realize by 2010 that reliance on old and “anchor” companies was not their answer, but that entrepreneurship and immigrants were. They have since created a regionwide business plan competition that not only distributed a pool of money to growth-oriented companies, but also cultivated an infrastructure and networks for entrepreneurs and supporting organizations. We explore how these startup entrepreneurs are growing, staying connected, and continuing their learning. In addition, we interview high-growth Inc. companies which have achieved millions in revenue and demonstrate how such learning continues throughout different stages of business development.

In Chapter 6, we expand our scope to a substantially larger regional scale by analyzing open-access Twitter accounts. We identify 255 Twitter accounts of entrepreneurship-related support organizations in Kansas City and St. Louis, as well as 130 accounts nationally, allowing us to trace network patterns of more than 250,000 followers. We analyze what popular Twitter accounts those entrepreneurs follow, which accounts overlap within each region, and between the region and nation.

Chapter 7 synthesizes Chapters 3 through 6 and derives theory and policy implications from the findings. While the entrepreneurship model requires constant adjustment and learning, the currently dominant approach to promoting innovation is based on the so-called linear model of development (Godin 2006). This linear model assumes that scientific discovery (basic research) is essential to society and that ideas will go through applied research and become commercialized. The role of government in this model is to fill the “valley of death” by funding scientific research at universities and making initial venture funds available when venture capital firms and the private sector are not yet willing to provide funds (Auerswald and Branscomb 2003). This approach of picking winners through the public or semi-public sectors is incompatible with and ineffective for the “experiment and adjust” model of entrepreneurship that is uncovered throughout this book. This final chapter further discusses this alternative entrepreneurship model and potential approaches available to the public and non-public sectors to promote entrepreneurship.