

Beyond Cool: The Three Keys That Unlock a Thriving Entrepreneurial Economy

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When I began considering the question of how a region can create an environment that fosters entrepreneurship, I was struck by the current buzz surrounding “diversity” and “coolness.” These appear to be the latest simple solutions in a long line of simple solutions for a complex problem. I may be oversimplifying a complex argument, but it seems that the hot solution for fostering a vibrant entrepreneurial economy boils down to recruiting a diverse group of terminally-hip 20-somethings to your region -- or more accurately, nurturing a regional culture that is attractive to this group.[1]
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Personally, I believe that a regional culture that is welcoming of diversity, vibrant, fun, cool, even “hip” is a worthy goal and will have positive benefits for the growth of entrepreneurship in a region. However, while it may be a positive, it’s not enough to spur an entrepreneurial renaissance in older regions.

In this essay, I hope to present a more comprehensive and subtle model of the precursors for creating that renaissance. This model begins with its own simplistic formulation: what I term the “Three ‘V’s’ – Volume, Visibility and Velocity.” However, as the essay progresses I hope to convince you of the subtlety of the model, its value as framework for the complex challenges of fostering a high-tech economy and of its value as a tool for thinking about the complex and subtle issue of regional economic development in the 21st century. What follows is the current thinking on regional economic development, an explanation and justification of the “Three-V’s” and finally a discussion of the policy implications of this model.

The Leading Theories on Regional Growth

Thinking on regional growth really begins with Alfred Marshall’s observation that industries tend to cluster in geographic regions.[2]
(denied:applewebdata://C9526CED-9CA4-4AA7-BE13-BB45158F0E88#_edn2) Marshall’s original explanation for agglomeration economies, specialized suppliers, labor pool benefits and knowledge spillovers, is still a powerful force when thinking about regional economic development and is part of the foundation on which this model is built. Marshall’s model elegantly highlights the role of scale in a region and its impact on the three drivers of regional growth labor, knowledge and specific assets/specialized infrastructure that support an industrial agglomeration.

Recently significant work in the area of regional economic development has focused on the quality of region’s labor pool, and the requirements for creating, attracting and maintaining high quality/skilled labor in a region. Empirical work by numerous researchers has established a strong link between regional growth and a region’s human capital.[3]
(denied:applewebdata://C9526CED-9CA4-4AA7-BE13-BB45158F0E88#_edn3) Work by Richard Florida on diversity argues as noted above that tolerance of diversity is critical to attracting and retaining knowledge workers at the center of today’s technology-driven economy. Other recent work has focused on amenities such as parks, museums, athletic facilities, nightlife, etc. and their role in attracting and retaining high quality individuals in a region’s labor pool.[4]
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Another stream of work has highlighted the role of research and knowledge spillovers and social networks in industrial development and agglomeration. Lynn Zucker’s[5]



(denied:applewebdata://C9526CED-9CA4-4AA7-BE13-BB45158F0E88#_edn5) work on star scientists and the development of biotechnology in a region, as well as Saxenian's[6]

(denied:applewebdata://C9526CED-9CA4-4AA7-BE13-BB45158F0E88#_edn6) seminal work on the development of Silicon Valley and Route 128 in Boston, speak directly to the issue of knowledge spillovers and social networks in regional economic development. It is from this base that the "3-V's" model has been derived.

The '3-V's' Model

The "3-V's" model has developed from thinking about the implications of the prior work in regional development and economics, as well as studies of regional rates of entrepreneurship. The basic idea behind the model is fairly straightforward: the growth of an entrepreneurial economy is based upon the volume of activities that provide the fodder for entrepreneurship in a region; the visibility of the region's entrepreneurial ventures and entrepreneurs both within the region and beyond its boundaries; and finally, the velocity with which ideas and knowledge move or churn within a region. In simple mathematical terms:

$$\text{Regional Entrepreneurial Growth} = f(\text{Volume, Visibility, Velocity})$$

I'm not ready to specify the exact form of the function, but I am convinced that the impact of changes in one or all of these variables can have a synergistic effect that has the potential to generate real momentum in the growth of a region's entrepreneurial economy. In other words, the impact of improving any one of these is positive, but the impact of improvements along two or more of the variables is likely to have a much greater impact on the region's development because of the increased synergy among the variables. Of course this last statement means that the simple three term linear function does not fully represent my model, but let's keep it simple for this essay so we focus on the main drivers of the theory. Below is a discussion on each of these factors and how they influence the development of entrepreneurship in a region.

Volume

In our model, volume means the scale of activities that

provide the precursors for innovative entrepreneurial activity in a region. Economics has long noted the power of economies of scale. In regional development, as noted by Marshall, clear scale economies accrue to firms operating in a region that has achieved at least a minimum efficient scale in a given industry or economic sector. However, volume is more than a simple measure of clusters of economic activity. Instead, it embraces the idea that entrepreneurial activity thrives as the result of a number of different types of activities, such as private equity financing, applied and basic research, workforce education and regional entrepreneurial endeavors.

Which kinds of precursors to a high-tech entrepreneurial economy are most sought-after by regional planners and economic development agencies? They generally fall in a few distinct categories: experienced entrepreneurs, research, education and finance. Technology ventures are the result of mixing entrepreneurial experience and know-how, with interesting and valuable new research, a highly skilled labor pool and a ready supply of patient risk capital. This is not a novel insight on my part – I'm simply restating what prior research and experience have found -- but what is often overlooked is that each of these areas has economies of scale, and achieving a certain volume will provide exponential returns to a region's investment.

So what are the policy insights from focusing on volume? The first is that regional policies should expand their focus beyond industrial clusters to broader levels of activity such as creating, attracting and retaining skilled workers, which is where the diversity and coolness factors come in to play. But a diverse highly skilled workforce is not enough. Without the jobs and capital necessary to employ these workers, and ideas that lead to new ventures to provide the challenging work they seek, attempts to attract and retain talented people will fail.

Does a region achieve a diverse, hip, highly skilled workforce because of its culture, and then develop hot interesting high-tech firms? Or does it become a magnet for the individuals that make up a diverse, interesting workforce when it fosters the research, education and entrepreneurial activity that lead to vibrant, interesting work and job opportunities? It's a chicken-and-egg question that we still don't fully understand.

Here's what we do know: To achieve the volume

necessary to achieve some economies of scale, invest in research, education and supporting and nurturing emerging and nascent entrepreneurs -- through incubators, regional seed capital funds, etc. Recruit, retain and utilize successful entrepreneurs to serve as mentors, investors and advisors. This talent and knowledge are critical to growing and financing new ventures, perhaps the most difficult endeavor in our modern economy. Successful entrepreneurs act as mentors to new entrepreneurs, create a pool of experienced talent to take on a new venture, and eventually become experienced investors and venture capitalists. This expertise is precious and irreplaceable.

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Ultimately, your diverse, hip workers are only coming and staying if they see enough employment alternatives in the region's economy. They can accept that interesting high-risk job at a technology venture only if they are confident that other interesting opportunities will arise if the job doesn't work out. Opportunity costs matter in economic decisions, and without enough interesting opportunities the opportunity costs of moving to a region or staying there will be too high and the impact of investing in 'cool' will be minimal.

Policies to encourage the growth of an entrepreneurial economy must focus on the regional resources required to create it. They should emphasize recruiting and retaining successful entrepreneurs, increasing the volume of R&D activity through investment in high quality scientists, raising the volume of high quality knowledge workers in the region and attracting both local and distant capital to invest in the region's entrepreneurial endeavors. In the end, policies designed to improve "volume" may need to get past inflection points of activity to actually have an impact. In other words, going from a little volume to some volume may not be anywhere near as impactful as starting at some volume and achieving a baseline where the impact of volume starts to become meaningful.

Visibility

Creating, managing and growing a technology venture

is a time consuming, isolating and risky endeavor. Failure is much more likely than success. So why in the world does anybody do it? Why give up a good-paying, secure job to pursue a risky and difficult path? Why take the risk of sweating blood over a venture for several years only to end up being seen as a failure? The spectrum of human psyches includes courageous individuals, perhaps even subversives, who are crazy enough to create a venture, but regions hoping to become hotbeds of entrepreneurial activity can't depend only on them.

Entrepreneurship has to be a visible and valued part of a region's culture in order to encourage more than the driven few to risk the creation process. Entrepreneurs and entrepreneurial ventures must become important visible local icons, much like Fortune 500 CEOs, bank presidents, artists, entertainers, athletes and wealthy philanthropists are in older regions. Success stories and striving, even struggling ventures should be valued and celebrated. They are building the future of a region and that needs to be made clear to its institutions, businesses and residents.

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Moreover, the mainstream employers in the region should value candidates who have been entrepreneurs, or the risks of entrepreneurship are too great. If a failed venture is the death of a career, then the opportunity costs of entrepreneurship in a region are too high. A well-executed failure has to be seen as a badge of honor, or at least a valuable learning experience. The region's print and broadcast media need to devote space and time to reporting on entrepreneurs and entrepreneurial activities in the region as well the other players and actors in the game, such as angel investors and venture capitalists.

Such visibility creates icons and role models for others in the region. It encourages others to take the risk and create the venture based on their research and ideas. It encourages the high wealth individuals in the region to consider investing in a project or two; and it encourages the government sector to think about, invest in and support the nascent and emerging entrepreneurs and

ventures. Regional visibility legitimizes entrepreneurial activity as a valuable activity within the region's business, non-profit and governmental institutions. Regions where the entrepreneurs and entrepreneurship are not visible will lose their entrepreneurs to the regions with visible role models and signs that entrepreneurial activity is a legitimate and valuable activity.

Visibility beyond the boundaries of the region is important primarily because it attracts risk capital and skilled labor. Once a region has begun to develop entrepreneurial success stories, in particular highly visible IPOs or corporate acquisitions, the private equity investors (VC's, Institutional Investors, etc.) will begin paying attention and consider making investments there. With enough visibility for the region's success stories, VCs from outside of the region will consider opening an office there. Nothing improves the deal flow like a body on the ground that has to justify his/her continued existence. The highly skilled knowledge workers who are important to growing technology ventures will see not a single job, but multiple job possibilities and long-term potential in a region.

Velocity

I believe the final idea, the velocity of ideas and knowledge in a region, is perhaps the most novel piece of the model. Considering the basic of ideas of macroeconomics leads to some important questions: if there is a velocity to money and it is important to a region's economy, is there a velocity to the intellectual capital of region? If so, how does this impact regional growth and development, and what determines the velocity of a region's intellectual capital?

The assumption underpinning the idea of velocity is that innovation, creativity and entrepreneurship are not about the grand vision arrived at via the "Newtonian moment." It's more about how bits of interesting knowledge, information, perspectives, etc. bump into each other, interact and lead to a novel insight about how to solve a problem or provide a new product or service. If this is how innovation happens, then the velocity with which ideas travel and move around a region will strongly influence the level of innovation, creativity and entrepreneurship in a region. The same volume of research in a region with high velocity is likely to develop significantly more innovations and ventures than a region with low velocity.

So what determines the velocity of region's intellectual

capital? The size, diversity, ease of entry and completeness of a region's social networks, and the permeability of the boundaries of its institutions, play a huge role. Large diverse networks mean that lots of ideas can flow through them and bump into lot of other interesting and non-repetitive ideas, leading to those novel insights that are the basis for innovation and entrepreneurship.

The ease of entry into a region's networks determines how accommodating a region is to new entrants. If these networks grant access to ideas and capital only to entrepreneurs who born there and are part of a small, select group of old families, they are limiting the probability of successful entrepreneurship. If a region is going to develop an entrepreneurial economy, then its networks must welcome anyone interested in creating a company, not just long-term residents from the "right" families. If you are limiting entry into the networks you are decreasing the velocity of the region's intellectual capital.

When an idea remains trapped in a small space, it's less likely to run into another interesting idea that completes the insight and leads to an innovation.

Completeness also matters: the percentage of the region's institutions, industries, resource providers, investors, etc. that are connected together in a network. It determines how difficult it is for a potential entrepreneur to access the diverse set of resources required to create a successful venture. New entrepreneurs must be able to go to a single place to find referrals, contacts, mentorship and help. That network should be a gateway to institutions, resource providers and investors. This increases the speed with which ideas can be pursued, and in turn increases the velocity of the region's intellectual capital. Having to navigate several small networks discourages entrepreneurs and decreases the velocity.

Finally, people's ideas must be free to escape the boundaries of their organization. When an idea remains trapped in a small space, it's less likely to run into another interesting idea that completes the insight and leads to an innovation. Ideas that remain trapped within a single institution can't help the region's economy. The

region's business, government and research institutions must allow people and ideas to flow beyond their boundaries, and should accept ideas and people from the outside. A willingness to transfer or license technology, provide leaves of absence, or re-hire an employee who pursued an entrepreneurial venture all increase the velocity of region's intellectual capital.

Where to from here?

The first thing is to understand that the "3 Vs" is a simple framework that helps a region think about how to encourage entrepreneurship in a region and begin to organize its efforts and maximize their impact. The most important implication of the model is that encouraging entrepreneurship requires complex, multi-faceted approaches, not single minded one-shot programs. Because of the synergies among the V's, analyzing where a region is strong and where it is weak can help guide policymakers. For example, if a region has a strong research base and a high volume of research activity, but low visibility and low velocity, then policies designed to increase these two V's should provide a much greater bang for the buck than policies designed to increase the volume of research.

This framework also gives a region guidance on how and what to benchmark when comparing itself to other regions. Rather than simply looking at the ranking of the region on the "cool" index, the solution lies in benchmarking the region on all of the critical dimensions of the model. Does your region have a volume of successful ex-entrepreneurs who can serve as mentors, tutors and investors for the entrepreneurs and angel investors in your region? How permeable are the boundaries of your institutions? How difficult is it to license a patent from your local research institutions? How many people have left one of your leading companies and created a new venture? How often do your local papers interview, profile and discuss entrepreneurs and entrepreneurial ventures? How many truly prominent local entrepreneurs do you have in the region? How many success stories does your region have as role models? Given that it is a synergistic model, vast improvements can probably be had by targeting policies towards solving the glaring weaknesses, rather than reinforcing the strengths.

In the end, this is not the perfect model, nor is any model likely to be, but it has the advantage of moving the conversation beyond simple solutions for a complex problem. Every region is going to have its own strengths

and weaknesses, and this model provides a means of assessing them -- and thinking about the implications -- by showing where to look for possible solutions to your region's challenges in fostering an entrepreneurial economy.

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