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'ENTREPRENEURIAL TERROIR - THE ANN ARBOR AREA OF INNOVATION APPELLATION'

PARALLEL SESSION 1

STPs and AIs. Evolution of models and strategies: adapting to the new context

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'Entrepreneurial Terroir - The Ann Arbor Area of Innovation Appellation'

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Executive Summary

The conference themes, "Cooperating with Knowledge Creators" and "Impacting Society" have particular meaning for the minority of us participating in IASP and the Doha conference that engage in our work through Areas of Innovation.

Many colleagues involved in creating and managing science parks want to find ways to use their latent capacity to influence their surroundings, in effect creating areas of innovation. Those of us who come to the conversation from as "areas of innovation" may be able to provide some insight as to how STPs can achieve that wider impact.

I intend to borrow the agricultural and viticulture concept of "terroir" to describe the experience of the Ann Arbor region of the State of Michigan (USA) to illustrate how in a relatively short period of time, an area of innovation can arise and become recognizable and actually build on itself creating ever greater and greater impact.

Areas of Innovation as "Terroirs"

Areas of innovation spring from a combination of factors present in a region that when combined and cultivated can produce an environment that leads to the similar results as STPS. This is different from the intentional intervention that a STP (i.e. a physical environment is created, a set of buildings or a campus is created) usually represents but from the creation of a tacit collaborative environment by key players within the region that becomes an area of innovation. In many cases, unlike STPs areas of innovation through their lack of intentionality becomes "places" that are more integrated with their surrounding city or community as a result more recognizable to the community at large.

This is analogous to the concept of "terroir" in agriculture and viticulture. A particular geography through a variety of factors: the underlying geology, climate, location, indigenous flora and fauna, immigration and societal structure to name but a few, develops a specialty in a particular foodstuff or wine variety. Some terroirs become renown because the combination of actors in the production, distribution and marketing of that product develop collaborative platforms to maximize the potential of that region building on and enhancing those innate factors far beyond the what the individual assets represented individually.

However, much like "terroir" in the case of a wine or food region without the intentional cultivation of those assets the region never really realizes its potential or even becomes a terroir. Additionally, like newly emerging wine terroir, say Australian wine appellations arising in recent decades they can build on the experience of those that have preceded them for example the Champagne or Burgundy regions of France.

The argument here is that without intentionality; that is, the STP consciously influencing the environs beyond its boundaries OR the intentional creation of a collaborative platform within a defined geography, the maximum impact of the area's innovative potential cannot be realized. A key element of intentionality is personal leadership from members of the triple helix that over time must evolve into continuing institutional leadership

The contribution of areas of innovation is both economic and societal and creates a virtuous cycle the advances the well being of a surrounding community. Existing businesses benefit from the presence of the customer base the technology workforce represents and through the increased vibrancy that a daily workforce represents that are a magnet for other customers. At a macro level for the local government entity, revenues are increased both from the increase value of the occupied buildings and the economic activity of the workforce creating a virtuous cycle of reinvestment in services and capital projects that in turn encourage more locations by early stage innovative companies who are drawn to the environment. For the companies, the clustering of talent is important. A variety of studies in the US, indicate that as many as 65% of young people pursuing careers in innovative and creative fields choose where to live first before who to work for…..the choice globally has become urban, vibrant areas.

Ann Arbor - Pre-SPARK

Prior to 2005, the Ann Arbor region (population 330,000) could best be characterized as one of unmet potential as a place of innovation. Unmet both in term so of economic and societal impact. To be sure it was rich in assets that should have made it a hot bed of innovation and innovative companies. Year after year, the University of Michigan deployed the largest research budget of any public university in the US at annual expenditures approaching $1.5B US yet it lagged in technology transfer in licensing and company formation. The university had a renowned international reputation and attracted students, faculty and researchers from all over the world. The region was also blessed with a large number of high net worth individuals and families from Southeast Michigan's legacy as the United State's first "Silicon Valley"….that of the incredible history as the innovative entrepreneurial heart and birthplace of the US automobile industry and the Arsenal of Democracy during World War II. Ann Arbor, itself was and is concerned one of the most attractive communities to live in not only in Michigan but the US with a highly educated populous, high quality of life and in comparison to US norms a relatively low cost of living and cost of doing business.

These assets, these potential assets, though were underperforming. Entrepreneurship and the creation of new companies, the commercialization of an incredible number of new ideas of product and processes coming out of the University of Michigan was lagging when compared to other areas of the US. So much like an "potential' viticulture area with good soil, climate and geography is lying dormant and overgrown with weeds Ann Arbor needed several "vintners" to recognize its potential and to intentionally intervene by introducing appropriate varietals with modern growing techniques with well capitalized support systems to bring the product to market and to maximize its potential.

Ann Arbor SPARK - A Case Study in Intentional Regional Open Source Innovation

In 2002, Mary Sue Coleman was appointed as President of the University of Michigan that is located within the City of Ann Arbor. The University of Michigan ranks annually as one of the top public universities and as one of the top research universities in the US with annual research expenditures in excess of $1.5B. President Coleman came to her job looking to more fully engage the University of Michigan in enhancing economic prosperity in the Ann Arbor region, Southeast Michigan, the State of Michigan and the United States as a whole. In addition to the a student body of 50,000 undergraduates and 20,000 graduate student and post-doctoral researchers, the University has over 500,000 alumni living and working all over the world. Her early assessment was despite these resources while the University was doing exceptionally well internally, it just was not having a significant impact on the economy behind the buying power of its students, faculty and staff. Of particular note was the low ranking the University of Michigan had in technology transfer across all metrics in patents, licensing and commercializing promising research. To assess what was not working and to build a strategy to move the

University into full engagement with the local, regional, state and national economies, President Coleman convened a national advisory panel of experts from around the United States to work with UM's Office of Technology Transfer.

Included on that panel, that continues to meet to this day, our experts in technology transfer from other universities around the US, venture capitalists and other executives many that were alumni of the University of Michigan including one key individual named Rick Snyder. Rick was a three-time graduate of the University, who had recently stepped down as CEO of Gateway Computer and was now running a venture capital firm based in Ann Arbor. The key conclusion of the national advisory panel was that Ann Arbor lacked an effective private-public-academic platform OUTSIDE the university to create a nurturing environment to receive potential companies that could be spawned once the Technology Transfer Office improved its processes to commercialize new technologies and create start-ups and early stage companies. It is was felt that if such a collaborative platform could be created then an entrepreneurial ecosystem would evolve to bring talent, ideas and capital together and dramatically change the surrounding region into a known locale for entrepreneurship, early stage company creation and innovation…..an area of innovation.

IT is important to note at this point in this narrative that the conclusion of the national advisory panel was not to create a science and technology park affiliated with the university…it was to build an ecosystem within and around the City of Ann Arbor where company formation and growth would happen organically within the community taking advantage of the quality of "place" that Ann Arbor already possessed. IT is also important to note that the effort was not to limit what clusters would evolve but to create a nurturing environment for all types of technologies and innovation and let those clusters evolve naturally. In other words, the "terroir" of Ann Arbor was ripe for development into an area of innovation but there needed to be a "SPARK".

The University committed funding and talent to this new platform but was clear for it to be a successful platform other members of the triple helix needed to come to the table as equal partners. Rick Snyder took up the baton of leadership as SPARK's first chairman and worked to create a new non-profit organization, to be called Ann Arbor SPARK, that would be funded and lead by a board made up of the key stakeholders in the region from the private sector, public sector and the two universities and one community college in the region. These stakeholders would come to the table as equal partners with a charge to create an entrepreneurial ecosystem in the Ann Arbor region…an area of innovation. SPARK came into being in 2006 and has been integral in creating an area of innovation with great results over the first nine years of its existence. In 2010, Rick Snyder became Michigan's Governor.

Ann Arbor SPARK's Strategic Plan

The SPARK board of directors that consist of leaders representing all three elements of the triple helix - the private sector, government and local academic institutions have an adopted strategic plan (see page 4) consisting of three strategic initiatives of acceleration, talent and growth on the foundation of two supporting initiatives of leadership and planning. These initiatives are delivered through the individual actions of different elements of the triple helix that are coordinated and advanced through the collaborative efforts of the SPARK professional staff teams in the areas of Business Development, Business Acceleration and Marketing and Communications as directed by the SPARK board of directors working through its Executive Committee and the Finance, Business Development, Entrepreneurial Services, Foreign Direct Investment, Talent and Public Sector Committees.

SPARK's mission is to ***advance the economy of the Ann Arbor Region by establishing the area as a desired place for business expansion and location...by identifying and meeting the needs of business at every stage, from those that are established to those working to successfully commercialize innovations.***

Core to this mission are founding values-

To provide high value and innovative services to our stakeholders and customers helping meet their challenges in an increasingly dynamic and volatile global economy.

To pursue the principles of open source economic development by engaging in regional and statewide collaboration with public, private and non-profit partners to advance the Ann Arbor region, Southeast Michigan, the State of Michigan and the nation.

Ann Arbor's Terroir

The key to understanding the difference between an area of innovation and a stand-alone science and technology park is that an area of innovation expresses itself through the ordinary fabric of the city or community that it arises in. This takes the form of existing office space repurposed for technology companies, meeting and conference facilities that exist and may serve other purposes and needs of the community at other times and the basic business support structure of a ordinary city - coffee shops,

restaurants, copy and mailing centers, child care facilities, etc. In the case of Ann Arbor's geography this has transformed a multi-block area of the core downtown into a high technology corridor in and around the existing city fabric nearby the main University of Michigan campus and created a demand for technology companies to squeeze into any available space they can find. Venture fund firms have clustered nearby. For example, Menlo Innovations a leading software development company has converted the lower floors of a parking garage into a loft style development space.

Another leading network security company, Barracuda Networks took over the vacant headquarters and home store of the bankrupt Borders book selling company and converted into a monitoring and solution center that combats computer viruses like the recent Heart Bleed from that location. New restaurants and shops now occupy the front of this multi-story building. This environment is attractive to the talent employed by this companies who want a walk able non-automobile dependent environment with plenty of social and cultural amenities. As these companies grow, they look for space in adjacent districts where there do exist office, research and development and manufacturing buildings that can be repurposed for use by a new generation of technology companies.

SPARK anchors the downtown district with an early stage acceleration facility and it operational headquarters that we share with Google face each other diagonally across the main intersection of the district - Liberty and Division Streets. An array of programmatic, consultative and financial services are provided to the companies within the AI from these locations financed through a FY 2013 budget of $8.2M from resources provided to SPARK by the triple helix stakeholders. A key source of funding is the area of innovation itself that through a creative mechanism provided under the State of Michigan's legal statute allows a portion of the increased taxable value in the AI to be captured and returned ultimately to SPARK to provide direct services to early stage companies that in turn locate within the buildings of the district creating additional growth in taxable value….a true virtuous cycle.

The University of Michigan is a driving influence through its support of SPARK financially and through the fact that the President and her key deputies play key roles in almost every key SPARK committee and initiative. This influence is felt further by the Office of Technology Transfer being directly integrated into the A2 terroir and graduating its commercializing technologies out into the private real estate market supporting that virtuous cycle. It provides further influence by the actions of its Business Engagement Center that receives the innovation needs of Fortune 500 partners through sponsored research and contracts that lead to new technologies and companies that also graduate into the terroir.

Another important element of the terroir is the presence of significant individual and family net worth within the region as a legacy of the region's preeminence in the 20th century automobile industry. For example, Bill Ford, the great-great grandson of Henry Ford and the current chairman of Ford Motor Company resides in Ann Arbor. This large net worth was largely untapped and has become significant source of early stage capital in the region.

The pool of talent is also rich….Southeast Michigan has more engineers of all types per capita than any other region in the world and is only second to Silicon Valley in the US for the concentration of information technology talent.

Ann Arbor SPARK's Impact - 2006-2013

Ann Arbor SPARK has:

-created over 13,000 jobs through over 300 business retention, expansion and attraction projects
-supported over $1.5 B in new private sector investment in the region
-assisted 1350 innovation start-ups and venture capital investment nearing $50M
-leveraged $78M in federal, state and foundation investments that has….

……resulting in 3% GDP growth year over year through the Great Recession and the recovery and a return to pre-2008 employment levels…….transforming the Ann Arbor economy from 2/3^{rds} manufacturing to 50% manufacturing and 50% professional technical and scientific.

What about the University of Michigan's Office of Technology Transfer that was the catalyst for creating a triple helix collaborative platform leading to the Ann Arbor Area of Innovation?

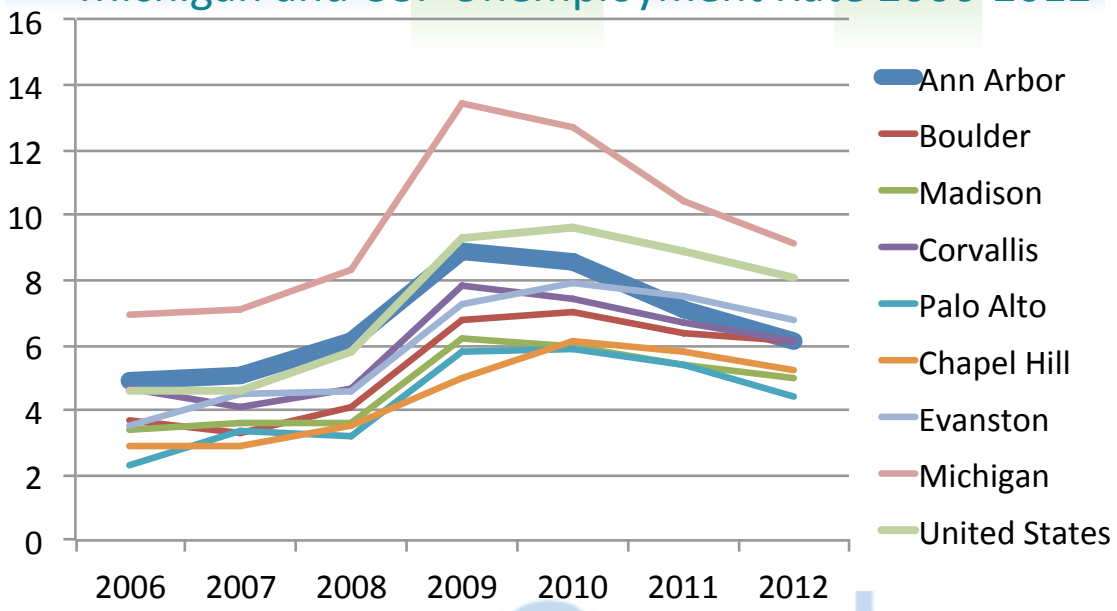
The Ann Arbor terroir enabled UM-OTT to:

-record 3869 discoveries
-enter into 1161 license/option agreements
-make 1749 patent applications
-support 126 University startups and
-earn$211M in royalties and equity sales.

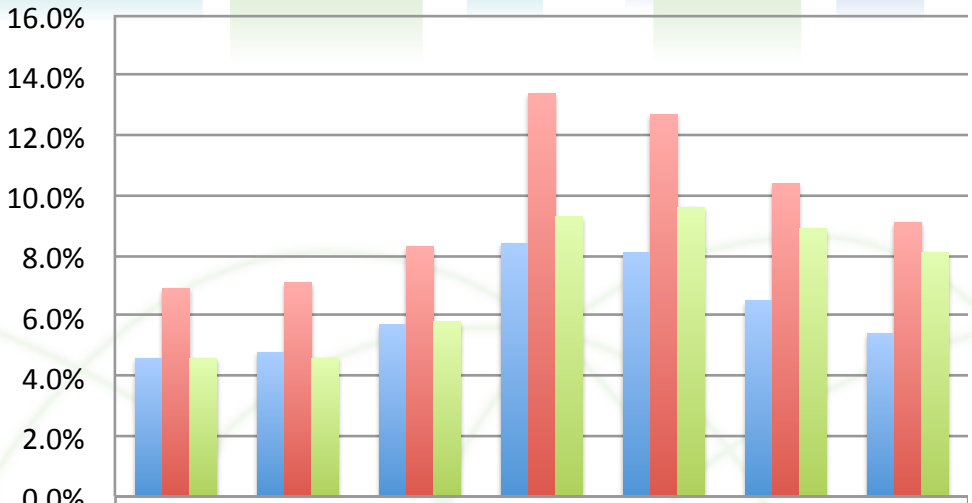
Ann Arbor is now recognized from as one of the top five areas of innovation in the United States. The Office of Technology Transfer has a similar rank among American universities.

How does Ann Arbor Compare?

Michigan and US: Unemployment Rate 2006-2012



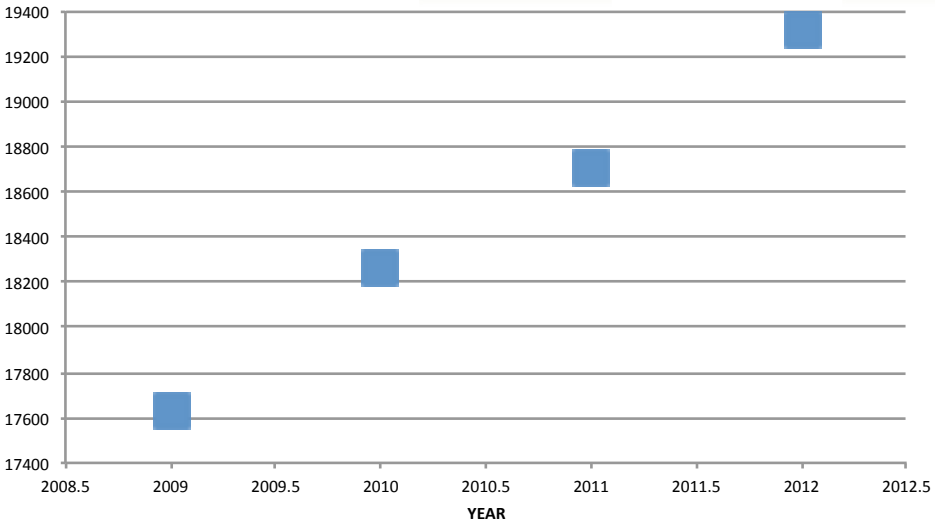
Unemployment Rates for Washtenaw County, US 2005-2012

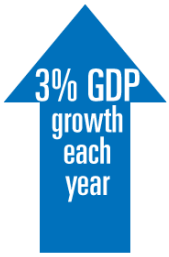


	2006	2007	2008	2009	2010	2011	2012
Washtenaw County	4.6%	4.8%	5.7%	8.4%	8.1%	6.5%	5.4%
Michigan	6.90%	7.10%	8.30%	13.40%	12.70%	10.40%	9.10%
United States	4.6%	4.6%	5.8%	9.3%	9.6%	8.9%	8.1%

Strong GDP Growth in the Ann Arbor Region

GDP = Total dollar value of all goods and services produced over a specific time period





US Average Yearly GDP Growth: 2%

Washtenaw County, Michigan

Lessons for STPS and Other Areas of Innovation

Areas of innovation represent a replicable model that can have great applicability for STPs that want to be impactful on the communities that surround them. Success depends on creating a collaborative platform of the elements of the triple helix in the surrounding region that brings them to the table as equal stakeholders with freedom of action within the collaborative framework.

Areas of innovation and STPs are not mutually exclusive approaches. STPs can stretch beyond their boundaries and have influence and impact by working to convene appropriate parties. Opportunities for success seem best when the platform created is a separate entity that can be a fair broker between the triple helix as they collectively try to create economic prosperity through giving birth to an area of innovation. Similarly the outcome of an AI collaborative platform may be the creation of an STP or building(s) in a dense urban environment to become the tangible symbol of the area of innovation. This is something that SPARK is currently considering.

The notion that successful areas of innovation reflect the elements of their terroir is important. More success will be obtained by an accurate assessment of the assets and weaknesses of the existing terroir and a strategy that maximizes the assets and minimizes the weaknesses than an approach that tries to introduce elements into the environment that have no indigenous basis.

Leadership from all elements of the triple helix can create a successful area of innovation much like a vintner respectful of the soil, geology, climate and the appropriate varietal can create a great wine and vintners in a specific geography can create a great terroir.