

**Karen West, for submission to Beyond Silicon Valley: Growing Entrepreneurship in Transitioning Economies, Final Project Assignment, Due by: November 20, 2014:**

**I. Describing Your Entrepreneurial Ecosystem:**

During this course, I examined the concepts and frameworks discussed in class to the Boston, MA area where I live to find out the context from class that is relevant to our Boston entrepreneurial ecosystem. I did my own independent research combined with some entrepreneur interviews for the mid term (some in the Boston ecosystem and some outside of it to contrast), using this data, I have drawn on skills and concepts learned during the course to analyze the Boston area entrepreneurial ecosystem. I found that what I independently researched did not always overlap with the entrepreneurs whom I interviewed in many of the ways these resources could be used, and they may have just focused on one method of getting started. For that reason, I also interviewed some entrepreneurs outside my Boston ecosystem to see how many I could speak to may have gotten started within their ecosystem outside of Boston in the other ways of starting a business we learned in class and that I found Boston has resources to do as well. I interviewed 8 entrepreneurs and even in doing this, I found that there are more resources available in the Boston area for supporting entrepreneurs than any of these people whom I interviewed ever used. Boston is not as well known for the start up culture as the Silicon Valley area traditionally is, but there is a great deal of support here to encourage it as well. So before sharing my entrepreneur interview analysis, I first share what I found as a vast amount of resources in the Boston area for entrepreneurs and also how it ranks within a few places in the US and also world wide.

**Role of Government in Start Up Cultures in Boston, MA Area:**

Recently they dedicated city space on the water front just for start ups called the “Innovation District”. There is a “Mass. Challenge” where innovators present their technical product to compete for funding, but looking at the list of contributors, there were many more private sector companies that contributed than government contributors, but the Massachusetts government did contribute to this and was listed, along with the National Science Foundation which is funding from a federal rather than state level. It does not go into details about where the funding comes from, such as the amount the government may have contributed to the start-up versus private sector funding. I also found in an article dated August 13, 2014, that our current Governor, Deval Patrick, announced and signed H.4377 “An Act To Promote Economic Growth in the Commonwealth,” building on the Patrick Administration’s successful economic development strategy of investing in education, innovation and infrastructure. The economic development package provides new tools and training to ensure the Massachusetts workforce meets the needs of employers, invests in our Gateway Cities to promote development across the entire state and provides incentives to create jobs and stimulate the economy. The following efforts were made with this legislation from our state government.

Governor Patrick re-filed legislation that limits the use of non-compete agreements and adopts the Uniform Trade Secrets Act to ensure that government acts to retain talented entrepreneurs, supports individual career growth and encourages the development of new, innovative businesses to drive future economic growth. The legislation also includes a provision to give local governments across Massachusetts control over the number of liquor licenses in their jurisdiction. Placing the authority to approve liquor licenses in the hands of municipal officials will allow local communities to make responsible decisions regarding their economic development and growth and free the Legislature from time-consuming local issues.

“An Act To Promote Economic Growth in the Commonwealth,” signed on Wednesday, bolsters the economic revitalization of the Commonwealth’s Gateway Cities with \$15 million for the Gateway Cities Transformative Development Fund and encourages the reuse of brownfields in economically distressed areas of Massachusetts with \$10 million in funding.

“This legislation makes many targeted investments in our emerging industries, like Big Data and advanced manufacturing, that are necessary to create a competitive environment here in Massachusetts and grow our status as a leader in the world economy,” said Senate President Therese Murray. “By capitalizing on our state’s existing and developing industries, as well as investing in a strong, educated workforce, we are outlining a path to success for our residents and promoting economic development throughout the entire Commonwealth.”

“This comprehensive bill will help ensure that residents, businesses and communities are able to compete and excel in a dynamic economy,” said House Speaker Robert A. DeLeo. “We’ve made substantial gains in strengthening our economy and must now focus on broadening the circle of prosperity beyond Greater Boston to all regions of the Commonwealth. This bill does just that while preparing future leaders through provisions like MassCAN, a computer science education partnership and the Talent Pipeline Initiative.”

Building on a strong record of growth in the state’s world-class innovation economy, the economic development package also adopts Governor Patrick’s proposal to create a pilot Global Entrepreneur in Residence Program to retain and attract entrepreneurs who are growing companies and creating jobs in the state. The program will be piloted at the University of Massachusetts Boston and the University of Massachusetts Lowell and will allow qualified, highly skilled, international students currently in Massachusetts to stay here after graduation if they are starting or growing a business and contributing to the local economy.

“This bill provides significant new support for the Commonwealth’s economic development strategy,” said Housing and Economic Development Secretary Greg Bialecki. “Ensuring the long-term economic prosperity of the Commonwealth means extending growth and opportunity to every corner of the state.”

In the area of workforce development and training, the Act includes \$12 million for the middle skills job training grant fund to support advanced manufacturing, mechanical and technical skills at vocational-technical schools and community colleges. Also, the Workforce Competitiveness Trust Fund will receive \$1.5 million to prepare Massachusetts residents for new jobs in high-demand occupations, helping close the middle-skills gap and creating a seamless pathway to employment.

The economic development legislation also includes a number of initiatives to expand the Commonwealth’s world class innovation economy including \$2 million for a Big Data Innovation and Workforce Fund to promote the use of big data, open data and analytics, and \$2 million for the Innovation Institute Fund at the Massachusetts Technology Collaborative (MTC).

The legislation also creates a \$1 million talent pipeline program that will provide matching grants aimed at increasing technology and innovation internships, and another \$1 million for a start-up mentoring program to connect early-stage entrepreneurs, technology startups and small business with experienced business enterprises and capital financing.

"This package tackles three key areas important to driving job creation," said Karen Mills, former Administrator of the U.S. Small Business Administration and Senior Fellow at Harvard Business School. "It expands opportunities for small businesses to get the capital they need to grow. It invests in helping workers gain skills in critical sectors important to the state's future. And, it strengthens ecosystems to encourage and support entrepreneurship. This is a great example of leaders in the public and private sectors coming together around a playbook for growing our economy and creating good-paying jobs."

A separate provision increases the Housing Development Incentive Program's (HDIP) annual cap from \$5 million to \$10 million over the next four years, and allows larger developments to qualify by eliminating the 50-market-rate unit per project cap. The expansion of the HDIP will provide residents of Gateway Cities with increased access to market-rate as well as affordable housing.

This legislation establishes a financial services advisory council to exchange ideas and develop strategies for business and government to work together to strengthen the Commonwealth's financial services industry. It creates a job creation incentive under the Economic Development Incentive Program (EDIP), allowing business to receive a tax credit up to \$1,000 per job created, or up to \$5,000 per job created in a Gateway City, so long as the total credit per project does not exceed \$1 million.

Governor Patrick also returned back for amendment two other provisions of the bill requiring a study of the "angel investor" tax credit and requiring telephone counseling rather than delaying for two years the requirement for counseling new mortgage holders.

### **Role of Philanthropy in Boston,MA area for start up culture here:**

Boston does have a similar type program to the "Fund for Economic Future" as described in class for Cleveland. In the Boston area it is called "The Boston Foundation", or TBF, and it recently merged with "The Philanthropic Initiative", or TPI. They are described as "The Philanthropists, The Visionaries, The Social Entrepreneurs, and some of them are all three of these things. They look at problems and see nothing but opportunities. They never walk away from a problem and are never satisfied with the status-quo. They are healers, educators, and community leaders. They are the change-makers. They are people crazy enough to think they can change the world and they are the ones who do."

The Boston Foundation combines their donors aspirations and passions for giving with their deep understanding of the vital issues facing the Boston community. The "Donor Advised Funds" are able to fund grants anywhere in the US or abroad and operate like a private foundation, without the administrative or payout burdens. There are other funds that invest in the future of greater Boston, and the issues and organizations that have profound impact on their lives, through gifts or bequests to the "Permanent Fund for Boston". When the Boston Foundation merged recently with The Philanthropic Initiative, they added to their capacity to advise donors to engage in strategic and effective philanthropy in Boston and around the world. So far they have 3 web sites to support these efforts. For an in-depth look at The Boston Foundation's work, you can go to [tbf.org](http://tbf.org). The web site: [bostonindicators.org](http://bostonindicators.org) gives unprecedented information and analysis on the greatest opportunities and challenges that Boston and this region in general face. The web site: [givingcommon.org](http://givingcommon.org) is the place to go for informed giving in Massachusetts.

Through grant making and special initiatives in greater Boston, The Boston Foundation supports non-

profits across a wide range of issues, guided by a focus on people and place, with a strategic focus on Education to Career, Health and Wellness, Jobs and Housing, Community Safety, and Civic and Cultural Vibrancy. The Foundation also works to strengthen non-profits and leaders through a range of work designed to enhance the long-term vitality of the Massachusetts non-profit sector. They build effectiveness through the “Vision Fund” and the “Institute for non-profit management and leadership” at Boston University. They encourage collaboration through the “Catalyst Fund for Non-Profits” and “Collaborate Boston.” They strengthen the entire non-profit sector by research and advocacy.

They have a “Civic Leadership Fund” that has been successful in the areas of: K-12 and higher education, workforce development, health, housing, cultural facilities, municipal finance, and other critical areas such as: cutting edge research, major forums and convenings, strategic and proactive grant making, task forces and coalitions, communications and media, and deep public policy work.

The “Understanding Boston” series identifies challenges facing our city and region, commissions fresh research, and shares information through a series of forums that are attended by thousands of people every year.

The “Boston Indicators Project” provides comprehensive information and analysis about every aspect of life in greater Boston and our region through a cutting edge web site and biennial bold reports.

They quote Robert F. Kennedy who said, “The Future does not belong to those who are content with today.”

So to conclude, “The Boston Foundation” sounds analogous to “The Fund For Economic Future” in Cleveland, but with a Boston twist to it, that also includes the US and abroad initiatives as well.

### **Role of Intermediary Organizations in Boston,MA area for start up culture:**

- I found a list of “MTTC (Mass. Tech. Transfer Center)” places for “intermediary institutions for entrepreneurs in the Boston area” on the Mass. Technology Transfer Center Web Site. This long list includes all aspects and resources for starting businesses in the Boston area.
- The Web has many resources for entrepreneurs thinking of starting new technology-based companies. Below are links to sites that MTTC staff and advisors have found helpful. Many are provided by nonprofits and offer free information. Others are managed by for-profit corporations providing services on a fee basis, in addition to offering free information.

### **Organizations for Entrepreneurs**

#### **MIT Enterprise Forum**

*The MIT Enterprise Forum, Inc. builds connections to technology entrepreneurs and to the communities in which they reside.*

#### **MIT Enterprise Forum of Cambridge**

*The MIT Enterprise Forum of Cambridge mission is to promote and strengthen the process of starting and growing innovative and technology-oriented companies by providing services and programs that educate, inform, and support the entrepreneurial community.*

### **National Collegiate Inventors and Innovators Alliance (NCIIA)**

*Supporting technology innovation and entrepreneurship in higher education to create experiential learning opportunities for students and successful, socially beneficial businesses.*

### **Women Entrepreneurs in Science and Technology (WEST)**

*WEST is a nonprofit organization for women in science and technology who are existing entrepreneurs, aspiring entrepreneurs, and those who want to become innovative leaders and enhance their professional and personal development.*

### **Masschallenge**

*Masschallenge connects entrepreneurs with the resources they need to launch and succeed immediately. Masschallenge's primary activities include running an annual global startup competition, documenting and organizing key resources, and organizing training and networking events.*

## **Industry-Specific Organizations**

### **CLEAN ENERGY**

#### **New England Clean Energy Council**

*The New England Clean Energy Council's mission is to accelerate New England's clean energy economy to global leadership by building an active community of stakeholders and a world-class cluster of clean energy companies.*

### **LIFE SCIENCES**

#### **Massachusetts Biotechnology Council**

*The Massachusetts Biotechnology Council is an association of more than [600 biotechnology companies, universities, academic institutions](#) and others dedicated to advancing cutting edge research.*

## **Government Offices**

### **Business Plan Competitions**

<http://www.massmeansbusiness.com> [Massachusetts entrepreneurial resource: funding, location search, regional profiles]

<http://www.entreworld.org> [Kauffman Foundation: "A world of resources for entrepreneurs"]

<http://entrepreneur.com> [Entrepreneur Magazine online]

<http://entrepreneurship.mit.edu> [MIT Entrepreneurship Center ]

[www.about.com](http://www.about.com) [Entrepreneur section of About.com]

<http://businesstown.com> [Twenty-plus topics from accounting to valuing a business]

<http://dnb.comus> [Dunn & Bradstreet]

<http://caycon.comresources.php> [Cayenne Consulting: The Entrepreneur's Library]

<http://www.boston-enet.org> [ Boston 's Entrepreneur Network]

<http://www.tie-boston.org> [not-for-profit Boston organization with a mission to foster and support entrepreneurship]

<http://globalbusinessexchange.com> [Global Business Exchange is an intermediary business firm engaging in mergers, acquisitions, and business brokering.]

<http://www.mtdc.comresources.html> [Massachusetts Technology Development Corporation: Resources for Entrepreneurs]

<http://www.sbdc.umb.edu/> [The University of Massachusetts Boston Small Business Development Center (SBDC) & Minority Business Center ]

<http://www.bpl.org/research/kbb/kbbhome.htm> [Kirstein Business Library]

## **Business Plans**

<http://bplans.com> [Business plan samples and advice, financial calculators, and other resources]

<http://growthink.com> [Growthink offers business plan development, investment banking, and market research services.]

<http://www.carnegielibrary.org/subject/business/bplansindex.html> [Business Plans and Profiles Index by the Carnegie Library of Pittsburgh]

## **Intellectual Property**

<http://www.uspto.gov> [U.S. patent and trademark office]

<http://www.wipo.int> [World intellectual property organization]

<http://www.spi.org> [Software patent institute]

<http://www.ipmall.fplc.edu> [Pierce Law's IP Mall]

## **Money (Financial Resources)**

<http://www.mtdc.comindex.html> [Massachusetts VC firm addressing the "capital gap"]

<http://businesspartners.com> [Introducing businesses to partners, venture capital, and angel investors]

<http://www.masshome.comventure.html> [Alphabetical listing of Massachusetts venture capitalists and other services]

<http://www.hcangels.com> [Angel Healthcare Investors, LLC.: Boston-based group of proven executives and entrepreneurs seeking investment opportunities in early-stage healthcare and life sciences companies]

<http://www.commonangels.com> [Typical equity infusions range from \$500,000 to \$2 million in companies headquartered in New England ]

<http://www.capital-connection.com> ["Everything entrepreneurs need in their search for capital"]

<http://www.capital-connection.commassvc.html> [List of venture capital companies in Massachusetts]

<http://www.bostonjobsources.commasscapital.html> [List of Massachusetts venture capital and other resources]

<http://www.investorscircle.net> [Social venture capital intermediary whose mission is to support early-stage, private companies that drive the transition to a sustainable economy]

<http://garage.com> [Early-stage venture capital firm, includes resource links]



<http://growthink.com>[Growthink offers business plan development, investment banking, and market research services.]

<http://www.capitalvenue.com>[Capital Venue: "Connecting entrepreneurs 1on1 with capital sources]

<http://www.fundingpost.com> [FundingPost is a leading investment network for entrepreneurs to find investors (both venture capital and angel investors) online to match your funding requirements today.]

<http://www.vfinance.com>[venture capital and angel investors]

<http://www.zyn.com/sbir> [small business innovation research (SBIR) grants]

### **People (Board Members and Advisors, Management, Student Interns)**

<http://cbdc.org>[ Cambridge Business Development Center is a not-for-profit dedicated to helping people start and grow successful and profitable businesses by providing mentoring and educational programs tailored to the ways entrepreneurs learn.]

<http://www.cfos2go.com/home.htm>[Senior financial executive placement firm]

<http://www.consultants-mall.com>[Search for consultant assistance]

<http://cweboston.org>[Center for Women and Enterprise: programs and services tailored to meet the needs of women starting, growing, or learning to operate their own businesses]

<http://www.fed.org/index.cfm> [Foundation for Enterprise Development: non-profit education, training, and consulting firm] <http://guru.com> [Guru.com: The world's largest online marketplace for freelance talent]

### **Role of Anchor Institutions in Boston,MA area for start up culture:**

- This type of support is feasible in my local community – the greater Boston,MA area—and some of the web sites available to find more information in this area were shared in the above section on “intermediary institutions”. I will share 3 anchor institutions, not hospitals, but local universities that served as anchor institutions to high tech start up growth, that I've heard about by word of mouth rather than my usual case of having to web search the topic. As for local entrepreneurs who wish to work at anchor institutions, they should attend the meet ups or contests they have for entrepreneurs in the Boston and Cambridge area, and find out how they can get involved, or join a contest with their own idea. It makes no difference as far as I know whether you are foreign born or American, since many people in the high tech industry are not from the USA – it's the idea, competence and work ethics that are most important.
- So the 3 examples I have to share of technology transfer from anchor institutions to the local start up industry in the greater Boston area come from Boston University, MIT, and Brown University, with Brown mid-way between where I live south of Boston and Providence,RI, just to give 3 examples.
- My cousin in San Jose,CA's husband co-founded a glaucoma surgery company in the Boston area called SOLX, which started 12 years ago (so 2002) when Boston University hosted a competition for emerging businesses and SOLX was awarded a seat in their incubator. Boston University provided SOLX with facilities and trained staff to accelerate our growth. Boston University served as an “anchor institution” for SOLX.

- Also, I know of a start up that began out of MIT in 1990 or so, when a local Master's student and his adviser turned their robotics projects into a local company here that has been successful in the robotics market called iRobot. I don't think this start up was a result of a competition where MIT provided facilities and trained the staff to formally accelerate the growth, but rather what happened is that the group that was working under this professor formed a company based on their projects done in this professor's group, and on the side, the professor was also working at his former MS student's start up company, and helped contribute to the success of the robotics company, before moving on to form his own company in the robotics market years later.
- The last example is a little different but in a sense came from a technology transfer from another cousin of mine in the Providence,RI area, which is just as close to me as Boston is actually, because I'm south of Boston. She was a business major who learned how to program university databases while working in the IT department at Brown University. When the position was eliminated in 1998, this cousin took what she learned there and sought out other universities across the country that used these same database tools and formed her own independent consulting business exclusively for the higher education market that uses this type of database design and tools. So it too was not a formal competition where the university provided facilities and trained the staff for a plan of transferring it to a local business, but it happened that they did train her, and when the job went away, she took what she learned and formed her own business, in Providence, but for other higher education institutions across our country.

### **Role of Seed Accelerators, Angel Investors and Venture Capitalists in Boston,MA area for the Start up culture:**

**The all-inclusive list of start up resources (including seed accelerators, angel investors, venture capital, and many other initiatives for Boston are listed in the “intermediary institution” section).**

Boston does have **extra incentives to encourage entrepreneurs**. I already shared the recent legislation from our current Governor, Deval Patrick, in the above section on “Role of Government” in terms of some of the incentives just put in place on August 13, 2014 for this purpose. It specifically mentioned mentoring as well.

Here are those few sentences from above shared again: “The legislation also creates a \$1 million talent pipeline program that will provide matching grants aimed at increasing technology and innovation internships, and another \$1 million for a *start-up mentoring program to connect early-stage entrepreneurs, technology startups and small business with experienced business enterprises and capital financing.*”

I did do a search to find something specific that mentions “**incubation**” and “**seed funding**” for the Boston area, but what I found were listings of angel investor and venture capital groups, so I imagine these things exist but I do not have a specific name to share here. In the “Role of Philanthropy Section”, I mentioned Boston's “**The Boston Foundation**” that recently merged with “The Philanthropic Initiative” to help encourage entrepreneurs in areas that are important to the Boston area. Also, I shared the “**Massachusetts Technology Transfer Center**” web site of resources they have for encouraging entrepreneurs, meet ups in Boston and Cambridge, and contests such as the “**Massachusetts Technology Challenge**” where people compete to receive funding for a start up. Recently from one of my entrepreneur interviews, I also learned of another resource called “**Quirky**” where people vote online on your idea to receive funding but that is not unique to the Boston,MA area and was shared with someone I know from Albany, NY actually. I also do not have any specifics on



later stage investing in Boston, other than these things. The article I shared above from Governor Patrick does specifically mention the mentoring and support of early stage entrepreneurs though. I suspect though that one of these resources I mentioned here does have support for later state start ups as well.

From my entrepreneur interviews that I did recently, the one for which I worked from 2002-2004, Oasis Semiconductor, which is now part of Conexant, I learned from interviewing the former Oasis CEO, **what the differences may be in the investment sizes of angel investing verses venture capital.** For venture capital, they often give larger investments which allow larger salaries and equipment for the start up, but the trade off is that the employees receive less stock options, and there is a stipulation of a higher return on investment for the venture capitalist. For angel type investors, they usually have less funds to invest, which require lower salaries for the employees, but more stock options for each employee, and less strict requirements on the return on investment to the angel investor. The way that this angel investment pays off is when there is an exit event, where either the company goes public, or it is bought by another company. When it is bought, those extra stock options become very valuable, especially for the earliest members of the company, who have been surviving on a lower salary to get the company started. Also, **if there is any government contributions, those tend to be less than what a venture capitalist or angel investor may contribute, since their fund is spread across the city and state. Although I have no specific examples, the philanthropic contributions also tend to be smaller than the venture capital contributions, in a similar way to the angel investments.**

#### **To compare Boston as an entrepreneurial ecosystem to other US locations in terms of angel investment:**

In the previous paragraph, I mentioned what I learned for the Boston area most active investors, but upon doing a web search for the entire USA, based on number of deals made, this is what I found. For the USA, the **top angel investors in 2013** were:

1. Golden Seeds (Calif./Mass./NY) — This active group focuses on women-led startups. Recent investments include group-reservations company Groupize, color-recommendation app Plum Perfect and Little Pim, a children's foreign-language teaching startup.
2. Tech Coast Angels (Southern California) — Crunchbase calls Tech Coast the largest single angel investor group in the U.S. Investments this year include online-entertainment site HitFix, in a \$1.8 million round that Golden Seeds joined in as well.
3. Houston Angel Network (Houston) — This nonprofit Texas powerhouse focuses many investments locally, and participated in 33 deals last year, for a total of nearly \$9 million. HAN also recently created its first sidecar fund, Texas Halo Fund I, which raised \$2 million. Recent investments include marketing-image company Cinegif and device-connectivity firm Meshify.
4. Central Texas Angel Network (Austin, Tex.) — CTAN has more than 120 members and invested nearly \$10 million in 33 deals last year. Its most recent deal provided funding to Austin-based sales-contest startup FantasySalesTeam.
5. Sand Hill Angels (Sunnyvale, Calif.) Sand Hill has more than 100 members and made 32 investments last year. Investments this year include a series B funding for medical-device

firm RenovoRX, in which Golden Seeds co-invested.

6. Launchpad Venture Group (Boston) — The largest Northeast-based angel group, Launchpad focuses exclusively on local startups and invests up to \$1 million per round. Last month, it participated in a \$3 million funding round for online-catering startup ezCater.
7. New York Angels (New York City) — This Big Apple AAPL -0.16%-focused group funds up to \$1 million per deal and has invested over \$100 million over the past decade. In February, NYA participated in a \$1.5 million funding round for student-research firm Citelighter.
8. Desert Angels (Tucson) — This Arizona group has over 95 members and has invested over \$26 million in more than 65 companies since 2000. Most recently, cancer-fighting biotech Sialix saw both Desert Angels and Launchpad participate in its \$4 million Series B financing.
9. Investors' Circle — This national nonprofit is the oldest and largest angel group, having funded more than 270 companies to the tune of \$172 million. Last month, its Philadelphia chapter provided \$1 million in funding to advanced-lighting firm Luxtech.
10. Alliance of Angels (Seattle) — The Northwest's angel nexus has invested over \$80 million in 200 companies since 1997. A typical year sees \$10 million in investments from the group. Recent investments include participation in a \$30 million round for fast-growing Seattle beauty startup Julep last month.

The **VC Investment By Region** report I found on venture capital investments in the US verses a few other countries reported:

<b>Region</b>	<b>Invested Capital US\$b</b>	<b>Invested Rounds</b>	<b>% Change (amount invested)</b>	<b>% Change (deals)</b>	<b>% of the Global VC Activity</b>
United States	33.1	3,480	0.9%	-4.6%	68.2%
Europe	7.4	1,395	19.4%	5.7%	15.3%
Canada	1.0	176	14.4%	23.0%	2.1%
China	3.5	314	-30.0%	20.3%	7.2%
India	1.8	222	12.5%	-2.2%	3.7%
Israel	1.7	166	54.5%	17.7%	3.5%
<b>Total</b>	<b>48.5</b>	<b>5,753</b>	<b>1.9%</b>	<b>0.2%</b>	<b>100%</b>

Based on my knowledge of my local region and country, Boston,MA, USA, I would seek the above mentioned resources if interested in being an entrepreneur. My observations in the high tech industry, and also mentioned in the current Governor Deval Patrick's August 2014 report, internationals are encouraged to stay if they have an entrepreneurial idea that is considered good for our economy, and programs have been set up to encourage that. For local or foreign investors, if you do your homework on what you think would be a good investment in the Boston area, I think an investor will get good return on their investment in this area.

**One last observation that I made after doing my entrepreneur interviews was that none of them seem to be taking advantage of any of the “Role of Government” or “Role of Philanthropy” resources that are available for entrepreneurs here that I mentioned in detail in those sections. The assignment guideline asked whether these resources exist here and they do. However, none of the entrepreneurs I interviewed took advantage of using them.** If you go to these sections and see the resources available there, I do think that the Boston area “engages entrepreneurs” to grow our economy with both government and philanthropic investment, yet the entrepreneurs I’ve interviewed and heard about personally have mostly either received funding from angel investment, venture capital, personal bank loans, family and friend investment (part of angel investments), or taking out equity on property they own. I was not able to find anyone who has benefitted from the resources that are available through either government or philanthropy to start their business. I did find some entrepreneurs though that benefitted Mass. Technology Transfer from an anchor institution such as a university to start their business and shared that above in that section.

**Entrepreneur Interviews and Analysis: 2 from Boston,MA, 2 from Silicon Valley,CA, 1 from Providence,RI, and 3 from Albany,NY:**

I interviewed 8 entrepreneurs but I will go into the most detail with the first one from my local Boston entrepreneur ecosystem, yet share some details how the others got started to contrast it a bit. As I mentioned above, none of the entrepreneurs I interviewed took advantage of: Government, Philanthropy, Intermediary Institutions or Seed Accelerators as described above that area available here in Boston for starting businesses, yet at least in Boston, these resources do exist. It could only help if entrepreneurs took advantage as some of these resources if they could benefit their business and others as well.

*(I included all 8 entrepreneurs, but the first one is the one on which I focused, since it was the most detailed interview, from my local to Boston ecosystem, and from that entrepreneur, all questions were answered – so if you just want to read that one, you could!)*

**Description of the Entrepreneurs (3 points): Describe a chosen local entrepreneur (this could be you or someone else). You are welcome to use the material you developed in your Midterm ALA for this part. It should include:**

**Who is the entrepreneur?**

**Their company’s short history, mission, products and services**

**Description of the Ecosystem (8 points): Describe how this entrepreneur utilized the resources in their ecosystem to grow their company and what could have helped this entrepreneur grow their company even more effectively. Include a discussion of the presence or absence of at least some of the following components:**

**Government**

**Philanthropy**

**Anchor institutions**

**Intermediary institutions**

**Seed Accelerators**

**Angel Investors**

**Venture Capital**

**Description of Challenges (5 points): Describe the challenges that this entrepreneur faced. It should include:**

**The accessibility of funding for scale (rather than a market analysis of the products or companies themselves)**

**Assess the key strategic challenges and tradeoffs that the entrepreneur faced.**

**Description of Opportunities (5 points): Describe the unique opportunities that this entrepreneur experienced. It should include:**

**Elements that enabled company growth**

**Supports that were available to help them succeed**

**Description of Measures of Success (4 points): Describe what success looks like to these entrepreneurs. It should include:**

**How they measure success**

**Who the beneficiaries of success are.**

**ENTREPRENEUR INTERVIEW 1 – John Koger, formerly of Oasis Semiconductor, Boston,MA,USA – the most detailed interview:**

The entrepreneur interview I am sharing is within my local to Boston,MA,USA ecosystem, and I worked for his company, Oasis Semiconductor, from 2002-2004, in Waltham,MA. In 1995, John Koger asked his colleague, Brendan Mullally to be his graphics and image processing chip designer at a new start up company. John used to work in Digital Equipment Corporation's graphics chip design group and had decided he wanted to form his own start up company. John's good friend since elementary school in Weston,MA, Will Wrenn, was the initial financier of the start-up, and provided them \$300,000 to get started in 1995. Although you wear “many hats” at a small start up company, John took on the initial role of marketing and sales, while Brendan was the designer. They had both worked together at DEC on graphics multimedia chips in Hudson,MA.

Here was the idea behind their company's mission. Many companies at that time, such as ATI which is now part of AMD, Tseng Labs (1980's), and others in the graphics chip market had decided that their mission was to sell their graphics chips to all companies. At DEC, the philosophy had been that they made their own chips and incorporated them into their own products, but John had observed that there was a new trend happening where the above mentioned graphics chip companies were supplying many different companies who made computers that used graphics chips. John's idea was to make a graphics chip that supplied the office equipment space as a focus.

Initially John made many trips across the Pacific to make sure they were going in a direction that the office equipment companies would be interested in, and companies such as Konica Minolta, Panasonic, Rico, Sharp and Xerox were all quite interested in buying his chip. John had presented to them that his company would be able to make the chip for them at a much cheaper cost and a lower risk than what they were currently paying, and later John also included the software to go with the chip. The software was really rolled up in the price of the chip, since for accounting purposes, it's much easier to track the number of chips sold, and customers could take the software provided with it, and make as many copies of it as they needed to make, so it was not trackable.

The idea of the business was to take a vertical market, a market such as he and Brendan worked in at DEC, a proprietary market where the company made all the chips, software, and boards for computers for themselves, and cut across this vertical organization into a more horizontal market. For example, Dell Computer is more of a horizontal market, in that they contracted chips, boards, and software which allowed them to take advantage of the “economies of scale”, and consequently their costs as a company were lower than DEC's. So John's idea was to be able to supply all customers and companies interested in buying a graphics chip in the office equipment market. That was their mission.

In terms of support after the chips were sold to customers, that was minimal, except for just after initial sales and delivery to the customer. They provided the chip and eventually also the software to go with it.

In terms of Oasis Semiconductor's ecosystem of resources, initially it was a friend's belief in his success that invested in their start up, Will Wrenn. There were also a few angel investors as time went on, other people who made personal investments and no venture capital firm funds were needed at the time. The angel investments had “fewer strings attached” in that they are usually people who know you quite well at your company's start up and believe you will succeed with their investment. After this type of angel investment, venture capital may have made sense for their company, but they did not end up seeking it, because what happened was that there were office equipment market companies showing an interest in their chip and gave Oasis a 50% payment in advance for their chip. The reason they did not also seek venture capital investment was because often times, venture capitalists are not interested when a product is already on the market with customers paying for the product. They had no philanthropic donations and no anchor institution contributions.

The challenges that John initially faced with Oasis in the beginning was that they were a company of 3-5 people for several years. In that type of small start up, the challenge is convincing giant corporations like Sharp to have confidence in them, because they were so small. It helped that they were a fab-less company, and instead asked companies such as Samsung, Agere (an old spin off from AT&T), and UMC (United Microelectronic Corporation in Taiwan) fabricate their chips for them. The reason this was helpful in building larger company confidence was because if their start up disintegrated, the large companies, such as Sharp, had a “license to buy directly from Samsung (or the others)” in the event that the start up disappeared. So that gave the large company customers the confidence they needed to buy the graphics chips from Oasis without worry of the company going away.

Other challenges were the tradeoffs you make for the next generation of graphics chips. The sales team hears from the customers a list of software and hardware features the customer wants for their next generation product. The challenge is what is realistically doable within the engineer's schedules to incorporate these new features and the cost to incorporate the new features in the new graphics chip and software product definition. The saying goes that if you take any of the three tradeoffs (feature, schedule and cost), if you take 2 of them and incorporate them, the 3<sup>rd</sup> tradeoff suffers. Planning this successfully was an on-going challenge.

Oasis Semiconductor's opportunities originally came by making graphics chips without software for the copy machine market of office equipment customers. These customers had other vendors where they bought other chips to do the other functions that the office equipment sometimes do in an all-in-one printer, scanner, copier, fax machine, and initially they only bought the copy machine graphics chip from Oasis Semiconductor. Oasis then saw an opportunity to make a multi-function-peripheral (MFP), which incorporated all the printer, scanner, copier fax machine chip functions onto one chip. This was a big success for them, since it made the cost of buying chips cheaper for their office equipment

customers and they only had to buy from Oasis, not 4 different chip vendors for each function. This also made their purchase of circuit boards cheaper, and the manufacturing of the product cheaper as well. For example, the first HP low end ink jet printer cost them \$1000, but within 4 years, the cost went down to \$99 for reasons such as this.

The way that John measured the success of Oasis Semiconductor was that he had a lot of fun making his start up successful which is important in life, but as a bonus, he was able to sell the company in 2005 for 70 million dollars in cash (not stock). They were planning an initial public offering (IPO) as their exit event as a start up whose stock could trade publicly, but just when that was going forward, there was a glitch in sales, and a year later, SigmaTel, a former Texas audio company, bought them with the idea that they would incorporate their audio chip with Oasis's graphics chip. This made the first dozen people who started Oasis instant millionaires. John explained that each time you double the company size, stock options halve. Usually you can estimate that when a company is bought, the first round of employees (3-4 of them) will get 5-10% of that 70 million dollars, the next 5 people get about 5%, the next 10 employees get about 1%, and the next 20 or so get a half-percent of the purchase price with their stock options.

John then explained that they were funded by angel investors, not venture capital. If they had been funded by venture capital firms, the salaries of the employees would have been higher but they would have been given less stock options, but the venture capital firm provides more money for start up equipment. With the angel funding Oasis received, the salaries of their employees were lower, and they had less for their start up equipment, but the employees received more stock options that were worth something when the company was bought.

To end this story about Oasis Semiconductor, it is no longer owned by SigmaTel, the Texas audio company that had bought them in 2005, when their Wall Street Bankers told them they should invest in the graphics chip business of Oasis to add to their audio chip business. What happened was that SigmaTel then lost their Apple iPod business 2 months after the purchase of Oasis, so they could no longer go forward with their plans to create a synergy between their audio chips with Oasis's graphics chips. SigmaTel went into panic mode and put all their effort into their audio chips but the business collapsed and was sold to Conexant who did not keep the collapsed audio chip business, but they did keep Oasis as their graphics chip business, since Oasis had proven they were profitable to them.

John said that the benefits to society from his Oasis Semiconductor business was that the printer cost dropped, helping every day people better afford all-in-one printer/scanner/copier/fax machines. John said for perhaps 130 people that were employed and working at Oasis Semiconductor, each one of their graphics chip and software office equipment customers each employed perhaps 100-1000 people, and their manufacturing clients each employed 5-10,000 people to manufacture their chips. So the employment of people also benefited society.

***NOTE—for the mid-term, I interviewed 8 entrepreneurs, also shared here, but to answer the questions in this final report, you could skip the next 7 entrepreneurs if you choose, and continue on from there. I found them all interesting and learned from their experiences, but the most detailed entrepreneur interview was the first one, which is why I answered the questions based on that one.***

**ENTREPRENEUR INTERVIEW 2 – Pete Adams, of Noah Precision and SOLX, started by Pete in San Jose, CA, but company division is located in Boston, MA, USA:**

Pete Adams is my cousin Debbie's husband in San Jose, CA, and he started 2 businesses with others,



“Noah Precision”, an employee owned company (with a large fund as an investor) that is a manufacturer of temperature control equipment to the semiconductor industry. Our customers include HP, AMD, Samsung, Texas Instruments, Lam Research, Applied Materials and similar such customers. Our smallest customer has annual revenues of > \$10,000,000,000, with 80% of that outside the USA. Noah Precision includes a board of directors with more than 100 combined years of experiences in the semiconductor equipment industry. To reach the international market, they have distributors in more than 10 key countries. Each distributor has a relationship with our key customers that date more than 10 years. Most of the distributors that represent our products were once buyers of his products. Pete's other business he co-founded 12 years ago in Boston (but while living in CA), a glaucoma surgery company in the Boston area called SOLX whose goal is to preserve vision for an aging population. SOLX is a pre-revenue company seeking FDA approval for a surgical device for treatment of glaucoma. The board of directors for SOLX includes doctors with more than 50 years of experience in the glaucoma treatment industry.

The government played no role in our start-up or has provided no specific resources to accelerate our growth. However, the State government in many states has encouraged energy savings and has made a large pool of funds available to our customers who purchase energy efficient equipment. Since our temperature control equipment uses 80% LESS energy that what we replace, there has been a large subsidy available to our customers when they purchase our equipment. Internationally, governments have also created large pools of funds to reduce energy consumption. These funds have provided for significant growth for us. Boston University hosted a competition for emerging businesses and SOLX was awarded a seat in their incubator. Boston University provided SOLX with facilities and trained staff to accelerate our growth. Boston University served as an “anchor institution” for SOLX.

The biggest challenge for Noah Precision is to fund the product development process that ensures their technology is at the leading edge for the benefit of our customers. This spending consumes over 18% of total revenue and it continues to grow annually. The only way to stay relevant to customers in the semiconductor industry is to have the best technology and this requires investment. Choosing the right technology to invest in is always challenging.

Their measure of performance is return on capital employed. This is the only metric they care about. As small business owners, we want a significant return on our invested capital and ROCE is the best measure of performance for us. At some point, Pete will retire and finding a successor organization that will become the next measure of success for them.

### **ENTREPRENEUR INTERVIEW 3 – Jim Shay, Shay-Glenn Law Firm, San Mateo,CA,USA:**

My brother is also an entrepreneur on the west coast that I used to contrast the entrepreneur interview I did in the Boston area where I live. He has small law firm in San Mateo, CA, focusing on intellectual property matters for small companies, primarily in the medical device industry. The firm was founded on November 1, 2006. A large portion of his work involves interaction with the United States Patent and Trademark Office. Other than that, government has played no role in the founding or growth of the firm. Philanthropy and philanthropic institutions had no role in the founding or development our firm. No anchor institution had a role in the founding or development our firm. No intermediary institution had a role in the founding or development our firm. He took out a line of credit on my home to provide the start-up capital for the firm.

In the beginning, their biggest challenge was to hire enough qualified people to meet the initial demand for our services. Since then, the biggest challenge has been learning how to adapt to the rapidly

changing business climate in our primary industry, the start-up medical device industry. The primary element enabling growth has been Jim's long-time relationships within their primary client community. The primary measure of their success has been their relative stability over the last eight years even as the overall legal and business landscapes have changed. The partners and employees of the firm are the primary beneficiaries, but their clients in the biomedical device industries have benefited from that stability as well.

#### **ENTREPRENEUR INTERVIEW 4 – Marina Kristel – Northeast Speech-Language Pathology, PC, Albany, NY, USA:**

My next entrepreneur interview was from my home town of Albany, NY, a friend of mine from high school who became a speech pathologist. Below is the description of Marina Kristel's speech pathology business in Niskayuna, NY, just outside Albany, quoted in her own words. Marina also started a 2<sup>nd</sup> business that she did not detail here, something she does in her spare time, called “Snappy Suits”, clothing for babies.

“The name of my corporation is Northeast Speech-Language Pathology, PC. I am located in Niskayuna New York. I began a private practice under my personal sir name in 1991, then incorporated under this aforementioned name in 2003. My mission is to reduce the incidence of aspiration pneumonia both in the community and in skilled nursing facilities. Aspiration pneumonia is the leading cause of death in skilled nursing facilities and the fifth leading cause of death in the elderly living in the community. My services include evaluating and providing treatment for people with dysphagia (swallowing disorders) using Fiberoptic Endoscopic Evaluation of Swallowing (FEES).

In 1995, New York State recognized licensed speech-language pathologists to include dysphagia in their scope of practice. It had previously been recognized in the scope through the federal law (Medicare regulations) and American Speech-Language-Hearing Association.

The FEES aspect of the business was initiated in 1999 with the business taking a bank loan and purchasing \$24,000 worth of equipment. The corporation began expanding its territory to provide these exams in both NY & MA in 2011. Massachusetts was included in the expansion due to prime candidates/patients being held up in Trach & Vent facilities, where aspiration pneumonia is most prevalent. At this time, the business grew exponentially.

The government, nor philanthropic contributions, nor any institutions helped to start up the company. This was started solely by the private practitioner.

The challenges included convincing skilled nursing administrators and their medical directors (high ranking MDs) the benefits of this procedure versus their current means to address patients with dysphagia. Change is very challenging. Continuous research, marketing, making presentations within the medical community, while working & balancing a family has been the biggest challenge. Being a woman among a majority of male physicians, respiratory therapists & administrators is an added challenge. The few female physicians, nurse practitioners, and directors of nursing also often have presented themselves as very noncommittal & reserved, who are among the primary decision makers in the skilled nursing facilities.

As the company grew during the past five years, doors opened for the opportunity to incorporate education and provide classes to employees & direct care staff of the nursing home residents. This has

been the optimal means for preventing aspiration pneumonia. Training the staff that feed and verbally redirect these residents simply on safe strategies to eat, drink, take medication, and prevent dental disease is the direct route to preventing the initial problem from starting and improving a condition caused by various medical diagnoses.

The success of this company is not based on income. Success is reducing the incidence of aspiration pneumonia in the community and in skilled nursing facilities. The United States is spending \$87 billion per year addressing aspiration pneumonia. Educating and assessing the swallow with this gold standard instrumental exam known as FEES, will enable the in-house Speech-language pathologist to know the physiology of their patients' swallow, the least restrictive diet texture and liquid consistency, what strategies are necessary in order to safely swallow, and what plan of treatment (including swallowing/strengthening exercises) are necessary.

The beneficiaries of this success are the patients, both young and old, as well as the government's money (coming from both Medicare and private insurance companies) which ultimately comes from the people of the United States.”

#### **ENTREPRENEUR INTERVIEW 5 – Kathy Brown Consulting, Providence,RI, USA:**

The next entrepreneur interview came from my cousin, Kathy Brown, in the Providence,RI area. Kathy described her entrepreneur experience to me in the following manner. She is an independent, individual, free-lance software consultant specializing in a specific database application environment, Filemaker Pro. Her consultant work began in 1998 when her staff position at a local university came to an end. She now independently provides consulting and training in a database application environment. Kathy received no government, philanthropic, anchor institution, or intermediary institution donations for her start up consulting business, but Kathy does provide her services for local non-profits as a volunteer herself. Kathy's biggest challenge was staying current with hardware and software versions because she works in this position on part-time-status. The growth of her business was mostly from word of mouth of completing projects for customers. Most of Kathy's clients are higher educational institutions across the country. Kathy measures her success regularly according to the amount of consulting work she has been contracted to do.

#### **ENTREPRENEUR INTERVIEW 6 – Sherry Toedt Insurance Agency, Albany,NY, USA:**

My next entrepreneur was once again from my home town of Albany,NY. Her name is Sherry F. Toedt who shared her entrepreneur experience as a Certified Insurance Counselor and Certified Risk Manager, and is now President of Toedt Insurance Agency.

The mission of Sherry's Toedt Insurance Agency is primarily to assist small to medium sized businesses with their property and casualty insurance needs and risk management, and to help individuals find the most appropriate personal insurance coverage at the most affordable price. Risk management information, coverage education and risk reduction is also offered to the personal lines customer. Products are all lines of property and casualty insurance including bonds. Services are loss control, assistance with risk identification, risk analysis, risk control and risk financing. The services can be related to safety training/awareness, contractual reviews/risk transfer options, financing including deductible plans and retroactive rating plans as well as prospective rating plans as financial tools to most appropriately price the cost of risk for a commercial client.

There was a small government role. Prior to opening, Sherry met with the Small Business

Administration for a review of her plans and as a result was able to obtain a business loan that was SBA backed. The loan required that she also had my own entry equity and was used primarily for operating capital while it got off the ground. No philanthropy was given. No anchor institutions contributed to Toedt Insurance Agency. Sherry was not sure if this qualifies for intermediary institution or not. It is not support in the free sense. However, she did join SIAA (Strategic Independent Agents Alliance) that cost money to join but provides so much in return. It mostly provides access to insurance companies and the ability to earn profit sharing with those companies. Without such a membership an agency would have to have millions of dollars in written premium with a company in order to get an appointment or to ever get profit sharing. Another form of support Sherry received was from the bank where she obtained her business loan. They referred customers to her for several years until they sold to another bank that has their own insurance division. Their referrals were a nice extra but not integral to the success of my agency.

The challenges that Sherry faced as an entrepreneur include wearing all the hats-administrative, sales, service and managerial at the start, and sometimes even now, it can be very time consuming. The biggest strategic challenge for Sherry was generating new business, having the time for marketing and keeping up with it as a means to new continuing revenue growth. The initial tradeoff she had in starting my own company was the flexibility to work from her home office and be available for her child during his school years.

One of the best elements that insured Sherry's success was the network of people she had met in her community through volunteerism. So many were very supportive when she opened her business as they had had opportunities to work with her in PTA, sports, athletic boards and came to know her level commitment and integrity so there was a natural trust already built and they were willing to bring me their business.

Other supports that helped Sherry succeed were of course her membership in SIAA (mentioned previously) and her membership in the Independent Insurance Agents & Brokers of NY as well as her membership and fellowship in the National Alliance for Education and Research. The type of support they provide can be technical (advice on websites, website referrals), sales seminars and tools and education. Sherry's 30 years in insurance made her an expert and she is all about education of the client. Many of her referrals come because her customers come to know her as one of the very few agents that completely understand what she does and care about it passionately and how it impacts them as customers. She is their trusted insurance adviser.

Success for Sherry is making a reasonable living by doing what she knows best and making a difference for my customer. Insurance doesn't matter until it matters and each of her customers is taught about their insurance coverage and how to make the best decisions in regards to their insurance. Sherry's favorite saying is - "Insurance is NOT a commodity like a gallon of milk to be purchased at the lowest possible price but rather a complex financial tool that should be purchased based on need and understanding at the best AVAILABLE price".

The beneficiaries of Sherry's success aside from herself and her family are her customers and the insurance companies she represents. The customers receive outstanding products specifically tailored for their needs at very competitive prices. The insurance companies receive pre- underwritten accounts that have been provided risk reduction education which results in profitable business for the company. When the companies are profitable their shareholders benefit as do their customers with competitive premiums.

## **ENTREPRENEUR INTERVIEW 7 – Bob Clancy, Spiral Design Studio, Albany, NY, USA:**

The next entrepreneur I interviewed was Bob Clancy, from my high school class in Albany, NY. His company, Spiral Design Studio is located there and he said he received his inspiration from both Albany State and also his experience in Junior Achievement where in high school he learned about starting your own business. Bob founded his company in 1989.

The mission and background of Spiral Design Studio is a progressive, graphic communications firm whose basic mission is: To develop original and creative design solutions on behalf of its clients. To excel in high-end traditional print and web-based interactive media.

Spiral Design Studio is a full-service graphic design and marketing firm serving national and regional clients since 1989. The Spiral Design team expertly balances creativity and innovation with marketing strategy, logic and analysis. It's this center-brained approach that helps our clients to reach their corporate objectives through marketing that's engaging and effective, tactical and targeted, meaningful and memorable.

Spiral Design Studio's services are: Graphic Design, Website Development and Corporate Branding.

The New York State Small Business Development Center at the University of Albany helped Bob initially in advising us how to do their accounting and how to structure our business. He did not have any requirements based upon their contribution. Their assistance service was free. They served as an "anchor institution." They had no Philanthropy or Intermediary Institutions, but they did have support from family members who helped with our initial financing for the purchase of equipment.

One of their challenges we faced was there were many long-term established design and marketing firms in our marketplace. When they started their company, digitally-based graphic design was in its infancy. We were able to take advantage of this technology to rapidly grow our business. This gave us a great advantage over other design firms who were still creating commercial art the traditional way. Not only were we able to produce camera-ready art for one-tenth of the cost, but we were able to produce it rapidly.

They measure success by competing against themselves to always improve what they're doing. Obviously, success can be monetarily measured, but more so for them, it's important to have client satisfaction for the return on their investment. They've largely built our business upon word-of-mouth referrals and currently have clients such as: Citi Group, Activision, Sears, Zales, Sunoco, Best Buy, Home Depot, Disney, among others.

## **ENTREPRENEUR INTERVIEW 8 – Joan Hartel Cabral, Vantel Pearls, Easton, MA, USA:**

My last entrepreneur interview came from a friend of a friend in my current home town of North Easton, MA, USA, although I've never met her before. Joan Hartel Cabral is President and CEO of Vantel Pearls here, and Joan started this jewelry business in 1990. Her mission was and still is "to inspire women to run their own business and to enjoy authentic and abundant life." She had no government, philanthropic, intermediate nor anchor institution contributions and started her business by offering her family and friends a 25% return on their investment if they contributed to her start up, and she got started with \$30,000 investments and her own \$1000. Joan's challenges were that in the beginning, she went without her own income for a handful of years, and found she could not afford to

do fun things such as go out to dinner unless she scrutinized the cost of what was on the menu. After a handful of years living this way, Joan's Vantel Pearl business became profitable. Another challenge Joan found starting her own pearl jewelry business in 1990 was that many founders of companies and CEO's were men so it was not common for women to start their own business. After a handful of years, Joan found that her Vantel Pearl business was experiencing exponential growth, mostly by word of mouth. Joan hired "pearl jewelry demonstrators" whom would go to people's houses to throw parties, where the person would invite friends to see Joan's pearl jewelry, and the demonstrator would receive part of the profits of the party where they were a demonstrator. Joan said she had no background nor an education in the pearl jewelry business and figured it out as she went what it would take to be successful in this business.

The support that helped Joan succeed was her belief in herself, a conviction that she would do well eventually no matter what hardships she faced in the beginning. Joan said she latched onto anything in her life that helped her believe in herself to be successful.

Joan's measure of success is certainly a financial measure, where over the years she has experienced a consistent profit every year, and that is her business success. Joan's personal life measure of her success is her serenity and work/life balance, since she has observed that many people in the President and CEO position of a company do not have this work/life balance that Joan does.

The beneficiaries of Joan's success are the demonstrators of the Vantel Pearls, and some of her demonstrators have been with her for over 15 years. Joan and her demonstrators believe in "intrinsic personal development", which Joan describes as an "understatement", and they attend womens' leadership conferences and businesses to speak about their success and share their "treasure gems" which are listed on the Vantel Pearl web site (8 of those). A few of those for Joan are: "trusting your intuitions", "your richest rewards come from helping others", and for Joan, she is not shy to say that she believes "a power greater than herself provides her best guidance". Joan and her demonstrators share their "treasure gems" at the women leadership conferences and businesses where they are invited to speak about their pearl jewelry business success, to inspire other women, sharing the panel with other successful women from all different types of backgrounds that are different to theirs.

## **ASSESSMENT COMPONENTS AND CONCLUSIONS-answer the following questions:**

### **II. Describing Your Recommendations**

**Description of Recommendations (10 points): Describe one or two new resources or improvements to existing entrepreneurial resources that should be available to entrepreneurs like the one you described earlier. It should include:**

**Proposition of new resources or improvements to existing resources that should be implemented.**

**Description of the need for these improvements. Connect this to the earlier given assessment of the entrepreneurial ecosystem.**

**Description of the benefits that these improvements would provide to the greater entrepreneurial ecosystem or economy.**

**Description of the Roles of Government and Philanthropy (10 points): Describe the key roles of government and philanthropic stakeholders who would be involved in implementing these improvements. Examine the following:**



**Key challenges and opportunities that you anticipate local, regional, or national government stakeholders might experience in implementing these recommendations.**

**Key challenges and opportunities that you anticipate anticipate local, regional, or national philanthropic stakeholders might experience in implementing these recommendations.**

**Description of other Roles and Stakeholders (5 points): Describe other key roles of stakeholders in the entrepreneurial ecosystem who might be involved in implementing these improvements. Examine any of the following:**

**Anchor institutions  
Intermediary institutions  
Seed Accelerators  
Angel Investors  
Venture Capital  
Additional support systems or stakeholders**

**Description of Your Role in Developing the Ecosystem (10 points): Describe the role that you play in helping shape these kinds of resources in your community. This role might be minimal, and we encourage you to be creative. This section is meant to help you identify what role, no matter how small, you play in the larger entrepreneurial ecosystem.**

**Thoughts on the Future of the Ecosystem (10 points): Describe what you hope your ecosystem will look like in 5 years. Describe it in 10 years. It should include:**

**Description of how the entrepreneurial ecosystem might be different than it is now.**

**Assessment of the key strategic challenges/tradeoffs that entrepreneurs in this ecosystem are likely to face.**

**Description of Measures of Success for the Ecosystem (5 points): Define what success for the resource providers in the ecosystem could look like. It should include:**

**How success might be measured**

**Who the beneficiaries of success in the ecosystem could be.**

**Resource improvements could be made in all the businesses of the entrepreneurs with whom I interviewed, and most were outside Boston, but two of them were located in the Boston area, although I focused on the high tech business in which I was an employee at one time. However, the other entrepreneurs I interviewed in the Albany, NY area and the Silicon Valley area of California also could have taken advantage of these resources in their respective areas as well. Not any of them used any philanthropic or government resources to start their business, so those could be used to improve their already successful business. I know some though feel uncomfortable with government involvement and obligation in their private business, as described in our lecture videos, but these are great resources that could be used. The philanthropic resources in Boston (detailed in that section above) seem to focus on areas that could most benefit our ecosystem, and if your business involved that area, that could benefit both your business and others where there is a need in the economic system of Boston.**

**So the one or two new resources or improvements to existing entrepreneurial resources that**

**should be available to entrepreneurs** like the first Boston entrepreneur I described earlier, John Koger from Oasis Semiconductor, or any of the others I described if they were within the Boston ecosystem, would be the Boston Foundation's resources and the benefits from the legislation that our current Governor, Deval Patrick made (described above) in August 2014.

**Specifically for the Boston area, if your business involved vital issues facing the Boston community, a proposition of new resource would be the Boston Foundation. The need for these improvements are to support in the Boston area:** non-profits across a wide range of issues, guided by a focus on people and place, with a strategic focus on Education to Career, Health and Wellness, Jobs and Housing, Community Safety, and Civic and Cultural Vibrancy. The Foundation also works to strengthen non-profits and leaders as detailed in the philanthropic section for Boston above. **The benefit these improvements would provide to the Boston entrepreneurial ecosystem and economy would be** things such as in the first entrepreneur's case, John Koger from Oasis Semiconductor, designing an all-in-one printer/scanner/copier/fax machine for one of the above listed communities, funded by the Boston Foundation. **The benefits of this improvement to the greater entrepreneurial ecosystem and Boston economy** is that it would be a product to help one of the philanthropic initiatives that the Boston Foundation has identified as something good for the Boston economy.

**Key Challenges and Opportunities of Boston area Government:** August 13, 2014 – *as detailed in this section above*, our current Governor, Deval Patrick, announced and signed H.4377 ***“An Act To Promote Economic Growth in the Commonwealth,”*** building on the Patrick Administration’s successful economic development strategy of investing in education, innovation and infrastructure. The economic development package provides new tools and training to ensure the Massachusetts workforce meets the needs of employers, invests in our Gateway Cities to promote development across the entire state and provides incentives to create jobs and stimulate the economy. There are other government contributors to business too, such as the National Science Foundation, at the federal level. Gaining their funding is competitive and can be a frustrating experience as well, but if you get the reward, it is often good.

**Key Challenges and Opportunities of Boston area Philanthropy and Start up Initiatives – as detailed in the Philanthropic section above:** ***The Boston Foundation*** (recently merged with TPI, The Philanthropic Initiative) are: “The Philanthropists, The Visionaries, The Social Entrepreneurs, and some of them are all three of these things. They look at problems and see nothing but opportunities. They never walk away from a problem and are never satisfied with the status-quo. They are healers, educators, and community leaders. They are the change-makers. They are people crazy enough to think they can change the world and they are the ones who do.” The Boston Foundation combines their donors aspirations and passions for giving with their deep understanding of the vital issues facing the Boston community and all this was detailed in this section above in this report.

Through grant making and special initiatives in greater Boston, The Boston Foundation supports non-profits across a wide range of issues, guided by a focus on people and place, with a strategic focus on Education to Career, Health and Wellness, Jobs and Housing, Community Safety, and Civic and Cultural Vibrancy. The Foundation also works to strengthen non-profits and leaders through a range of work designed to enhance the long-term vitality of the Massachusetts non-profit sector. They build effectiveness through the “Vision Fund” and the “Institute for non-profit management and leadership” at Boston University. They encourage collaboration through the “Catalyst Fund for Non-Profits” and “Collaborate Boston.” They strengthen the entire non-profit sector by research and advocacy.

They have a “Civic Leadership Fund” that has been successful in the areas of: K-12 and higher education, workforce development, health, housing, cultural facilities, municipal finance, and other critical areas such as: cutting edge research, major forums and convenings, strategic and proactive grant making, task forces and coalitions, communications and media, and deep public policy work. The “Understanding Boston” series identifies challenges facing our city and region, commissions fresh research, and shares information through a series of forums that are attended by thousands of people every year. The “Boston Indicators Project” provides comprehensive information and analysis about every aspect of life in greater Boston and our region through a cutting edge web site and biennial bold reports.

So if a Boston entrepreneur can find a way that their business overlaps with these “philanthropic initiatives”, they could benefit from these investments and resources here too.

Some entrepreneurs do not like the government getting involved for various reasons that they find frustrating, and they may not think that their business overlaps with the philanthropic initiatives, but if they investigate further, it may.

**Other key roles of stakeholders in the Boston entrepreneurial ecosystem who might be involved in implementing these improvements:** Anchor institutions, Intermediary institutions, Seed Accelerators, Angel Investors, Venture Capital – details were provided with web site links to all these resources for the Boston area in the section above “Intermediary Institutions in the Boston Area.” Any of these could be involved in implementing improvements to someone's start up business. In the above interviews and Boston area resources, I had shared that I know of 3 different entrepreneurs who grew businesses out of Boston/Cambridge, MA and Providence, RI universities as anchor institutions. I shared the start up at which I worked's angel investment strategy and why that worked better for them than venture capital at that time. I found no one that used seed acceleration, intermediary institutions, or venture capital. Some started with family and friend investments, and others took bank loans or lines of credits on the ownership of their house. However, I think if an entrepreneur in the Boston area took advantage of the other resources it has too, such as the list of intermediary institutions and web sites I shared in that section, it could be more helpful to them.

I am currently unemployed in the Boston area and have been for more than 5 years, and recently I've been taking many free online courses to review and expand my technical skill set, take some humanity courses in economics and human rights, and in this case, entrepreneurs in transitioning economies. I am not involved in any start up (although I was part of one once), nor do I have any plans at the moment to be part of a start up, and in terms of me starting my own company in the Boston ecosystem, I do now know the different resources for doing that, but I do not have anyone with whom I would be able to do that with as a partner at this time, nor could I do it just myself.

**So in terms of my role in the developing ecosystem in Boston for entrepreneurs** – I have no role what-so-ever. I am just had an interest and having this knowledge, if the opportunity ever comes up, I will already know what resources there are to help in being an entrepreneur in Boston.

I would participate in a start up, but given the length of time I've been unemployed in Boston, I plan to take the first job I'm given, whether it is at a small start up, large or medium sized company. I am not exclusive to only working at a start up. If someone like my husband who is currently an academic researcher at a university, wanted to investigate a start up, I would support him in doing that, whether I already had a full time job and I would be investigating it on my own time, or if I had no job and that was going to be my sole job. If a friend of mine approached me with an idea to collaborate in a brand

new start up, the same would be true. But currently, I have no plans at all to be involved in a start up and have had no influence on the Boston area ecosystem for entrepreneurs. If I were asked to get involved in shaping the resources for the Boston area entrepreneur ecosystem, I would say Yes, but currently not only am I not involved in that, I don't even know anyone who is involved with it. I imagine if you are in a position to attend the Boston/Cambridge meet ups that they have for entrepreneurs you could better find out what is happening there, but I have young kids and a busy husband, so my exploration of how start ups find resources has been exclusively from home and this online course.

**I think the only thing I can offer to the current entrepreneur ecosystem I've researched in the Boston area would be to** offer the meetings they have in Boston/Cambridge for entrepreneurs in an online setting, for Mom's with young kids such as myself, who are unable to attend in person – that would be a way in which they could improve for someone like me. I could easily see this happening in the next 5-10 years with all the offerings they now have online. Another important direction I see the Boston area entrepreneurial ecosystem might be different than it is now is that the more they offer these types of resources online, the more international in perspective it will become, with more collaboration across borders than there is today.

**In terms of a common “tradeoff and challenge” that entrepreneurs make in getting their business started is whether to use angel investment or venture capital investment** (ignoring in this case the other resources, but as an example given to me in my first entrepreneur interview as a tradeoff/challenge decision, and repeated in this section). John Koger, who started Oasis Semiconductor, explained that they were funded by angel investors, not venture capital. If they had been funded by venture capital firms, the salaries of the employees would have been higher but they would have been given less stock options, but the venture capital firm provides more money for start up equipment. With the angel funding Oasis received, the salaries of their employees were lower, and they had less for their start up equipment, but the employees received more stock options that were worth something when the company was bought.

**John said the challenges he initially faced with Oasis in the beginning** was that they were a company of 3-5 people for several years. In that type of small start up, the challenge is convincing giant corporations like Sharp to have confidence in them, because they were so small. It helped that they were a fab-less company, and instead asked companies such as Samsung, Agere (an old spin off from AT&T), and UMC (United Microelectronic Corporation in Taiwan) fabricate their chips for them. The reason this was helpful in building larger company confidence was because if their start up disintegrated, the large companies, such as Sharp, had a “license to buy directly from Samsung (or the others)” in the event that the start up disappeared. So that gave the large company customers the confidence they needed to buy the graphics chips from Oasis without worry of the company going away.

**Other challenges were the tradeoffs you make** for the next generation of graphics chips. The sales team hears from the customers a list of software and hardware features the customer wants for their next generation product. The challenge is what is realistically doable within the engineer's schedules to incorporate these new features and the cost to incorporate the new features in the new graphics chip and software product definition. The saying goes that if you take any of the three tradeoffs (feature, schedule and cost), if you take 2 of them and incorporate them, the 3<sup>rd</sup> tradeoff suffers. Planning this successfully was an on-going challenge.

**So that is my most detailed example of some entrepreneur challenges/tradeoffs within the Boston**

ecosystem.

**Each entrepreneur I interviewed measured success slightly differently, and I will summarize what I already shared in their interview section here within their ecosystem, and who the beneficiaries of their success are.** I am currently from the Boston area ecosystem and once worked at Oasis Semiconductor from 2002-2004. I best can relate from my technical education and work experience with the entrepreneurs in the high tech related markets, but as you may have observed, there is a sense of diversity in my entrepreneur interviews, to learn from the experience. **I think all measurements of their successes can be important in our ecosystem.**

- **John Koger, Oasis Semiconductor, Boston,MA:**

- Oasis Semiconductor's opportunities originally came by making graphics chips without software for the copy machine market of office equipment customers. These customers had other vendors where they bought other chips to do the other functions that the office equipment sometimes do in an all-in-one printer, scanner, copier, fax machine, and initially they only bought the copy machine graphics chip from Oasis Semiconductor. Oasis then saw an opportunity to make a multi-function-peripheral (MFP), which incorporated all the printer, scanner, copier fax machine chip functions onto one chip. This was a big success for them, since it made the cost of buying chips cheaper for their office equipment customers and they only had to buy from Oasis, not 4 different chip vendors for each function. This also made their purchase of circuit boards cheaper, and the manufacturing of the product cheaper as well. For example, the first HP low end ink jet printer cost them \$1000, but within 4 years, the cost went down to \$99 for reasons such as this.
- The way that John measured the success of Oasis Semiconductor was that he had a lot of fun making his start up successful which is important in life, but as a bonus, he was able to sell the company in 2005 for 70 million dollars in cash (not stock). They were planning an initial public offering (IPO) as their exit event as a start up whose stock could trade publicly, but just when that was going forward, there was a glitch in sales, and a year later, SigmaTel, a former Texas audio company, bought them with the idea that they would incorporate their audio chip with Oasis's graphics chip. This made the first dozen people who started Oasis instant millionaires. John explained that each time you double the company size, stock options halve. Usually you can estimate that when a company is bought, the first round of employees (3-4 of them) will get 5-10% of that 70 million dollars, the next 5 people get about 5%, the next 10 employees get about 1%, and the next 20 or so get a half-percent of the purchase price with their stock options.
- John said that the benefits to society from his Oasis Semiconductor business was that the printer cost dropped, helping every day people better afford all-in-one printer/scanner/copier/fax machines. John said for perhaps 130 people that were employed and working at Oasis Semiconductor, each one of their graphics chip and software office equipment customers each employed perhaps 100-1000 people, and their manufacturing clients each employed 5-10,000 people to manufacture their chips. So the employment of people also benefited society.

- **Pete Adams, Noah Precision and SOLX, San Jose,CA and Boston,MA and other key areas through out the world:**

- Their measure of performance is return on capital employed. This is the only metric

they care about. As small business owners, we want a significant return on our invested capital and ROCE is the best measure of performance for us. At some point, Pete will retire and finding a successor organization that will become the next measure of success for them. The benefits to society for Noah Precision are for the people who use the products who use the chips that Noah Precision provides, since Noah Precision manufactures temperature control equipment to the semiconductor industry. The benefit to society for SOLX is the goal to preserve vision for an aging population.

- **Jim Shay, Shay-Glenn Medical Device Law Firm, San Mateo,CA:**
  - The primary measure of his success has been their relative stability over the last eight years even as the overall legal and business landscapes have changed. The partners and employees of the firm are the primary beneficiaries, but their clients in the biomedical device industries have benefited from that stability as well.
- **Marina Kristel, Northeast Speech Pathology, Albany,NY:**
  - Success has been measured in one way as the company grew during the past five years, which opened doors for the opportunity to incorporate education and provide classes to employees and direct care staff of the nursing home residents. This has been the optimal means for preventing aspiration pneumonia. Training the staff that feed and verbally redirect these residents simply on safe strategies to eat, drink, take medication, and prevent dental disease is the direct route to preventing the initial problem from starting and improving a condition caused by various medical diagnoses.
  - The success of this company is not based on income. Success is reducing the incidence of aspiration pneumonia in the community and in skilled nursing facilities. The United States is spending \$87 billion per year addressing aspiration pneumonia. Educating and assessing the swallow with this gold standard instrumental exam known as FEES, will enable the in-house Speech-language pathologist to know the physiology of their patients' swallow, the least restrictive diet texture and liquid consistency, what strategies are necessary in order to safely swallow, and what plan of treatment (including swallowing/strengthening exercises) are necessary.
  - The beneficiaries of this success are the patients, both young and old, as well as the government's money (coming from both Medicare and private insurance companies) which ultimately comes from the people of the United States.
- **Kathy Brown Filemaker Pro Consulting, Providence,RI:**
  - The success and growth of Kathy's business was mostly from word of mouth of completing projects for customers. Most of Kathy's clients are higher educational institutions across the country which are those who benefit from her consulting work, along with university workers or students who may use it as well. Kathy measures her success regularly according to the amount of consulting work she has been contracted to do.
- **Sherry Toedt Insurance Agency, Albany,NY:**
  - Success for Sherry is making a reasonable living by doing what she knows best and making a difference for my customer. Insurance doesn't matter until it matters and each of her customers is taught about their insurance coverage and how to make the best decisions in regards to their insurance. Sherry's favorite saying is - "Insurance is NOT a commodity like a gallon of milk to be purchased at the lowest possible price but rather a complex financial tool that should be purchased based on need and understanding at the best AVAILABLE price".
  - The beneficiaries of Sherry's success aside from herself and her family are her customers and the insurance companies she represents. The customers receive outstanding



products specifically tailored for their needs at very competitive prices. The insurance companies receive pre- underwritten accounts that have been provided risk reduction education which results in profitable business for the company. When the companies are profitable their shareholders benefit as do their customers with competitive premiums.

- **Bob Clancy, Spiral Design Studio, Albany,NY:**

- They measure success by competing against themselves to always improve what they're doing. Obviously, success can be monetarily measured, but more so for them, it's important to have client satisfaction for the return on their investment. They've largely built their business upon word-of-mouth referrals and currently have clients such as: Citi Group, Activision, Sears, Zales, Sunoco, Best Buy, Home Depot, Disney, among others. Those who benefit from Spiral Design Studio's services are anyone who uses these things they develop at the above mentioned clients: Graphic Design, Website Development and Corporate Branding.

- **Joan Hartel Cabral, Vantel Pearls, Easton,MA (south of Boston):**

- Joan's measure of success is certainly a financial measure, where over the years she has experienced a consistent profit every year, and that is her business success. Joan's personal life measure of her success is her serenity and work/life balance, since she has observed that many people in the President and CEO position of a company do not have this work/life balance that Joan does.
- The beneficiaries of Joan's success are the demonstrators of the Vantel Pearls, and some of her demonstrators have been with her for over 15 years. Joan and her demonstrators believe in "intrinsic personal development", which Joan describes as an "understatement", and they attend womens' leadership conferences and businesses to speak about their success and share their "treasure gems" which are listed on the Vantel Pearl web site (8 of those). A few of those for Joan are: "trusting your intuitions", "your richest rewards come from helping others", and for Joan, she is not shy to say that she believes "a power greater than herself provides her best guidance". Joan and her demonstrators share their "treasure gems" at the women leadership conferences and businesses where they are invited to speak about their pearl jewelry business success, to inspire other women, sharing the panel with other successful women from all different types of backgrounds that are different to theirs.

### **Extra Credit (5 points):**

**If the author has provided a YouTube link to a video submission to supplement their written analysis, they can be given 5 extra credit points. The link to the author's YouTube video will be pasted in the written portion of their assignment.**

I have no video of my chosen entrepreneur on video, but what I can share on video is one of the videos from the Boston Foundation described above, part of our entrepreneur ecosystem of resources. So it is not on You Tube since it's already publicly available on the Boston Foundation's web site. The subject of this video is: **"Staying Power II: Report Card on Manufacturing in Massachusetts."**

<http://www.tbf.org/videos/2012/september/staying-power-ii>

(That one not allowed since I did not take that video -so submitted this one):

This video is not an interview with my chosen entrepreneur, John Koger, on whom I answered most of

the questions for this final project. However, it overlaps with the former business he started, an all-in-one printer/scanner/copier/fax machine business. This is a video of a 3-D printer in the Derby, England Industrial Museum, printing something plastic there on Aug. 29th, 2014, a video taken by me. There are many "futuristic" ideas for the business of the person whom I interviewed and his business. 3-D printers were not included in the Oasis start-up, but it's easy to see how that could be the way of the future for additions to that business. So I do not know if this counts as an extra video for your final report, since it did not come from the person whom I interviewed whom originally started Oasis Semiconductor, now part of Conexant, and he is no longer there anymore, but I think it's easy to see how this business he started could be expanded to include the 3-D printing business - with many futuristic applications, as demonstrated here. The people in the video are actually my husband and 2 young kids. ;-)

<http://youtu.be/ywdxFjhgQAk>