

Information Technology Cluster Initiatives

IT INITIATIVE #1:

BROADEN AND STRENGTHEN RESEARCH AND DEVELOPMENT TO INCREASE OUR REGION’S INTELLECTUAL CAPITAL

Champion: Ed Lazowska, UW

Organizational Home: Prosperity Partnership

Initiative Champion*/Implementation Team Members:
<p>Ed Lazowska*, <i>University of WA</i> Bob Franza, <i>University of WA</i> Jim Severson, <i>University of WA</i> Dave Thurman, <i>Pacific Northwest National Laboratory (Battelle)</i> John Vicklund, <i>WA Manufacturing Services</i> Scott Warner, <i>Garvey, Schubert & Barer</i></p> <p><u>Other contributors:</u> Bill Beyers, <i>UW, Dept of Geography</i> Jacques Lawarree, <i>Microsoft</i> Susannah Malarkey, <i>Technology Alliance</i> Lew McMurrin, <i>WSA</i></p>

Description & Motivation:
<p>We believe that the Prosperity Partnership’s focus on “creating 100,000 jobs” is a politically motivated “bumper sticker” that is seriously flawed.</p> <p>The correct fundamental questions that we should be considering include: “What will be the characteristics of tomorrow’s high-leverage jobs?” “What mechanisms and institutions will create these jobs?” “How will we ensure that <i>our</i> children are prepared for these jobs?”</p> <p>The answers to these questions suggest that the right goal for the Prosperity Partnership is “Increasing the intellectual capital in our region.” The principal mechanisms for this are (a) support of education, (b) support of research, and (c) support of policies that attract and retain the “creative class.”</p> <p>In this initiative, we focus on (b): broadening and strengthening R&D in our region. R&D is a great business in and of itself, and it is a business whose “product” – innovative ideas around which new products and services can be built – creates great jobs. Our region has single instances of large national-caliber R&D organizations in the academic, non-profit, corporate, and FFRDC sectors: the University of Washington, the Hutch, Microsoft, and PNNL. We need to strengthen these organizations, we need to expand others (e.g., Intel Research, the Institute for Systems Biology), and we need to attract more (corporate R&D, Federal labs, etc.).</p>

Objective:
<p>The objective is to strengthen our existing large R&D organizations, to expand our existing small R&D organizations, and to attract additional R&D organizations. This will fuel the “engine” that creates tomorrow’s high-leverage jobs.</p>

Obstacles and Impediments Likely to Affect Implementation:
 It will require focus, and it will take money. Public support must be built. This will only happen if we develop the messages and deliver them clearly and persistently. It will require leadership. Hope springs eternal.

Funding:
 State support for research must increase: \$50M/year. The Life Sciences Initiative will cover this *if and only if* it is interpreted sufficiently broadly to include fundamental advances in information technology – biology is an information science, and biology and biomedicine rely on advances in information technology. State support of public research institutions must increase: \$150M/year. Inducements must be provided to attract corporate and Federal labs: \$20M/year. CTED must dramatically increase the national profile of Washington as an R&D center, and its recruitment and retention efforts: \$10M/year.

Outcome/Results:
 Increased Federal grant income. Increased size of R&D organizations. Increased numbers of R&D organizations. Increased numbers of Ph.D.s granted in technical fields – a recent study of economic development in a number of regions identified the number of doctoral degrees granted as the most significant indicator of economic growth.

- Action Steps:**
1. Create an unrelenting “innovation economy literacy program” for the citizens of the State. Approach it as a “campaign” and develop messaging that is targeted at parents, at students age 6-12, 13-18, 18 and older and the general population, i.e., tailor the messaging to these segments of the population. “One size fits all” messaging will not work. A key aspect of the messaging should be – we are creating tomorrow’s jobs but they are going to out-of-state individuals because we are not preparing our own adequately. Without a successful literacy campaign, the opportunities to expand State support will remain limited, at best. The people of the State need to be our principal partners, not merely folk who are told what should be done with their tax dollars
 2. Increase state support of research (e.g., the Life Sciences Initiative but with an IT component, which was lost during the group grope that led to the final document – any program that attempts to advance “life sciences” in the absence of extensive integration of and support for innovations in IT will fail).
 3. Increase state support of public research institutions, such as the University of Washington. This would provide facilities and faculty. It would also involve eased ability for physical expansion, eased ability to transfer technology, etc.
 4. Step up recruitment and inducement efforts for non-profit, corporate, and Federal R&D labs. These need not be specifically in IT – all fields of R&D are important, and all fields of R&D are closely linked to IT. For example, a coordinated effort to establish multi-modal integrated imaging of cells and animals, a major mouse genetics facility, and a primate facility in close proximity and potentially linked to a vaccine R&D facility would not only be justifiable to the Feds, it will serve as an attractor of both corporations and foreign research institutions. There are many similar examples.
 5. Explore and mitigate legal and institutional barriers to collaboration.

Timeline:		
<i>Step</i>	<i>Key Person</i>	<i>Timeline</i>
1. TBD	TBD	TBD

IT INITIATIVE #2 AND #3

CONDUCT AN *EXTERNAL* MARKETING CAMPAIGN THAT SHOWCASES THE IT CLUSTER

Champion: John Powers

Organizational Home: enterpriseSeattle

-and-

CONDUCT A COMMUNICATIONS/ECONOMIC LITERACY CAMPAIGN THAT UNDERSCORES THE BENEFITS OF THE IT CLUSTER *TO THE REGION*

Champion: WSA (tentative)

Organizational Home: WSA (tentative)

Initiative Champion*/Implementation Team Members:

Jeff Johnson*, *Bellevue Community College, Center for IT Excellence*
 Don Ding, *King County DOT, Office of Regional Transportation Planning*
 Laura Lutz, *City of Seattle, Economic Development*
 Lew McMurrin, *WSA*
 Ellen Miller-Wolfe, *City of Bellevue, Economic Development*
 Lance Rosen, *Garvey, Schubert & Barer*
 David Watts, *Avantros Corporation*

Description & Motivation:

The cluster and the IT economy of Puget Sound have faced numerous challenges in recent years from the downturn of the economy to job loss to considerable negative publicity associated with outsourcing. Despite the challenges, the IT sector continues to be a leader and bellwether for communities across Puget Sound and throughout the Pacific Northwest. The message about the strength of the cluster does not consistently get through and this initiative is designed to endorse a messaging/communications strategy to help better promote the IT cluster of the Pacific Northwest as a vibrant and growing foundation for economic development. Examples abound to describe the various positive aspects of the IT cluster in the region.

- Cluster Strength – the region boasts a knowledge base of highly educated, skilled, technical entrepreneurs and is home to hundreds of software companies, including the largest software maker in the world. The region ranks 5th among U.S. metropolitan areas for number of software jobs as a percentage of the total population. ·
- Quality of Life – the region is consistently home to some of America’s “most livable” cities and counties based on rankings of factors from education, the arts, and recreation to personal safety, the environment and overall affordability.·
- High Quality Higher Education – the region boasts access to internationally recognized higher education research and education through the University of Washington, as well as a broad-based community and technical college system with expertise and focus in information technology and skills training for the incumbent workforce. Moreover, Seattle University was among the first schools in the nation to offer a master’s degree in software engineering.·
- Broadband Access – the region ranks in the top 10 of the “most wired” in the country with widespread adoption of technology and broadband access for residents and businesses. The technology industry acceptance and promotion of virtual work and teleworking makes the region an ideal location for a business with a diverse and dispersed workforce that can be connected virtually

Description & Motivation:
<p>using the tools of the industry to thrive.</p> <ul style="list-style-type: none"> • Gateway to Asia/Pacific Rim – the region is a U.S. leader in international trade and technology sales export. About one fourth of all Washington State exports are attributed to the software industry alone and key customers align the Pacific Rim from Korea to Japan to Singapore Among the strongest export customers for Washington State software companies. The region is a center of international trade and gateway to Asia, having long outgrown any popular media misconceptions as a sleepy outpost in the West. • Knowledge Growth Opportunities for the Creative Class – the region is a hotbed for information sharing across the political and economic spectrum with opportunities fostered for IT professionals to gain access to one another through unique venues and coordination of organizations from the WSA to the Washington Technology Center to college-industry working groups and forums. • Entrepreneurial, Independent Spirit – the region has a long history as a source for creativity, pioneering endeavors and leadership, from Bill Boeing to Bill Gates. The region is a nexus for venture capitalists and investors seeking out the next great idea.

Objective:
<p>The primary purpose of the initiative is to develop a consistent and successful message and communications strategy to help business leaders and industry decision-makers understand the bottom-line business benefits of doing IT business in the Puget Sound region. The messages may have relevance for not only the IT industry, but also other supporting service industries, such as real estate, legal services, financial services, etc.</p>

Obstacles and Impediments Likely to Affect Implementation:
<p>Any marketing or communications campaign includes investment of time and \$\$\$. To be done effectively, a successful message campaign should also consider employing professional communications specialists to carry out the details.</p> <p>In addition, a message campaign requires a consistency of effort to be successful. In other words, a one-shot, one-time message will not provide the kind of sustained message and recruitment that will be required to meet the Prosperity Partnership’s goals for job creation.</p> <p>Conducting a message campaign around IT/economic literacy for the region needs to be an ongoing effort and integrally tied to the work of the Prosperity Partnership. The short-term success may be difficult to measure and the campaign needs to be intertwined with other economic development efforts of the sector working group – and perhaps the work of other cluster working groups.</p>

Funding:
TBD

Outcome/Results:
<p>Conduct a survey of business leaders about awareness of the campaign. Pre- and post-campaign attitudes survey of business leaders.</p>

Action Steps:
1. Agree on messaging campaign themes and goals.
2. Identify and find champions among supporting industries interested in the campaign (real estate, business services, legal services, education, etc.) themes and messages. Secure financial support for messaging/marketing campaign.
3. Hire strategic communications firm to implement campaign.
4. Conduct pre-campaign survey of business leaders through a national trade publication about perceptions of Seattle as a place to do IT business (as compared to other national and international metro hubs).
5. Conduct message campaign, culminating with host of an IT/Economic Summit to invite business leaders to Seattle to better understand the region’s capabilities and unique advantages.
6. Conduct post-campaign survey; evaluate and measure new business growth

Timeline:		
<i>Step</i>	<i>Key Person</i>	<i>Timeline</i>
1. TBD	TBD	TBD

Other
<p>Members of the IT Promoting Business subgroup within the IT Cluster Working Group have discussed the proposal for an IT/economic literacy campaign for attracting business to the region and are interested in continued involvement, as appropriate, in the initiative.</p> <p>To date, there has been some discussion and support among members of the subcommittee about the use of the messages and communication highlights for the IT sector in some existing and ongoing communication efforts.</p>

IT INITIATIVE #4:

MAP THE "ECOLOGY" OF THE IT CLUSTER

Champion: Bill Beyers

Organizational Home: University of Washington

Initiative Development Team Members:
<p>Bill Beyers*, <i>University of WA</i> Pam Cone, <i>Tacoma-Pierce County WDC</i> John Doocy, <i>John Doocy Consulting</i> David Watts, <i>Advantros Corp.</i> Shaunta Hyde, <i>Boeing</i> Al Erisman, <i>IBTE / WSA</i> Kristina Erickson, <i>WA State Film Office, CTED</i></p>

Description & Motivation:
<p>What is the ecology of this cluster? There are so many layers to this industry from Software to Internet & Mobility to E-commerce, Network Administration and MIS. Each of these has specific and overlapping needs.</p> <p>The attempt to get at accurate data has been tried repeatedly and yet we still cannot define it adequately. If we are to benchmark or influence the industry’s growth and vitality in this region we must remedy this. It is not enough to say we don’t know.</p> <p>One tack is to identify this industry by its occupations. All industry clusters have an IT thread. This may help us gain a truer picture of the current economic impact and its patterns of growth.</p> <p>Whatis.com defines it as: ICT (information and communications technology - or technologies) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries. The term is somewhat more common outside of the United States.</p>

Objective:
<p>General awareness of what constitutes the IT matrix in regional economy and its contribution to the economic health of Puget Sound. A clear understanding of this is imperative to developing a strategy for future development and recruitment of companies into the region.</p> <p>Increased collaboration and networking opportunities for greater alignment and advocacy.</p> <p>If there are economic research tools that need to be built then this needs to be accomplished in order to make progress with this initiative.</p>

Obstacles and Impediments Likely to Affect Implementation:
<ul style="list-style-type: none"> • Lack of clear and precise definition of terms • Memories of dot.com bubble

Obstacles and Impediments Likely to Affect Implementation:

- Revising the way data is currently collected and reported.
- Locating the various sources where data exists and reformatting it to gain new insights.
- Building a sub-team of entities that are collecting the data to work together to create the required methods of data collection/analytics.
- This team will have to develop a strategy to get those changes made so ongoing research will continue to bring value to decision makers.
- Resources will be needed to gather, maintain and build capacity for ongoing and up-to-date knowledge of the state of this industry.
- There are many good jobs that can be created from IT. But IT is also the source for automation, outsourcing and globalization which destroys jobs. It can well be argued that these jobs should be destroyed--and that we are better off without them. But any work in the role of IT and the creation of jobs has to face the issue honestly.

Funding:*Level 1 – nominal/in-kind*

This ramping up phase could be accomplished with in-kind resources. We recommend the development of a sub-committee of individuals knowledgeable in economic data collection. Bill Beyers extrapolation of ESD, Berk, (and other) data sources would be reviewed and agreed on. Output = Updated job counts get distributed. Since Bill has already begun this process, he may be able to make further recommendations when he returns.

Level 2 – undefined/unknown

The key problem in using an expanded definition of IT that encompasses the other sectors with major IT occupational employment is that there are no regular surveys of occupations. The state surveys all occupations on a three year cycle under a program mandated by the federal BLS. The state also does a twice-annual vacancy survey that would tell us something about IT job openings by sector. So constructing a one time snapshot of IT employment by industry can be done as Bill did, but getting any regular reports as this initiative seems to suggest requires use of the vacancy survey or new surveys done on a more frequent basis. If we are going to track trends in IT employment in the region, I think we should be pushing for a regular survey – quarterly perhaps – that would provide frequent and accurate information to colleges, jobseekers, and employers. However, this is exactly the information we need to see the impacts of changing use of different kinds of IT staff within the regional economy that are affected by how many creators and users of IT there are in the region, the net influence of outsourcing, and the rates of growth of the many different industries that are intensive users of IT.

With the right political motivations, it is possible that entities such as ESD and its LMEA division would be in good position to take up this initiative. It is advisable that a clear plan for the process and outcomes is developed by others with them, all of which may require substantial initial investments, but may cover sustaining efforts.

Outcome/Results:

- Enthusiasm about resources and futures
- Private sector enlistment/backing
- Consensus of sector definition(s)
- Academic and popular media references The PP-IT cluster “map” information going forward.
- Economic development, education, regional and state agencies and businesses alike will be able to use this data to plan and prepare for the future. Local regions may also use this for cluster building initiatives necessary to support industry needs and growth.

Action Steps:
1. Establish the sub-team to do the research & develop the market analytics necessary.
2. Review current data
3. Create/adjust NAICS and ESD data model
4. Provide results to IT cluster group. Handle questions/objections and either change model or specify limitations.
5. Release model and data to PP. Assist in creation of marketing documents, releases, white paper. Funding discussions as needed.
6. Feedback/adjustments/updates
7. Review output

Timeline:		
<i>Step</i>	<i>Key Person</i>	<i>Timeline</i>
1. Above Actions	TBD	90 days