

PDC

PORTLAND DEVELOPMENT COMMISSION

DATE: November 10, 2010
TO: Board of Commissioners
FROM: Bruce A. Warner, Executive Director
SUBJECT: Report Number 10-106
Software Cluster Update

EXECUTIVE SUMMARY

BOARD ACTION REQUESTED

None – information only.

SUMMARY

The software industry is one of the four clusters identified in the City of Portland's five-year economic development strategy. To support job growth in the software industry, the Portland Development Commission (PDC) initiated an extensive conversation with the industry through one-on-one company meetings, face-to-face community conversations, and three iterative online surveys. The feedback from these conversations resulted in a clearer understanding of the issues facing the software community and recommendations for action steps to support the industry. That action plan, which is summarized in this report, emphasizes the building of a formal network for connecting mentors and mentees, establishing more direct channels to access financing, and technology development through the support of user groups. A copy of the second of three software industry surveys is included as Attachment A to this report.

This report is a preview to a November 18 presentation with Mayor Adams and the Software Association of Oregon (SAO) to report on the results of the survey process and unveil the action plan for the industry.

BACKGROUND

The software cluster in the Portland metropolitan area consists of over 1,400 software companies, with the City of Portland home to approximately half of those firms. Software developed by Portland companies ranges from cutting edge open source and mobile web applications to large internal software applications. Other applications produced by local companies include software as a service, embedded software, enterprise software, and custom built software applications.

Portland is known for having an active start-up culture, and software exemplifies that trend. In Portland, 62 percent of software establishments have fewer than three employees, and 76 percent have fewer than five employees.¹

¹ Oregon Employment Department ES202 Data

PDC identified software as an emerging and growing cluster of business in Portland. This identification was based on three factors:

1. A higher than average location of software companies as compared to the national average;
2. A higher annual wage of \$84,857 for software as compared to \$44,244 for all other Portland industry sectors; and
3. A fit with the available workforce and the start-up culture of Portland.

Findings

Industry Overview

The roots of the software industry in Portland can be traced first to Tektronix, a pioneer in test and measurement instrumentation, and Intel, the world's leading manufacturer of microprocessors. Tektronix, which was founded in 1946, produced Mentor Graphics, which specialized in electronic design automation for electrical engineering and electronics, and the Metheus Corporation, which produced high-resolution color graphics workstations. Sequent Computer Systems, which designed and manufactured multiprocessing computer systems and was acquired by IBM in 1999, was a spinout from Intel. These firms, along with Hewlett-Packard (HP), which maintains operations in southwest Washington and Corvallis, have served as the anchors for the technology sector in the Portland region.

Portland's software firms, which comprise a growing subset of the region's technology industry, produce applications across the range of software types. However, the region has established a national reputation for mobile applications, and enterprise and software-as-a-service applications built on open source code. The Portland software cluster is summarized by type of software below:

Type of Software	Local Companies
<p>Software as a Service – (23%) Also known as software on demand, it is deployed over the internet and/or is deployed to run behind a firewall on a local area network or personal computer.</p>	<p>ShiftWise, Shop Igniter, Active Trak, Fios, Typethink, WebMD, Learning.com, Compli, Smarsh, Net Biz, ColumbiaSoft, Collaborative Software Institute, Axiom EPM</p>
<p>Mobile – (14%) Software applications that are developed for hand-held devices such as personal digital assistants, enterprise assistants, or mobile phones. Applications are either pre-installed during manufacturing or downloaded by customers from app stores and other mobile software distribution platforms.</p>	<p>Small Society, Avatron, Urban Airship, Gamma Point, Knuckleheads, Spotlight Mobile, Cloud Four, Free Range, Subatomic Studios, Stumptown Game Machine, Gorlochs</p>

Type of Software	Local Companies
Enterprise – (21%) Software that is sold to an enterprise, usually a large organization such as a business or government.	Webtrends, EthicsPoint, Thompson Reuters-Sabrix, Coaxis, Jive Software, Tripwire, Puppet Labs, On Tier, Axiom, Accero, NW Analytical, GTS Services, Auto Desk, Kryptiq, Digimarc, ID Experts, Exterro, Galois, mealtime, Serena Software, McAfee, Symantec, Rumble Fish, Springbrook Software, Iovation, Monsoon
Custom – (21%) Software developed for the unique needs of a customer and not for mass audience.	Axian, Ciber, D B Professionals, Delta Systems, EAI Information Systems, MetalToad, Opensourcery, GTS Services, CorSource Technology Group, Everest Consultants, Marquam Group
Embedded – (6%) Software that is embedded in 1) a computer system designed to perform one or a few dedicated functions, often with real-time computing constraints, or 2) a complete device often including hardware and mechanical parts.	Intel, Mentor Graphics, IBM, Elemental Technologies, Synopsis
Internal Custom – (8%) Software that is developed in-house for a specific application that is not available for public use or mass audiences.	NW Natural, PGE, US Bank, The Standard, Oregon Department of Transportation, Regence, Nike, Providence Health Systems, Legacy
Other – (7%)	Second Porch, Thetus, Extensis, OpenMake

*Based on inventory of regional software firms from ES 202 data and conversations with industry representatives.

Competitive Advantages

The strengths which drive growth in the software cluster are: talent, Open Source, capital, community, and cost.

1. Talent

The impact of Tektronix and Intel on the technology sector in the region is well documented. The deep pool of engineering and scientific talent created by these companies as well as other global players with a regional presence, including IBM and HP, has served as a strength of the regional cluster, and is present in most successful technology start-ups in the region. As the business lines of these large companies have evolved into software development, including Open Source and Web 2.0 applications, the talent pool for the region has deepened and created a pipeline of experienced developers for the region's burgeoning software industry.

The talent pool has also benefited from an in-migration of educated professionals, many with technology backgrounds, who are drawn to Portland's lifestyle and the openness of Portland's software community.

2. Open Source

The Portland region has become the unofficial home for the Open Source software movement. Linus Torvalds, the inventor of the Linux Operating System and the kernel for Open Source Software, and Ward Cunningham, the inventor of the wiki, reside in the region. Some of Portland's most promising software start-ups are selling solutions built on Open Source platforms, including JanRain, Puppet Labs, and Jive. In addition, software engineers at Intel and IBM are making major contributions to code development for open source; in 2009, the second largest contributor to Open Source Software development by lines of code written was Intel.²

Portland's role as the de facto home of the Open Source movement is recognized nationally. The major Open Source conventions and trade shows, including the Open Source Convention, Innotech, the Open Source Bridge Convention, and the Government Open Source Conference are either based in Portland or frequently hosted by Portland.

3. Capital

Despite claims that Portland lacks sufficient sources of venture capital to adequately fund local start-ups, seven Portland area software firms have raised over \$50,000,000 in new venture capital funding in 2010.³ Although much of this funding is coming from sources outside of the Portland area, all of the companies who received funding will retain their presence in Portland. The momentum in venture funding suggests that Portland is establishing a reputation as viable location for scaling software firms, particularly firms in the mobile application and Open Source sectors.

4. Community

Relationships, through mentoring and user groups, weave the software community together and have been instrumental in the development of the industry's culture. Feedback from discussions with industry representatives suggests that employees in Portland are more loyal to the region and to their employers than people in larger cities like Boston, New York, Los Angeles, and San Francisco, and that this has led to higher rates of retention of employees locally.

5. Cost

A strong selling point to software firms and investors is the lower cost of doing business in Portland compared to San Francisco and Seattle. The lower cost is attributable to lower rents and salaries. Venture capitalists have noted that their money goes further when a company scales in Portland than in other West Coast cities.

Initiatives

Long-term growth of the software industry in Portland depends on sustained momentum in new start-up activity and successful exits of locally grown companies. Toward that end, actions to support the industry should emphasize the resources and strategies that assist entrepreneurs and early stage companies. The City of Portland has already initiated a series of activities to support the software industry and early stage technology companies, including:

² 2009 OSCON Convention Intel Presentation

³ Silicon Forest and Silicon Florist Blogs

- Operating support for Portland Ten, which provides technical assistance to entrepreneurs through an intense Boot Camp format. A recent success of Portland Ten is Shop Igniter, which received \$3,000,000 in venture capital funding after completing the program.
- PDC has also launched the Portland Seed Fund to help address the need for seed capital for early stage businesses and entrepreneurs.
- PDC has invested \$1.4 million in the PSU Business Accelerator to build out a wet lab for life sciences companies and more firmly establish the Accelerator as one of the critical hubs for start-ups in the city.
- The City has established the Civic Apps program to provide access to extensive city data to developers and promote the development of open source applications.

Based on feedback from the online surveys with industry, the City and PDC will work with SAO and other partners to develop and implement an action plan to augment existing initiatives. That action plan will focus on the following themes:

- Business Network – Mentoring relationships have been identified as an ongoing need for start-up companies. More than 70 percent of respondents to the surveys indicated some level of mentorship has helped improve their business or themselves personally⁴.

The need for mentoring is driven in part by the lack of senior level talent in the Portland area. The short supply of C-level talent in the region is driven by the low percentage of large software firms and liquidity events. The lack of large firms creates a vicious cycle, since experienced senior managers from outside the region are hesitant to relocate to Portland due to limited range of employment opportunities in the industry. A more established mentoring network will help fill the need for C-level talent until the industry grows the pool of executives with successful exits.

- Financing – While the software industry has benefitted from an increasing flow of venture capital in 2010, many firms still face significant hurdles in accessing equity capital and often engage in prolonged capital raising efforts that distract company management from core business issues. Improving access capital will involve not just identifying more sources of funding but streamlining the process for entrepreneurs to connect with funding sources.
- Knowledge Network – User groups are the glue of the software community. The survey identified over 70 user groups organized around different kinds of software that serve the community and provide a place for people to gather and share ideas about the industry. Strengthening the infrastructure for user groups, which includes methods to improve collaboration between firms and individuals with similar challenges, will result in an even tighter development community and a more conducive climate for software start-ups.

ATTACHMENT:

A. Software Survey #2

⁴ PDC and SAO Software Survey July 2010

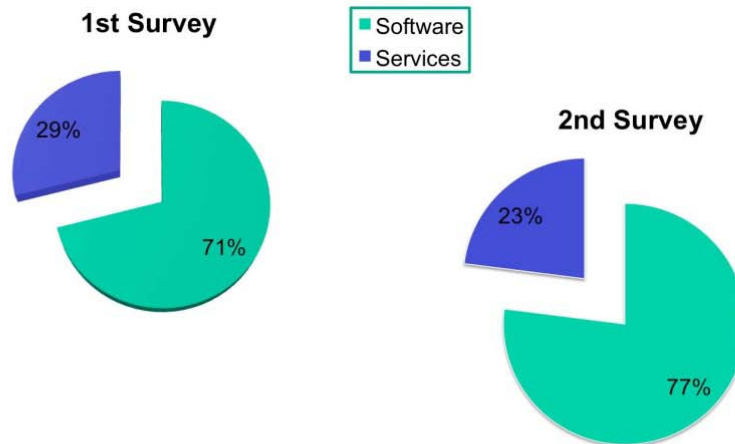
Second PDC Software Community Survey

July 10-29, 2010

Improvements seen from 1st survey

	1st Survey	2nd Survey
Participants	283	303

Software professionals were better represented



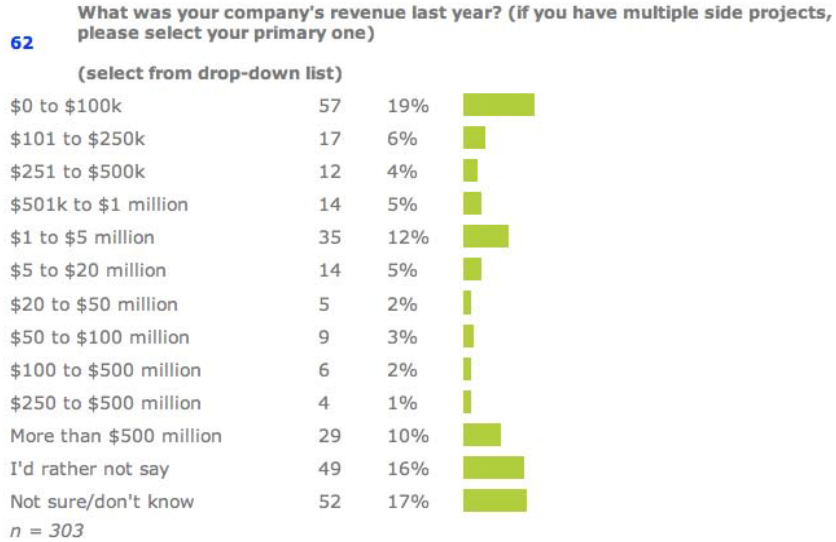
Good community participation

61 What position do you hold in the company?

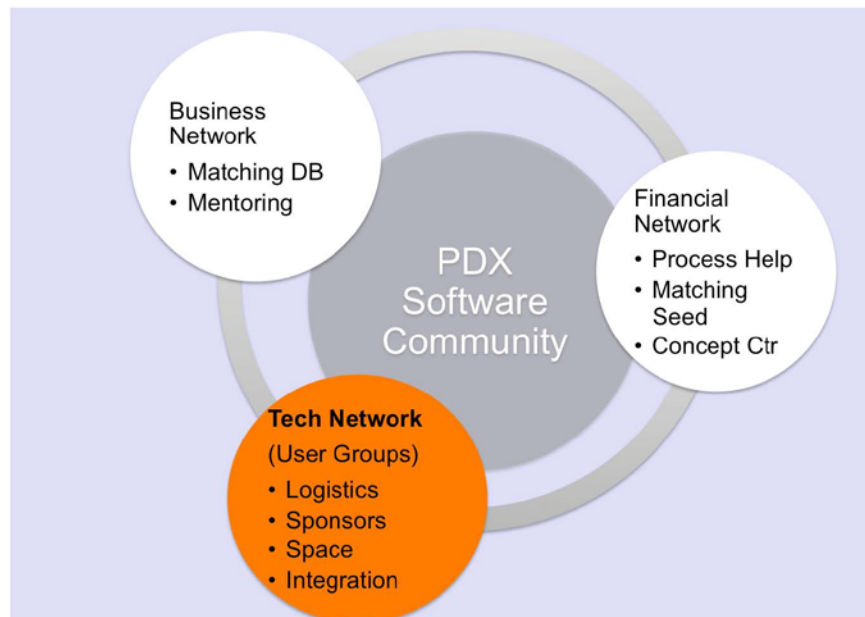
Founder/Partner	104	35%	<div style="width: 35%;"></div>
Board member	1	0%	<div style="width: 0%;"></div>
Executive/CEO	32	11%	<div style="width: 11%;"></div>
Mid to Senior Level	54	18%	<div style="width: 18%;"></div>
Sales/Marketing	24	8%	<div style="width: 8%;"></div>
Administrative	2	1%	<div style="width: 1%;"></div>
Technical/developer	80	27%	<div style="width: 27%;"></div>
Entry-Level	3	1%	<div style="width: 1%;"></div>

n = 300

Good revenue representation

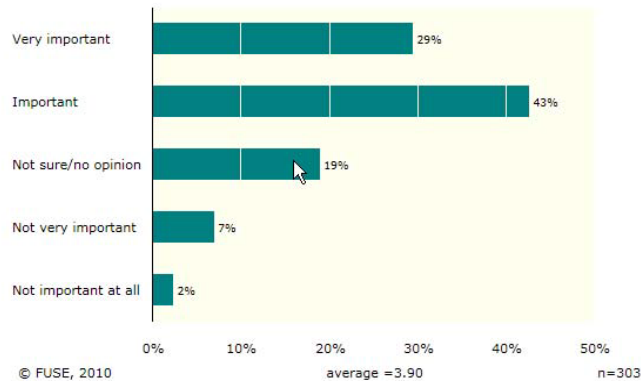


Alignment Issue #1: Technology Network



Very important to find new ways to support user groups

How important is it for us to find creative ways to better support Portland's 70+ User Groups?



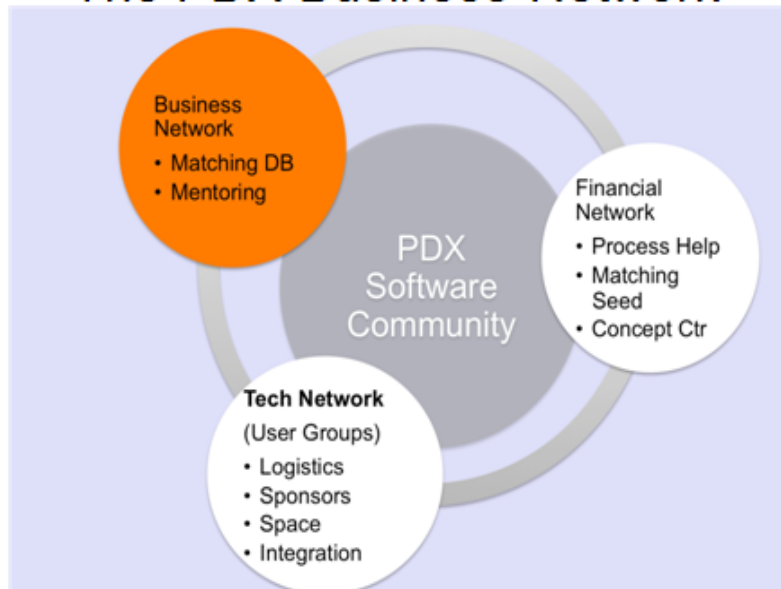
Many comments on user groups

Starting a user group is easy - **keeping it going is hard**. Resources to help facilitate growth can only be a positive thing

Having these groups 'community driven' is double edged. Formal sponsorship and structure may lose some of their value and appeal. But the **stress on the volunteers is large** and should be addressed.

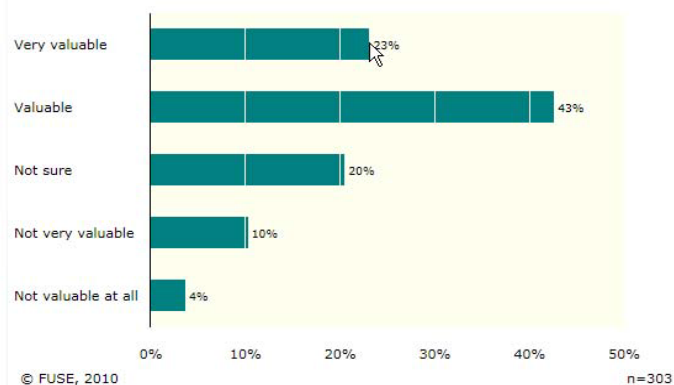
PDC's role should be to **enable and facilitate**....The PDC contribution can be used by multiple communities to achieve economy of scale.

Alignment Issue #2 The PDX Business Network



Strong support for resource/skill database idea

Regional resource and skill database idea. Good idea?



Comments on business connections

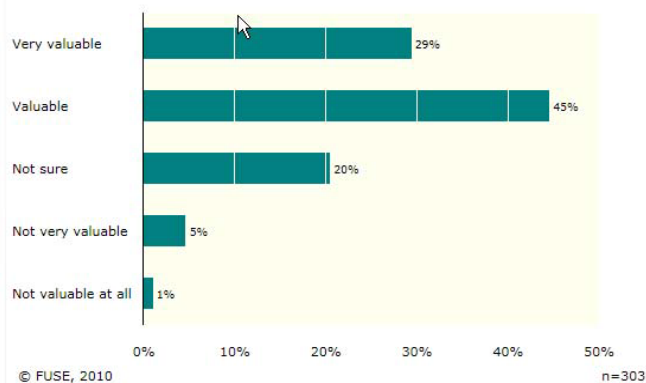
It's very **difficult to find out what's going on locally** - often times I've never even heard of a local company that is offering services I'm interested in. It's also hard to find top local talent - it's a lot easier to find top talent in places like Boston and the Bay Area.

Great way to **tap into local talent and resources**. It is hard to find today, and we end up hiring and relocating far too many people

It would be a **great tool for attracting new software companies to Portland**.

Mentorship matching strongly supported

How valuable would it be to have a system that matches mentors with mentees to help with business issues?



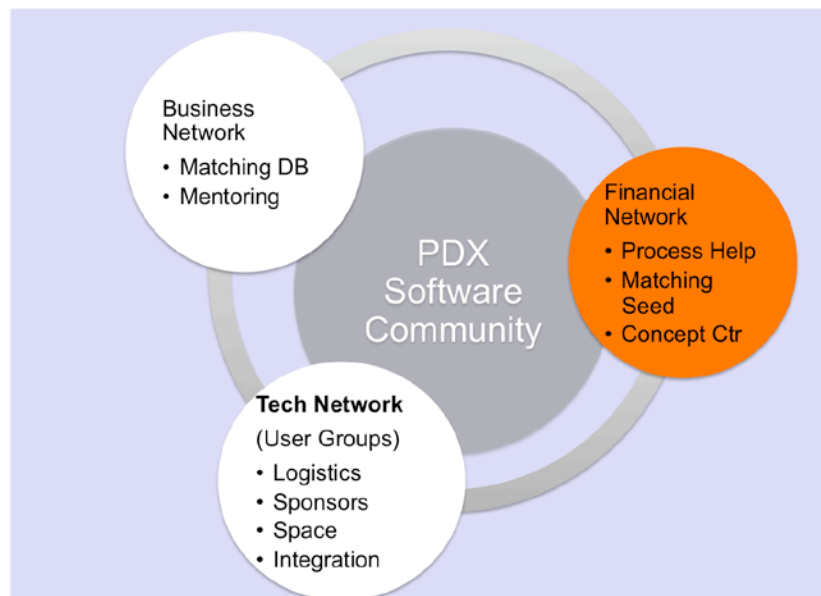
Some mentorship comments...

Portland's Tech scene is very DIY, which is what I think is it's asset. A lot of creativity and new ideas can come out of this. However, it's always **hard to get past the idea stage**. Linking these people with mentors who have real world experience will help fill that gap.

Information sharing, resource sharing, knowledge transfer, bringing along the next generation of information workers, and so on.

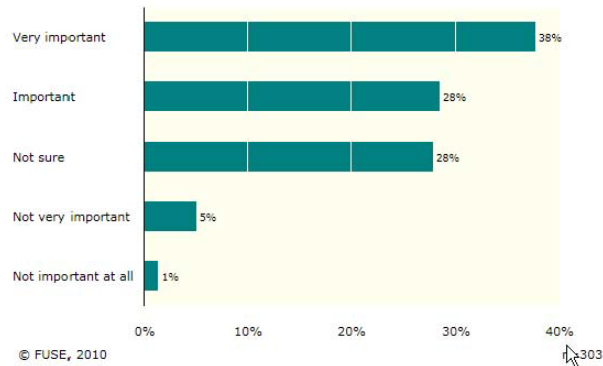
I'm fortunate to have a mentor in the community. It has been **THE most valuable business relationship** I've had. Everyone should have the opportunity to have that success.

Alignment Issue #3: Financial Network



Financial support is critical concern

How important do you feel it is for our community to better address the financial needs of its software companies?



Some comments on financial support

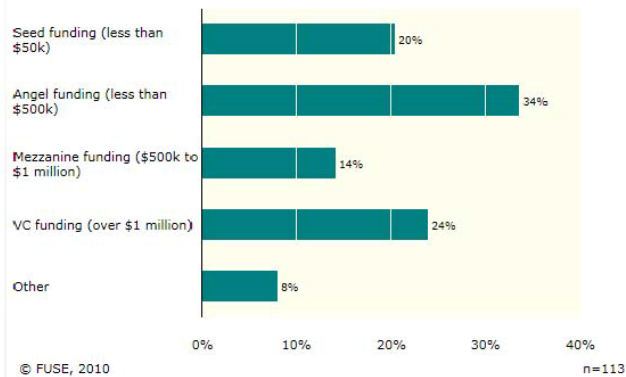
If there was more infrastructure for software companies to grow and thrive in Portland, maybe **they wouldn't all move away** or be acquired which seems to be the trend.

This is a crucial element that until it is rectified will inhibit PDX from **retaining jobs** in this space.

Our software company's #1 problem right now is access to venture capital. My CEO is currently in Palo Alto full-time for this reason. The Portland area simply can't meet our **financing needs**....

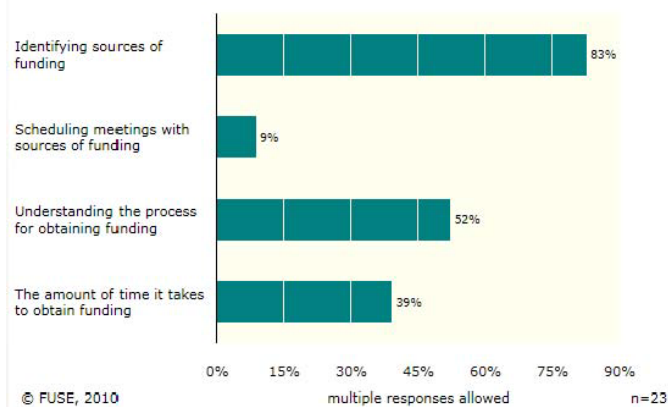
Angel investment most frustrating

In your experience, what is the most difficult financing stage for a Portland-based software company?



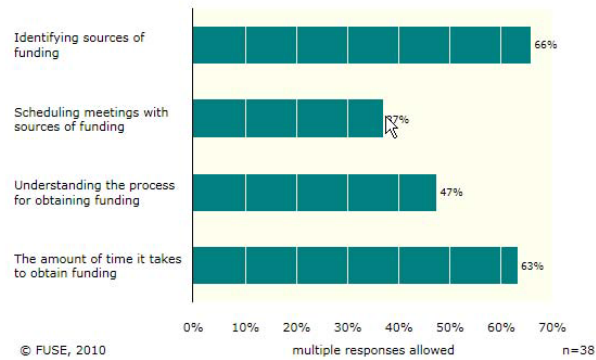
Seed funding barrier: Sources

Please describe the challenges you faced in obtaining Seed Funding:



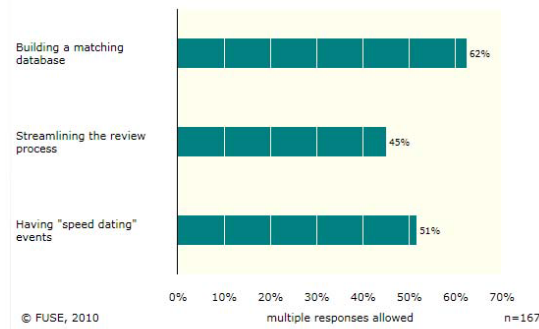
Angel funding barriers: Sources & Time

Please describe the challenges you faced in obtaining Angel Funding:



Matching database most valuable way to connect start-ups with funds

What are some ways the we might be able to build these networks of funding relationships?



Summary

Technical Network

- Infrastructure Support
- Flexible Meetup Spaces
- Integration

Business Network

- Mentoring
- Resources

Financial Network

- Connections and programs

Next Steps

Critical Questions

- How do we build a unified infrastructure, management and sponsorship support for user groups?
- How do we build infrastructures that support mentoring relationships?
- How do we build better infrastructures that support early investment phases?