Summary of Findings

Treasure Valley employers face challenges in acquiring the talent and requisite skill sets necessary to sustain and advance their companies and organizations. Generally, they can find sufficient talent from Idaho higher education institutions. This is especially true for large organizations. Where employers report trouble in finding enough talent is in technical areas, including engineering, IT, and computer science. To augment technical talent from Idaho institutions, employers are likely to seek talent trained at institutions in neighboring states.

Upon sorting through the list employers provided of critical shortage areas, four shortage categories emerged:

- **Specific knowledge.** Most frequently mentioned were program languages and specialty skills within IT. A few of these skills or languages could be introduced into an academic program. However, the time lag of waiting for a student to complete a 2 or 4 year program compounds the problem of filling an immediate need. This type of shortage would be best met through on-site training programs, certification programs, or on-line training from a certified provider.

- **Competency set or concentration.** This category captures a specialty skill or set of skills that does not require an exclusive degree but can be best served through a concentration or minor that students from a variety of academic disciplines could pursue. Take for example, analytical and statistical writing, which is emerging as a concentration on many campuses. Students from communication, psychology and the sciences could gain from being trained in technical, analytical and statistical (being able to understand and interpret scientific research, polling, and marketing results). Likewise, shortages in sales, leadership, e-commerce, social media marketing, web design, digital design, and other IT competencies could be augmented through the judicious use of concentrations and minors in both 2 and 4 year programs.

- **Degree specific talent.** In this category, employers report deficits in specifically trained academic programs. At the top of the list were found computer science (software programming, web development), engineers (electrical and computer), highly qualified math and science teachers, nurses, therapists, and special education teachers. What we do not know is the deficit gap – the gap between what is being graduated from Idaho institutions at this time and the actual number of people needed in these positions. In our interviews, the authors were reminded frequently of a recent call for more mechanical engineers where the universities responded by graduating more, only for the graduates to find no jobs available for them.

- **Unmet or emerging needs.** One final category involves talent which has a master’s degree in the areas of engineering, mathematics, chemistry and physics with a strong industry focus. We could not discern from the comments the extent of the
demand for these professionals or whether the gap was persistent (they have always needed these level of trained professional) or emerging (see the need emerging). Our best estimate is that the numbers are small.

The information on skill shortages highlights and further confirms what most observers of economic development in the Treasure Valley know all too well is the lack of computer scientists and IT professionals. Treasure Valley employers have a sticky problem in attempting to close the gap. In Part I Dr. Susan Mason’s research team calculated the high concentration of IT related businesses in the Boise area (much higher than the national average). Thus, for a small geographic area, Boise needs a high number of technical professionals that are scarce across the entire U.S. Increasing interest among K-12 students and encouraging them into technical academic programs in college will eventually contribute to easing the problem. However, it will not solve the issue and a wider array of tools will be needed to attract and retain technical professionals to the Boise area.

Large employers reported that their talent needs were being adequately met by Idaho’s higher education institutions. These large organizations, regardless of whether they are in the for-profit, non-profit, education, government, or health sectors, have brand recognition (easily identifiable) and pursue activities to enhance their employer brand among college students. The organizations that have the hardest time finding talent are small organizations. Small organizations often go unnoticed in the recruiting process because they lack the financial and social clout to manage an effective branding campaign among college students. The organizations that have the hardest time finding talent are small organizations. Small organizations often go unnoticed in the recruiting process because they lack the financial and social clout to manage an effective branding campaign among college students. The organizations that have the hardest time finding talent are small organizations. Small organizations often go unnoticed in the recruiting process because they lack the financial and social clout to manage an effective branding campaign among college students. The organizations that have the hardest time finding talent are small organizations. Small organizations often go unnoticed in the recruiting process because they lack the financial and social clout to manage an effective branding campaign among college students. The organizations that have the hardest time finding talent are small organizations. Small organizations often go unnoticed in the recruiting process because they lack the financial and social clout to manage an effective branding campaign among college students.

The main focus of this phase of the project was to determine the skills and competencies that employers believe were critical for a new graduate hire to succeed in their organization. Success turned out not to reside with one or two key skills but rather appeared in clusters or bunches. Using a statistical technique that compared key skill and competency sets against each other, we found that a group of nine competency sets were critical to early success:

- Able to perform with integrity
- Able to solve problems
- Able to manage time and priorities
- Able to take the initiative
- Able to think critically
- Able to analyze, evaluate, and interpret information
- Able to contribute to a team
- Able to effectively communicate orally
- Able to build and sustain professional relationships

Several competencies are directly embodied in an academic program; solving problems and analyzing information. Proficiency in the other sets is gained through interdisciplinary and co-curricular activities, not solely with an academic major. For integrity, the ability to act honestly and responsibly transcends college and requires modeling by all members of the community. College and universities continue to emphasize integrity in research, writing papers, and exams by clamping down on cheating, plagiarism and falsifying results in experiments. Boise State places a high value on integrity as demonstrated by its inclusion in the Shared Values.

When asked about how well prepared new graduates were on the skills and competencies they evaluated for gaining success, the good news was
Employer Feedback on Talent Needs and Preparation

that employers believed that new graduates were able to perform with high levels of integrity. This one finding reflects well on the young people matriculating to and graduating from Idaho colleges and universities. Other areas that employers believed new graduates were well prepared included acquiring knowledge, developing further professional competencies, and contributing to a team.

For four of the top five competencies (based on importance to success) employers believed they were only somewhat or moderately well prepared. Less than 50% believed new graduates were well prepared to: solve problems, think critically, manage time and priorities, and to take the initiative. Quantitative literacy (analyzes, evaluates, and interprets information) split 50-50 on whether new graduates were adequately prepared.

We can expect from the gap between their importance in being successful and their level of preparedness, that some new graduates may be performing their assignments adequately but face overcoming deficits to move successfully in their career.

Employers are clearer on what attitudes and behaviors new graduates need to display in order to gain success in their organizations. Three personal characteristics topped the list:

- Be accountable for behavior and their work
- A strong work ethic
- Act and behave maturely

Employers certainly want new graduates to display other behaviors, such as being self-directed, showing humility, and conveying passion for their work and career. However, the three highlighted really resonate with all employers.

Less than 10% of employers have no expectations that new graduates have prior pre-professional work experience which can run the gamut from student teaching and clinicals to internships. Over 50% of employers have moderate to high expectations that new graduates would have gained professional work experience. Many employers indicated that they would like the pre-professional experience or internship to be relevant to the full-time position to which they are applying. Fewer expect that the experience be in their economic sector. Based on the number of employees, organizations with fewer than 10 employees and those with between 100 and 1000 employees reported that slightly more than 25% did not offer internships even though they expected students to have them.

Probably the most revealing findings were the expectations held by employers toward their partnerships with Idaho’s colleges and universities. Colleges and universities provide many tangible assets to a community and state from nurturing youth and adults seeking education to enter the workforce, research, community service, athletic programs, etc. When asked to state what they expect from higher education institutions, employers were clear – Growth of Talent. The top four expectations (by a wide margin) were access to diverse talent, access to new talent, continuing support for education needs of current employees, and educational opportunities for executive management. National data exists to compare Treasure Valley employers’ expectations against. Local employers shared the same expectations as Minneapolis-St. Paul employers and a sample of national employers. The difference was the extremely high importance placed on talent growth compared to employers in the other groups.
Employer Feedback on Talent Needs and Preparation

Recommendations

Talent Challenges

Employers

1. Clarification of needs. One of the problems in responding to the shortages in IT and computer needs stems from a lack of specification on what is really being asked for. All talent requests are often dropped into the “IT pot” which assumes that colleges have to graduate more and more students with 4 year degrees in computer science. When in actuality the IT talent continuum is quite broad. At one end are talent needs that require four years in an engineering/computer science program to staff high level software development, hardware design and manufacturing, web development, and security. However, as numerous employers explained, “I just need a business major (or major of your choice) that can do basic programming, web design and maintenance, and web analytics. Acquiring the level of technical acumen in these types of positions does not require the level of math essential to engineering based talent. By clarifying needs more clearly colleges and universities may be able to respond quicker to meeting some of the technical shortfalls within the Treasure Valley.

2. Forecasting talent needs. The period between mid-1950s and mid 1990s found large employers that dominated the college recruiting scene able to make long range forecasts on their talent needs. Researchers were able to develop fairly accurate forecasts on the demand for certain types of academic majors, especially for fields such as engineering, accounting, nursing, and other professional disciplines. Over the past 15 years employers have had more trouble making long range forecasts, even though we rely on the same models to forecast demand. Since 2000 the economic cycles have moved rapidly (long recessions followed by short growth periods) and labor has seemed to have become disconnected from traditional indicators. The increasing use of technology (smart machines) has also shaped the use of human labor. The point being that accurately determining talent needs is getting harder. We observed confusion and ambiguity in what employers short-run and long-run needs were. An effort has to be made to communicate more clearly within the campus-employer partnership on just what the actual demands are and if the students are prepared will they find employment.

Universities

1. Building technical acumen. Increasing enrollments in engineering and technical programs whether at 2 or 4 year institutions will continue to be a top priority. However, increasing enrollments at the first year does not ensure that more engineers will graduate. The last time engineering enrollments soared was when women began enrolling in bigger numbers in the 1980s. While enrollments are up in engineering programs, overall college enrollment is also up – so the gains have come due to more students trying. Now the challenge is to have an internal shift in major selection from Business and Social Sciences, for example, to engineering and computer science. The hurdle is and always will be the math requirements. To gain ground on the need for highly trained engineers and computer science, the main conundrum has to be dealt with (which beyond the scope of this project). However, institutions can quickly staunch some of the IT concerns by providing concentrations, minors, or certificates that allow students in all majors to gain critical technical skills and make them more versatile in the labor market.
Employer Feedback on Talent Needs and Preparation

2. Industrial masters programs. Employer needs for advanced degree (master’s level) trained professionals was recognized by the Sloan Foundation over a decade ago. The Foundation initially funded science based industrial programs on selected campuses and they expanded to a number of schools and programs. These programs have proven to be highly successful. Though the Sloan Foundation money has been terminated, universities continued to support these programs. We did not take an inventory of Idaho institutions to see how many industrial masters’ programs were already operating. What makes these programs useful is that they are small, usually only a few students at the time. The program requires as part of the program an industrial based project and an intense series of workshops on business fundamentals (provided by the business college). Since we do not know the actual number of industrial science masters that employers are requesting, a small program, if the capacity for instruction and supervision exists, maybe able to address these concerns without over shooting the needs of the local market.

Strengthening Small Employers

Small employers are a critical component of the Treasure Valley employment base. Connections with small employers need to be strengthened to assist them in building their brand with college students. This assignment is difficult. If a group of employers are sitting around and you ask them what are their needs (labor requirements), large employers generally can produce a list but small employers may simply sit there. They do not always know clearly what their needs are. Yet, the next day they may receive a new contract which requires them to immediately hire an engineer and an advertising major. Small employers hire on an “as need” basis that does not correspond to the academic calendar. In the Boise area, small employers do tap into Boise State University students to solve this problem (many students worked while enrolled). Small employers do not hire every year. Currently, the new healthcare coverage requirements make it very difficult for small employers to incrementally increase hiring. Higher education institutions can provide some assistance to small employers:

1. Help them connect to professional student organizations where they can develop connections with current students.
2. Coordination with the alumni office is critical in sustaining all employer relationships but for small employers who need a recent graduate or an experienced alum a seamless system between career services and alumni provides an effective tool for achieving quick results.
3. Student education on the role of small employers is important. The increased presence of entrepreneurial opportunities throughout campus certainly helps. But to add gravitas students need to know more about how they may have to work with a small employer, given current conditions. For example, they may have to work as an independent contractor or on project pay if the small employer cannot meet immediately meet health care requirements, for example. Working for a small employer is simply different than working for a large employer and students need to be informed so they can make the appropriate choice.

Skill and Competency Bundles

Employers. The respondents to this survey largely represent a group of employers who are or have interacted with an Idaho institution for new talent.
The bundles of skills document in this report may not be representative of all employers that seek college talent in the Treasure Valley. Certainly, individual companies or organizations can vary in the priority that they give to certain skills or competencies. Because of the tightness of the groupings, we might not see as wide a variation in how regional employers are evaluating their talent needs. The challenge for employers in their talent acquisition is to be consistent. In other words, if employers say that they are going to recruit talent with these skills they need to actually ask for students who can demonstrate them. Too often, companies send strong signals for broader skills then embedded in the academic major; yet when they actually recruit, they seek very specific skill combinations, often ignoring the broader skills. If the colleges and universities respond to this report by shaping their graduates around these competencies, there has to be assurances that they will be employable. Thus, consistency becomes very important.

Colleges and Universities. Competencies come in bundles. Students have a tendency to treat skills and the events that foster skill development as a singular entity, separate from other skills and competencies. They tend to generate lists of skills with little reflection that integrates their development across their disciplinary, interdisciplinary, core curriculum, co-curricular activities, and pre-professional experiences. To insure that students nearing graduation can clearly identify their skills and competencies, weaving together, their collegiate experiences, the college community of faculty, advisors (all types), and other key support staff should make a consensus effort to provide opportunities to engage in reflective practice. The skills and competencies drawn out from this study capture the thoughts of regional employers. Employers in other regions of the country may prioritize these skills slightly different. For example, employers in the Silicon Valley area may place a higher emphasis on the global understanding competency because their organizations are more globally connected than employers in other regions. This distinction is particularly important for Boise State University faculty and administrators. A few years ago an overwhelming majority of each graduating class intended to stay in the great Boise area. Two factors are changing this long held pattern: a tight regional job market and a change in student demographics with more out-of-state students. Thus, students who are not intending to work within the Treasure Valley may face different skill bundles and they need to be prepared to understand these differences.

Skill Preparation

Employers felt that new graduates from Idaho colleges and universities were moderately well prepared across the range of competencies presented to them. Universities and colleges will have to consider measures to foster development in several of the competencies deemed most important for early career success. The problem is that little is known on what fosters these employability skills. Assumptions are made that these competencies simply are nurtured throughout the collegiate experience without any strong verification. Faculty believe, and probably rightly so, that they do intentionally develop some of these skills, such as critical thinking, but too often their intentions are not made explicit to their students who may miss the development that is going on. Frequently the development for solving problems and critical thinking are often confused. Problem solving is embedded in the academic discipline and
may not call upon critical thinking competencies during the problem solving experiences. Critical thinking occurs more often when students are placed in ambiguous situations or serious issues that have to be resolved that require pulling solutions from across different disciplinary threads. This example suggests that faculty and staff directing co-curricular activities have to be more intentional showing students the global learning outcomes woven into their courses and activities.

Internships

For the employer, the internship or a similar experience (such as paid hourly employment), where the student gains a solid grasp of the dynamics of the workplace and practices extending his or her learning through application in a non-academic setting, is the passport into the workplace. This challenges the very foundational values that faculty believe drive undergraduate education: intellectual curiosity, community service, and global understanding. Each of these elements is critical to developing the total student. However, higher education is being held to a different standard of accountability today that includes employability preparation so the graduate can engage in a meaningful career during his or her lifetime. The employability condition requires that nearly every student needs to have a professional practice element within their educational program. An improved economy will not remove this condition from the table.

Employers have placed this expectation on the table which commends them to evaluate their internship offerings in two ways. First, one-quarter of respondents who expect a new hire to have an internship are presently not offering internships at their organizations. Each of these organizations needs to step up by investigating how they can offer students opportunities to learn and practice in their organization. Starting an internship program can appear daunting but college and universities through their career centers can offer valuable guidance and direct you to pertinent information shared by other employers located on the web. Internships may not be the best way that an organization can assist students. Maybe they can offer job shadowing experiences, mentors, or project based employment for shorter periods than normal internships.

The university should consider redefining its Internship Program. Internships are currently for credit and must be in one’s field of study. The program needs to be more flexible, a zero credit internship needs to be implemented and internships should not need to be field-specific, but rather skills specific. Boise State University, given its location and proximity to a vast array of internship opportunities, should put a major emphasis, if not requirement, on the Internship Experience in all majors. Identifying best practices and understanding and alleviating employer concerns are key to making the Internship Program work for all parties.

A second problem concerns the quality of the internships already being provided. Employers need to take a moment and evaluate their current practices to ensure that the experiences they are offering contain assignments and learning opportunities that develop the competencies needed in their organization. Organizational fit is the buzz word swirling around talent development today. Employers can improve the conversion of their interns to full-time employees by providing skills-based experiences that represent the fit criteria for their organization.
Partnerships

If employers want the “best of the best” they are going to have to build relationships with their regional colleges and university. Employers have to be willing to be involved with students early and build those important relationships that drive talent recruitment. This is especially critical for smaller employers who do not have the luxury of relying on their name or brand recognition to recruit new talent. The emphasis that employers placed on access to talent and educational support for their current workforce would suggest that they have relationships with campus. However, their very low involvement with student organizations suggests that they probably do not know how to actually get involved with campus in a meaningful way.

Universities can be frustrating and annoying entities with multiple portals that can open access. The problem is that they may not lead to where the employer wants or needs to go. Numerous campus actors (faculty, administrators, and career services, for example) come in contact with employers regularly. However, few of these interactions are coordinated; some are even very protective of their employer connections. To ease the frustration that many employers feel about establishing a partnership, one central portal that invites all employers in where they can be quickly directed to appropriate faculty, internship advisors, full-time employment representatives, or whomever should be identify. The intention here is not to disenfranchise any member of the community from a long standing contact, but, rather, to provide a welcoming, knowledgeable campus representative who can provide accurate information on how to proceed through the maze of the university. (This is a problem employers have on every campus throughout the U.S.)

Reference
Employer Feedback on Talent Needs and Preparation