Employer Feedback on Talent Needs and Preparation

Collegiate Employment/Workforce Readiness Report

Part II
May 2013

This report is the second component of a four-part study surrounding a skills alignment of college graduates in the state of Idaho and Boise City-Nampa Metropolitan Statistical Area (MSA) employers. This report addresses regional employers’ expectations for professional skills, competencies, experiences and behaviors of new college graduates. Additionally, it addresses regional employer expectations around internships as well as employers interests in town and gown relationships.

Acknowledgements: We gratefully acknowledge the individuals who graciously participated in interviews and surveys.
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Executive Summary

Boise State University surveyed regional employers to understand their expectations for professional skills, competencies, experiences and behaviors of new college graduates. The alignment of well-prepared college graduates with employer expectations will help sustain and advance economic development in the area.

Forty-six percent of local employers indicated that Idaho’s higher education institutions were largely or completely meeting their workforce needs at this time. However, organizations reported that only 50 percent of their new hires have graduated from Idaho institutions, and that these organizations are having difficulty in finding local talent, especially in computer science, engineering, sciences (math, chemistry, and physics), business (sales, leadership, entrepreneurial acumen, and social media), and health sciences.

Among a listing of 22 important skills for new college hires, employers clearly identified the top two skills: 1) able to perform with integrity and 2) able to solve problems. These two skills, along with seven others make up a package of nine skills that clearly stand out as necessary for entry and early success in the workforce. However, five of these nine skills that employers say are important for being successful in a first professional experience are ranked in the bottom half of the list of skills that employers say college graduates are proficient in, creating a gap in workforce readiness.

The survey of work attitudes and behaviors resulted in employers identifying their two most desirable attitudes: 1) takes responsibility and is accountable for work and behavior and 2) demonstrates a strong work ethic. The evaluation of young adults at work refuted some of the national anecdotal stories of poor work ethic, showing that local college graduates displayed acceptable behaviors of accountability, hard work, and maturity.

Regarding relevant pre-professional experience, overall 92% of employers have some level of expectation that new college graduates will have practical experiences. About one-third of Treasure Valley organizations indicated a high expectation or a requirement of college applicants for entry-level positions to have prior professional work experience. Nearly 60 percent had some to moderate expectations that applicants would come with experience. Internships clearly were the primary vehicle for providing the pre-professional experience. Although job related experience was a high priority for employers, employers backed off slightly in mandating that the work experience be industry specific.

Survey respondents also rated their priorities in the relationship between industry and Idaho’s colleges and universities, clearly stating an expectation of access to and development of student talent. Employers’ most important goals were: 1) gain access to diverse talent; 2) gain early access to new talent; 3) support continuing education needs of employees; and 4) expand executive education opportunities.

Purpose
The purpose of the research is to gain an understanding of the professional skills, competencies, experiences and behaviors that regional employers expect new college graduates to have in order to enter and succeed in the workplace. Preparing our college graduates to enter the workforce with these skills will help to sustain and advance economic development within the greater Treasure Valley.

Survey Administration
- A survey was designed to capture the information on key questions raised during initial discussions with regional employers. The survey was vetted by a group of employers prior to general administration.
- A coalition of business associations, professional groups, local and state agencies, economic development partnerships, and Boise State University contacts sent invitations to employers to participate in the survey. (1)
- An electronic survey served as the platform to capture the information from employers.
- Data from the survey was analyzed using SPSS and MAX DIFF software analytics.

Sources of New College Talent
Organizations in the Treasure Valley can recruit new college talent from a number of state, regional and national institutions to meet their workforce needs. Employers were specifically asked what percentage of their new college hires were from Idaho colleges and universities. Overall, 50% of the new hires were reported to have graduated from Idaho institutions.

- Larger organizations (1000 or more employees) were more likely to hire from Idaho institutions: 61%
- Professional Services sector were more likely to hire new talent from Idaho institutions: 62%
- Technical and Science Services and a group of sectors, comprised of Agriculture, Construction, Manufacturing, Transportation and Utilities, were more likely to seek talent outside the state with only 37% and 39% of their hires from state institutions, respectively.
- Employers seeking these academic majors were more likely to have to augment their search to regional or national institutions: Math, Physical Science, Chemistry, Engineering, Computer Sciences, and Criminal Justice.
- Education was the one sector that drew heavily from state institutions at 70%.
Employer Feedback on Talent Needs and Preparation

Difficult in Finding Talent: Locally or for Specific Skills

Employers were asked about their difficulty in fulfilling their talent needs locally within the Treasure Valley and in filling positions that require specific skills and competencies. About 40% of employers indicated that they had difficulty in finding local talent.

- Smaller employers (10 to 1000 employees) reported having more difficulty in finding talent locally, between 47% and 55%.
- Only 32% of larger employers (over 1000 employees) reported having difficulty in finding local talent.
- 71% of Technical and Science Services employers were reporting difficulty in finding local talent.
- 24% and 38% of government and professional services employers, respectively, were having difficulty finding talent.

Employers seeking engineers, computer science, and physical sciences, including math, all reported higher levels of difficulty in finding local talent.

When asked about specific skills, nearly 45% of employers reported difficulty in finding certain skills and competencies.

- Between 55% and 65% of small employers (10 to 1000 employees) reported difficulty in finding specific skills.
- Only 32% of large employers reported having difficulty.
- Three-quarters of employers in technical and scientific services reported having difficulty.
- Financial and Professional Services reported the lowest percentage of their employers having difficulty at 40%.
- Employers seeking engineers, computer science, and the physical and biological sciences majors reported the highest level of difficulty.
Employer Feedback on Talent Needs and Preparation

The following specific skills were listed frequently as being difficult to find. Based on comments from respondents, the following list provides the most frequently mentioned skills and or competencies:

- **Computer Science**
  - Software Programming
    - Computer Programming (general)
    - Software Development
    - Digital Design
    - Specific knowledge of: NET and C (most frequent); iOS, PHP; Java, Oracle R12, Revit, and mobility products.
  - IT Web Development
    - Web Design and Maintenance
    - Network Engineering
    - Specialty skills in IT (not specified)
    - Web analytics and database methodologies

- **Engineering**
  - Engineering – General with no major specified
  - Electrical Engineers
  - Computer Engineers
  - Engineers – Advanced, includes MS
  - Specific skills: technical management (most frequently mentioned), statistical analytics, and R&D.

- **Sciences**
  - Math and Science Teachers with Highly Qualified Endorsements
  - Masters in Math, Chemistry, Physics with industry focus
  - Science trained technicians

- **Business**
  - Sales
  - Leadership
  - Entrepreneurial acumen
  - E-commerce and social media marketing
  - Accounting

- **Health Sciences**
  - Business Administration
  - Analytical writers
  - Nurses
  - Physical & Occupational Therapists
  - Mental Health professionals (advanced)
  - Technologists (various positions)

- **Education (in addition to math and science teachers)**
  - Special Education
  - “highly qualified teachers”
Meeting Workforce Needs

Employers were asked to report the extent to which they felt that Idaho colleges and universities met their current workforce needs. Forty-six percent felt that Idaho higher educational institutions largely or completely met their workforce needs at this time (4 & 5 on a 5-point Likert scale). Another 37% felt that their needs were met to a moderate extent. A small group (14%) believed that their workforce needs were only slightly met by Idaho institutions.

- Large organizations were most likely to report that their workforce needs can be met by Idaho institutions (53% largely or completely met our needs).
- Governmental agencies were more likely to have their workforce needs met with 55% reporting that their needs are largely or completely met by Idaho institutions.
- Technical and scientific services organizations were more likely to have their workforce needs unmet by Idaho institutions (36% slightly met or do not meet at all).

Essential Skills & Competencies

Recent studies from various sources have shown either a widening gap in the skills and competencies needed in the workplace and the level demonstrated by new graduates (Hanneman and Gardner) or a general lack of skills in general (sources to be provided). In this section employers were asked to consider the skills and competencies issue in two ways. First, they were asked to indicate the importance of twenty-two skills or competencies (sets of skills) in successfully establishing the career of new college hires in their organizations. The second inquiry asked them to rate how proficient new college hires are in these skills and competencies upon entering the workplace from college.

Leading into these two questions, we asked employers to provide input on how well new graduates demonstrate mastery of their academic discipline and how adept they were in using computer software/programs that are associated with the positions they are entering. Mastery of an academic major assumes grounding in the theoretical constructs of the discipline, an understanding of the methods of inquiry and the tools that contribute to problem solving. The rating was measured on a 5 point Likert scale (1 = little or no mastery to 5 = complete mastery). Only 12% of respondents felt that graduates possessed little mastery of their discipline; likewise only two percent felt that new graduates had complete mastery. The responses clustered between mastered to a moderate extent (the mid-point of the scale) to mastered to a large extent with 44% and 41%, respectively. No differences were found between different types of organizations or the size of organizations in this rating.

Students appear to be adept at using the software and navigating the internet to the level that is expected for their first position in the organization. Seventy percent of respondents indicated that new college hires were largely or completely adept at performing tasks using available software. No differences were found among employers when compared by type of organization and size.
Employer Feedback on Talent Needs and Preparation

Important Skills & Competencies in First Job

We selected 22 skills and competencies that have been cited in both the scholarly and popular literature as required by employers of new college graduates. We chose to present the skills and competencies as “able to ...” statements. This is the same format the ABET (Advisory Board for Engineering and Technology) criteria, used for programmatic review, are written. Common practice in most research studies evaluating importance is to employ a rating scale. This approach does present several forms of bias; the most significant to our purposes is the tendency to use extreme points on the scale. We knew that each of the 22 skills have been previously rated as very important for new hires to possess. If we employed a similar rating scale, our assumption was that we would see a tendency to distort the ratings toward the high end which would produce little comparative information.

A rating scale also does not reveal the relative importance of the skills to each other (relative to what?). To address these problems, we decided to employ best-worse scaling approach to determine the relative importance between skills. MAXDIF software (Sawtooth) was used to generate the series of questions in this section. In this approach, skills are presented in a set of four and the respondent is asked to select the best and the worst option within the set, based on the instructions of the survey. With 22 items, the software performed over 20,000 iterations to determine the 22 sets to be presented that insured that each skill appeared an equal number of times and that the presentation of skills were balanced (each skill appeared with each of the other items at the same frequency). The logit analysis behind the iteration procedure calculates how well the final model fits the data, providing a Root Likelihood statistic for the final solution. The fit statistic can range from .200 to 1.00 with the higher values expressing a better fit. The fit statistic (Root Likelihood) for our final model was .548.

Respondents were presented the following instruction:

“We want to gain some insight into what competencies are critical for early success in your organization by asking you to evaluate a series of tradeoff scenarios. In each scenario, we'll show you four possible competencies that could affect success in your organization. We will ask which competency (among the four) would contribute the most important to success and which would contribute least to success.”

<table>
<thead>
<tr>
<th>Most Important</th>
<th>Least Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able to use persuasion and justification in order to provide direction for the organization.</td>
<td></td>
</tr>
<tr>
<td>Able to effectively communicate orally</td>
<td></td>
</tr>
<tr>
<td>Able to contribute to a team.</td>
<td></td>
</tr>
<tr>
<td>Able to manage time and priorities</td>
<td></td>
</tr>
</tbody>
</table>
The software employs an estimation technique that produces final scores for each item that have been rescaled to 100 (likelihood of being chosen). The item with the highest mean score is considered the most important as it was chosen the more frequently as more important.

Since the scores are based on ratio scaling, the distance between the scores indicates the difference in importance between the items.

For example, an item with a mean score of 20 is two times as important as an item with a mean score of 10.

The following table presents the 22 skills and competency sets which are listed from most important (highest mean score) to the lowest score. All these skills and competencies will be utilized at some point during the first years a new young professional is with the organization. Yet, for that important first job the top two skills/competency sets were:

<table>
<thead>
<tr>
<th>Able to perform with integrity</th>
<th>Able to solve problems</th>
</tr>
</thead>
</table>

When the distance between the items is measured, the first eight skill sets are fairly closely bunched together (less than 1.5 times between effectively communicate orally and perform with integrity).

The ninth skill, able to build and sustain working professional relationships is just outside this distance and closer to this group than the group of competencies just below it in the ranking. It might be easier to consider these top nine competency sets as a package. To get off to a fast start a new hire needs to be able to perform these skills/competencies at a high level:

- 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 working professional relationships

Items ranked from 10 to 16 (embrace change to further professional competencies) comprise another cluster or secondary package of skills that also come quickly into play. This package is about 2 times less important than the first package.
### Employer Feedback on Talent Needs and Preparation

<table>
<thead>
<tr>
<th>RANK</th>
<th>Skill or Competency Set</th>
<th>MEAN</th>
<th>95% Lower (CI)</th>
<th>95% Upper (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Able to perform with integrity.</td>
<td>8.99</td>
<td>8.60</td>
<td>9.37</td>
</tr>
<tr>
<td>2</td>
<td>Able to solve problems.</td>
<td>8.33</td>
<td>7.96</td>
<td>8.70</td>
</tr>
<tr>
<td>3</td>
<td>Able to manage time and priorities</td>
<td>7.87</td>
<td>7.49</td>
<td>8.26</td>
</tr>
<tr>
<td>4</td>
<td>Able to take the initiative</td>
<td>7.26</td>
<td>6.76</td>
<td>7.75</td>
</tr>
<tr>
<td>5</td>
<td>Able to think critically.</td>
<td>7.08</td>
<td>6.64</td>
<td>7.52</td>
</tr>
<tr>
<td>6</td>
<td>Able to analyze, evaluate, and interpret information</td>
<td>7.07</td>
<td>6.58</td>
<td>7.56</td>
</tr>
<tr>
<td>7</td>
<td>Able to contribute to a team.</td>
<td>6.67</td>
<td>6.16</td>
<td>7.17</td>
</tr>
<tr>
<td>8</td>
<td>Able to effectively communicate orally</td>
<td>6.14</td>
<td>5.68</td>
<td>6.60</td>
</tr>
<tr>
<td>9</td>
<td>Able to build and sustain working professional relationships.</td>
<td>5.04</td>
<td>4.52</td>
<td>5.55</td>
</tr>
<tr>
<td>10</td>
<td>Able to embrace change.</td>
<td>4.16</td>
<td>3.62</td>
<td>4.70</td>
</tr>
<tr>
<td>11</td>
<td>Able to acquire knowledge</td>
<td>4.11</td>
<td>3.77</td>
<td>4.46</td>
</tr>
<tr>
<td>12</td>
<td>Able to manage and synthesize different sources of information.</td>
<td>3.92</td>
<td>3.44</td>
<td>4.40</td>
</tr>
<tr>
<td>13</td>
<td>Able to effectively communicate through writing</td>
<td>3.83</td>
<td>3.30</td>
<td>4.35</td>
</tr>
<tr>
<td>14</td>
<td>Able to create original ideas and innovations (be innovative).</td>
<td>3.75</td>
<td>3.25</td>
<td>4.26</td>
</tr>
<tr>
<td>15</td>
<td>Able to plan and manage a project</td>
<td>3.48</td>
<td>3.00</td>
<td>3.95</td>
</tr>
<tr>
<td>16</td>
<td>Able to develop further professional competencies.</td>
<td>3.30</td>
<td>2.83</td>
<td>3.76</td>
</tr>
<tr>
<td>17</td>
<td>Able to work in a diverse environment</td>
<td>2.02</td>
<td>1.59</td>
<td>2.44</td>
</tr>
<tr>
<td>18</td>
<td>Able to engage in continuous (lifelong) learning.</td>
<td>1.95</td>
<td>1.60</td>
<td>2.30</td>
</tr>
<tr>
<td>19</td>
<td>Able to balance work and life.</td>
<td>1.26</td>
<td>0.95</td>
<td>1.56</td>
</tr>
<tr>
<td>20</td>
<td>Able to use persuasion and justification in order to provide direction for the organization</td>
<td>1.35</td>
<td>1.01</td>
<td>1.70</td>
</tr>
<tr>
<td>21</td>
<td>Able to understand impact of organization's practices in a global (economic, societal, environmental) setting</td>
<td>1.41</td>
<td>0.97</td>
<td>1.85</td>
</tr>
<tr>
<td>22</td>
<td>Able to navigate boundaries.</td>
<td>1.01</td>
<td>0.77</td>
<td>1.25</td>
</tr>
</tbody>
</table>

With the means close together, variation can be expected when comparing by organizational size, economic sector, and type of organization. The following table illustrates the results for the comparison based on organizational size. Shifts are evident but the groups of competencies stay in tack. In other words, the top nine overall competencies appear in the top nine for each size category even though the rank order may be slightly different. Similar patterns were found for type of organization and economic sector.
## Employer Feedback on Talent Needs and Preparation

### A few significant differences were found when comparing the mean scores:

- **Organizational Size:**
  - Able to balance work and life (F=3.74, .012) with the smaller organizations (10 to 99 employees) having a mean of .67 and the smallest organizations (9 and fewer employees) with a mean of 2.02.

- **Economic Sector**
  - Able to acquire knowledge (F=4.26, .003) Technical at 5.62 higher than all other sectors

<table>
<thead>
<tr>
<th>Skill</th>
<th>Overall Rank</th>
<th>1-9 Emp.</th>
<th>10-99 Emp.</th>
<th>100-1000 Emp.</th>
<th>1000+ Emp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able to perform with integrity.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Able to solve problems.</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Able to manage time and priorities</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Able to take the initiative</td>
<td>4</td>
<td>3</td>
<td>7</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Able to think critically.</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Able to analyze, evaluate, and interpret information</td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Able to contribute to a team.</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Able to effectively communicate orally</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Able to build and sustain working professional relationships.</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Able to embrace change.</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>15</td>
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<tr>
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<td>12</td>
<td>13</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>Able to plan and manage a project</td>
<td>15</td>
<td>16</td>
<td>16</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Able to develop further professional competencies.</td>
<td>16</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Able to work in a diverse environment</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>Able to engage in continuous (lifelong) learning.</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Able to balance work and life.</td>
<td>19</td>
<td>19</td>
<td>22</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Able to use persuasion and justification in order to provide direction for the organization.</td>
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<td>20</td>
<td>18</td>
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<tr>
<td>Able to understand impact of organization’s practices in a global (economic, societal, environmental) setting</td>
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<td>20</td>
<td>20</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>Able to navigate boundaries.</td>
<td>22</td>
<td>21</td>
<td>21</td>
<td>22</td>
<td>22</td>
</tr>
</tbody>
</table>
Employer Feedback on Talent Needs and Preparation

- Able to contribute as a team (F=.04, .004) Financial services lowest (4.30) and Professional and AgCon group highest at 7.12 and 7.95, respectively.
- Able to analyze, evaluate & interpret information (F=4.59, .002) Professional Services lowest (6.12) and Technical highest (8.76)
- Able to manage and synthesize information (F=4.33, .002) AgCon group lowest (2.90) and Technical highest (5.82)

Type of Organization
- Able to work in diverse environment (F=3.24, .014) for-profit (1.36) and non-profit (1.41) were lowest and education (3.30) highest.
- Able to take the initiative (F=3.97, .004) health (5.16) was the lowest and for-profit the highest (8.08)
- Able to develop further professional competencies (F=4.52, .002) Health was higher than all others (8.46)
- Able to analyze, evaluate and interpret information (F=4.87, .001) Health was the lowest (4.00) and government was the highest (8.84)
- Able to engage in continuous learning (F=4.24, .003) Government (1.29) and non-profit (1.39) were the lowest and health was the highest (4.30)

Level of Proficiency (Preparation) at Time of Entry into Workforce

In the second question the same 22 skills and competencies were presented to employers. This time they were asked to rate on a 5-point Likert scale the level of proficiency (preparedness) with 1 – no or little proficiency to 5 = completely proficient that new college hires demonstrated upon entry into the workplace. The next table lists the skills from highest level of proficiency to the lowest. From the mean scores it can be seen that employers placed new graduates between moderately (average) proficiency to very proficient. Few employers supplied ratings of 5 on items except in the case of the first four skills and the sixth (engage in lifelong learning). Of possible interest, two of the three communication skills were rated the lowest in proficiency among the set of 22.

Another comparison was made between the proficiency listing and the importance listing from the previous table. The rank from the previous table has been inserted in the left column. The skill that students demonstrate the highest level of proficiency is also the most important in establishing their careers. Yet, when you examine the package of nine skills considered the most important, only three appear in the top nine based on mean level of preparedness or proficiency: integrity, teamwork, and building professional relationships. Of concern should be that skills 2 through 6 in importance to starting one’s career are clustered near the bottom in preparedness.

This comparison suggests that there is a misalignment between what students are best prepared to do when they graduate and what they need to do well if they want to succeed in their first job or possibly even generate traction to enter the
## Employer Feedback on Talent Needs and Preparation

### Essential Work Attitudes & Behaviors

Employer representatives and management constantly question the work behaviors and attitudes of young workers with the media seeding their coverage with anecdotal stories of the attitudinal deficiencies of young adults at work. National employer surveys, such as MSU’s Recruiting Trends, documents similar themes. Most national

<table>
<thead>
<tr>
<th>RANK in IMPORTANCE</th>
<th>Skill or Competency Set</th>
<th>MEAN Proficiency</th>
<th>Percent Moderately proficient</th>
<th>Percent Very to Extremely Proficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Able to perform with integrity</td>
<td>3.99</td>
<td>18</td>
<td>77</td>
</tr>
<tr>
<td>11</td>
<td>Able to acquire knowledge</td>
<td>3.86</td>
<td>24</td>
<td>72</td>
</tr>
<tr>
<td>16</td>
<td>Able to develop further professional competencies</td>
<td>3.82</td>
<td>26</td>
<td>70</td>
</tr>
<tr>
<td>7</td>
<td>Able to contribute to a team</td>
<td>3.79</td>
<td>29</td>
<td>64</td>
</tr>
<tr>
<td>9</td>
<td>Able to build and sustain working professional relationships</td>
<td>3.75</td>
<td>27</td>
<td>67</td>
</tr>
<tr>
<td>18</td>
<td>Able to engage in continuous learning (lifelong)</td>
<td>3.74</td>
<td>30</td>
<td>63</td>
</tr>
<tr>
<td>10</td>
<td>Able to embrace change</td>
<td>3.72</td>
<td>30</td>
<td>63</td>
</tr>
<tr>
<td>19</td>
<td>Able to balance work and life</td>
<td>3.62</td>
<td>35</td>
<td>56</td>
</tr>
<tr>
<td>17</td>
<td>Able to work in a diverse environment</td>
<td>3.61</td>
<td>40</td>
<td>54</td>
</tr>
<tr>
<td>12</td>
<td>Able to manage and synthesize different sources of information</td>
<td>3.57</td>
<td>33</td>
<td>57</td>
</tr>
<tr>
<td>8</td>
<td>Able to effectively communicate orally</td>
<td>3.56</td>
<td>34</td>
<td>55</td>
</tr>
<tr>
<td>6</td>
<td>Able to analyze, evaluate and interpret information</td>
<td>3.49</td>
<td>41</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>Able to solve problems</td>
<td>3.46</td>
<td>38</td>
<td>49</td>
</tr>
<tr>
<td>14</td>
<td>Able to create original ideas and solutions (innovative)</td>
<td>3.45</td>
<td>40</td>
<td>48</td>
</tr>
<tr>
<td>22</td>
<td>Able to navigate boundaries</td>
<td>3.41</td>
<td>39</td>
<td>46</td>
</tr>
<tr>
<td>5</td>
<td>Able to think critically</td>
<td>3.39</td>
<td>34</td>
<td>48</td>
</tr>
<tr>
<td>15</td>
<td>Able to plan and manage a project</td>
<td>3.36</td>
<td>38</td>
<td>45</td>
</tr>
<tr>
<td>3</td>
<td>Able to manage time and priorities</td>
<td>3.34</td>
<td>39</td>
<td>43</td>
</tr>
<tr>
<td>4</td>
<td>Able to take the initiative</td>
<td>3.34</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>13</td>
<td>Able to effectively communicate through writing</td>
<td>3.33</td>
<td>39</td>
<td>44</td>
</tr>
<tr>
<td>21</td>
<td>Able to understand impact of organization’s practices in a global setting</td>
<td>3.30</td>
<td>38</td>
<td>43</td>
</tr>
<tr>
<td>20</td>
<td>Able to use persuasion and justification in order to provide direction</td>
<td>3.19</td>
<td>44</td>
<td>36</td>
</tr>
</tbody>
</table>
Employer Feedback on Talent Needs and Preparation

Studies have used rating scales to measure employer satisfaction or dissatisfaction (or some variation on the anchors) with young adults. To address some of the problems identified in the previous section, best-worst scaling approach, using MAXDIF software, was also employed for this question.

In setting up this section of the survey, several specific assumptions were made. First, we framed the context for the comparison exercise by asking respondents to consider what attitudes and behaviors young professionals need to display so that they can integrate quickly and be successful in their organizations. Again, we are looking at the initial entry period into the organization. Second, the attitudes and behaviors were stated positively; demonstrates a strong work ethic, for example. The more common approach is to view behaviors negatively, such as a high sense of entitlement, does not take responsibility for own actions, or fails to complete work on time.

Eighteen attitudes and behaviors were compiled from the literature and management media sources. After 21,000 iterations the MAXDIF program identified 18 sets where each item was equally presented with each of the other items. The final fit statistic (Root Likelihood) was .491. These attitudes and behaviors were shown in groups of four, as was the procedure in the skills and competencies presentation. Respondents were asked to indicate which item in the set was the most desirable and the item that was least desirable for new hires to demonstrate in order to integrate quickly and find success in the respondents’ organizations.

This exercise produced more separation between the most desirable work attitudes and behaviors and the items ranked below them. Two attitudes were clearly dominate:

- Takes responsibility and is accountable for work and behavior
- Demonstrates a strong work ethic.

The separation at the next layer of behaviors is listed here:

- Maturity (displaying sound judgment and controls emotions): 1.5 times lower than top two
- Self-directed, humility, adaptable, punctual, sound reasoning, and professional demeanor: 2 times lower than top two
- Manage complexity, creativity, and attitude: 3 times lower than top two
- Risk-taking, curiosity, self-awareness healthy expectations, and self-control; 4 to 6 times lower than top two

Employers want their employees to demonstrate all these attitudes and behaviors in a positive way. Work ethic has always been the most discussed behavior of young adults in the US workplace. Thus, employers always complain about it. New hires can distinguish themselves by demonstrating a strong work ethic. Just because an attitude is rated lower in this comparison does not mean its absence (the negative side) will be tolerated. Some of these behaviors, such as risk-taking, depend on the work environment. Risk-taking differs in a health setting as compared to finance.
### Employer Feedback on Talent Needs and Preparation

<table>
<thead>
<tr>
<th>Rank</th>
<th>Work Attitude or Behavior</th>
<th>Mean</th>
<th>95% Lower (CI)</th>
<th>95% Upper (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Takes responsibility and is accountable for work and behavior (accountable)</td>
<td>12.29</td>
<td>11.81</td>
<td>12.78</td>
</tr>
<tr>
<td>2</td>
<td>Demonstrates a strong work ethic (work ethic)</td>
<td>12.04</td>
<td>11.60</td>
<td>12.48</td>
</tr>
<tr>
<td>3</td>
<td>Displays sound judgment and controls feelings/emotions in work situations (maturity)</td>
<td>8.01</td>
<td>7.51</td>
<td>8.51</td>
</tr>
<tr>
<td>4</td>
<td>Works with limited direction (self-directed)</td>
<td>6.87</td>
<td>6.29</td>
<td>7.46</td>
</tr>
<tr>
<td>5</td>
<td>Cooperates with co-workers in a respectful, sincere manner (humility)</td>
<td>6.80</td>
<td>6.27</td>
<td>7.32</td>
</tr>
<tr>
<td>6</td>
<td>Conveys passion for work and career (passion)</td>
<td>6.40</td>
<td>5.70</td>
<td>7.10</td>
</tr>
<tr>
<td>7</td>
<td>Functions effectively in an ever changing environment (adaptable)</td>
<td>6.06</td>
<td>5.45</td>
<td>6.67</td>
</tr>
<tr>
<td>8</td>
<td>Completes assignments and other commitments punctually (punctual)</td>
<td>6.02</td>
<td>5.36</td>
<td>6.66</td>
</tr>
<tr>
<td>9</td>
<td>Approaches challenges using a systematic approach (sound reasoning)</td>
<td>5.83</td>
<td>5.24</td>
<td>6.41</td>
</tr>
<tr>
<td>10</td>
<td>Presents oneself professionally through appropriate language and appearance (professional demeanor)</td>
<td>5.78</td>
<td>5.12</td>
<td>6.44</td>
</tr>
<tr>
<td>11</td>
<td>Demonstrates ability to function in a complex environment (manage complexity)</td>
<td>4.71</td>
<td>4.11</td>
<td>5.31</td>
</tr>
<tr>
<td>12</td>
<td>Envisions creative ways to approach work and advance organization (creativity)</td>
<td>4.26</td>
<td>3.62</td>
<td>4.91</td>
</tr>
<tr>
<td>13</td>
<td>Expresses a low sense of entitlement (attitude)</td>
<td>4.10</td>
<td>3.55</td>
<td>4.66</td>
</tr>
<tr>
<td>14</td>
<td>Embraces challenges (for level of experience) that involves risk (risk-taking)</td>
<td>2.92</td>
<td>2.36</td>
<td>3.48</td>
</tr>
<tr>
<td>15</td>
<td>Demonstrates interest which leads to inquiry (curiosity)</td>
<td>2.58</td>
<td>2.10</td>
<td>3.06</td>
</tr>
<tr>
<td>16</td>
<td>Accurately aware of one’s skills and competencies (self-awareness)</td>
<td>2.18</td>
<td>1.92</td>
<td>2.45</td>
</tr>
<tr>
<td>17</td>
<td>Holds realistic expectations for the workplace (healthy expectations)</td>
<td>1.99</td>
<td>1.63</td>
<td>2.368</td>
</tr>
<tr>
<td>18</td>
<td>Minimizes disruptions from social media sources (self-control)</td>
<td>1.14</td>
<td>0.94</td>
<td>1.37</td>
</tr>
</tbody>
</table>

A similar mean comparison by organizational size, sector and type of organization was made for attitudes and behaviors. No noticeable differences were found and the order of importance stayed in tack with only minor shifts.
Relevant Pre-Professional Experiences

To gain proficiency in expected skills and competencies and to develop a professional appreciation for the workplace, students have the option to engage in professionally based work experiences during their undergraduate program. Several questions were directed to respondents about the importance of pre-professional experiences to their organization.

To what extent do Treasure Valley organizations expect college applicants for entry-level positions to have prior professional or work experience? About one-third of respondents indicated that there was a high expectation or it was a requirement that college applicants have professional experience. Nearly 60% indicated that their organizations held some to a moderate expectation that applicants would come with experience.

Expectation for Prior Professional Experience

- Required, 8%
- No Expectation, 8%
- High Expectation, 25%
- Some Expectation, 32%
- Moderate Expectation, 27%
• Smaller organizations with fewer than 100 employees are more likely to hold high expectations or require pre-professional training than larger organizations (35% to 40%).

• Organizations with 100 to 1000 employees were more likely to have no expectations (16%) that graduates will have prior experience.

• Financial Services and the group comprised of Agriculture, Construction, Manufacturing, Transportation, and Utilities organizations reported the highest level of requiring or highly expecting work experience at 45%.

• The group comprised of Agriculture, Construction, Manufacturing, Transportation and Utilities organizations also reported the highest percentage of organizations with no expectations for prior experience (16%).

Respondents were asked the types of professional experiences that their organization made available to college students. The majority (57%) provided internship opportunities while 13% provided no opportunities at all.

<table>
<thead>
<tr>
<th>Type of Experience Offered</th>
<th>All Respondents (%)</th>
<th>9 or fewer employees (%)</th>
<th>10-99 employees (%)</th>
<th>100 to 1000 employees (%)</th>
<th>1001 more employees (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do Not Offer</td>
<td>13</td>
<td>27</td>
<td>12</td>
<td>26</td>
<td>13</td>
</tr>
<tr>
<td>Clinical &amp; Health Practicum</td>
<td>8</td>
<td>6</td>
<td>15</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>Internships</td>
<td>57</td>
<td>67</td>
<td>76</td>
<td>48</td>
<td>71</td>
</tr>
<tr>
<td>Apprenticeships</td>
<td>7</td>
<td>8</td>
<td>13</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Professional Practice such as student teaching</td>
<td>15</td>
<td>20</td>
<td>18</td>
<td>19</td>
<td>14</td>
</tr>
</tbody>
</table>

From the above table two size categories reported the highest levels for not offering college students experience: very small organizations and the 100 to 1000 employees. Internships clearly are the primary vehicle for providing the pre-professional experience that most employers, regardless of size, prefer.
The professional services sector provides a variety of different experiences, including clinical rotations and student teaching opportunities. In all sectors the internship is clearly most preferred form of professional practice. Interestingly, in the Financial Services sector, organizations either offer students internships or nothing at all.

These employers were asked how relevant these pre-professional experiences needed to be to (1) the job the applicant is seeking and (2) the industry in which the position is offered. On a scale where 0 = not at all relevant to 100 = completely relevant, respondents indicated that the prior work experience had to be 66% relevant to the job (average). Fifty percent of the respondents indicated that it had to be 70% or more relevant to the position being applied for.
Employer Feedback on Talent Needs and Preparation

Employers backed off slightly in mandating that the work experience be industry specific. Half (50%) want the experience to be 60% or more relevant to the industry.

- No difference by the size of the organizations was found with regards to either question.

- Professional services which included health and education were more likely to want the prior experience to be highly related to the position that the candidate is applying for.

- Financial services were less likely to want the experience to be industry specific.

Partnership with Colleges & Universities: Growth of Talent

In working with the four year colleges and universities in Idaho, employers have certain goals or expectations that they would like to see attained through these relationships. We asked respondents to rate the importance of twelve goals to sustaining relationships with state colleges and universities. The scale ranged from 1 = not at all important to 5 = very important.

Employers are clear on their relationship goals with higher education institutions: their main focus is on the growth and development of talent. The following chart lists the goals from most important to least important:

**Gain access to diverse talent**

**Gain early access to new talent**

**Support continuing education needs of employees**

**Expand executive education opportunities**

Extend employer brand (leverage current and future talent needs)

Gain access to experienced hire talent through alumni network

Gain access to faculty expertise

Support research and innovation initiatives/interests

Extend customer brand (leverage brand loyalty)

Fulfill corporate social responsibility initiatives

Develop contacts with student organizations

Reduce processing time for recruiting
To place this ranked list in a broader context, we compared this ranking to two recent studies that asked a similar question. About 16 months ago the Twin Cities of Minneapolis and St. Paul released an economic analysis on the future economic direction of their MSA. The task force posed to regional employers their expectations from regional colleges and research universities. They clearly stated that having access to well-prepared new talent was their highest expectation. Research and innovation actually came out at the low end of their list. In a recently completed national study of corporations with partnership programs MSU’s Collegiate Employment Research Institute found that employers were focusing on identifying talent as early as possible. In both groups employers of all sizes wanted to extend their employment brand further among students.

The response from Boise employers differed in several key ways:

- The ratings on access to diverse and new talent were .5 to .75 points higher on the same measure than in the CERI study. These two goals are very important to Boise employers.

- Continuing education and executive training were both rated much higher in importance than in the other studies.

- Access to faculty while not a top goal was more important to Treasure Valley employers compared to the other studies.

- Despite the desire to gain access to talent, Boise employers rated developing contacts with student organizations low. This position is different from the CERI corporate partnership study where gaining access to student organizations was the fourth most important goal.

When comparisons were made between size categories and economic sector several differences were found.

- Organizations with 10 to 99 employees rated access to new and diverse talent much higher than all other categories (4.4 on a 5 point scale).

- Organizations with 10 to 1000 employees rated extending their employment brand to students higher than larger companies.

- Organizations with fewer than 100 employees were more likely to want to seek out faculty expertise.

- All economic sectors desired to have access to new and diverse talent though Financial Services and Technical and Scientific Services rated these goals slightly higher.

- Financial Services and Technical and Scientific Services both wanted to extend their employer brand to students.

- Financial Services also rated extending their consumer brand among students as important.

- All sectors, led by Government, rated continuing education as important. Financial Services rating was slightly less than the other groups.
Employer Feedback on Talent Needs and Preparation

Report Highlights

While 46% of respondents stated that Idaho’s higher education institutions were largely or completely meeting their workforce needs, there is still a large percentage that indicate a lack of a qualified workforce as an issue in maintaining or growing their business. Overall 50% of the new hires were reported to have graduated from Idaho universities.

Organizations reporting the most difficulty in hiring talent from Idaho universities and therefore augmenting with out-of-state talent were:

- Small employers
- Technical and Scientific Services including engineering, computer science, physical and biological sciences, and math

Organizations reporting the least difficulty in hiring talent locally or from Idaho universities include:

- Larger organizations
- Education
- Financial and Professional Service Organizations
- Government

Respondents were asked to identify (through a paired comparison approach) skills and competencies that were most critical for initial success. The most important skills, as identified by employers were as follows:

- 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 working professional relationships

In addition to identifying skills and competencies most critical for initial success, employers were asked to rate the level of preparedness of these skills. Out of the top skills that employers listed as critical for success, only three of these skills- Able to perform with integrity, Able to contribute to a team, and Able to build and sustain working professional relationships- made it into their top skills from a preparedness standpoint. The skills that employers felt college graduates were most prepared in include:

- Able to perform with Integrity
- Able to acquire knowledge
- Able to develop further professional competencies
- Able to contribute to a team
- Able to build and sustain working professional relationships
- Able to engage in continuous learning
- Able to embrace change
- Able to balance work and life
- Able to work in a diverse environment

This comparison suggests that there is a misalignment between what students are best prepared to do when they graduate and what they need to do well if they want to succeed in their first job.
Employers identified two work attitudes and behaviors that were clearly dominate as a means of quickly integrating and being successful in an organization:

- Takes responsibility and is accountable for work and behavior
- Demonstrates a strong work ethic
- Maturity
- Self-directed
- Humility
- Adaptable
- Punctual
- Sound reasoning
- Professional demeanor

Ninety-two percent of employers in the Treasure Valley have an expectation that new college graduates will have some level of prior professional experience with 32% having a high expectation or making it a requirement and 32% having some expectation of prior professional experience. Smaller organizations were more likely to hold high or required expectations of prior professional experience, as were employers in financial services, agriculture, construction, manufacturing, transportation, and utilities. The internship experience stands out as the most preferred professional experience in all sectors. Fifty-seven percent of employers provide internship opportunities to college students while 13% provide no form of professional experience at all.

Employers in all sectors clearly stated that the prior professional experience had to be related to the job that an applicant was applying for. Only 50% of the employers expected the experience to be relevant to the industry.

Employers are clear on their relationship goals with higher education. Their main focus is on developing talent: 1) Gaining access to diverse talent; 2) Gaining early access to new talent; 3) Supporting continuing education needs of employees; and 4) Expanding executive education opportunities.
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
Employer Feedback on Talent Needs and Preparation

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. Small employers are a key player in providing jobs to new graduates and having troubles connecting with them compounds the issues associated with maintaining a quality workforce.

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
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.
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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.
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
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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 insure 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.
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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