Overview – A Changing Landscape

Outdated perceptions

“College is the only path to success”
Skilled trades and CTE are inferior

More jobs at lower wages
Looming threat of automation

A changing labor market

Displaced workers
A glut of college grads
Substantial underemployment$^1$ and stagnating wages$^2$ for those with a four-year degree
Some disappointment and disillusion$^3$
A dramatic shortage of employees in the skilled trades

The Rise of the Skilled Trades

Of the **20** jobs with the highest projected total job openings over the next decade, only **3** require a college degree.

1-2-7: WHAT DOES IT MEAN?
The Theory of 1-2-7

For every 10 career pathways today;
1 – Requires an Advanced Degree
2 – Require a Bachelor’s Degree
7 – Require a Competency Based Credential

Average time to earn a BS degree is 5.2 years
Average time to earn a CBC is 1.4 years
Average cost of a BA is 75% higher than the average cost to earn a CBC
Average life time earnings of a BA degree holder is no higher than the average life time earnings of a CBC holder.
## Most Difficult Jobs to Fill - 2015

<table>
<thead>
<tr>
<th>Rank</th>
<th>Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Skilled Trades</td>
</tr>
<tr>
<td>2</td>
<td>Drivers</td>
</tr>
<tr>
<td>3</td>
<td>Teachers</td>
</tr>
<tr>
<td>4</td>
<td>Sales Representatives</td>
</tr>
<tr>
<td>5</td>
<td>Secretaries, Office Support Staff etc.</td>
</tr>
<tr>
<td>6</td>
<td>Management/Executives</td>
</tr>
<tr>
<td>7</td>
<td>Nurses</td>
</tr>
<tr>
<td>8</td>
<td>Technicians</td>
</tr>
<tr>
<td>9</td>
<td>Accounting &amp; Finance Staff</td>
</tr>
<tr>
<td>10</td>
<td>Engineers</td>
</tr>
</tbody>
</table>

*Source: 2015 Talent Shortage Survey, Manpower Group. [Click here for the report](http://www.manpowergroup.com/wps/wcm/connect/408f7067-ba9c-4c98-b0ec-dca74403a802/2015_Talent_Shortage_Survey-lo_res.pdf?MOD=AJPERES&ContentCache=NONE)*
Greater Complexity, More Customization

Continued “upskilling”

Growing product complexity and customization
- More precise, technical work to build, service and repair
- Greater need for post-secondary education
- Higher wages

Examples
- Auto technicians
- CNC machinists
- Electricians

Source: Jordan Weissmann, Here’s How Little Math Americans Actually Use at Work, theatlantic.com, April 24, 2013.
Shifting Perceptions – The New Smart

Career-focused education
Competency-based credentials
UTI vs. College

Students who attend quality technical education programs, like UTI’s, can earn more, on average, than students of four-year liberals arts colleges, 10 years after entering school.

<table>
<thead>
<tr>
<th>Institution type</th>
<th>Median annual earnings, 10 years after starting school</th>
<th>Graduation rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctoral universities</td>
<td>$48,490</td>
<td>62%</td>
</tr>
<tr>
<td>UTI of Arizona</td>
<td>$43,500(^4)</td>
<td>63%(^5)</td>
</tr>
<tr>
<td>Liberal arts colleges</td>
<td>$42,642</td>
<td>66%</td>
</tr>
<tr>
<td>Two-year public colleges</td>
<td>$29,412</td>
<td>22%</td>
</tr>
</tbody>
</table>

\(^1\) Based on revised Carnegie classifications (15-17 for doctoral universities; 21 for liberal arts colleges; 1-9 for associate’s colleges). A “public” control filter was used on associate's colleges to obtain a proxy for community colleges. \(^2\) [https://collegescorecard.ed.gov](https://collegescorecard.ed.gov) Calculated by determining the median earnings of former students, who received federal financial aid, at 10 years after entering the school, regardless of whether they graduated from the school. Earnings are defined in the College Scorecard as the sum of wages and deferred compensation from all W-2 forms received for each individual, plus self-employment earnings.

\(^3\) [https://collegescorecard.ed.gov/](https://collegescorecard.ed.gov/) Rates represent College Scorecard’s methodology for first-time, full-time students graduating within 150% of program length. \(^4\) College Scorecard does not show earnings for the UTI Arizona campus alone. Instead, the number shown is for the four campuses that were operating in 2001-2003 (Arizona, Rancho Cucamonga, NASCAR Technical Institute and Glendale Heights) that are included in the Office of Postsecondary Education Identifier (OPEID) assigned to UTI of Arizona. The OPEID number is assigned by the U.S. Department of Education to identify schools that have program participation agreements (PPAs) so its students are eligible to participate in federal student financial assistance programs under Title IV regulations. \(^5\) [https://collegescorecard.ed.gov/](https://collegescorecard.ed.gov/) 63.1% rate represents the College Scorecard methodology for UTI’s Arizona campus. The most recent graduation rate for UTI Avondale reported on the Integrated Postsecondary Education Data System (IPEDS) for students who began in 2012-13 is 59% (first-time, full-time graduation rate within 150% of program length). The most recent national consolidated graduation rate reported in 2015 using our accreditor’s (ACCSC) standards across all 12 UTI campuses was approximately 63% (all graduates within 150% of program length). The graduation rate for two-year public colleges excludes students who transfer and graduate from a four-year college.
UTI vs. Most Selective Liberal Arts Colleges

<table>
<thead>
<tr>
<th>College</th>
<th>10-Year Median Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington and Lee University</td>
<td>$72,900</td>
</tr>
<tr>
<td>Harvey Mudd College</td>
<td>$67,200</td>
</tr>
<tr>
<td>Claremont McKenna College</td>
<td>$66,400</td>
</tr>
<tr>
<td>Wellesley College</td>
<td>$56,500</td>
</tr>
<tr>
<td>Amherst College</td>
<td>$56,300</td>
</tr>
<tr>
<td>Williams College</td>
<td>$54,200</td>
</tr>
<tr>
<td>Carleton College</td>
<td>$49,500</td>
</tr>
<tr>
<td>Vassar College</td>
<td>$49,300</td>
</tr>
<tr>
<td>Skidmore College</td>
<td>$43,000</td>
</tr>
<tr>
<td>Oberlin College</td>
<td>$40,300</td>
</tr>
<tr>
<td>Reed College</td>
<td>$35,200</td>
</tr>
</tbody>
</table>

Source: College Scorecard, [https://collegescorecard.ed.gov/](https://collegescorecard.ed.gov/). Calculated by determining the median earnings of former students, who received federal financial aid, at 10 years after entering the school, regardless of whether they graduated from the school. Earnings are defined in the College Scorecard as the sum of wages and deferred compensation from all W-2 forms received for each individual, plus self-employment earnings. College Scorecard does not show earnings for the UTI Arizona campus alone. Instead, the number shown is for the four campuses that were operating in 2001-2003 (Arizona, Rancho Cucamonga, NASCAR Technical Institute and Glendale Heights) that are included in the Office of Postsecondary Education Identifier (OPEID) assigned to UTI of Arizona. The OPEID number is assigned by the U.S. Department of Education to identify schools that have program participation agreements (PPAs) so its students are eligible to participate in federal student financial assistance programs under Title IV regulations. This subset of most selective (as identified by top 50 highest SAT scores) liberal arts colleges was selected for comparison purposes only.
What’s driving these trends?
The Labor Market – Fundamental Change

- Escalating competition
  - Globalization
  - The influence of private equity
  - Smart technology driving new business models

- Increasing cost pressures
  - Offshoring
  - Automation
  - Efficiency

- Changes in the job market
  - 5.8 million manufacturing jobs lost from 2000 to 2009
  - Replaced by service jobs, which now make up 80 percent of the workforce
  - Upskilling due to technology

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College Grads – Growing Competition for Fewer Jobs

Nearly 50% of College Grads are Underemployed

Supply of College Grads Exceeds Demand

College Degrees
1950-2010

People 25 years or older
Source: Richard Vedder, Christopher Denhart, and Jonathan Robe, January 2013

Where four-year college grads work
Nearly 50% of all college grads are underemployed

Careers that put their college degree to work
37%

Jobs that require a high school degree or less
51.9%

Jobs that require training after high school, but not a college degree
11.1%

Source: U.S. Total expected job openings due to growth and replacements, 2014-2024.

Sources: U.S. Bureau of Labor Statistics; Richard Vedder, Christopher Denhart, and Jonathan Robe, Why are Recent College Graduates Underemployed, January 2013; David H. Autor, David Dorn, Gordon H. Hanson, Untangling Trade and Technology: Evidence from Local Labor Markets, September 2014; Source: Anthony P. Carnevale, Andrew R. Hanson, Artem Gulish, Failure to Launch. Structural Shift and the New Lost Generation, Georgetown University, September 2013
Personal Income Flattened in 2000

What the future holds
The Growing Threat of Automation

The Age of Automation

Which jobs are safer?

- Low risk of automation, but also low wages. e.g. landscapers
- High risk of automation, low wages. e.g. file clerks
- Higher wages, with a low to medium risk of automation. e.g. auto technicians
- CEOs, high-level managers

Low Wages  Medium Wages  High Wages

“We predict that the middle-skill jobs that survive will combine routine technical tasks with abstract and manual tasks in which workers have a comparative advantage — interpersonal interaction, adaptability and problem-solving. Along with medical paraprofessionals, this category includes numerous jobs for people in the skilled trades and repair: plumbers; builders; electricians;…; automotive technicians; customer-service representatives....”

-- David H. Autor and David Dorn, How Technology Wrecks the Middle Class, The New York Times
What should parents do?
Career-Ready vs. College Ready

Creating career-ready students: A new success model.

1 Nearly 50 percent of college grads are underemployed

Get a college degree

Get into a good college

Get a good education

THEN Get Into a Good College

NOW Get Into a Good Career

Jobs and wages are growing in the skilled trades

Gain the skills employers need

Get occupation exposure; further education path

Which occupations are a good fit?

1 Richard Vedder, Christopher Denhart, and Jonathan Robe, Why are Recent College Graduates Underemployed, January 2013.
Summary

→ Skilled trade jobs are among the most difficult to fill

→ Career-focused education and competency-based credentials are becoming increasingly valuable
  → American businesses calling for job-focused, industry-driven education
  → UTI’s 10-year median earnings compare favorably with top-ranked liberal arts colleges and doctoral universities

→ The labor market has undergone fundamental change and will become more difficult
  → Increased global competition and automation mean more wage polarization (more high wage and more low wage jobs, but fewer middle jobs)
  → Many college graduates are underemployed
  → Middle-skill jobs combining routine technical tasks with interpersonal interaction, adaptability, and problem-solving are more resistant to job automation

→ We must help parents and students consider career readiness as a viable occupational strategy rather than only focus on college readiness.
THANK YOU

Questions/Feedback/Requests for presentations:

e-mail: prepare4success@uti.edu

Download whitepaper: uti.edu/scorecard
Classifications based on Carnegie classifications 15-17 for research universities; 21 for liberal arts colleges; 1-8 for public Associates degrees/community colleges.

10 year median earnings are calculated by determining the median earnings of former students, who received federal financial aid, at 10 years after entering the school, regardless of whether they graduated from the school. Earnings are defined in the College Scorecard as the sum of wages and deferred compensation from all W-2 forms received for each individual, plus self-employment earnings.

The graduation rate after six years for schools that award predominantly four-year degrees and after four years for all other schools. These rates are only for full-time students enrolled for the first time.

The College Scorecard does not show earnings for the UTI Avondale campus alone. Instead, the number shown is for the five UTI campuses, including Arizona, which are part of the same UTI OPEID grouping.

Source: College Scorecard.ed.gov. 68.6% graduation rate represents College Scorecard’s methodology (first-time, full-time graduation rate within 200% of program length) for the UTI Avondale campus. The most recent graduation rate for UTI Avondale reported on the Integrated Postsecondary Education Data System (IPEDS) for students who began in 2011-12 is 61% (first-time, full-time graduation rate within 150% of expected time of completion). The most recent national consolidated graduation rate reported in 2015 using our accreditor’s (ACCSC) standards across all 12 UTI campuses was approximately 63% (all graduates within 150% of program length).


(for only 25% of future jobs will require a B.A. or higher graphic): Source: BLS. Total expected job openings (due to growth and replacements) 2014-2024. http://www.bls.gov/emp/ep_table_104.htm. The BLS assigns a ‘typical education needed for