Top U.S. Supply Chain Undergraduate University Programs, 2014

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Forty institutions participated in the third edition of our report on U.S. university undergraduate supply chain programs. Here we identify program strengths and gaps as well as overall progress made in the past three years.

Key Findings

- University supply chain programs’ relevance to modern supply chain organizations has improved markedly through a combination of applied course work and more frequent and applied work experience.
- A combination of program scope, internship and co-op participation, and perceived value by industry differentiates a school’s position relative to other programs.
- Supply chain undergraduate placement rates are between 85% to 100% and, in many cases, graduates are accepting higher starting salaries than finance and accounting majors.

Recommendations

- Work with a select set of university partners to build programs that start with internships and naturally develop into entry-level onramps to secure strong talent that’s also a good fit for your supply chain organization.
- Target recruiting activities for the fall semester, rather than spring, or risk the near 100% placement rates shutting you out of that year’s candidate pool.
- Prepare to pay a premium for top talent. The average starting salary for undergraduates is $53,584, and top students are commanding premiums $25,000 or more beyond this.

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Analysis

Intended to support chief supply chain officers (CSCOs), heads of supply chain strategy and supply chain HR partners in building a strong portfolio of university recruiting and internship partners, Gartner’s supply chain university research is back for its third iteration. U.S. undergraduate supply chain programs have made impressive progress since we formally began this research in 2008, efforts which have helped grow and improve the supply of supply chain talent. We see four impressive areas of growth, three of which should be welcome news to industry:

■ The broadening of supply chain curricula to reflect the reality of today’s supply chain organizations.
■ The exposure of more students to internships and co-ops, and more applied project work — often for sponsoring companies — in the classroom.
■ Dramatic increases in enrollment across the board, and new supply chain degree programs being established.

The fourth area of growth, while perhaps not so welcome for the hiring companies, is great news for supply chain professionals as a community: salaries are up roughly 10% over 2011. Top students from top programs can command a 50% premium over the average and, in many programs, new supply chain graduates handily outearn finance and accounting majors.
In the university community, competition between programs is intense, but friendly. With so much growth in programs, and industry sponsors lining up to invest in universities’ supply chain centers, the sense is that supply chain has finally “arrived” as a profession.

Some details on the broad set of university participants and the undergraduate programs, specifically:

- Forty-four universities responded to Gartner's broad supply chain university program RFI.
- Forty schools submitted information on undergraduate supply chain programs, 35 for graduate programs.
- Thirty-one programs are returning participants to the undergraduate project; nine are newcomers. That is, they had existing supply chain programs, but have not previously participated.

Highlights

- Michigan State University and Pennsylvania State University have tied for the No. 1 position. This is the first time there has been a tie for the No. 1 slot.
- Newcomers to the list were Brigham Young University, the University of Houston, Northeastern University, Miami University of Ohio and North Carolina State.
- The most highly ranked new entrant in the undergraduate field was Brigham Young University (No. 6).
- The biggest upward movers in the ranking since our previous report were Tennessee (eight places), Western Michigan (seven places), and South Carolina (six places).
- Many programs have made significant strides in program scope: although average program scope is up only slightly, from 5.7 to 5.8 on a ten-point scale, the median score jumped from 6 to 7, the equivalent of adding 1.2 stations to each school’s curriculum.
- Thirty-one of 40 undergraduate programs offer formal training in supply chain applications and tools; 29 teach supply chain analytics in some form, showing that programs have heard the industry’s demands for these skills loud and clear.
- The average starting salary for undergraduates is $53,584. Top students are commanding premiums $25,000 or more beyond this.

2014 Undergraduate Program Rankings

The top U.S. undergraduate supply chain programs balance broad curricula, real-world experience and strong industry reputations to rise to the top. Penn State again claimed the No. 1 position, but this time tied with another supply chain giant, Michigan State, for top honors. The biggest upstarts this year were Western Michigan, Brigham Young University and the University of North Texas, all of which shot into the top 10 (see Table 1), based on potent combinations of innovative curricula and
required internship participation. Schools that are fairly large and well-established, but have more traditional, logistics-and-transportation-focused curricula, appear in the second half of the list.

Table 1. 2014 Undergraduate Supply Chain Program Ranking

<table>
<thead>
<tr>
<th>Rank</th>
<th>University Name</th>
<th>Rank</th>
<th>University Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Michigan State University</td>
<td>14</td>
<td>University of Houston</td>
</tr>
<tr>
<td>1</td>
<td>Penn State University</td>
<td>15</td>
<td>Northeastern University</td>
</tr>
<tr>
<td>3</td>
<td>University of Tennessee</td>
<td>16</td>
<td>Marquette University</td>
</tr>
<tr>
<td>4</td>
<td>University of Texas at Austin</td>
<td>17</td>
<td>The Ohio State University</td>
</tr>
<tr>
<td>5</td>
<td>Western Michigan University</td>
<td>18</td>
<td>Lehigh University</td>
</tr>
<tr>
<td>6</td>
<td>Brigham Young University</td>
<td>18</td>
<td>Syracuse University</td>
</tr>
<tr>
<td>6</td>
<td>University of North Texas</td>
<td>20</td>
<td>University of Oklahoma</td>
</tr>
<tr>
<td>8</td>
<td>Auburn University</td>
<td>21</td>
<td>Georgia Institute of Technology</td>
</tr>
<tr>
<td>9</td>
<td>Arizona State University</td>
<td>22</td>
<td>Miami University of Ohio</td>
</tr>
<tr>
<td>9</td>
<td>Rutgers University</td>
<td>22</td>
<td>Texas A&amp;M University</td>
</tr>
<tr>
<td>11</td>
<td>University of Wisconsin</td>
<td>24</td>
<td>North Carolina State University</td>
</tr>
<tr>
<td>12</td>
<td>University of South Carolina</td>
<td>25</td>
<td>Rider University</td>
</tr>
<tr>
<td>13</td>
<td>Texas Christian University</td>
<td>25</td>
<td>University of Kansas</td>
</tr>
</tbody>
</table>

Source: Gartner (August 2014)

Data for this research is gathered through surveys and interviews of industry and academia. The surveys are designed to identify industry sentiment and recruiting patterns, and to gather information on university program composition, including numbers of students and professors, as well as the scope of the curriculum. Three categories are evaluated, using the research methodology detailed in Figure 2, to determine comparative position in the study. For a detailed explanation, please see the Research Methodology section.

We explore program performance in greater detail in Figure 1. For program scope, where a diverse, balanced program based on Gartner’s Talent Attribute Model received the highest marks, the top performer was Northern Texas University, followed closely by Arizona State, Kansas, Marquette, Rutgers, Stanford and University of Texas.
### Figure 1. Top Undergraduate Programs in Program Scope, Industry Value and Program Size

<table>
<thead>
<tr>
<th>Program Scope Leaders</th>
<th>Industry Value Leaders</th>
<th>Program Size Leaders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Michigan University</td>
<td>Michigan State University</td>
<td>Michigan State University</td>
</tr>
<tr>
<td>Brigham Young University</td>
<td>Pennsylvania State University</td>
<td>Pennsylvania State University</td>
</tr>
<tr>
<td>Iowa State University</td>
<td>Georgia Institute of Technology</td>
<td>University of Houston</td>
</tr>
<tr>
<td>Rutgers University</td>
<td>The Ohio State University</td>
<td>Rutgers University</td>
</tr>
<tr>
<td>Auburn University</td>
<td>University of Wisconsin</td>
<td>University of Tennessee</td>
</tr>
<tr>
<td>Marquette University</td>
<td>Arizona State University</td>
<td>Arizona State University</td>
</tr>
<tr>
<td>Michigan State University</td>
<td>Northeastern University</td>
<td>The Ohio State University</td>
</tr>
<tr>
<td>Penn State University</td>
<td>University of South Carolina</td>
<td></td>
</tr>
<tr>
<td>Texas A&amp;M University</td>
<td>University of Tennessee</td>
<td></td>
</tr>
<tr>
<td>Texas Christian University</td>
<td>University of Texas at Austin</td>
<td></td>
</tr>
<tr>
<td>University of Central Oklahoma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Kansas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of North Texas</td>
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<tr>
<td>University of Oklahoma</td>
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<td></td>
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<tr>
<td>University of Tennessee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Texas at Austin</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Gartner (August 2014)

Michigan State, Penn State, Georgia Tech, Ohio State and the University of Wisconsin are all closely grouped at the top of the industry value category. Penn State scores highest among all universities for number of mentions by industry, which reflects its strong brand with the supply chain community at large.

Programs that scored highest for internships were Auburn, BYU, North Carolina State, Northeastern, North Texas, Rider University, Syracuse, University of Texas at Austin and Wisconsin, all of which require internships or co-op participation.

### The Research Methodology

Our methodology for this year’s program assessments is similar to the methodology followed in the 2010-2011 research. We sent RFIs to our numerous contacts in U.S. supply chain programs. We also followed up the RFIs with conversations with many of the schools, and conducted research on university websites and course catalogs to ensure that the RFIs were complete and accurate. Responses and clarifications were collected throughout the end of 2013.
The foundation for this ranking of supply chain programs was based on program-supplied RFI information, but additional input into the "industry value" component of the ranking comes from ongoing surveys of current supply chain and recruiting professionals. Supply chain leaders say that the quality and effectiveness of the recruiting pool are improved when students have real-world experience. Gartner, in turn, has responded by assessing each program’s use of internships. This is an indicator of a program’s focus on providing relevant learning experiences for the real world and the effectiveness of its industry partnerships (that is, the source of internships).

The evaluation criteria for the university programs appear in Figure 2. The final placement of university programs in our relative comparison is based on a composite score of three categories: program scope, industry value and program size.

The supply chain course score used for the "scope" ranking is based on the courses listed in RFI responses and on the evaluation of course catalogs against the supply chain Talent Attribute Model. A higher score indicates more complete coverage of the 12 supply chain stations.

**Figure 2. Three Evaluation Criteria for Undergraduate University Programs**

<table>
<thead>
<tr>
<th>Criteria Weighting</th>
<th>Source Key:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Undergraduate Program Scope</strong></td>
<td>How well curriculum aligns to Gartner Talent Attribute Model</td>
</tr>
<tr>
<td>Number of stations taught</td>
<td>Industry respondents to Gartner CSCO and Research Circle Surveys</td>
</tr>
<tr>
<td><strong>Undergraduate Industry Value</strong></td>
<td>University respondents to Gartner RFI</td>
</tr>
<tr>
<td>Recruit mentions</td>
<td></td>
</tr>
<tr>
<td>&quot;Best&quot; mentions</td>
<td></td>
</tr>
<tr>
<td>Undergraduate internships</td>
<td></td>
</tr>
<tr>
<td>Average starting salary</td>
<td></td>
</tr>
<tr>
<td><strong>Undergraduate Program Size</strong></td>
<td></td>
</tr>
<tr>
<td>Number of full-time professors</td>
<td></td>
</tr>
<tr>
<td>Number of full-time students</td>
<td></td>
</tr>
</tbody>
</table>

Source: Gartner (August 2014)
A Snapshot of Each Evaluation Criterion

Program Scope

We framed the scope of a supply chain with an updated, slightly expanded version of the Gartner Supply Chain Talent Attribute Model. We added two new stations, financial management and demand-driven value networks (DDVN). DDVN is a measure of focused cross-functional content in a program. Examples encountered in our research include courses focused on "Life Cycle Affordability" and "Supply Chain Performance Management." We collapsed two customer-facing functions into one station: customer management/service supply chain, bringing the new number of attributes to 12.

As we evaluated programs, we looked for curricula that aligned with the 12 stations of the model. Our research since the late 2000s indicates that industry places a premium on supply chain recruits that have a broad understanding of supply chain concepts and the cause-and-effect relationships between the disciplines, what we call Supply Chain Orchestration (see "Drive Your Talent Strategy Using Gartner's Supply Chain Talent Pillars").

We used an expanded Talent Attribute Model this year to assess completeness of university curricula (see Figure 3). The model was initially created in 2008 and used in our first and second university rankings (see "North American University Supply Chain Programs, Part 3: Ranking the Top Programs" from 2011) (Note: This document has been archived; some of its content may not reflect current conditions). We developed and tested it as a modern and comprehensive model, incorporating the expanding breadth of capabilities that are found in a modern, high-performing supply chain organization. The model is composed of 12 capabilities — one foundational, six functional, four enabling and one cross-functional — based on our DDVN framework. We refer to these 12 capabilities as "stations."
With the Talent Attribute Model as the capabilities framework for the ideal supply chain, we test university curricula for the completeness of their offerings against the 12 stations. Effectively, we are testing for curriculum alignment with the functional integration of a modern supply chain. It continues to be relevant, as our latest surveys continue to show the expansion of the supply chain organization (see "Survey Analysis: Chief Supply Chain Officers Conquer Organizational and Capability Challenges to Grow") as well as a desire by industry for recruits who can grasp big-picture, integrated supply chain concepts.
Industry Value

Once again this year, indicators of perceived industry value are the schools on which recruitment efforts focus, the programs viewed as the "best" and the average starting salaries for program graduates.

We also continue to include internships as a primary indicator of industry value. Our rationale is that industry sets up internships in partnership with institutions where the overall program and its students align well with a company’s needs. Beyond that, we view programs that require internships to be indicative of programs that are preparing students to solve real-world problems through real-world experience, which are two key and recurring gaps in our industry survey of university program strengths. This year’s assessment altered the methodology slightly to give credit on a sliding scale to programs that put some students through internships; programs with higher percentages of students going through internships get more points.

This combination of recruiting mentions, "best" mentions, average salary and internship exposure makes up a composite view of perceived industry value.

Program Size

The number of supply chain students and professors in the program provides quantification of a given university’s ability to sustain a pipeline of supply chain recruits for industry. Even though the need for quality and quantity of recruits for supply chain continues to be a theme as we talk to industry clients, we continue to give program size a 20% weighting. We considered only full-time professors engaged in classroom delivery of supply chain courses or research related to the supply chain program.

Complete List of Participating Undergraduate Programs

Arizona State University
Auburn University
Boise State University
Brigham Young University
Colorado State University
East Carolina University
Georgia Institute of Technology
Howard University
Indiana University
Iowa State University
Lehigh University
Marquette University
Miami University of Ohio
Michigan State University
North Carolina State University
Northeastern University
Penn State University
Rider University
Rutgers University
Syracuse University
Texas A&M University
Texas Christian University
The Ohio State University
University of Central Oklahoma
University of Arkansas
University of Houston
University of Kansas
University of Maryland
University of Missouri - St. Louis
University of North Florida
University of North Texas
University of Oklahoma
University of San Diego
University of South Carolina
University of Tennessee
University of Texas at Austin
University of Texas at Dallas
University of Wisconsin
Washington University
Western Michigan University

Gartner Recommended Reading

*Some documents may not be available as part of your current Gartner subscription.*

"Drive Your Talent Strategy Using Gartner’s Supply Chain Talent Pillars"

"Revise Supply Management Organizational Design and Talent Management to Meet Future Needs"

"Achieve Demand-Planning Functional Excellence by Establishing a Forward-Thinking Talent Strategy"

"Survey Analysis: Chief Supply Chain Officers Conquer Organizational and Capability Challenges to Grow"

Evidence

1 The fact base for this report was derived from primary research conducted by Gartner’s Quantitative Research Group as well as surveys conducted by the Gartner Supply Chain Research team.