2nd Supply Chain Management Directors Conference Hosted by Arizona State University and University of Texas, Dallas

Friday, October 12th

8:00 AM	Conference Registration, Breakfast & Networking
8:30 AM	 Welcome and Opening Remarks Robert Mittelstaedt, Dean, W.P. Carey School of Business, Arizona State University
8:45 AM	 Conference Overview and Agenda Review Michele Pfund, W.P. Carey School of Business, Arizona State University Shawn Alborz, Naveen Jindal School of Management, The University of Texas at Dallas Mohan Gopalakrishnan, W.P. Carey School of Business, Arizona State University
9:00 AM	Opening Keynote Presentation - Innovations in Supply Chain Rick Blasgen, CEO and President, Council of Supply Chain Management Professionals(CSCMP)
9:45 AM	Refreshment Break
10:00 AM	 Industry Panel Discussion: Recent Trends and Industry Needs Mani Janakiram, Intel Corporation, Moderator Jana Kennedy, Dell John Fowler, Network for Value Chain Excellence, Arizona State University
11:15 AM	Lunch
12:30 PM	 Welcoming New Students and Managing New Students' Expectations Kay Faris, Associate Dean-Undergraduate Programs, W. P. Carey School of Business, ASU
1:00 PM	 Innovative Methods to Grow Enrollment During Challenging Times Charles Sox, Culverhouse College of Commerce, University of Alabama, Moderator Rich Metters, Mays Business School, Texas A&M University Anthony D. Ross, Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee
2:00 PM	Refreshment Break
2:30 PM	 Innovative Methods in Curriculum Development, Online Programs & Assessment (AACSB) Gene Tyworth, Smeal College of Business, The Pennsylvania State University, Moderator Funda Sahin, University of Houston Sergio Chayet, Olin School of Business, Washington University at St. Louis Douglas Morrice, University of Texas at Austin
3:30 PM	Refreshment Break
3:45 PM	 Innovative Methods in Building & Managing a SC Center Bruce C. Arntzen, Supply Chain Management Program, MIT Center for Transportation & Logistics, Moderator Shoshanah Cohen, Global Supply Chain Management Forum, Stanford Graduate School of Business J. George Shanthikumar, Krannert School of Management, Purdue University Amelia Carr, Department of Management, Bowling Green State University
4:30	Adjourn for Social Activity (Tour of Chase Field and Dinner at the Ball Park)

Saturday, October 13th

8:00 AM Conference Networking, Coffee and Refreshments
 8:30 AM University and Industry Ranking

 Dana Stiffler, Managing Vice President, Gartner Supply Chain (formerly AMR Research)

 9:30 AM Innovative Methods in Building Marketable Certificate Programs

 Gary Gittings, Smeal College of Business, The Pennsylvania State University, Moderator
 Dawn Feldman – Center for Executive and Professional Development, Arizona State University

10:30 AM Refreshment Break

10:45 AM Innovative Methods in Building Industry Relationships & Program Marketing

- David Closs, Broad College of Business, Michigan State University, Moderator
- James Crowell, Walton College of Business, University of Arkansas
- Joel Sutherland, Supply Chain Management Institute, University of San Diego

11:45 AM Closure and Next Steps

2nd Supply Chain Management Directors Conference

Innovative Methods in Building Industry Relationships & Program Marketing

> Jim Crowell, University of Arkansas Joel Sutherland, University of San Diego

Moderator: David Closs, Michigan State University

University of San Diego?







SCM Programs

- Undergraduate Minor in SCM
 50 to 60 students enrolled
- MBA Concentration in SCM
 30 to 50 students enrolled
- Master of Science in SCM
 O to 100 students enrolled
 - 80 to 100 students enrolled

~200 students pursuing careers in SCM



Introducing SCMI



- Founded 13 years ago (1999) but...
 - 27th year organizing Supply Chain Management conferences and conducting annual Supply Chain Management Job Fair
- Committed to developing and disseminating logistics/SCM knowledge & best practices in 3 areas:
 - Collaborative Relationships: Work closely with industry to expose faculty and students to current issues through industrybased projects
 - World-Class Education: Support undergraduate, graduate, and executive education by providing relevant educational programs focused on the benefits of effective supply chain management
 - Applied Research: Identify and propose real-world strategies, processes, and systems to improve supply chain performance
- Advisory Board limited to 25 companies who provide financial support and guidance for our various programs

Advisory Board Charter

- Company membership (limited to 25)
- Senior-level company representative(s) assigned
- Provide linkage between industry/government and academia
- Be an advocate of SCMI in the global SCM community
- Resource to alumni, students, prospective students, and faculty
- Resource to understand current/future industry trends/needs
- Support for expanding reach and influence of USD SCM programs
- Assist in placing USD SCM students (undergrad, graduate and alumni) with leading organizations

Role of SCMI



Building Industry Relationships

Program Marketing

- Advisory Board (multi-levels)
- Provide meaningful value (ROI)
- Student projects & internships
- Guest lecturers; tours
- Curriculum review
- Applied research & projects
- Interaction & communication

- University, Programs, SCMI
- Global mailing list (20,000+)
- Events throughout year
- Alumni engagement
- Presentations, papers, articles
- Industry press and social media
- Rankings!

USD Business School Rankings







ANKED #14 Best Part-Time MBA Programs Social Responsibility

RANKED #40 Best Undergraduate Business Programs Environment

- Gartner ranked USD's Supply Chain master's program #19
- US News ranked the USD's MS-SCM #2 in the nation for student engagement and accreditations for best online business programs
- Princeton Review ranked USD #2 for best campus environment
- Aspen Institute ranked USD's MBA program #39 in the world for social responsibility (highest ranked MBA program in Southern California)
- BusinessWeek ranked USD's part-time MBA program #14
 - A+ for teaching quality, how students rate their classmates, and curriculum
- *BusinessWeek* ranked USD's undergraduate business program #40
 - A+ for teaching quality and facilities/services; A for job placement
 - Sixth consecutive year USD's program ranked among top five on West Coast

INNOVATIVE METHODS IN BUILDING INDUSTRY RELATIONSHIPS & PROGRAM MARKETING

James Crowell Director of Supply Chain Center



Define What & Who You are with Clear Achievable Expectations

- A Supply Chain Resource Center with a strong Industry advisory board of 36 Companies
- A time Commitment: Minimum 2.5 days/year
- A Financial Commitment: Minimum 3 Years
- Growth: Planned, Strategic...Give Members Ownership! (5 working committees)

WE CONNECT-



"We want your Best Student"

- Three Registered SCM Clubs on Campus
- Standard Opportunities: Career Fair; Speaking
- Not so Standard; Screened mentoring, exclusive tours, student researchers
- Women In Logistics
- Communications: LinkedIn, Facebook, Twitter



Opportunities for "Though Leadership"

- Symposium: Organized Planning Committee
 - Internally focused on Board Interests vs. an Externally Focused Conference
 - Make Faculty & Student Interaction (PhD, MBA & Undergrads) easy for your Members
 - Topical Experts: Inside & Out
- Executive Education
- Interviews, Publications, & the Unexpected



"I Want Applied Research"

- Tier 1: Publish or Perish....Translate it to Applied if Applicable
- Provide Access to the Research & Faculty!
- Provide options
 - Basic student topical searches to White Papers
 - Faculty student researchers to full sponsored RSSP
- Never assume you know your next opportunity!

A Place for Thought Leadership



Department of Supply Chain Logistics Management



Innovative Methods in Building Industry Relationships & Program Marketing

David J. Closs, Ph.D. The John H. McConnell Chaired Professor of Business Administration Chairperson, SCM Department The Eli Broad College of Business Michigan State University

October 13, 2012

MICHIGAN STATE UNIVERSITY

The integrated value-creation process must be managed across firms from end to end



Our Approach



Academic and Certificate Programs

- Academic
 - BA with concentration in SCM (300 graduates/year)
 - MBA with concentration in SCM (50 graduates/year)
 - MS in SCM (20 graduates/year)
 - Ph.D. in Operations/Sourcing and Logistics (3 graduates/year)
- Certificate
 - Executive Education
 - Logistics
 - Purchasing
 - Customized
 - Online

Methods for Industry Collaboration and Marketing

- In the classroom
 - Live case development
 - Case introduction
 - Responses to questions
 - Interactive class presentation and discussion
 - Cross-discipline projects
 - Cross-discipline teams
 - Faculty collaboration
 - Disciplines
 - Business
 - Engineering
 - Packaging
 - Simulations for competitions and classes

Methods for Industry Collaboration and Marketing

- Research
 - Developing integrated solutions
 - Cross functional
 - Balanced perspective
 - Applying supply chain principles to services applications
 - Industry expects broader solutions
 - Sustainability
 - Risk management
 - Analytics



CENTER for EXECUTIVE and PROFESSIONAL DEVELOPMENT

ARIZONA STATE UNIVERSITY

Innovative Methods in Building Marketable Certificate Programs

Supply Chain Management Directors Conference

October 13, 2012

Dawn Feldman

Executive Director, Center for Executive & Professional Development



Center for Executive and Professional Development







Today's Discussion

What will you deliver? \longrightarrow CONTENT How will you support it? \longrightarrow INFRASTRUCTURE How will you sustain it? \longrightarrow FLEXIBILITY



Supply Chain Management Certificate





Multi-unit business school support





SCM Certificate Evolution

	Professional Certificate	Customized Certificate	Graduate Certificate
Launched	2002	2006	2010
Offered	Annually	As needed	Annually
Time commitment	9-12 hours per week	10-15 hours per week	15-20 hours per week
Qualification	Bachelor's degree 2 yrs work experience in SC Statement of purpose Resume	Modeled after professional certificate but specifics defined in collaboration with the client	Bachelor's degree, 3.0 GPA 2 yrs work experience in SC Statement of purpose Resume Official transcripts English proficiency exam
Audience	Professionals seeking exposure to breadth, depth and current trends in SCM.	Defined in collaboration with client	Professionals seeking exposure to breadth, depth and current trends in SCM.
Course comprised of	Readings Lectures / Videos Cases / Simulations Discussion boards Quizzes	Similar to professional certificate with applications to client industry and business challenges	Readings Lectures / Videos Cases / Simulations Discussion boards Quizzes & Exams
Exit requirements	Combined quiz and discussion board grade minimum of 80%	Defined in collaboration with the client	3.0 GPA average for all courses
		1	W P C A R E Y



SCHOOL of BUSINESS

1



W. P. Carey Success Factors

Culture of innovation				
Shared vision				
Leadership support				
Collaborative relationship between academic and administrative units				
Engaged faculty				
Curious and talented staff				
Incentives that reward successful, sustainable programs				
W. P. CAR	RE			



No secret formula for success

Sustainability = Flexibility + Agility + Awareness + Culture





For more information on W. P. Carey's supply chain management certificates, visit:

<u>http://wpcarey.asu.edu/professional-</u> <u>development/SCM/scm.cfm</u>





INNOVATIVE METHODS IN DEVELOPING MARKETABLE CERTIFICATE PROGRAMS

Supply Chain Management Directors Conference Phoenix, Arizona October 12-13, 2012

Gary Gittings Director, Online Programs in Supply Chain Management Pennsylvania State University



* Who is the target audience?

- Resident or adult learners
- Responsibility and education levels

Business model

- University and college expectations?
- Faculty compensation for teaching
 - Variable cost or traditional comp model
 - Onload vs. supplemental comp.
- Faculty compensation for course development?
- ID staff, marketing, adm. how expenses are covered?
- Price, revenue forecasts
- Revenue sharing scheme within the University and college

* What is the program structure?

- Credit or non-credit
- If credit, is degree completion possible?
- # of credits, # of semesters
- Frequency of course offerings
- Pre-requisites, admission requirements, application review process
- Resident or online only, hybrid models
- Off-campus face-to-face possibilities

* Are there resources for course development?

- Incentives for faculty
- Instructional development expertise
- Rollout schedule, pilot

Operation-related questions

- Course calendar, aligned with resident course calendar?
- IP who owns the courses?
- Who are the faculty that will teach?
- Who reviews applications and admits students?
- Who develops processes for registering and enrolling students?
- Who communicates with students?

Marketing options

- Search engines
- Online advertising
- Print media
- Trade shows

Administrative

- Easy to underestimate the time required
- Initial face of the program
- Collaboration and coordination with many internal constituents

- Began in mid-1990s
- Initial advantages: University's 100+ years experience in "distance" education
 - Correspondence courses largely paper-based
 - Multimedia video tapes and two-way interactive video
 - Diversity of academic unit participation, including BLOG
 - Established infrastructure
 - * Admissions, student reg., course enrollment, advising, marketing
- Sloan Foundation online initiative, mid-1990s
 - PSU well positioned to compete for grant
 - University-wide (President's Office) strategic initiative to create and launch the World Campus

World Campus

- 25th campus responsible for delivering all on-line education
 - Create inclusive culture
- Centralized model provide all registration, course enrollment, advising, financial aid information, technical (Helpdesk) services
- Market research and program marketing services
- Instructional development expertise
 - Work with academic unit faculty to develop courses
- Own online courses
 - Coordinate with academic unit on hiring faculty to teach
 - Role subsequently revised

Initial launch - signature academic programs
Initial SC program: Undergraduate, for-credit, online certificate

- 4 courses, 12 total credits
- Junior, senior level courses
- Resident students prohibited from enrolling
- Semester based, required two years to complete
- Initial lessons
 - Widely varied student profiles
 - Too many students did not have equivalent to junior, senior level standing – tended to struggle with elementary quantitative content

Revision 1: Graduate Certificate

- For-credit, online
- Four courses, 12 total credits
- Course calendar matched resident semester calendar
 - ✤ Lesson: two years to complete too long
- Demand builds for degree

* Revision 2: Degree, revised Grad Cert structure

- Redesigned Graduate Certificate
 - Three, 4 credit courses
 - Complete within 11 months (Fall, Spring and Summer semesters)
 - First 12 credits of Master of Professional Studies in SCM
- MPS/SCM 30 total credits

Market Value of Graduate Certificate

Timing benefits us all

• SCM now extremely popular, adv. education is in demand

* The Graduate Certificate is attractive because:

- Initial uncertainty about online learning
- "New" SC managers looking for quick access to SCM content
 May have advanced degree, don't need another one
- Can lead to a degree if desired
- Utilize the same research and resident instruction faculty
- Flexible schedule do not require online attendance
- Easy to access course materials
- Accommodate variety of learning styles
- Facilitate high degree of interaction among peers

2nd SCM Directors Conference

Strategies for a High-Performing Supply Chain Talent Program: University Partnerships

Presenter: Dana Stiffler, Managing VP



Real Supply Chain Transformation





Band Geek





Talent Attribute Model Illustrates Span of Control and Interdependencies Necessary for Value Network





Leaders Are Changing, Redefining Supply Chains...





Cross-Functional Pain

From a talent perspective, where are the biggest gaps in your supply chain organization today?







Dual Development Strategies Required





Underinvestment in Talent Foundations

Which of the following five foundational elements in your supply chain talent program get the most resources and investment?





Orchestration-Led Overhaul: The Case for Change

- Increasing spans of control
- Fewer owned operations and assets
- Volatility and uncertainty not addressed
- Outdated competency models
- No career path architecture
- Onboarding efforts lacking
- HR-led efforts come up short



University Program Research

Where it fits. Where we've been. Where we're going.



Roles Served, Value Delivered

- Industry is the driver
 - Heads of Supply Chain
 - Heads of Strategy & COEs
 - Functional Leads
 - HR liaison to Supply Chain
- Client pain = research focus
 - Obsession with the graduate "product"
 - To date, focus is not on executive programs or publishing
- Which programs are of a like mind? Are there up and coming programs?
 Gartner

Assessment Criteria and Weightings (Undergraduate)

ue	40%		
> 400 Respondents in 2010 Survey of Industry Sentiment on University Supply Chain Program Effectiveness.			
Number of respondents indicating that they recruit from this progr	am.		
Number of respondents indicating they view this as the best pro-	gram.		
formation on Supply Chain Programs			
Internships required for completion of an undergraduate program			
ze	20%		
54 University Respondents to Request for Information on Supply Chain Programs			
	40%		
Using the Gartner Talent Attribute Model as the Target Framework			
	Ue try Sentiment on University Supply Chain Program Effectiveness. Number of respondents indicating that they recruit from this progra Number of respondents indicating they view this as the best programation on Supply Chain Programs Internships required for completion of an undergraduate program Tele formation on Supply Chain Programs the Target Framework		

How well does curriculum align with all eleven stations in the model.

Number of stations taught



U.S. Undergraduate Program Rankings 2011

1	Penn State	14.5	Lehigh
3	Georgia Tech	14.5	Marquette
3	Arizona State	16	Syracuse
3	Rutgers	19.5	Indiana
5	Michigan State	19.5	South Carolina
6	University of Texas/Austin	19.5	Auburn
7.5	Ohio State	19.5	Texas Christian
7.5	University of Wisconsin/Madison	19.5	University of Nevada/Reno
9.5	Texas A&M	19.5	Kansas
9.5	Tennessee	23	North Texas
12	Maryland	24.5	Iowa State
12	Western Michigan	24.5	Rider
12	Stanford		



U.S. Graduate Program Rankings 2011

1	Penn State	14	University of Wisconsin/Madison
2	Michigan	15	University of Texas/Austin
3.5	Michigan State	16	Texas A&M
3.5	Rutgers	17	Indiana
5	Arizona State	18	South Carolina
6	Syracuse	19	San Diego
7	MIT	20	Florida
8	Ohio State	21	Maryland
9	Georgia Tech	22	NC State
10	Tennessee	23	Oklahoma
11	Stanford	24	Kansas
12	Lehigh	25	Auburn
13	University of Texas/Dallas		



European Talent Survey 2012

- Roughly same storyline as U.S. survey
 - Industry survey
 - University survey
- Focus on Masters programs only
- Logistics dominates
- Not much emphasis on real-world experiential exposure
- 2008



Where SC Talent is Recruited

Q05. Select the top 3 Universities in Europe from which you recruit Mater graduates for supply chain roles in your organization.

		Cranfield School of Management	
University	Freq	Delft University of Technology	
Ecole polytechnique fédérale de Lausanne	10	Eindhoven University of Technology	
International Institute for the Management of Logistics	8	ESCP Europe (Paris, London, Berlin, Madrid, Torino)	
FH Muenchen	5	European Business School	
Vlerick Leuven Gent Management School	5	Glasgow Caledonian University	
ETH Zurich	4	Heriot-Watt University	
INSEAD	4	Kühne School of Logistics and Management	
Erasmus University, Rotterdam School of Management	3	Maastricht Universitet	
Louvain School of Management	3	Nottingham University	
Politecnico di Milano	3	Rouen Business School	
Universität St. Gallen	3	SDA Bocconi School of Management	
Cardiff Business School	2	Université Paris-Dauphine	
Chalmers University of Technology	2	University of Hull	
Dresden International University	2	University of Manchester	
		University of Tilburg	
FH OÖ Studienbetriebs GmbH Fakultät für Mgm't Steyr	2	Other, specify	
Vrije Universitet Amsterdam	2	None	
Zaragoza Logistics Center	2	Don't know	
Bordeaux School of Management	1	n = 57	

Very fragmented responses, but a few popular programs



Summary of Results: European Survey

- The SC organization typically includes: plan, source and deliver.
 - Manufacturing less often included.
 - Customer management and strategy/change management frequently mentioned.
- Half of industry participants have hired SC professionals from Universities in the past 2 years (analysts, managers & planners).
 - Mean salaries: range from € 54K for planners to € 78 for managers



Summary of Results: European Survey (2)

- New university recruits largely have the skills required in industry.
 - But more real world experience and leadership skills are always wanted
- University recruits are best at: SC concepts, analytics, problem solving & working in teams.
- Recruits are coming from a wide range of SC programs, scattered across Europe.
- Contrast with U.S. respondents
 - For Europe, fewer major gaps in expectation vs. performance
 - For Europe, technology notably is an area that needs improving



Looking Ahead

- ✓ New hire
- New markets
- New methodologies

S. Research Cycle Launches December 2017 By 2015, there will be debate for global focus from cor Jext U.S.

40% of new CEOs at Fortune Global 500



Related Gartner Research

- "Help Wanted: Two Leaders to Orchestrate Value in the Modern Supply Chain " Allen Johnson (G00209715)
- "Is Supply Chain a Profession? To Attract Top Talent, It'd Better Be " Allen Johnson (G00207142)
- "Do Process Industries Have the Formula to Create Supply Chain Leaders?" Allen Johnson, Paul Lord (G00209035)
- "North American Supply Chain University Programs, Part 1: Why Co-Investment in Supply Chain Talent Is a Must " Dana Stiffler, Allen Johnson (G00211623)
- "Supply Chain Talent: State of the Discipline " Dave Aquino, Lucie Draper (G00181555)



Thank You

dana.stiffler@gartner.com





Publication Date: 6 October 2011

North American University Supply Chain Programs, Part 3: Ranking the Top Programs

Dana Stiffler

Gartner assesses North American university supply chain programs and provides insights on the ones doing the best job developing students into supply chain professionals. Because industry has repeatedly pointed out gaps in real-world experience and cross-functional skill sets in recent grads, the programs that require internships and have curricula that reflect a broad, supply chain span of control performed best in our assessment.

Key Findings

- Although there is still a perceived gap between industry requirements and program effectiveness, we find evidence that the gap is closing, thanks to a combination of more relevant curricula and required internship programs.
- Generally, in this study, the perceived value by industry practitioners is the biggest differentiator of a school's position relative to other programs.
- Deans, department heads, program directors and professors are using this research to self-assess their programs and, in some cases, make changes.
- Without commensurate corporate investment in employee onboarding and career path design, even the strongest industry/university partnerships won't result in better-performing supply chains.

Recommendations

- Create industry/academia joint learning programs for second- and third-year undergraduate students to motivate and retain them as supply chain majors.
- Increase the number of internships available for third- and fourth-year students to ensure real-world experience and allow hiring companies to build talent pipelines and text out potential hires.
- Establish cross-college curricula and "orchestrator" course work within supply chain programs to better prepare students for the realities of cross-functional business processes.
- Companies should invest in post-hire building of supply chain talent, including onboarding, career path architecture and employee development, at least as much as

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they do in their university recruiting strategies. As difficult as it is to attract and hire top talent, retaining the best and brightest is the real trick.

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ANALYSIS

"The only thing that interferes with my learning is my education." — Albert Einstein

In a concise string of eleven words, perhaps Einstein best sums up the industry/academia experience gap. Industry looks for recruits who can make contributions to solving real-world problems, but oftentimes feel that they leave university programs lacking adequate skills to make these types of contributions. Recruits may be "book smart," yet deficient in the ways of the working world.

The Supply Chain Council's Supply Chain Talent Academic Initiative (SCTAI) conducted a study in 2010 to gauge the sentiment of students who were enrolled in supply chain programs. The study found that nearly 80% had made the decision to enter the field of study after beginning their university careers, usually on the recommendation of a friend or advisor at that level. It also found that 70% decided to stay in the field after completing an internship and learning of career opportunities. The lesson learned? Attracting, developing and retaining students in degree programs are shared efforts between industry and academia.

In Part 2 of this research, we provided industry's views on the hurdles to and opportunities in meeting the challenges in partnering with academia (see "North American University Supply Chain Programs, Part 2: Industry Rates the Recruits"). The expanding scope of supply chain, its increasing significance as an enabler to business strategy and its potential to drive top-line revenue create needs for new types of talent. Although they're still expected to build working knowledge of specific supply chain disciplines in students, the programs viewed as most valuable by industry will produce a graduate with a broad knowledge of the cause-and-effect relationships between disciplines on end-to-end business processes. Cross-college curricula, experiential learning programs and use of internships earlier at sophomore and junior levels are tools that leading programs will use to produce the well-rounded recruit.

Scope of This Report

Measuring Program Effectiveness

We used the Talent Attribute Model once again this year to assess completeness of university curricula (see Figure 1). The model was created in 2008 and used in our first report (see "Leading U.S. Supply Chain Programs, 2009") (Note: This document has been archived; some of its content may not reflect current conditions). It was developed and tested by AMR Research as a modern and comprehensive model, incorporating the expanding breadth of capabilities that can be found in a modern supply chain. The model is composed of 11 capabilities — seven functional and four enabling — which we refer to as "stations."

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Figure 1. Supply Chain Talent Attribute Model



Source: Gartner (October 2011)

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 11 stations. Effectively, we are testing for curriculum alignment with the functional integration of a modern supply chain. It's especially relevant this year, since our industry surveys continue to show the expansion of the number of functions within the supply chain organization, and a desire by industry for recruits who can grasp big-picture, integrated supply chain concepts.

Data for this research is gathered through surveys and interviews of industry and academia. The surveys are designed to quantify industry requirements, and 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.



Figure 2. Three Evaluation Criteria for University Programs

Undergraduate Industry Value	40%	
More than 400 respondents in 2010 survey of industry sentiment on university supply chain program effectiveness		
Recruit mentions	Number of respondents indicating that they recruit from this program	
"Best" mentions	Number of respondents indicating they view this as the best program	
Fifty-four university respondents to RFIs on supply chain programs		
Undergraduate internships	Internships required for completion of an undergraduate program	
Average starting salary		
Undergraduate Program Size	20%	
Fifty-four university respondents to RFIs on supply chain programs		
Number of full-time professors		
Number of supply chain majors		
Undergraduate Program Scope	40%	
Using the Gartner Talent Attribute Model as the target framework		
Number of stations taught	How well the curriculum aligns with all 11 stations in the model	

Source: Gartner (October 2011)

The Research Methodology

Our methodology for this year's program assessments extends on what was used in our inaugural report in 2009, adding other dimensions for evaluation. In 2010, Gartner sent an RFI to our contacts at supply chain programs in the U.S. and internationally. We followed up the RFIs with interviews with many of the schools, and conducted research on university websites and

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course catalogs to ensure that the RFIs were complete and accurate. Responses and clarifications were collected through 2010.

Here are some details on the university participants:

- Fifty-three universities responded to the RFI.
- Thirty-six schools submitted information on undergraduate supply chain programs.
- Thirty-four schools submitted information on graduate-level supply chain programs.
- Often, but not always, supply chain graduate programs are hosted within business schools.
- Nineteen schools from 2009 returned to participate in this year's research, with 17 new participants.

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 a survey of current supply chain and recruiting professionals. Survey respondents said 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. We feel 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 RFIs were sent to a Gartner internal database of supply chain industry contacts, with links to the survey posted by the universities. 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: industry value, program size and program scope.

For ranking purposes only, the internal database responses were used for the "program mentions" and "best program" scoring. Although the survey responses received via university distribution of the survey link were useful for our overall market analysis, it would have biased the results to use that data in our ranking.

The supply chain course score used for the undergraduate and graduate-level "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 11 supply chain stations.

A Snapshot of Each Evaluation Criterion

Industry Value

Once again this year, indicators of perceived industry value are the schools on which recruiters focus, the programs viewed as having the best quality of recruits and, finally, the average starting salaries for program graduates.

This year, we also added internships as an explicit 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.

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This combination of mentions, best mentions, average salary and required internship (or other real-world experience) makes up a composite view of perceived industry value.

Program Scope

We framed the scope of a supply chain with the Talent Attribute Model. As we evaluated programs, we looked for curricula that aligned with the 11 stations of the model. Client interviews through the past year indicate that industry places a premium on supply chain recruits who have a broad understanding of supply chain concepts and the cause-and-effect relationships between the disciplines.

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 management (SCM) 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, program size received relatively less weight than in previous outings. Also, to fairly contrast programs, we considered undergraduate and graduate student populations separately. We also considered only full-time professors engaged in classroom delivery of supply chain courses or research related to the supply chain program.

Highlights From This Year's Report

- Pennsylvania State University again tops our rankings for both undergraduate and graduate programs.
- There were 17 new programs evaluated in this year's study, and 14 of them made one or both lists.
- Eleven undergraduate programs were first-year participants in this ranking. Eight graduate programs were newcomers.
- Mean industry value score was 5.7 out of 10. The median was 5.5.
- The most highly ranked new entrant in the undergraduate field was the University of Texas at Austin at No. 6. Stanford was the most highly ranked new graduate entrant (No. 11).
- There were significant advances made by select programs notably, Rutgers in both the graduate and undergraduate categories, and Georgia Tech in the undergraduate rankings.

How the Universities Stacked Up

Undergraduate Programs

The top U.S. undergraduate supply chain programs share balanced excellence across curricula, graduate performance in the real world and overall reputation. Penn State again claims the No. 1 position, but upstarts this year included Rutgers, University of Texas at Austin and Marquette (see Figure 3).



Figure 3. Undergraduate Supply Chain Program Ranking

14.5 Lehigh University
14.5 Marquette University
16. Syracuse University
19.5 Indiana University
19.5 University of South Carolina
19.5 Auburn University
19.5 Texas Christian University
19.5 University of Nevada at Reno
19.5 University of Kansas
23. University of North Texas
24.5 Iowa State University
24.5 Rider University

Source: Gartner (October 2011)

Though smaller by comparison to the other programs in the top five and most other undergraduate programs we evaluated, Wisconsin scores highest in our industry value category, edging its way to the top with a solid score in our newest category, required internships and co-op programs (see Figure 4). Penn State, Georgia Tech, Michigan State and Syracuse are all closely grouped at the top of the industry value category. Georgia Tech scores highest among all universities for the sheer number of best mentions by industry, which reflects its strong brand with the supply chain community at large.



Figure 4. Top Undergraduate Programs in Industry Value, Program Scope and Program Size

Top Undergraduate	Top Updergraduate	Top Updergraduate		
Industry Value	Programs by Scope	Programs by Size		
University of Wisconsin	Pennsylvania State University	Pennsylvania State University		
Pennsylvania State University	Arizona State University	Georgia Institute of Technology		
Georgia Institute of Technology	Rutgers University	Arizona State University		
Michigan State University	University of Texas at Austin	Michigan State University		
Syracuse University	Stanford University	Ohio State University		
	Marquette University	Texas A&M University		
	University of Kansas	Rutgers University		
		University of Tennessee		
		University of Maryland		
		Indiana University		
Highest score in ca	ategory			
Second-highest score in category				
Third-highest score in category				

Source: Gartner (October 2011)

Programs that scored highest for internships were Rutgers, University of Texas at Austin, Rider, Syracuse, North Texas, South Carolina and Wisconsin. Graduates of programs that scored highest in internships tend to command higher starting salaries, but we did identify the University of Texas as a "best buy" program (from a corporate recruitment standpoint), where real-world exposure is extensive, but starting salaries are relatively modest.

For program scope, where a diverse, balanced program based on the Talent Attribute Model received the highest marks, the top performer was Penn State, followed closely by Arizona State, Kansas, Marquette, Rutgers, Stanford and University of Texas.

If there is a message in the performance of these programs, it's that balance is key to building positive perception. For the top five programs, all perform at or better than the midpoint in all categories, and lead in some.

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Graduate Programs

Many familiar names from the undergraduate list pop up again in our graduate ranking, with Penn State again grabbing the No. 1 spot. Programs that rate on the graduate list, but not undergrad, are University of Michigan, MIT, University of Texas at Dallas, San Diego State, University of Florida, North Carolina State and Oklahoma (see Figure 5).

Figure 5. Graduate Suppl	/ Chain Program	Ranking
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1. Pennsylvania State University	14. University of Wisconsin at Madison
2. University of Michigan	15. University of Texas at Dallas
3.5 Michigan State University	16. Texas A&M University
3.5 Rutgers University	17. Indiana University
5. Arizona State University	18. University of South Carolina
6. Syracuse University	19. San Diego State University
7. Massachusetts Institute of Technology	20. University of Florida
8. Ohio State University	21. University of Maryland
9. Georgia Institute of Technology	22. North Carolina State University
10. University of Tennessee	23. University of Oklahoma
11. Stanford University	24. University of Kansas
12. Lehigh University	25. Auburn University

Source: Gartner (October 2011)

For industry value — the most influential yardstick in the rankings — there appears to be a "Big Four" among graduate programs. Penn State, Michigan, Georgia Tech and Michigan State are close together, and far ahead of the pack, in all industry value subcategories: recruit mentions, industry best-program mentions, required internship/co-op and average starting salary. Top program scope scores, with maximum coverage of the 11 stages of the Talent Attribute Model, were achieved by Arizona State, Lehigh, Penn State and Rutgers.

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Penn State ends up dominating the graduate list because of its high industry value score, broad and deep program scope, and size (see Figure 6).

Figure 6. Top Graduate Programs by Industry Value, Program Scope and Program Size

Top Undergraduate			
Programs by	Top Undergraduate	Top Undergraduate	
Industry Value	Programs by Scope	Programs by Size	
Georgia Institute of Technology	Arizona State University	Georgia Institute of Technology	
Pennsylvania State University	Lehigh University	Ohio State University	
University of Michigan	Pennsylvania State University	Pennsylvania State University	
Michigan State University	Rutgers University	Michigan State University	
Syracuse University	Michigan State University	Rutgers University	
University of Tennessee	Massachusetts Institute of Technology	University of Texas at Dallas	
	Ohio State University		
	Syracuse University		
	University of Michigan		
Llinkert seems in estavent			

Highest score in category
 Second-highest score in category
 Third-highest score in category

Source: Gartner (October 2011)

M.S. Versus M.B.A.: The Difference

One major difference in program scores is that M.B.A. programs tend to require internships or have them integrated as a mainstream opportunity compared to M.S. and Ph.D. programs. Since we heavily weighted required internships in our assessment this year, with all other things being equal, the M.B.A. program, with required internships, would have the edge over an M.S. program, with optional internships.



Conclusions

In the first incarnation of this research in 2009, we asked, "What does it mean to run a great university supply chain program in the United States?" and proceeded to lay out definitions for industry value and program scope. Our finding at the time was that scope needed to expand, as did opportunities for working on real-world problems. In this second edition, we can happily say that programs have made progress in two key areas:

- Adding course work that reflects the expanding span of control of supply chain
- Strengthening industry partnerships that promote quality internships and opportunities for students to participate in hands-on projects

Capability gaps that have yet to be addressed by a suitable combination of curricula and experiential exposure include finance and risk management, sustainability, and global operating environments. Also, while more programs are expanding scope to go deeper into top-line-oriented areas of the supply chain, such as product innovation and aftermarket services, there is still a concern that new hires are not coming on board with the right orientation toward orchestration — that is, the enabling skill sets in the Talent Attribute Model: strategy and change management, governance and relationship management, and performance management and analytics. As industry boards and recruiters continue to press on these needs, we would expect to see greater cross-curriculum cooperation, as well as more industry-sponsored competition and project opportunities that emphasize these skills.

Finally, we would press undergraduate programs to supply these opportunities sooner rather than later. Data gathered in 2010 validates that nearly four in five students decided on a supply chain career while at a university, and 70% decided to stay with the major because of internships and career opportunities. For this reason, more targeted projects and internship vehicles for second-and third-year students are a must.

RECOMMENDED READING

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

"North American Supply Chain University Programs, Part 1: Why Co-Investment in Supply Chain Talent Is a Must"

"North American Supply Chain University Programs, Part 2: Industry Rates the Recruits"

"Help Wanted: Two Leaders to Orchestrate Value in the Modern Supply Chain"

"Lessons Learned From Chemical Supply Chain Leaders: Refill Your Talent Pipeline"



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