

Partnering with Industry—Easier Said Than Done: Ten Lessons Learned

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Reading President Norma Harrison’s recent article (*Decision Line*, Vol. 39, No.5, October, 2008) on academia partnering with industry reminded us of the challenging journey that the University of Rhode Island’s College of Business Administration encountered during a recent overhaul of its curriculum. The overhaul included revamping four majors, eliminating one, and introducing two new degrees in Supply Chain Management and International Business Program. University faculty and administrators facing similar challenges have a daunting task overcoming elements of academic tradition, scarce resources, accreditation boards, industry and parental expectations, administrative checks and balances, and of course student expectations in incorporating “industry relevance” into curriculum. This article highlights the major hurdles we faced during this process and the methods used to overcome some of them. We do not claim to have discovered all of the answers nor have we achieved all of our objectives, but we have been successful in meeting many of the expectations of our constituents while preserving academic rigor.

Disruptive Innovations

Facing resource constraints and a growing demand for its majors, the new dean of the University of Rhode Island’s College of Business Administration, Mark Higgins, requested that each area review its curriculum with a vision to incorporate industry relevance along with traditional academic rigor into coursework. Ultimately this meant more required courses and fewer electives for students, but undeniable benefits for the college. This was easier said than done considering

the university existed in a very competitive environment. Located less than two hours from five Ivy-league universities and a host of other outstanding, world-class schools, the university competes every day for some of the best students in New England, the U.S., and the world. As Professor Bob Hayes implied in his article in the 2000 *POMS* journal (Hayes, R., *POMS*, 2000), the best universities like Harvard are outstanding because they attract outstanding students. He also described how the eminent scholar Wickham Skinner, department head of Harvard’s Business School at the time, lead the faculty through a similar process to become industry relevant by interacting with top industry leaders and helping solve major industry problems. But URI is not Harvard University and does not have the same resources as an Ivy League school, so how does a large state university with limited resources do it? This article is written primarily from the experience of curriculum development for the Supply Chain Management major in the College of Business Administration at the University of Rhode Island.

Realize first that the College was not suffering enrollment. Year after year, the College has been forced to raise admissions standards because the student demand for business courses consistently exceeds its capacity to deliver. Some of the programs have 100% placement prior to graduation. To differentiate the supply chain program from others in the area, the goal was to develop a program extending beyond the traditional Logistics, Purchasing, and Operations curriculum, and the popular Supply Chain Operations Reference model. The faculty wanted to include the traditional topics

plus others that a supply chain industry advisory committee felt were important, such as Customer Relationship Management, Supply Chain “Greening,” Customer Service Management, and Transportation Management in a global context. Rather than reinvent the wheel, the faculty began by surveying other supply chain and logistics programs in the U.S. and abroad and found quite a variety—none of which met our local or regional demands. This is important because as a land grant, sea grant, and urban grant institution URI’s first obligation is to meet the state and regional needs. The vision of the Dean was to continue to attract better students by ensuring that in addition to a four-year degree, the curriculum would qualify students to sit for important industry certification exams such as the Certification in Public Accounting (CPA) exam, the Certified Financial Analyst (CFA) exams, American Production and Inventory Control System (APICS) exams, and the Certification in Transportation and Logistics (CTL) exam. In doing so, the College better meets the needs of organizations in our state and region. As discussed earlier, this meant that the curriculum had to be both academically rigorous and industry relevant.

Streamlining Academic Rigor and Industry Relevance

To meet the criteria, the first challenge was to develop a supply chain curriculum that was academically rigorous. While there are several good academic models, the faculty found none that claim to be supply chain “industry relevant.” While the faculty could represent the academic requirements, they felt that an advisory committee could better represent the needs of industry. This resulted in the formation of a supply chain advisory committee comprised of supply chain executives and managers from Rhode Island and Massachusetts. After substantial review, the closest academic model that covered the requisite topics important to both the faculty and supply chain advisory committee was the Global Supply Chain Forum model (GSCF) at The Ohio State University. This model is

presented in the textbook, *Supply Chain Management: Processes, Partnerships, Performance*, edited by Douglas M. Lambert of The Ohio State University (SCMI Press, Sarasota, Florida).

The second challenge was to ensure “industry relevance,” a concept easy to discuss but difficult to operationalize. In following with the financial discipline models, we reviewed existing certifications offered by industry associations—many of whose members were also members of the supply chain advisory committee. To be of value, the associations must adequately represent the industry knowledge in supply chain management. To our surprise, there are dozens of organizations claiming to represent supply chain interests—many of which had little foundation to do so. Examples of strong representative associations in certain areas of supply chain management include the American Production and Inventory Control System (APICS), Institute for Supply Management (ISM), The Council of Supply Chain Management, American Society of Transportation and Logistics (AST&L), and the Council of Supply Chain Management Professionals (CSCMP). However, no single association had a certification that covered the range of topics as our major required. Ultimately, the supply chain faculty and advisory committee approved the American Society of Transportation and Logistics Certification in Transportation & Logistics (CTL). Although lesser known than CSCMP, APICS, and ISM, this certification was very rigorous because it incorporated the body of knowledge covered by APICS and ISM certifications as well those recommended for inclusion in the new curriculum. An additional benefit was that the CTL partnered with APICS so that completion of the CPIM and CRIM fulfilled two of the six modules required by the CTL.

This led to the third challenge. The average business student was taking more than four years to complete their degree because they were hampered by changing majors, double-majoring, or taking more electives than required. Our challenge was to cover the requisite

knowledge for a rigorous and relevant curriculum without extending the time needed to complete a degree. To achieve our curriculum objectives, a relatively large number of courses were required. While a student could technically graduate without the additional courses, they could not qualify for the CTL unless all were completed. This resulted in the elimination of virtually all professional electives. The elimination of electives not only affected the students, but also the faculty. There was no longer space in the curriculum for the occasional special course that may have contemporary appeal, or for a specialized course based on a faculty’s cutting-edge research. While streamlining the process, this removed flexibility from the curriculum while ensuring that all requisite courses were taught each year.

Application Oriented Curriculum and Research

The fourth challenge was getting the new curriculum approved through the various layers of academic governance before the scheduled start date of the major in fall 2007. Developing new curriculum requires the approval of several university organizations including the discipline’s faculty, area leaders, associate deans, college dean, faculty senate, and the provost. This invoked a vigorous debate over the CTL certification and the role of higher education versus the role of training. Traditionally, curriculum at the university level is theory-focused rather than applied. Many university faculty believe that the role of higher education is to teach concepts and terms that describe the basics and explain the variance within a discipline, and that extending curriculum to application-oriented industry certifications is inappropriate for a university level education. While this debate will continue for many years to come, the decision was ultimately made to incorporate the CTL requirements because our business advisory committee (potential employers) recommended it to the faculty. The beliefs of many of the advisory committee members apparently paralleled those described by Norma Harrison, in that most university

effort has little connection to real world problems. Anything to bridge that gap is a worthwhile effort.

This led to a fifth challenge of incorporating more application-oriented research into existing agendas. This new demand on faculty research to solve real world problems meant encouraging a focus similar to that proposed by Wickham Skinner, where new faculty work with local organizations. One cannot legitimately claim to have a rigorous and relevant curriculum unless the faculty research reflects the agenda. This means that faculty should publish theoretical as well as applied research. This includes pedagogical studies that can be incorporated into the classroom. At the undergraduate level timely teaching cases suitable for students in contemporary supply chain management are difficult to find. Most HBS and Ivey cases are designed for graduate students and easily overwhelm undergraduates. While this conflicts with the convention that undergraduates cannot handle case analysis, we find that relatively short, simple cases contribute to the relevance factor. To this end, the untenured faculty who teach in the supply chain management major have multiple projects with local businesses and state government. These include alternative financing projects for transportation projects, seaport development, involvement with Lean/JIT practices in local and regional businesses, and the development of new carbon emission estimates for the whole supply chain.

Recruiting and Internship

The sixth challenge came from our students themselves. Being keenly aware of the disciplines of accounting, finance, marketing, entrepreneurship, international business, and management, they had little idea of what a supply chain was, much less what a career in supply chain management entails. Even though supply chain issues are mentioned daily in the popular and business press, and the demand for supply chain graduates is high, interest on the part of U.S. students was marginal. Therefore, the faculty embarked on a recruiting effort

to attract some of the best and brightest students to the major. As a result, the major has grown since its inception, but only gradually as the news of continued employment filters through the student ranks.

The seventh challenge came from our supply chain industry advisory committee. In reviewing the top U.S. programs, we found that they recommend or require at least a one-semester or summer internship in the supply chain field as part of the degree requirements. However, most students at these schools complete two or three internships by the time they graduate. Our advisory committee subscribed to the multiple-internship approach—providing more intern slots than we had junior and senior students to fill. While this will not be the case by 2010, in the short term it created a problem in properly allocating the limited number of students among interested industry partners. It is becoming somewhat of a convention to use the internship process as screening for potential new hires. This affords a company the opportunity to review a student's job performance before fully committing as an employer.

The World Is Flat

The eighth challenge was to globalize our curriculum. Even in a down economy and with increasing public pressure to source locally to reduce carbon emissions, all of the industry partners felt that global sourcing was here to stay and that countries such as Vietnam, Indonesia, Malaysia, and South Africa will become increasingly competitive against India and China as sources of goods and services. Additionally, India and China will continue to provide new markets for U.S. goods and services as the economy improves. To address this issue we leveraged our Global U-8 partner universities. The GU-8 is a consortium of 12 universities located on seaports worldwide. The purpose of the consortium is to facilitate seamless research collaboration among faculty, exchange students, and faculty teaching exchange programs. Partners include Xiamen University in China, Inha University in Korea, University of

Haifa in Israel, LeHarve in France, Hull in Great Britain, The Royal Melbourne Institute of Technology in Australia, a university in Japan, and three U.S. universities—The University of Rhode Island, The University of Washington, and the University of Hawaii. Based on recommendations from the 2008 Yale Conference on globalizing university curriculum, the college used the GU-8 for faculty exchange, the development of mini-cases on covering topics from an international perspective, and integrated international students in virtually every program of the college. While language and dialect issues made this process slower than expected, it has been a positive learning experience for faculty and students. Through this experience the college has been able to appreciate many of the research methodology barriers that Norma Harrison alluded to in her article. Many cultures do not answer surveys or grant interviews without the development of personal relationships, still others do not have standardized finance and accounting procedures making the use of data that the West considers objective somewhat ambiguous in the East. In other cultures, documentation of business practices or accurate reporting is not the prevalent convention, nor is the sharing of information even when it is available. Some foreign governments prohibit the exchange of information from government organizations, except through official channels, which can take years to gather. These realities require the use of non-traditional methodologies and strong relationship building that takes many years to develop.

The ninth challenge was to “green” the supply chain curriculum. Most international students—especially those from Europe—were more aware of the environmental issues and initiatives to mitigate them than the U.S. students. This is important because many of our industry partners are concerned with carbon credits, so they are in the process of calculating carbon emissions for their products and facilities and they desire graduates with knowledge of international environmental issues to assist in these ventures. While we are

in the process of incorporating carbon emission estimate methods and environmental stewardship into several of our courses, this process will take some time to fulfill.

Top Line, Bottom Line

Lastly, do not rely solely on university funds to fund curriculum redesign efforts. The U.S. Department of Education and other federal agencies offer grants to modernize curriculum. A good example is the National Science Foundation project to introduce Lean/JIT practices into Industrial Engineering curriculum nationwide. This grant provided printed education materials, simulation and software for demonstration and practice by students and faculty, and travel

funds for program promotion, training, and research. Using external grants to design and implement new curriculum allows for greater flexibility and leverage to incorporate elements the faculty feel are vital to excellent rigorous curriculum, provides the necessary research funds to support it, and somewhat insulates the effort from university politics. To this end, the supply chain management faculty at URI were awarded competitive external grants exceeding \$700,000 to design and equip the new major, and have applied for another \$400,000 to continue the effort. When partnering with international faculty and universities for case development, the faculty received an additional \$92,000 in foreign government support.

A Perfect Ten?

The journey described in this article was somewhat risky, expensive, time consuming, and took many years to develop. It was visionary and required a great deal of patience and support on the part of the Dean Mark Higgins, Associate Dean's Shaw Chen, and Deborah Rosen to allow it to develop. URI's supply chain faculty were innovative, creative, and surprisingly collaborative in reaching agreement on almost all major issues. This could easily be characterized as the 11th lesson, and probably the most difficult to achieve considering the plethora of agendas that exist in most universities. ■

DHIR VISION STATEMENT, from page 4

- Research and scholarship of theoretical and applied nature through integration of the art and science of managerial decision-making across functional disciplines, and an international forum for dissemination of this research through presentation and publication. I would like to see us venture into social sciences as well. We traditionally rely on analytic treatment of the decision-making processes. However, as we address the broader consideration of human condition, we stand to benefit from subjective approaches of social sciences as well. Also, we need to ensure that

our journals continue on the path of ongoing improvement.

- Teaching and learning through focus on instructional innovation including curriculum design and delivery, and by recognition of teaching excellence. For instance, showcase videos of the innovative instructional presentations and best paper presentations at conferences could be posted on the web for retrieval by members and others at will.
- Professional practice support through exchange of ideas between leading professional practitioners and educa-

tors and a focus on decision systems. We have a variety of technologies available to us for this purpose, including Facebook, LinkedIn, Podcasts, Webcasts, Webinars, etc.

Ultimately, our Institute is about its members. I am delighted by the prospect of giving back and serving the Institute. As stated before, I believe we need to stay the course by emphasizing continuity of value-creating vision and strategy, providing a global perspective, promoting trans-disciplinarity and cross-functionality, going back to the basics, and enriching and supporting our members. ■

NOMINATIONS, from page 1

The 2008-09 Nominating Committee, chaired by Kenneth E. Kendall (Rutgers University) has completed the slate of nominees for the 2010 election of officers. The Nominating Committees for the regional subdivisions are also compiling the names of nominees who are running this year for the office of vice presidents elected by the regional subdivisions.

Ballots will be sent in January 2010. Additional nominations may be made by November 30, 2009. Each additional nomination must be made by petition signed by at least five percent of the members and submitted to the Institute's Secretary, c/o the Institute's Home Office, 35 Broad Street, Atlanta, GA 30303.

Additional nominations for vice presidents elected by the regional subdivisions may be made upon petition signed by at least five percent of the regional subdivisions' members.

Please be sure that the DSI Home Office (dsi@gsu.edu) has your current email address! ■

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