

: Supply Chain Management

INTRODUCTION:

One only need consider the recent scandals surrounding tainted pet food and toys to see how disastrous “supply chain” mistakes can be not only for the purchaser, but also sometimes for an entire country.¹ Lee and Billington define a supply chain as “a network of facilities that procure raw materials, transform them into intermediate goods and then final products, and deliver the products to customers through a distribution system.”² The management of such a network requires mastery of optimization logistics, or the specific quantity of a good needed at a particular time and price. Clearly, relationships with suppliers that make up these networks are a central component of successful supply chain management.

Increasingly, business school faculty are beginning to recognize the environmental and social issues that add complexity to the supplier-buyer relationship, and hence expand its textbook definition. Buyers, facing public relations pressures in their home countries and looking for opportunities for a competitive advantage, are concerning themselves with supplier employee working conditions and human rights as well as environmental issues, like limiting emissions and packaging waste. But some argue that price and timing pressures from buyers may have contributed to negative conditions at supplier facilities in the first place. Given these dynamics, future business leaders entering the supply chain arena require thorough understanding of methods and metrics of how to accurately assess these relationships.

How, then, are business schools addressing these complexities in their curriculum? When supply chain discussions are integrated into the core curriculum, they typically are included in operations management classes. Many MBA programs, however, are now choosing to offer courses dedicated to supply chain management that allow for in-depth conversations of the current social and environmental presence within the field. A good number of these classes are highlighted below.

THE BOTTOM LINE:

- Comprehensive supply chain management in today’s market requires a command of social and environmental topics. Business schools integrating the concept into the core curriculum typically do so in operations management classes, but some programs have chosen to give the topic a course of its own—often as an elective.
- The number of *Beyond Grey Pinstripes*-participating schools choosing to offer courses dedicated to supply chain management issues more than doubled from the 2005-2006 to the 2008-2009 survey.
- The social, ethical, and environmental topics raised in supply chain management MBA curricula are truly diverse—from an analysis of societal health and environmental impact of trucking versus railroad transportation to an assessment of suppliers’ packaging design and disposal.

¹ The following *New York Times* articles highlight these two recent incidents:
<http://www.nytimes.com/2007/05/04/business/worldbusiness/04food.html>;
<http://www.nytimes.com/2007/08/02/business/02toy.html>.

² Lee, H. and C. Billington, “The Evolution of Supply-Chain-Management Models and Practice at Hewlett-Packard.” *Interfaces*, Vol. 25: Sept.-Oct. (No. 5) 1995.

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A FACULTY POINT OF VIEW:

[Craig Carter](#) is Associate Professor of Supply Chain Management at the University of Nevada, Reno's College of Business Administration. He serves as co-editor of the *Journal of Supply Chain Management*, and as a member of the editorial review boards of both the *Journal of Operations Management* and the *International Journal of Physical Distribution and Logistics Management*.

On recent curricular developments: "Supply chain management has become so mainstream in companies, that there is little doubt that supply chain management will become further integrated into the MBA core curriculum. We have already seen this happen with the evolution of many core MBA operations management courses which are now entitled 'Supply Chain Management' or 'Operations and Supply Chain Management'. Correspondingly, universities are increasingly creating departmental areas of emphasis or even entire departments of supply chain management."

On the integration of sustainability themes into supply chain management: "I think that the key is for supply chain managers to be able to better understand how sustainability fits within their (supply chain) strategies, and how this should be integrated within the larger organizational/firm strategy. Issues surrounding measurement, carbon footprinting in the supply chain, and developing greater supply chain transparency are all of keen interest to practitioners and to supply chain researchers."

On practicality: "Engaging in sustainable supply chain management is not only a "nice thing to do," it can help to lower costs and/or increase revenues if effectively implemented. Again, these activities are no longer an option—sustainability is a requirement for doing business in the twenty-first century and supply chain management can lead the way."

EXAMPLES OF UNIVERSITY CENTERS OF INTEREST:

- **Supply Chain Institute**
University of San Diego, School of Business Administration
http://www.sandiego.edu/business/centers/supply_chain_management/index.php
- **Supply Chain Resource Cooperative**
North Carolina State University, College of Management
<http://src.ncsu.edu/>
- **Global Supply Chain Management Forum**
Stanford University, Graduate School of Business
<http://www.gsb.stanford.edu/scforum/>



NOTABLE COURSEWORK:

The following course descriptions are drawn exclusively from the 2007-2008 edition of [Beyond Grey Pinstripes](#), a research survey conducted biennially by the Center for Business Education at the Aspen Institute.

■ **Cranfield University, School of Management** **[Supply Chain Management](#)** (Core Course)

Instructor: Mike Bernon

"One session of this course is designed to introduce students to the emerging area of sustainable supply chain management. It is becoming increasingly acknowledged that supply chain activity has a major part to play in sustainable development. The lecture will firstly

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define sustainable development and sustainable distribution and its related concepts. Secondly, it will provide a range of industrial examples to illustrate the complexity involved with managing sustainable distribution. To conclude, a number of models of sustainable supply chain management will be discussed along with the potential challenges that supply chain managers are likely to face in the future.”

- **University of Wisconsin- Madison, Wisconsin School of Business**
[Fundamentals of Supply Chain Management](#) (Elective Course)

Instructor: Verda Blythe

“Ethics, environment, and sustainability are emerging issues in supply chain management. The growth of outsourcing requires companies to be vigilant about the labor and environmental practices of suppliers in low cost countries. Environmental regulations, such as RoHS and WEEE in Europe, are forcing companies to redesign products and find suppliers who can provide materials/products that meet environmental regulations. And from an overall sustainability standpoint, the entire supply chain plays a role, from procuring raw materials, product design, distribution/transportation, and facility management as examples. These issues are being increasingly recognized not only as good for the environment, but good for business in terms of long-term cost reduction and marketing - good examples of this are Wal-Mart, Toyota, Honda, Nike, Caterpillar (to name only a few).”

- **Dartmouth College, Tuck School of Business**
[Supply Chain Management](#) (Elective Course)

Instructor: M. Eric Johnson

“This course focuses on managing material and information outside of the factory walls including product design collaboration, demand planning and forecasting, inventory deployment, distribution system design, channel management, procurement, and logistics. The discussions of the following three cases delve into social impact issues: Mattel: Vendor Operations in Asia; Quad wants to be a SAVI Player in Agribusiness case, and; Can Heroes be Efficient? Information Technology at the International Federation of the Red Cross.”

- **Stanford University, Graduate School of Business**
[Supply Chain Management and Technology](#) (Elective Course)

Instructor: Seungjin Whang

“In this course students learn how supply chain processes can be ‘dematerialized,’ reducing our use of natural resources in the supply chain, and thus reducing our impact on the natural world. For example, messages can be relayed via electronic means, thus cutting out our use of fax paper, or goods can be turned into services (as with the streaming of movies, rather than the renting of physical videos or DVDs). The environmental impact of this dematerialization is part of the classroom discussion that follows our reading of cases and articles. We spend time dedicated to understanding how cradle-to-cradle supply systems differ from cradle-to-grave supply systems, thus understanding the importance of initial design in the amount of waste that is produced by a product as it is manufactured and shipped. Reverse supply chains (taking back the product once users have finished using it) are also discussed in class.”

- **Duquesne University, John F. Donahue Graduate School of Business**
[Strategic Supply Chain Management](#) (Elective Course)

Instructor: John Mahwinney

“Supply Chain Management is an exciting new concept in business integration which provides tremendous opportunities for improved productivity and performance, yet is often difficult for traditional businesses to master. As a result, the demands in the marketplace for well trained Supply Chain Managers is growing and creating newfound career opportunities for those who understand and can apply the concepts. Strategic Supply Chain Management is the capstone course in the Duquesne

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University's Supply Chain Management (SCM) programs. As a result, the focus of this course will be on the impact of effective SCM on the organization's productivity and competitiveness. Students will explore the links between overall business strategy and supply chain strategy, and will develop an in depth understanding of the principles of supply chain excellence. Social and environmental factors are inherent to understanding the value chain. For example, ethical issues critical in making purchasing decisions relate to bribery and fair treatment of suppliers. In addition, critical environmental factors must be considered in the packaging, design, and disposal of products. The concept of 'reverse logistics' is discussed in detail, which deals with manufacturer implementation of warranty, recycling/refurbishing, and repurchase of its products. Field research combined with Duquesne SCM software, will provide students experience in SCM strategic development and integration."

For additional courses on related subjects, or to download select syllabi, search thousands of descriptions at [Beyond Grey Pinstripes](#).



NOTABLE TEACHING MATERIALS:

Materials referenced are meant to represent the diversity of related teaching resources available at Caseplace.org. Most are available as free downloads to registered faculty members.

- **Case Study:** [Charles Veillon, S.A.](#)
Source: Harvard Business School Publishing
The top management team at Charles Veillon, a Swiss mail-order company, is considering whether to work with a human rights organization to monitor the labor practices of its suppliers. A particular concern is avoiding child labor and other forms of workplace coercion.
- **Magazine Article:** [Green is Good for Business](#)
Source: Corporate Responsibility Officer
Companies like General Electric and DuPont use sustainable practices to reshape their supply chain management, while Nike and Wal-Mart focus their environmental efforts on one of the most widely traded resources in the world.
- **Case Study:** [Esquel Group: Transforming Into a Vertically Integrated, Service-Oriented, Leading Manufacturer of Quality Cotton Apparel](#)
Source: Stanford University Press
Over the years Esquel, which was part of an old-fashioned industry, gradually grew to become a larger and more modern organization. While striving to run a successful business, Esquel also took steps to ensure the well-being of its employees and to have a positive impact on society, and was devoted to protecting the environment in areas where it operated.
- **Teaching Module:** [Preparing to be the Stakeholder Relationship Manager: The Case of Wal-Mart](#)
Source: Caseplace.org
Wal-Mart is a case of an organization with a core strategy that appears successful financially but whose future is potentially threatened by a range of stakeholders who question the social impacts of this business model. The job description for Wal-Mart's newly created "Senior Director for Stakeholder Management" seeks "an innovative, out-of-the-box thinker" who can work on the company's commitments in areas including labor and wages, health care, product sourcing, and the environment. Are business schools today training leaders who could fill this role?

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This Teaching Module gathers a range of readings in the areas such an executive would need to address, using Wal-Mart's issues as illustrations. The readings reflect a range of viewpoints, supportive of Wal-Mart and its proposals, critical of Wal-Mart and its impact locally and globally, or attempting to give a balanced assessment of Wal-Mart.

ONGOING QUESTIONS:

- To what degree do high-profile efforts to influence particular corporate supply chains-like that of Wal-Mart, for instance- influence other companies to do the same? What role can academics play to transfer this specialized knowledge from one practitioner to another?
- Will the rich social and environmental content of supply chain management electives make its way into core operations management courses?
- Excellence in supply chain management seems increasingly to rely on mastery of social and environmental issues. Have expectations of MBA recruiters changed to reflect this apparent reality?

RESOURCES:

BeyondGreyPinstripes.org – World's biggest MBA database, including detailed records on thousands of courses and information on extracurriculars, university centers, and more, for 128 schools on six continents.

CasePlace.org – A free and practical on-line resource for up-to-date case studies, syllabi, and innovative teaching materials on business and sustainability. Created for the educators who will shape our next generation of business leaders!

A Closer Look is a regular series of briefing papers on topical issues in MBA education, based on the research and programs of the Aspen Institute. The [Aspen Institute Business and Society Program](http://AspenInstitute.org) works with senior corporate executives and MBA educators to prepare business leaders who will effectively manage the financial, social, and environmental impacts of the private sector.

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