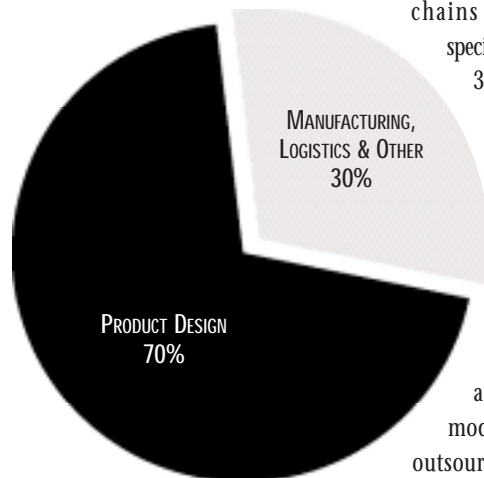


# FACULTY NOTES

## PUTTING HUMPTY-DUMPTY BACK TOGETHER AGAIN

In the New Economy, many formerly vertically integrated firms have broken up into supply chains of narrowly focused specialists. Firms such as IBM, 3M and General Motors now delegate many of the activities they once performed in house to a network of specialist suppliers. Hewlett-Packard, for example, like many firms in recent years, has chosen an especially radical model of disaggregation by outsourcing everything except product integration.



### Total product costs as a function of product design

*Studies by Nevins and Whitney show that approximately 70 percent of total product cost is determined by decisions made during the product development stage.*

Geoffrey Parker first noticed this trend while interviewing Hewlett-Packard employees who had recently graduated from MIT's elite Leaders in Manufacturing program. Many of these talented, highly paid managers, Parker noticed, were being used not to oversee areas within the company but to coordinate the internal activities of the firm with

Materials, Dell, Frito-Lay and General Electric have increasingly turned to overseas contractors not just for manufacturing but for product design and development as well, creating a thorny new challenge: How can businesses effectively manage the exchange of highly technical, highly interdependent information across a network of suppliers? In conversations with many firms, operations managers have said that their existing models of supplier management are inadequate for this new business model. This isn't surprising. The overwhelming majority of supply chain research and teaching concentrates on the coordination of logistics and manufacturing in the supply chain. However, from studies performed by Nevins and Whitney in the 1980s, it is known that approximately 70 percent of total product cost is determined by decisions made during the product development stage.

Parker and colleagues Edward G. Anderson Jr. and Alison Davis-Blake were recently awarded a National Science Foundation grant to explore



Geoffrey Parker

As the number of firms involved in the technical design increases, the design is broken into many intricate pieces that need to be reassembled into a coherent product.

"If the manufacturing is done by contract manufacturers who can be anywhere on the planet and the design is done in India or China," Parker says, "you'd better be really good at weaving the pieces back together or else you're in trouble."

Historically, mid-level managers were charged with maintaining a product's coherence within a firm, but the powers of traditional managers don't always work when you're dealing with a component supplier in Monterrey, a circuit-board maker in Suzhou, a software designer in Bangalore and a computer memory manufacturer in Seoul. "Ironically, you need much higher level people to do this as you start to draw on a global supply base," Parker says. "Your people may need to be higher bandwidth in the sense that they need to know more things and they need to have the ability to communicate on more levels. So you may be left with fewer people in an organization, but the ones

## ONE SOLUTION MANY FIRMS HAVE COME UP WITH IS A NEW MANAGEMENT AND ENGINEERING POSITION, THE SUPPLY CHAIN INTEGRATOR.

the external activities of overseas suppliers and contractors. "For the most part, they were being used as organizational glue," says Parker, assistant professor of management. "It was very interesting to me that that's how the company thought best to use them."

The observation sparked a new line of inquiry. Over the past decade, firms as diverse as Applied

how firms are integrating their supply chains in this new, rapidly evolving environment. Their study will focus primarily on firms that outsource product development, a trend that has not previously been the subject of intensive study.

As U.S. companies look abroad for product development and design work, they increasingly run the risk of the "Humpty-Dumpty" problem:

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who are left better be very good.”

One solution many firms have come up with is a new management and engineering position, the supply chain integrator, whose primary role is to maintain product coherence across multiple supplier—and geographic—boundaries. While these supply chain integrators tend to have a working knowledge of systems engineering, information technology, operations management and finance, they also tend to possess softer skills, like human resources and negotiations. “The problem in dealing with a supplier is that you don’t have as many tools at your discretion to manage them,” Parker explains. “If it’s internal, a manager can harass you every day. You can’t really do that to your suppliers, so you end up needing people who can, basically, ask nicely. It sounds ridiculous because you’re the customer, yet you’re operating in a mode where you have to be very friendly and very persuasive. Your big leverage is to switch suppliers, but that is often unrealistic due to the high costs.”

For their investigation, Parker and colleagues plan to interview supply chain integrators across industries to identify their skills and compile systematized data on their practices. Fifteen firms participated in the preliminary interviews and many more are scheduled to be interviewed over the course of the study. “The ability to coordinate the supply chain is really important,” Parker says in conclusion. “Being good at this matters. People can probably learn to do a good job at coordination eventually, but my suspicion is that firms will need to invest in this and they’ll need the help of universities to train effective personnel.”

## READING ASSIGNMENTS

Summer is often a time when professors enjoy catching up on their reading. We asked members of the Freeman School faculty what books kept them busy this summer.

**Bill Reese**, assistant professor of finance

*Theodore Rex* by Edmund Morris (Random House 2001)

“It is a biography of Theodore Roosevelt covering the years while he was president. Theodore Roosevelt was a man who, by the time he became president at age 42, had read 25,000 books, written 15, been governor of New York, a colonel in the army and a war hero, traveled all over the world, been a genuine western cowboy (owning a cattle ranch), been under secretary of the navy, New York City police commissioner, a graduate of Harvard Law School, an accomplished boxer, a husband, a widower, a father, and vice president of the United States. I’m undoubtedly leaving some things out, but the man was truly amazing, larger than life. *Theodore Rex* is the sequel to *The Rise of Theodore Roosevelt*, which I read earlier this year. The first book covered his life from birth until the time he became president upon the assassination

of William McKinley. Both books are excellent. They are history but read like a novel.”

**Art Brief**, Lawrence Martin Chair of Business

*Final Accounting: Ambition, Greed and the Fall of Arthur Andersen* by Barbara Toffler (Broadway Books 2003).

“This book details the fall of Arthur Andersen as seen by a fascinating insider. Toffler was partner in charge of Andersen’s business ethics practice and prior to entering consulting was a professor of organizational behavior at Harvard Business School. The book vividly describes why good people end up doing some awfully bad things at work.”

**Kenneth Berke**, adjunct professor of business and law

*Floating in my Mother’s Palm* by Ursula Hegi (Poseidon Press 1990)

“I can’t say I’ve enjoyed it. Although the book is sold as fiction, it reads to me like a memoir by someone I don’t find very interesting. I couldn’t find the novel in it; I couldn’t find the hidden agenda or the common thread or the kernel of truth that might have universalized its appeal. The book is set in post-war (WWII)



Kenneth Berke

Germany, but rarely could I feel the war’s having been there. I understand that Hegi wrote *Floating* before she wrote another book that was well received. Perhaps I should have read the other book.”



Jim Biteman

**Jim Biteman**, clinical professor of business administration

*The Politics of Fortune* by Jeffrey E. Garten (Harvard Business School Press 2002)

“It is about the new role of business in the world—not very far afield but not the usual business book. I’ve just begun to read it. So far it looks good.”

**Rita Durant**, visiting assistant professor of organizational behavior

*Crossing the Unknown Sea: Work as a Pilgrimage of Identity* by David Whyte (Riverhead Books 2001)

“Poet and corporate darling David Whyte weaves his adventures

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with admonitions for having courage to find, be and express who we are in our work. In the best tradition of Irish storytellers, Whyte's tales blur the boundaries between the real and the possible. As a result, we are invited to see our own lives as mythic."

**Peter Ricchiuti**, clinical professor of business administration

*Moneyball: The Art of Winning an Unfair Game* by Michael Lewis (W.W. Norton & Co. 2003)

"This book combines my two favorite interests: baseball and money. Michael Lewis, a New Orleans native, chronicles the success of the Oakland Athletics, a team with a red-chip payroll and blue-chip results. Since they don't have the dollars to compete with teams like the Yankees for the game's high-profile players, they optimize arcane statistical measures to select their personnel. The A's have averaged 102 victories per year with a starless ball club. Additionally, the book discusses the use of long-term contracts and

discounted future payouts. This is the kind of thing that can bring a tear to the eye of a finance professor."

**Frank Jaster**, clinical professor of corporate communication

*The Island of Lost Maps* by Miles Harvey (Random House 2000)

"It's the true literary crime/adventure story of a cartomaniac, a person who is obsessed with maps, and who travels the country



Frank Jaster

stealing maps from major university libraries around the country. It's also a fascinating look at the history of maps and mapmaking. Tulane and New Orleans figure into this odd tale of the subculture of map collectors, experts and thieves."

**Thomas Noe**, A. B. Freeman Chair of Finance

*De Jure Regni Apud Scotos* by George Buchanan (1753)

"In English, I think this would read literally 'The Right of Rule Amongst the Scots.' The book is specifically a defense of the forced abdication of Mary Queen of Scots and more generally an attack on the divine right of kings to govern. He argues that human association into states and social organizations is a reflection of innate human nature, not a product of the actions of a



Thomas Noe

founder/king. Human associations, like bodies, although formed naturally, are subject to distempers and diseases. The role of the king (or president or leader by any other name) is as a doctor for the body politic—a doctor who can be removed if s/he practices poorly. I saw this book in a very nice antiquarian bookstore (Cooper Hays) in Glasgow. It looked interesting, so I bought it."



John Elstrott

**John Elstrott**, clinical professor of entrepreneurship

*Founding Brothers: The Revolutionary Generation* by Joseph J. Ellis (Knopf 2000)

"It is an historical work that includes six compelling episodes involving seven key players in the formation of the United States. The

stories include the dramatic 1804 duel between Aaron Burr and Alexander Hamilton and the insightful correspondence between John Adams and Thomas Jefferson that ended with their simultaneous deaths on July 4, 1826, 50 years after the signing of the Declaration of Independence. Washington, Franklin and Madison are also included in the vignettes. The stories address the challenges these key founders of our country faced in trying to meld the ideals of the Declaration of Independence with the rights embodied in our Constitution."

## IN BRIEF

• **Laura Cardinal**, assistant professor of management, with S.B. Sitkin and C.P. Long, presented "Creating Control Configurations During Organizational Founding" and, with M.J. Fern, "From Corporate Strategy to Performance: The Effect of Interunit Knowledge Transfer on Innovativeness" at the Academy of Management meetings in Seattle, 2003. The presentations were published in the *Academy of Management Proceedings*. Cardinal also presented, with X. Xie and H.M. O'Neill, "Boards as Agents of Innovation: How Board Characteristics Affect R&D in Research Intensive Firms" at the meetings and served as program chair for the technology and management division.

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Amiya Chakravarty

• **Amiya Chakravarty**, professor of operations management, received the best published paper award from the Institute of Industrial Engineers Transactions for “Achieving Product Variety Through Optimal Choice of Module Variations,” *IIE Transactions*, May 2003. The paper was co-authored with N. Balakrishnan. Chakravarty contributed “Optimizing Prototyping Effort with an Evolving Product Design” to *IIE Transactions*, October 2003. In June 2003, Chakravarty presented the paper “Real Time B2B Information Sharing with Uncertainties” at the Euroma/POMS meeting at Lake Como, Italy.

• **Rita Durant**, visiting assistant professor of organizational behavior, contributed “Theorizing Limits: An Exploration of Boundaries, Learning, and Emancipation” to *Journal of Organizational Change Management* 16 (6). The article

was co-authored with James Cashman. Durant also contributed “Emergent Strategy Development for Organizations” to *Emergence* 5 (2). The article was co-authored with Adrian Carr and Alexis Downs.

• **Manish Kacker**, assistant professor of marketing, presented “Short and Long Term Effects of Nascent Strategic Decisions Within Franchised Channels of Distribution” with Rajiv Dant at the 25th INFORMS Marketing Science Conference. The conference took place at the University of Maryland on June 15, 2003. With Gary Lilien and Gerrit van Bruggen, Kacker presented “Aggregating Informant Reports in Institutional Research: Issues and Challenges” at a research workshop at Penn State University on June 17, 2003.



Leslie McNew

• **Leslie McNew**, clinical professor of finance, contributed the following articles to *The Risk Desk*, a monthly newsletter devoted to energy risk issues: “Contemplating Simulation Trading,” Aug. 30, 2002; “Is the New Market in Transmission a Hedger’s Paradise? New Risks, Opportunities Abound: Choose Your Study,” Nov. 29, 2002; “Clearing. I Said Clearing...,” Jan. 31, 2003; “Credit Is No Longer Other People’s Money,” Feb. 28,

2003; “Rethinking Your Risk Control Environment,” April 30, 2003; “Managing Operational Risk in the New RTO Structure,” June 30, 2003; “Using Clearing Now—An Example,” July 31, 2003. In addition, McNew delivered the presentation “True Cost of Selling Forward: A Look at the Basics: Capital and Other Risks” at the conference Minimize Credit and Capital Requirements in Energy Trading and Hedging with Multi-lateral Clearing and Netting. The conference took place June 12, 2003, in Houston.

• **Thomas Noe**, A. B. Freeman Chair of Finance, was named associate editor of *Review of Financial Studies*. The three-year appointment began July 1, 2003. *RFS* is one of the three most-respected journals in finance. Noe’s paper “Corporate Financing: An Artificial Agent-based Analysis,” co-authored with Michael Rebello and Jun Wang, was the lead article in *Journal of Finance*, 63, 943-973, 2003.

• **Geoffrey Parker**, assistant professor of management, was awarded the 2003 Wick Skinner Award for Early Career Achievements in research from the Production and Operations Management Society. The award was presented in April at the society’s annual meeting.



Paul Spindt

• **Paul Spindt**, Keehn Berry Chair of Banking and Finance, was recognized by *Journal of Financial Economics* for his 1989 paper “How Investment Bankers Determine the Offer Price and Allocation of New Issues.” The journal designated the paper, co-authored with L. Benveniste, as an All-Star Paper for having a consistent record of frequent citation over the years. Only about two paper per year are designated as JFE All-Stars.