

***Seventh E. Leonard Arnoff Memorial Lecture
on the Practice of Management Science***

"Leading Product Development - From Art to Science"

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7:30 P.M., Thursday, May 14, 1998

While the importance of new product development has long been recognized in high-tech settings, it has frequently been viewed as an art whose success depended more on serendipity and good fortune than on good management. In today's competitive environment, new technologies and new customer needs are making effective product development an imperative in virtually every business. Furthermore, the cost and time required are such that "hoping for the best" is no longer acceptable. Today's senior managers are learning that a much more scientific and systematic approach is not only essential, but can provide predictably outstanding results. Based on field based research in industries ranging from autos to computers and from medical devices to packaged goods, this presentation will focus on the principles and concepts that senior managers have found effective in creating and pursuing new products that are on target, on budget, and on time. (These concepts and tools include product development roadmaps, product line architecture, aggregate project planning, matching team types to project types, and capturing organizational learning.) The role of leadership in achieving superior results in product development will be highlighted.

***Steven C Wheelwright
Edsel Bryant Ford Professor of Business Administration
Harvard Business School***

Steve Wheelwright is the Edsel Bryant Ford Professor of Business Administration at Harvard Business School. He also currently serves as Senior Associate Dean and MBA Program Chair. Professor Wheelwright teaches the required first-year course in Technology and Operations Management.

Professor Wheelwright first taught at Harvard from 1971-79 and was the Thomas Henry Carroll-Ford Foundation Visiting Professor from 1985-86. He joined the Harvard faculty in 1988. In his years away from Harvard, he was the Kleiner, Perkins, Caufield and Byers Professor of Management at Stanford University Graduate School of Business. In his position at Stanford, he directed the strategic management program and was instrumental in initiating the manufacturing strategy program.

In his research, Professor Wheelwright examines product and process development and their connection with competitive advantage and operations excellence. He has co-authored several works with Harvard Business School colleague Kim Clark, most recently *Leading Product Development: The Senior Manager's Guide to Creating and Shaping the Enterprise* (Free Press, 1995). This and other related volumes present a set of concepts and tools proven particularly effective in technology-intensive settings where rapid, efficient, on-target product and process development play a central role in competitive advantage.

Along with Harvard colleagues Bob Hayes and Kim Clark, Professor Wheelwright has also published the highly regarded book, *Dynamic Manufacturing: Creating the Learning Organization* (Free Press, 1988), which analyzes some of the manufacturing industry's most pressing problems. It draws from experience in outstanding companies worldwide to suggest prerequisites for future success in manufacturing-based businesses. Professor Wheelwright is also the author or co-author of more than ten other books.

Professor Wheelwright has a B.S. degree in Mathematics from the University of Utah and an M.B.A. and Ph.D. from Stanford University's Graduate School of Business. In addition to his Harvard and Stanford

positions, Professor Wheelwright served on the faculty of INSEAD (European Institute of Management) in Fountainebleau, France. He was Vice President of Sales in a family-owned printing company and has consulted in the areas of business/operations strategy and improving development capabilities. Professor Wheelwright currently serves on the board of Quantum Corporation (disk drives), Heartport (less-invasive medical procedures/devices), TJ International (building products), O.C. Tanner Company (service awards), and Franklin-Covey (corporate training).

“Seventh Arnoff Lecture”

Portfolio, University of Cincinnati, College of Business

Administration, Volume 14, p. 12, Fall, 1998.

Steven C. Wheelwright (Harvard University) presented the seventh E. Leonard Arnoff Lecture on the Practice of Management Science on May 14, His lecture, entitled ***“Leading Product Development – from Art to Science”***, was presented to 180 faculty, students, and members of the business community in the Carl H. Lindner Hall Auditorium. Wheelwright is the Edsel Bryant Ford Professor of Business Administration at Harvard, and serves as Senior Associate Dean and MBA Program Chair.

In his research, Wheelwright examines product and process development and their connection with competitive advantage and operations excellence. While the importance of new product development has long been recognized in high-tech settings, it has frequently been viewed as an art whose success depended more on serendipity and good fortune than on good management. During his lecture, Wheelwright highlighted the role of leadership in achieving superior results in product development.

Master of Ceremonies Transcript

1. Good Evening and Welcome to the Seventh E. Leonard Arnoff Memorial Lecture on the Practice of Management Science. My name is David Rogers and I am an Associate Professor of Quantitative Analysis and Operations Management. Welcome to the University of Cincinnati and the College of Business Administration. Please leave a business card in the fish bowl outside or use the sign-up sheet to receive future mailings. Also pick up any literature regarding CBA programs and a copy of our magazine the CBA Portfolio.
2. Tonight’s lecture is sponsored by:
Department of Quantitative Analysis and Operations Management in the College of
Business Administration
Omega Rho International Honor Society for Operations Research & Management Science
INFORMS - Institute for Operations Research and the Management Sciences
Grants from Procter & Gamble and MMA/Carat
Numerous individuals who have donated to the endowment for the Arnoff Lecture.
Please contact me or anyone in the CBA offices if you or your company would like to be a part of sponsoring this endowment.
2. We have been very fortunate to have an outstanding history of speakers of great notoriety and professional accomplishment for the Arnoff Lecture Series including:
Robert E.D. (Gene) Woolsey
Thomas Cook
Saul I. Gass
Alfred Blumstein
Russell Ackoff
John D.C. Little
We are very proud to add tonight’s speaker to this impressive list of past speakers.
3. It is very appropriate that the Dean for the College of Business Administration has a background in Marketing since tonight’s topic is one of general concern to marketing professionals. At this time I would like to ask Dean Fritz Russ to say a few words on behalf of the college.
5. Many individuals have been involved with organizing the lecture this year and I would like to recognize some of them now.
Judy Magazine, Evelyn Schott, and Meg Poehlman who have been juggling many of the various details.

Our Student Ambassadors: Janet Junk, Elizabeth Shipman, and Renee Schotte
QAOM Department faculty Michael Magazine and Jeffrey Camm

6. Len Arnoff was Former Dean of the CBA, Partner in Ernst & Whinney (now Ernst & Young) and coauthor with Wes Churchman and Russell Ackoff of the first book in Operations Research. It is in his memory that we dedicate this series of lectures. A standing tradition is that we only introduce the Len's immediate family and I would like to do so at this time by introducing Len's wife Ann Arnoff and daughter Sue Spohr. Let's give them a nice applause.
7. When our speaker this evening returns to Harvard and his colleagues ask how the Cincinnati trip went, he can proudly say that he had a full house and a very high Nielsen rating in spite of being opposite the final show of Seinfeld. I suspect this crowd can be attributed to his lecture being about "something" important rather than about "nothing"! Please, put away your cell phones. No calling home allowed to get the VCR turned on.
8. After the lecture, please remain seated for a short presentation. We have asked someone to introduce the speaker who is intimately familiar with his research. I would like to introduce from the Department of Management, Ms. Marianne Lewis.
9. For a presentation for our speaker, I would now like to introduce Professor Jeffrey Camm, Head of the Department of Quantitative Analysis and Operations Management.
10. All are welcome to a reception in the foyer down the hall. Thanks and Good Night.