

## Technology and Operations Strategy

Fall 2017

### Instructors:

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### Summary

This course focuses on the roles technology & operations play in the development and implementation of strategy. In the core Strategy Formulation course, you learned about the foundations of corporate success and how managers can devise a set of actions (the strategy) to achieve a competitive edge. Strategy development, at a fundamental level, is to identify an effective match between a firm's distinctive capabilities and selected markets.

This course takes a new look at strategy formulation/implementation: we will focus on a firm's key operational and technological decisions (e.g., processes, capacities, technologies, process improvement, project management, supply chains) in order to understand how effective the firm's resulting operational capabilities (e.g., cost, quality, flexibility, delivery) match the markets it strives to serve.

Conversely, we will also consider how to translate a business strategy into a set of actions and how these actions can be measured and supported for continuous improvements. However, given shifting market trends and evolving industry dynamics, a short-term match between capabilities and current markets does not necessarily imply a sustainable competitive advantage. What operational and technological capabilities a firm chooses to develop can have a profound impact on its strategic options in the future. In other words, strategic operational decisions made today will determine the firm's operational capabilities tomorrow which in turn influence its business strategy in the future. Consequently, we will also try to emphasize the long-term impact of strategic operational and technological decisions.

We will typically have classes in the morning and visit facilities to illustrate the deployment of technology and operations strategy concepts in the afternoons.

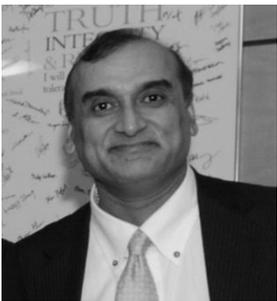
## Faculty:



**Nelson M. Fraiman** is Professor of Professional Practice and Director of the W. Edwards Deming Center. Professor Fraiman joined Columbia Business School in 1995. He is a professor of practice in the Decision, Risk, and Operations division and is director of the W. Edwards Deming Center for Quality, Productivity and Competitiveness.

He teaches the core Operations Management course. He is also the Faculty director of ECLA (Entrepreneurship and Competitiveness in Latin America), a program for Latin American entrepreneurs who aim to be successful across borders.

Prior to Columbia Business School he spent seventeen years in industry and consulting. His last job was with International Paper where he was chief technology officer for eight manufacturing divisions. His current research centers on entrepreneurship and process improvement. He has written cases on operational excellence on the Ritz Carlton Hotel and the supply chain strategies of Zara and Mango. He has also conducted executive education programs in Asia, Europe, Latin America and the Middle East. Professor Fraiman holds a B.S. in Industrial Engineering, an M.S., M.B.A., and a Ph.D., all from Columbia University.



**Medini R. Singh** comes to Columbia from the Tuck School of Business at Dartmouth. At Tuck, Singh taught the MBA core course in operations management for the last six years. He has also taught MBA electives on time-based competition and simulation modeling. Singh has also taught in the Department of Industrial and Operations Engineering at the University of Michigan, Ann Arbor, where he won the 1991 Teacher of the Year Award. His research interests are in the areas of modeling, analysis and optimization of manufacturing and service systems. His current research focuses on the impact of demand and supply uncertainties on the performance of supply chains. Singh has published numerous articles on the impact of yield, demand and supply uncertainties on the performance of manufacturing systems. He has also consulted for several Fortune 500 companies. His PhD is from Carnegie Mellon University.

## Deliverables:

The class will be divided into teams of five to six members. Each subsection of the team will be responsible for preparing and delivering to the class a seven to ten minute presentation on their assigned topic. In addition, the class participants need to complete the appropriate poll before discussion of the case in class.

## Grading:

Your grade in the course will be based on your individual as well as group efforts and performance. Your performance will be judged through a variety of mechanisms that will enable us to assess your understanding of the tools and concepts covered your ability to synthesize, integrate, and apply them, and your contributions to the class's learning experience. Thus, in determining your course grade, we will use the following grading scheme to help us judge your performance:

<b>Class Participation</b>	<b>40%</b>
<b>Sub team Presentation</b>	<b>30%</b>
<b>Participation in Poll</b>	<b>30%</b>