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**GRADUATE SCHOOL OF BUSINESS**

**COLUMBIA UNIVERSITY**

**B8106 OPERATIONS STRATEGY**

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COURSE OBJECTIVE

This course focuses on the roles operations plays 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. Our course takes a new look at strategy formulation/implementation: we focus on a firm’s key operational decisions (e.g., processes, capacities, 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 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 decisions.

We will cover a wide range of topics. In the first module, *Strategic Alignment*, we consider 1) how a firm’s operations can be set up to support its mission, 2) how a firm can defend itself with operations when it is attacked by a competitor, and 3) how a business unit’s mission to a large extent determines how it operates and its overall cost structure. In the second module, *Strategic Operational Decisions*, we study 1) how a firm can install capacity to preempt market entry by competitors, 2) the strategic choice of capacity type and its impact on product launch, 3) innovation in product-process designs, 4) firm-boundary issues, i.e., what activities to be performed in house and what to outsource and/or offshore, and the long-term impact of these decisions on the industry structure and the balance of power, 5) how a global manufacturing network can be leveraged to mitigate risks, and 6) how a strategic mission can be translated into a set of operational activities and how these activities can be measured and supported for continuous improvements. The third module of the course, *New Opportunities and Challenges*, provides a forum to discuss the “the next big thing” in business and what it means for operations. Possible topics include sustainability and corporate social responsibilities. Overall, the course aims to instill a deep appreciation of the various roles operations can play in creating and sustaining a competitive advantage. The lessons taught in the course are not only critical for positions in consulting and general management but also for students who aspire to work as entrepreneurs or in investment banking.

COURSE ADMINISTRATION

The primary method of instruction is case discussions. We have a broad range of cases from a variety of industries, including both manufacturing and service industries. There will be a case assigned for every class. The cases put you in a realistic setting and give you an opportunity to examine a firm’s business environment, to critically evaluate its operations, and to formulate an operations strategy for the firm going forward. Proper preparation is essential. It is important that you attend the classes, but it is even more important that you come prepared. The guiding questions for each case are meant to help you prepare for the class. You may find it especially useful to meet in study groups to discuss the case and follow the guiding questions before each class.

There are no textbooks for this course. The cases and relevant articles are included in a Readings Book, which will be available before the first class. Other materials may be handed out in class or posted on Canvas.

Your grade in the course will be determined by

Class Preparation 20%

Class Participation 30%

Final Exam 50%

*Class Preparation & Attendance*

Class Preparation comprises 20% of your grade. For every class, there will be a **Poll question(s)** that must be answered by **8:30am the day of class**. You will get full credit for class preparation as long as you answer the poll questions with a response that you can defend in class. Answers do not have to be ‘correct.’ In fact, many of the questions will not have ‘right or wrong’ answers.

*Class Participation*

Class participation comprises 30% of your grade. Class participation is judged on the extent to which you appear prepared, the relevance and depth of your comments, the degree to which you listen carefully and respond to your peers, and your willingness to take chances in order to further the educational experiences of others. **Please bring your name card to class**.

*Final Exam*

The remaining 50% of your course grade will be based on a final in-class exam. The exam will be open book and open notes.

*A Final Comment*

Please remember that Business School classes take place in an environment that supports learning and encourages the exchange of ideas. Behavior that distracts students and the professor negatively affects the learning environment.  For example,

- using electronic devices (including laptops) for purposes not authorized by the professor,

- arriving late to class or leaving early, and

- walking in and out during class

are particularly detrimental to the classroom environment. Such conduct violates the School's Code of Professional Conduct and/or the School's Electronic Device Policy and is disrespectful to classmates and instructors.

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| MODULE I: STRATEGIC ALIGNMENT |

 **Class 1: Process Alignment**

*Case: Shouldice Hospital Limited (Abridged)*

**Guiding questions:**

1. How successful is the Shouldice Hospital?
2. What are the elements of Shouldice’s operations strategy that are responsible for its performance?
3. As Dr. Shouldice, what actions, if any, would you take to expand the hospital’s capacity?
4. How would you implement changes you propose?

**Please answer Poll Questions on Canvas.**

**Class 2: Strategic Audit I**

*Case: American Connector Company (A)*

**Guiding questions:**

1. How serious is the threat of DJC to American Connector Company?
2. How big are the cost differences between DJC and American Connector’s Sunnyvale plant? Consider both DJC’s performance in Kawasaki and its potential in the United States.
3. What accounts for these differences? How much of the differences is inherent in the way each of the two companies compete? How much is due strictly to differences in the efficiency of the operations?
4. What should American Connector’s management at the Sunnyvale plant do?

**Please answer Poll Questions on Canvas.**

**Class 3: Strategic Audit II**

*Case: Wriston Manufacturing Corporation*

**Guiding questions:**

1. What motivated the Detroit Plant Study? What are the key findings?
2. How do you explain the performance differences between the Detroit Plant and the other sister plants?
3. What are your recommendations to Richard Sullivan regarding the fate of the Detroit Plant?

**Please answer Poll Questions on Canvas.**

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| MODULE II: STRATEGIC OPERATIONAL DECISIONS |

**Class 4: Preemptive Capacity Expansion**

*Case: Du Pont’s Titanium Dioxide Business (A)*

**Guiding questions:**

1. What is Du Pont’s competitive position in the titanium dioxide industry in 1972?
2. As chairman of Du Pont’s Executive Committee, would you vote in favor of preemption?
3. What does Du Pont have to do in order to preempt?

**Please answer Poll Questions on Canvas.**

**Class 5: Manufacturing Flexibility**

*Case: Detroit Motors (2009)*

**Assignment:**

Prepare the questions at the end of the case. Instead of poll questions, hand in your answers to Question 2 of the case at the beginning of class.

**Class 6: Flexible Capacity and Product Launch**

*Case: Eli Lilly and Company: The Flexible Facility Decision (1993)*

**Guiding questions:**

1. How has the competitive environment in pharmaceuticals been changing over the past few years? What are the implications for the role of manufacturing within Eli Lilly?
2. How does each facilities option affect Lilly’s cost structure, capacity management and product development capabilities? For what type of products does the proposed flexible facility provide an efficient (i.e. low cost) manufacturing capability?
3. What type of flexibility does the “flexible facility” provide? What is the value of this flexibility to Eli Lilly? How much is Lilly paying for this flexibility?
4. Given Lilly’s strategic goals in the 1990s, which option should Steve Mueller recommend? Are there other options that Lilly should be contemplating? If so, what are they?

**Please answer Poll Questions on Canvas.**

**Class 7: Firm Boundary I**

 *Case: Flextronics International, Ltd.*

 **Guiding questions:**

1. What factors account for the dramatic growth of the electronics manufacturing services (EMS) industry during the 1990s? How would you rate Flextronics’ performance during this period?
2. What are the most important operational issues that Flextronics must consider as it moves into product design?
3. Do you believe that moving into product design is a good idea for Flextronics? If yes, explain your rationale and decide whether you would want an exclusive relationship for Phone 4. If no, what alternate strategy would you recommend?

**Please answer Poll Questions on Canvas.**

**Class 8: Firm Boundary II**

 *Case: Strategic Outsourcing at Bharti Airtel Limited*

 **Guiding questions:**

1. What must Bharti do well to succeed in the Indian mobile phone market? What are Bharti’s core competencies?
2. Do you think Bharti should enter the outsourcing agreements outlined by Gupta? What do you see as advantages and disadvantages of such agreements? How do the different outsourcing agreements work towards building these core competencies?
3. If you were Bharti, what major concerns would you have about entering an outsourcing agreement with IBM? With Ericsson, Nokia, or Siemens?
4. How would you structure the agreements to address your concerns and capture any advantages you have identified? What governance mechanisms would you design for the agreements?
5. Assume the role of IBM or Nokia. What major concerns would you have about entering an agreement with Bharti? How would you structure the agreement and the governance mechanisms?

**Please answer Poll Questions on Canvas.**

**Class 9: Quick Response**

 *Case: Benetton (A) (1989)*

**Guiding questions:**

**(Our emphasis will be on understanding the elements of quick response strategies.)**

1. What are the most important elements of Benetton’s logistics, manufacturing, and financial strategies (Answer the Poll Questions in Angel.)
2. How does it gain advantage over its competition in Europe? How does it manages risks to its operation?
3. Which of these important elements of strategy and sources of competitive advantage can it maintain in the U.S. market?

**Please answer Poll Questions on Canvas.**

**Class 10: Serving the Bottom of the Pyramid**

 *Case: The Aravind Eye Hospital, Madurai, India: In Service for Sight*

 **Guiding questions:**

1. Can you identify the key factors that have led to Aravind’s success? What has Dr. V’s role been in all this?
2. What has been the role of Aravind’s clinical and support staff in all this? Are they dedicated and altruistic or do they have an ulterior motive?
3. How are the satellite hospitals at Tirunelveli (best labeled T-Valley) and Theni doing?
4. How do you evaluate the quality of service at the free hospital? At the paying hospital?
5. Are there any weaknesses at all with the Aravind model of delivering eye care?

**Please answer Poll Questions on Canvas.**

**Class 11: A Topic TBD**

**Class 12: Course Summary**