TOPIC: Operations Strategy I

OBJECTIVES & COMPETENCIES:

In this module we transition from operational tactical decisions to operational strategic decisions. Investment decisions in capacity and capabilities represent a significant challenge as they normally have very long lead times and once deployed represent a major source of inertia for the organization — i.e., it is difficult to change strategy once long lasting resources have been committed, e.g., plants that could be an operational life of 20+ years. The module will explicitly explore this decision space in the context of an operating manager attempting to develop a sustainable competitive advantage.

- Understand the effect of uncertainty on capacity planning and operations strategy.
- Understand the challenges of capacity expansion where capacity cannot be added in small increments and only through long lead times
- Assess the details of operational planning based on estimates of future demand.
- Understand the economic and political challenges of plant optimization.
- Explore the determinants of plant productivity and profitability.

KEY CONTENT:

- Operations Strategy
- Capacity Planning
- Planning under Uncertainty
- Plant Specialization
- Plant Network Optimization

PREPARATION READING & ASSIGNMENTS:

- Managing Inventories: What is the Appropriate Order Quantity?
- Paper and More (A). Harvard Business School Case
- Genentech – Capacity Planning. Harvard Business School Case
- Wriston Manufacturing Corporation. Harvard Business School Case

Continued on back
ASSIGNMENT QUESTIONS:

Managing Inventories: What is the Appropriate Order Quantity?
Paper and More (A)
Paper and More (A) Spreadsheet Supplement

1. The EOQ model is set to balance the cost of ordering vs. the cost of holding inventory. However, the model makes a set of ‘Olympic’ (unrealistic) assumptions (e.g., leveled demand, no quantity discounts, etc.) that makes the model seem like a caricature. Why do you think we are spending time and energy understanding this model 100 years after it was introduced?

2. Perform the analyses outlined in case Paper and More (A), and address all the questions in Analysis 1 in the case.

3. The Paper and More case introduced the newsvendor model that aims to balance the cost of overstocking vs. understocking. What are the main differences in assumptions between the EOQ and the newsvendor models? Why doesn’t EOQ consider the cost of understocking? Why doesn’t newsvendor consider the cost of ordering?

4. A cursory assessment of the two models could render them as alternatives for different situations. How could these models be complementary? That is, how could you use them together?

Genentech — Capacity Planning
Genentech — Capacity Planning Base Case Spreadsheet Model

For the assignment questions, please assume the following:

a. Each of the two contract manufacturers can devote two 10,000 liter tank lines to Genentech production, and Genentech hopes they will achieve yields similar to those at Genentech’s own plants. These tanks will be fully utilized in the production of Rituxan and Herceptin.

b. Industry experts make demand forecasts for drugs like Avastin, but a number of sources of uncertainty—yet to be determined dosage amounts and treatment regimens, unexpected problems in the FDA’s approval process, unexpected success or failure of a competitor’s product, and unexpectedly large or small consumer uptake—means that real demand will depart from the experts’ forecasts. For purposes of our case discussion, assume that future demand is distributed normally, centered on the experts’ forecasts, and with variation such that one standard deviation is about 25 percent of the expected demand. For example, if expected demand is 100 kg per year, then 85th percentile demand (about one standard deviation above the expected demand) would be 125 kg per year.

c. Please note that there is a typo in page 8 of the case. The average patient dosage is 0.375 g, not 0.375 kg.

Continued on next page
Questions:

5. What is your evaluation of Genentech’s production capacity requirements given expected demand in 2010 and 2015 for Avastin and Genentech’s other products as per Exhibit 3? Does your evaluation change if Genentech wants to cover the 85th-percentile level of demand?

6. Assuming Genentech decides to proceed with CCP3, what size production lines (tank sizes) would you recommend? Why? What criteria should Ebersman use in selecting a location? Why? Should Ebersman move forward with CCP3 now? (If not, when?)

7. What recommendations would you make to Ebersman regarding the process he and his team should use in deciding how best to meet the demands for Avastin?

8. A contract manufacturing firm has had an unexpected reduction in demand for a drug it produces. It is now offering to devote four 10,000 liter lines to the production of Avastin at a price similar to Genentech’s existing contract manufacturing agreements. How should Ebersman respond?

Wriston Manufacturing Corporation
Wriston Manufacturing Corporation, Spreadsheet Supplement

This case provides our first opportunity to examine a multi-plant manufacturing network, where each plant has a specific mission to fulfill in the firm’s overall manufacturing strategy. It also gives us the opportunity to examine the drivers of a plant’s capabilities to manufacture products at low cost – factors such as wage rates, plant age, size or scale, and the breath of the product line it manufactures. Questions:

1. Study Exhibit 2 in the case carefully. Can you explain why overhead costs vary so greatly from plant to plant in Wriston Manufacturing’s system?

2. Why have managers in the Wriston Manufacturing Co. underinvested in the Detroit Plant?

Should Richard Sullivan close the Detroit Plant? If so, what should he do with the products currently manufactured in Detroit? Should he follow the recommendations of his task force? If you believe he should continue to operate the plant, what, if anything, should he do to transform it into a profitable cooperation?
TOPIC: Operations Strategy II

OBJECTIVES & COMPETENCIES:
In this module we transition from operational tactical decisions to operational strategic decisions. Investment decisions in capacity and capabilities represent a significant challenge as they normally have very long lead times and once deployed represent a major source of inertia for the organization — i.e., it is difficult to change strategy once long lasting resources have been committed, e.g., plants that could be an operational life of 20+ years. The module will explicitly explore this decision space in the context of an operating manager attempting to develop a sustainable competitive advantage.

- Understand the role IT to standardize and coordinate a supply chain.
- Understand the critical role of aligning IT strategy with corporate strategy.
- Identify the key success factors in IT implementation projects.
- Understand the role of forecasting in supply chain coordination.
- Understand the economic and political challenges of supply chain coordination.

KEY CONTENT:

- IT strategy
- IT support of operating strategy
- Project leadership
- Change management
- Project Management

PREPARATION READING & ASSIGNMENTS:

- Display Technologies, Inc. (Abridged) Harvard Business School
- Southwest Airlines in Baltimore. Harvard Business School

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ASSIGNMENT QUESTIONS:

Dr. Rogelio Oliva
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Display Technologies Incorporated
1. What are DTI’s strengths and weaknesses? What does it deliver to its customers that Sharp and other competitors do not?
2. What must DTI do to be successful? Would these be different if DTI were not a joint venture of the two giants, IBM and Toshiba? What does it take to be outstanding in the flat panel display business?
3. What principles and concepts does one apply to improving a complex production system such as flat panel process technology?
4. What should Shima-san do? How will his previous experience shape his decision?

Southwest Airlines in Baltimore
Southwest Airlines in Baltimore, Spreadsheet Supplement
1. How does Southwest Airlines (SWA) compete? What are its advantages relative to other airlines?
2. The plane turnaround process requires coordination among twelve functional groups at SWA to, in a brief period of time, service an incoming plane and match it up with its new passengers and baggage for a prompt departure. Please evaluate the plane turnaround process at Baltimore - resource utilization, capacity, bottlenecks, information flows, etc. How is the process working?
3. Why is the operational performance at Baltimore eroding? What issues do you identify that require action?
4. What would you recommend that Matt Hafner do?
TOPIC: Supply Chain Management I

OBJECTIVES & COMPETENCIES:

In this module we move outside of the organizational boundaries and explore the role of an operating system within the context of a full supply chain — the series of echelons that transform raw materials into finish products and distributes them to the final customer. The focus on supply chain management only became feasible because of the revolution in information technology. As information technology’s power and ubiquity have grown, it has modified the strategic and competitive landscape of most industries. Through a series of cases we will explicitly evaluate the alignment of IT and corporate strategy and assess IT as a source of sustainable competitive advantage. The module will also explore the political and contractual challenges of managing a process that cuts across different organizations with different ownership.

- Identify the purpose of supply chain.
- Identify the challenges and tradeoffs in managing a supply chain.
- Understand how to analyze a process.
- Identify performance implications of different process design choices.

KEY CONTENT:

- Supply Chain – definitions & challenges
- Bullwhip Effect
- Role of information (speed/accuracy) in managing a supply chain
- Strategic process alignment

PREPARATION READING & ASSIGNMENTS:

- Barilla SpA (A). Harvard Business School Case

Continued on back
**ASSIGNMENT QUESTIONS:**

Case: Barilla SpA (A) (HBS 694-046)

**Assignment:**

Questions:

9. Diagnose the underlying causes of the difficulties that the JITD program was created to solve. What are the benefits and drawbacks of this program?

10. How exactly is JITD supposed to work? What are the changes in information flows and decision-making locus that JITD proposes? Do you think it is a good idea? If implemented, would it work?

11. What conflicts or barriers internal to Barilla does the JITD program create? What causes these conflicts? As Giorgio Maggiali, how would you deal with these?

12. As one of Barilla's customers, what would your response to JITD be? Why?

13. In the environment in which Barilla operated in 1990, do you believe JITD (or a similar kind of program) would be feasible? Effective? If so, which customers would you target next? How would you convince them that the JITD program was worth trying? If not, what alternatives would you suggest to combat some of the difficulties that Barilla's operating system faces?

Zara: IT for Fast Fashion (604-081)

d. How would you advise Salgado to proceed on the issue of upgrading the POS terminals? Should he upgrade a modern operating system? Should the POS applications be re-written to include any additional functionality? If so, what functionality?

e. In your opinion, what are the most important aspects of Zara's approach to information technology? Are these approaches applicable and appropriate anywhere? If not, where would the NOT work well?

f. What benefits does Inditex/Zara get from its IT infrastructure? How difficult would it be for a competitor to acquire the same benefits?

g. What current or potential weaknesses (if any) do you see in Zara's IT infrastructure and IT strategy?
TOPIC: Supply Chain Management II

OBJECTIVES & COMPETENCIES:

In this module we move outside of the organizational boundaries and explore the role of an operating system within the context of a full supply chain — the series of echelons that transform raw materials into finish products and distributes them to the final customer. The focus on supply chain management only became feasible because of the revolution in information technology. As information technology’s power and ubiquity have grown, it has modified the strategic and competitive landscape of most industries. Through a series of cases we will explicitly evaluate the alignment of IT and corporate strategy and assess IT as a source of sustainable competitive advantage. The module will also explore the political and contractual challenges of managing a process that cuts across different organizations with different ownership.

- Understand the role IT to standardize and coordinate a supply chain.
- Understand the critical role of aligning IT strategy with corporate strategy.
- Identify the key success factors in IT implementation projects.
- Understand the role of forecasting in supply chain coordination.
- Understand the economic and political challenges of supply chain coordination.

KEY CONTENT:

- IT strategy
- IT support of operating strategy
- Project leadership
- Change management
- Project Management

PREPARATION READING & ASSIGNMENTS:

- Otis Elevator: Accelerating Business Transformation with IT. Harvard Business School
- Foremostco, Inc. (A). Harvard Business School Case
- Leitax (A). Harvard Business School Case

Continued on back
ASSIGNMENT QUESTIONS:

Otis Elevator: Accelerating Business Transformation with IT (305-048)
1. Why would a manufacturing organization decide to transform itself into a service organization? What are the major challenges of this transition?
2. What is your assessment of the role of OTISLINE in the new orientation that the firm has chosen? What were the major cultural challenges in introducing OTISLINE? Could a CIO introduce these changes?
3. How does the deployed IT infrastructure, i.e., e*Logistic, support the new goal of reducing the order-to-handover cycle time?
4. What would you recommend Bousbib to adopt as the BHAG for "next transformation" to become the #1 service company in the world?

Foremostco, Inc. (A) (604-017)
1. Why did this project get into so much trouble?
2. How would you have ensured that progress was being made in the development of the new system?
3. Under what circumstances would you write your own software rather than buying packaged software?
4. During implementation, what might you have done to prepare employees for the change?
5. What will you do to recover from the crisis described at the end of the case?

Case: Leitax (A) (606-002)
1. Based on the description of planning system before the Redesign Project which function or individuals should be held responsible for the planning problems in FY 2002? In FY 2004?
2. What is your assessment of the consensus forecasting process?
3. Based on the description in the text and the evidence in Exhibits 6 and 9, what went wrong with the SF6000 forecast?
4. What are the core elements that Fowler and McMillan should strive to maintain?
5. How would you recommend the process be improved if at all?