

Course Outline

Course Code : DOS3704
Course Title : Operations Strategy
Class Date : From 15/1/2024 To 19/4/2024
Semester : Semester 2, Academic Year 2023_24
Faculty : Mei Qi, PhD
Department : Analytics & Operations
Email : bizqm@nus.edu.sg
URL : <https://bizfaculty.nus.edu.sg/faculty-details/?profId=134>
Telephone : 65161335

Overview

How did ZARA become one of the fastest growing and most profitable brands in fashion retailing? How did Wal-Mart grow to be the world's largest retailer? To a large extent the answer is that ZARA and Wal-Mart view their operational capabilities as an important and integral part of their competitive advantage. As do other successful companies, such as Procter & Gamble, Toyota, and Coca Cola, they invest strategically in physical plants and facilities, in process and information technology, in employee, supplier, and distributor relationships, and perhaps most importantly, in organizational practices and know-hows.

Today's successful organizations have to delicately juggle between customers' requirements of the lowest cost, the best quality, prompt delivery and flexibility to ensure products and services of their choice. This module is structured to focus on how to achieve these multiple objectives with operations strategy. It can help students to understand that operations can create a significant competitive advantage, when matching demand with supply, through strategic choices regarding a firm's processes, technologies, capacity, location, flexibility, timing, learning and innovation.

Course Objectives

After taking this course students will be able to analyze and improve a company's operations strategy. More specifically, students will be able to:

- List and explain the range of strategic choices to be made in operations strategy
- List and explain the various links between operations and other business functions
- Analyze and describe the internal and external factors that influence strategic operational investments
- Analyze and describe the connection between operations strategy and the firm's business strategy and competitive position
- List and describe basic principles that lead to an organization's operational success
- Assess an existing operations strategy by identifying its key elements and by evaluating it qualitatively and financially
- Improve an operations strategy by analyzing key drivers and decisions for each element and by developing recommendations and implementation plans

Assessment

Assessment Components	Weightage
Class participation	20% (individual score)
Group assignments	25% (group score, but if there is a clear reason to do so I may upgrade or downgrade certain individuals in the group)
Group project	25% (group score, but if there is a clear reason to do so I may upgrade or downgrade certain individuals in the group)
Peer evaluations	10% (individual score)
Final Test	20% (individual score)

Schedule and Outline

Week	Date	Session (lesson topics, outline, readings & cases)
1	SA1: 18/1/2024 SA2: 19/1/2024	<p><u>Introduction of Operations Strategy Framework</u></p> <p>What is operations strategy? We introduce a framework to describe a company's operations strategy. The key premise is that an operations strategy must be evaluated in terms of the performance it delivers. This performance depends on the activity network and the asset bundle that operations puts in place. We will discuss the goal of operations strategy and a framework to think about operations strategy. We will use the Swiss Watch Industry mini case as the main driving vehicle to introduce the framework</p> <p><u>Readings:</u></p> <ul style="list-style-type: none"> Chapter 1: "Operations Strategy: Concept and Framework" Swiss Watch Industry, mini-case in Chapter 1.
2	SA1: 25/1/2024 SA2: 26/1/2024	<p><u>Competencies, capabilities and Operations</u></p> <p>We start the class by applying the contents of class 1 to the HBS case <i>American Connector Company (A)</i> where we describe and contrast two firms' operations strategies (i.e., ACC vs. DJC).</p> <p>We will discuss the goals of operations strategy, i.e., value maximization and alignment, and introduce tools to calculate NPV and tailor operations strategy.</p> <p>We will then discuss how the concepts of operational trade-offs and competency focus relate to strategic positioning and operational efficiency and how they can be used - qualitatively and quantitatively - to evaluate a firm's operations strategy in a competitive setting, and we use the HBS case <i>American Connector Company (A)</i> as the main driving vehicle.</p> <p><u>Readings:</u></p> <ul style="list-style-type: none"> Chapter 2: "Competition, Competencies and Operations" <i>American Connector Company (A)</i>, HBS Case (No. 9-963-035)
3	SA1: 1/2/2024 SA2: 2/2/2024	<p><u>Capacity size and investment</u></p> <p>In the first half of the class, we will apply trade-off curves (learned in class 2) to analyse threats faced by ACC (based on the HBS case study from class 2) using available case data. In the second half of the class, we will introduce capacity strategy, a major part of operations strategy. Capacity strategy includes deciding on the sizing, timing, type, and location of resources and assets. This class will focus on capacity sizing decisions.</p>

		<p><u>Readings:</u></p> <ul style="list-style-type: none"> Chapter 3: “Capacity Sizing and Investment”
4	SA1: 8/2/2024 SA2: 9/2/2024	<p><u>Capacity timing and expansion</u></p> <p>In today’s class we will study a few capacity timing strategies that a company can use to decide when to expand or contract its capacity. Timing means timing of capacity adjustment. The key trade-off is capacity adjustment costs and continuing costs of capacity excess or shortage. Two capacity timing tools will be introduced.</p> <p><u>Readings:</u></p> <ul style="list-style-type: none"> Chapter 4: “Capacity Timing and Expansion”
5	SA1: 15/2/2024 SA2: 16/2/2024	<p><u>Capacity types: flexibility and consolidation</u></p> <p>Once a company decides it needs to build new capacity, it must decide on what type of capacity. This involves deciding on the type of technology and facility. This class will discuss when and why product-dedicated or product-flexible technology is more appropriate. We also will explore what flexibility means and the various approaches to achieve it so to be better positioned to respond to changes in demand, supply, or processing. We will use the HBS case <i>Eli Lilly & Co</i> as the main driving vehicle.</p> <p><u>Readings:</u></p> <ul style="list-style-type: none"> Chapter 5: “Capacity Types, Flexibility and Consolidation” HBS case: <i>Eli Lilly & Co: The Flexible Factory Decision</i>
6	SA1: 22/2/2024 SA2: 23/2/2024	<p><u>Capacity location</u></p> <p>We start the class by finishing the financial analysis on <i>Eli Lilly</i> (week 5 HBS case). Afterwards, we will introduce capacity location decisions and describe how location strategy is part of operations strategy. For this topic, we will study a few types of location analysis methods, and discuss several network choices faced by organizations.</p> <p><u>Readings:</u></p> <ul style="list-style-type: none"> Chapter 6: “Capacity Location, Global Networks and Offshoring”
7	SA1: 7/3/2024 SA2: 8/3/2024	<p><u>Technology and innovation management</u></p> <p>Every organization must build capabilities for future growth. Such capabilities include technology and processes for new product and process development, for learning, and for building a global culture. Clearly, technology offer excellent opportunities to improve the performance of an operation but operations managers need to think strategically about technology investments. In this class we will discuss the strategic role of technology in business operations. We will also study the importance of organizational learning and “the learning curve” as well as investigating the role of learning, improvements, and innovations in operations. We will use the HBS case <i>Moderna</i> as the main driving vehicle.</p> <p><u>Readings:</u></p> <ul style="list-style-type: none"> Chapter 10: “Improvement and Innovation” HBS Case <i>Moderna</i>
8	SA1: 14/3/2024 SA2: 15/3/2024	<p><u>Matching supply with Demand</u></p> <p>In this class we will discuss how to match supply with demand strategically. Topics include strategic sourcing and demand management.</p> <p><u>Readings:</u></p> <ul style="list-style-type: none"> Chapter 7: Strategic Sourcing, Supply Management and Outsourcing Chapter 8: Demand and revenue management

9	SA1: 21/3/2024 SA2: 22/3/2024	Course summary and wrap-up
10	SA1: 28/3/2024 SA2: 29/3/2024	No class due to NUS wellbeing day and Good Friday
11	SA1: 4/4/2024 SA2: 5/4/2024	24-hour before class starting time, all teams are required to submit your Project Presentation Slides Students' project presentations
12	SA1: 11/4/2024 SA2: 12/4/2024	Students' project presentations
13	SA1: 18/4/2024 SA2: 19/4/2024	Before week 13 class starting time, submit your group project Executive summary. Final Test <ul style="list-style-type: none"> • The final test will be administered during the last class of our regular class time in our classroom. • The final test is to be done individually. • The questions will relate to the class readings and the materials presented by the instructor in the class sessions. • The primary objective of the test is that you will review and synthesize the content of the course. Peer evaluation is due end of today at 23:59!

General Guidelines (course methods, main textbook and the project guidelines)

COURSE METHODS

Regular sessions will have lectures complemented with additional external input. These will be in the form of case and textbook readings and in-class discussions. Each topic of the subject will be discussed using a combination of models, exercises, case discussions, and readings.

Team assignments and one team project are also required. Theory and conceptual thinking form the backbone of the course but there will also be a strong emphasis on experiential and action-based learning through case preparations and the team project in which actual results can be expected. Teams will consist of 4 to 6 students.

MAIN TEXTBOOK and CASES:

- Operations Strategy, Principles and Practice, by Jan A. Van Mieghem. Publisher *Dynamic Ideas*.
- HBS cases will be provided

GUIDELINES FOR GROUP PROJECT:

Your group can choose from two possible types for your group project:

- Type I "Case study": Identify an organization (one familiar to you or your group would work well) whose operations strategy you can analyze and improve, or
- Type II "White paper": A research-oriented paper on a specific topic in operations strategy or a novel industry practice that directly relates to operations strategy.

KEY EXPECTATIONS:

- The project has a strong operational component
- The project is interesting and has a general learning point (Aim for a project in which not only you, but also your audience, will learn something).
- The analysis uses or extends concepts discussed in class

DELIVERABLES (FOR BOTH TYPE I & II) WITH TIMELINE AND GRADING CRITERIA:

1. Before week 7 class: submit a 1-page Project Proposal (5%) that outlines,
 - Project title + indicate whether “case study” or “white paper”
 - A preliminary version of the Executive summary of the project (use placeholders/boilerplates where you do not yet have findings) using the following SCQA structure:
 - Situation (what is the background situation/context for your project)
 - Complication (what in this situation/context leads you to do your investigation)
 - Question (what is the question you will try to answer in your project)
 - Answer (a summary of the answers you have come up with in your investigation, i.e. your main findings and recommendations)
 - Relationship to class topics: specify which operations strategy topics your project will relate to
 - Timeline of project activities (this will be your project plan)
 - Team member roles
 - Optional: Contact persons at related organizations who has agreed to cooperate with project
 - Grading criteria: on time submission
2. 24-hour before week 11 class: submit your group’s Project Presentation Slides (5%) and be prepared for an in-class presentation (10%), with possible Q&As from your classmates (if time allows). All group members need to present (5 minutes per member, totalling 25 minutes for a group consist of 5 members). Grading criteria include:
 - Effectiveness of the presentation by team members
 - Effectiveness of the presentation slides
 - Critical thinking displayed
 - Creativity displayed
 - Knowledge and insights displayed, as related to Operations Strategy
 - Thoroughness and comprehensiveness
 - Overall Quality: logic, structure, style, clarity, grammar, spelling, layout
3. Before week 13 class: submit your group’s final version of the Executive summary (5%).
 - The Executive summary is to be no longer than 2 pages excluding exhibits (e.g., tables, charts, figures, diagrams). Start your Executive Summary with a short summary (less than 250 words) that describes the situation of the company/project, the problem/complication it is facing, the question it needs to answer and your answers/recommendations. Then support your recommendations with a detailed analysis.
 - Grading criteria include clarity, completeness, logic and structure.

Academic Honesty & Plagiarism

Academic integrity and honesty is essential for the pursuit and acquisition of knowledge. The University and School expect every student to uphold academic integrity & honesty at all times. Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge the source, or falsification of information, or inaccuracy of statements, or cheating at examinations/tests, or inappropriate use of resources.

Plagiarism is 'the practice of taking someone else's work or ideas and passing them off as one's own' (The New Oxford Dictionary of English). The University and School will not condone plagiarism. Students should adopt this rule - You have the obligation to make clear to the assessor which is your own work, and which is the work of others. Otherwise, your assessor is entitled to assume that everything being presented for assessment is being presented as entirely your own work. This is a minimum standard. In case of any doubts, you should consult your instructor.

Additional guidance is available at:

- [Administrative Policies](#)
- <http://www.nus.edu.sg/registrar/administrative-policies-procedures/acceptance-record#NUSCodeofStudentConduct>
- <http://nus.edu.sg/osa/resources/code-of-student-conduct>