NATIONAL UNIVERSITY OF SINGAPORE
NUS BUSINESS SCHOOL
Department of Analytics & Operations

DAO2703/DSC2006 Operations and Technology Management

Lecturers : Dr Mei QI (Lecturer and Module Coordinator)
A/P Mabel Chou Cheng-Feng (Co-Lecturer)

Session : Semester I, 2018/2019

Course Description

All organizations have an operations function that is primarily responsible for the production and delivery of their products and services. Therefore, the management of this operations function (i.e. ***Operations Management***) not only affects final product quality but also impacts customer service and the overall competitiveness of the organization. In order to improve its overall competitiveness, an organization may adopt various types of technology to facilitate various functions of the organization including operations function. How to manage the use of technology properly (i.e. ***Technology Management***) plays an important role in realizing the objective of using technology to improve an organization's overall competitiveness. The primary objectives of module DAO2703 Operations and Technology Management are to provide students with an introduction to, and an understanding of, the substantive knowledge which has developed over the years in the field of ***Operations Management (OM),*** and to highlight the importance of ***Technology Management (TM)*** in successful operations as well as the relevance and strategic significance of the operations function and the role of technology in enterprises.

This module will build around the traditional foundational topics of ***OM***, together with discussions on the opportunities and pitfalls organizations may face when adopting **technology** in order to improve their overall competitiveness. We will also attempt to highlight some of the more current issues in the field. Students will be exposed to topics such as product (or service) and process design, quality management, capacity planning and inventory management as well as supply chain management in both manufacturing and service organizations.

Main Module Objectives

- Introduce key OM concepts such as process and capacity, process flow units and flow time, inventory, quality and control
- Introduce a few important OM theories such as Little's law, Lean 6σ quality, and process improvement
- Introduce some OM tools such as project management, transportation model, inventory management, and sustainable supply chain management

- Raise the awareness and interests in the function of Operations
- Discuss opportunities and pitfalls organizations may face when adopting technology in order to improve their overall competitiveness, especially their competitiveness related to their operations function.
- Expose students to Asian business content related to Operations and Technology Management with cases and examples related to Asia.
- In addition to the content directly related to Operations and Technology Management, the course also aims to improve the students' communication and coordination skills. The students will be required to take turns to present tutorial solutions or work on course projects with a big group each week. In addition, when discussing how to manage operations and technology in an organization, we will also highlight the importance of communication using various examples.
- The course also aims to raise the students' awareness of ethics when discussing Operations and Technology Management. For example, we will include sustainability issues in the course content.

Prerequisite

Although no prerequisite is stated, this module assumes prior knowledge of basic algebra, calculus, probability and statistics (i.e. expected value, variance, probability distributions such as Normal and Poisson). Students should ensure that they are adequately prepared analytically for this module.

Readings and textbooks:

Operations Management, by Cachon and Terwisech, McGraw Hill
Supplementary readings to be given on IVLE

Assessment Methods

- 60%: Final Exam
- 15%: Course Project
- 25%: Assignments and Tutorial Participation
  - Tutorial participation depends on your presence in the classroom during assigned tutorial time, your perceived preparation, and the contribution you make to the learning experience of others.
  - Tutorial participation includes in-class questions to the instructor, insights and/or comments regarding class content, answers to the instructor's in-class questions, and reactions to other students' in-class contributions.
  - The quality of in-class participation will critically depend on your preparation.

Weekly Schedule

First half will be taught by Mabel Chou and second half by Dr. Mei Qi

Week	Lecture Date	Topics (subject to change)
1	August 15/16	Introduction of the course
2	August 22/23	No class on both August 22/23 due to Hari Raya Haji Holiday – You are encouraged to start your research on your course projects
3	August 29/30	Inventory management without demand uncertainty
4	September 5/6	Inventory management with demand uncertainty
5	September 12/13	Integrating operations management with Enterprise Resource Planning (ERP) and technology – cases on manufacturers
6	September 19/20	Integrating operations management with Enterprise Resource Planning (ERP) and technology - cases on service providers
Recess Week	September 26/27	No class
7	October 3/4	Integrating analytics in operations and technology management
8	October 10/11	Introduce process theory, product and process technology
9	October 17/18	Process analysis
10	October 24/25	Process selection and design
11	October31/ November 1	Managing process waiting time
12	November 7/8	Quality management with process control
13	November 14/15	Process improvement and Lean Operations
Reading Week	November 19-23	
Final Exam	Wednesday, November 28 (Morning)	

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:
http://www.nus.edu.sg/registrar/adminpolicy/acceptance.html#NUSCodeofStudentConduct

Online Module on Plagiarism:
http://emodule.nus.edu.sg/ac/