DSC5101   ANALYTICS IN MANAGERIAL ECONOMICS

AY2016-2017 Semester 1

Instructor: Associate Professor Jussi Keppo
Department: Decision Sciences
Office: Mochtar Riady Building, BIZ 1 #8-72
Email: keppo@nus.edu.sg

Summary

We analyze price formation and economic performance in imperfectly competitive markets by using optimization, statistical and stochastic methods. Strategic interactions between the participants in these markets are emphasized and a theoretical framework is laid out.

Theoretical models are analyzed with industry examples and datasets.

Topics

- Monopoly and market power
- Oligopolistic markets
- Empirical analysis
- Optimization and stochastic modeling
- Network industries

Course Material

- Lecture notes
- Lynne Pepall, Dan Richards and George Norman: Industrial Organization: Contemporary Theory and Empirical Applications, 5th Edition, Wiley

Projects

There are 3 case projects that are done in groups. Each group has 3 - 5 students. The due dates of the case projects: 6 September, 4 October, and 25 October (before the class).

There is also one in-class individual project, which is on 8 November (regular class time). Further, in addition to the projects there are homework assignments.

Prerequisites

No prerequisites for the Master of Science in Business Analytics (MSBA) students. For non-MSBA students basic statistics at the level of DSC4213 Analytical Tools for Consulting.

Assessments

Component	Weight
In-class project	40%
Group projects	40%
Homework	20%
Exceptional participation gives up to 5% to the final grading.	
Total	**100%**

Tentative Schedule

Lectures 1-4:
- Introduction
- Monopoly and market power, empirical analysis
- Oligopolistic markets

Lectures 5-8:
- Monopoly market
- Price optimization, price discrimination, complementary good pricing, durable good pricing, bundling

Lectures 9-11:
- Oligopoly market
- Introduction to game theory, Bertrand competition, Cournot competition
- Price optimization, market entry, capacity expansion