

NATIONAL UNVIERSITY OF SINGAPROE
School of Business
Department of Decision Sciences

DSC3216 Forecasting for Managerial Decisions

Lecturer : Dr. HE, Long

Session : Semester II, 2015/2016

Objectives

It aims to portray forecasting as art and science, integrating sensibility and methodology. The course will make productive use of forecasting tools available in MS Excel (and dedicated add-ins), R and Minitab. The finality is the applicability of the forecasting results towards managerial decision-making.

Prerequisites

Business Analytics

Course Outlines

1. Overview
 - Why & how of forecasting?
 - Real-life illustrations of the value and limitations of forecasting
2. Qualitative & Quantitative Forecasting Concepts
 - Delphi Method, Jury of Opinion, Ground Intelligence
 - Econometric and Time Series methods
3. Time Series Methods
 - Moving Average
 - Exponential Smoothing methods for levels, trends and seasons
 - Additive & Multiplicative decomposition models
4. Econometric Methods
 - Review of simple regression
 - Extension to multiple regression
 - Regression diagnostics / Remedial actions
 - Model building using lagging, co-incident, leading variables
5. The Box-Jenkins Methods
 - ARIMA model

Practical Work

For practical assignments, concentrate on making an interesting presentation with organised facts. The freshness of your presentation is at least as important as your analytics. You want to hold and engage your lecturer/classmates, not bore them with facts and narratives.

Throughout the course, the students are asked to write up a 10-page Business Case at their own choice of topics with small set of data and then make use of the techniques learnt in the class to solve the problem. They also have to present the case plus solution in the class. Besides, the students are also required to work on a 30-pages project with assigned areas and hand in by the end of the term (with presentation).

Computing

Students are expected to master the Excel, R or Minitab themselves by reading the assigned text and carry out the analysis on most of the topics using the computer packages.

Textbook and References

Business Forecasting, John E Hanke, Arthur Reitsch and Dean W. Wichern, 9th ed (2009), Prentice Hall, Call # HD30.27 Hank (**Textbook for the Course**)

Data Science for Business: What you need to know about data mining and data-analytic thinking (2013), Provost, F., and T. Fawcett. O'Reilly Media (**Optional**)

Evaluation

Simple Case Write-up	15%
Project	35%
Presentation and Class Participation	10%
Quiz	40%