BMA5002 Analytics for Managers (Part time student)

Lecturers: Prof. Andrew Lim

Session: Semester I, 2015-16

1. Brief description of module

Fact-based decisions supported by timely data analyses are the norm in this “Big Data” era. Moreover, many MBA graduates start their career as consultant / analyst advising the Supply Chain, Marketing, Finance and HR departments on making them more efficient, profitable and customer-centric. This course aims to equip participants with a scientific/analytical mindset i.e. informed decisions based on data, models and “what if” sensitivity analyses.

Through case analyses and their presentation, participants will gain exposure to

- **Decision and Risk Analyses** i.e. systematic assessment of Strategies, Risks, and Payoffs using Decision Trees and Sensitivity Analyses.

- **Business Optimization Models** i.e. Productive allocation of scarce resources e.g. Optimal Product / Advertising Mix, Revenue Management, Portfolio / Supply Chain / Cash Flow / Production Network Optimization, ...

- **Simulation** for hard-to-analyse applications e.g. Hedging decisions, Market Share Dynamics, Buy / Sell now or later?, Fund returns scenarios, ...

- **Data Mining and Statistical Tools**: Pivot Table for exploratory CRM and Regression models for analytical CRM e.g. customer segmentation. You will be exposed to advanced regression models using dummy and interaction variables for e.g. male vs female, age group comparisons, event studies etc.

*Microsoft Excel* (e.g. SOLVER, PivotTable) and add-in software e.g. PrecisionTree, StatTools, @RISK will be used as analytical enablers throughout the module.

2. Textbook


The text is a must-buy as:

1. Its numerous worked examples and Excel tutorials will provide useful references to you during the course and more importantly, in the future.

2. It comes with a “premium website access card” which among other functionalities allows you to download and use the industrial version of the DecisionTools software suite for a period of 2 years.
3. Tentative Assessment

- Individual homework: 25%
- Class participation: 10%
- End-of-semester Team Project: 25%
- 2 in-class individual case analyses: 40%

Weightage of components may change

NOTES:

- Bring a laptop to EVERY class: this is a hands-on course.
- The DecisionTools software suite (PrecisionTree, @Risk, StatTools etc) runs on Windows Excel only. **If you are using an Apple laptop, you must load (1) Windows (2) Excel for Windows on it in order to run this software suite.**
- Use the “premium website access card” placed at the front of the text to download it (~150 MB; takes 1 hour!) as indicated by this arrow. **Do NOT click anything else on this screen.** We can help you install the software suite at the start of the course.
- We will use SOLVER in the very first class. This is a tool native to MS Excel.
- **With SOLVER and the DecisionTools software suite checked-in, you are ready for an exciting journey in the world of Business Analytics!** The following links tell you more about the utility of Business Analytics:
  2. [https://www.deloitte.com/sg/analytics](https://www.deloitte.com/sg/analytics)