Aston Business School

Week 1
Basics of Excel

BN2255 – Business Analytics in Practice

Topics of this presentation

- Why Excel?
- Navigating Excel
- Basic spreadsheet features
  - Workbooks and worksheets
  - Cells and formats
  - Ranges and tables
  - Data manipulation and Formulas
  - Charts and Graphs
- Practical advice for Excel modelling
  - Be neat!
  - Be consistent!
  - Be smart!

Business Analytics: Why Excel?

- Business Analytics is very diverse
  - Data collation and handling: OLAP, Web Analytics, Cloud services, SQL and database applications
  - Data Analysis and Reporting : IBM modeller, SAS, SAP, STATA, R
  - Lots of acronyms and lots of tools…

- So why Excel?
  - Spreadsheets are extremely powerful and versatile tools
    - Visual and Interactive!
  - Approachable to most business users
  - Still the most widely-used tool for analysis
    - Even when there are better alternatives

- **One of the most sought-after graduate skill for employers!**

Basics of the basics

- Workbooks: the main Excel file
- Worksheets: Work areas contained within a single workbook
  - self-contained, but can allow for cross-referencing
  - default is 3 worksheet per workbook, but you can (and should!) include more
- Cells: a single, individual area in a worksheet that can contain information:
    - A value
    - A text string
    - A formula
    - A reference
    - etc…
  - Defined by its row/column co-ordinates (which can also be used to reference a specific cell)

Navigating Excel

- The Quick Access Toolbar and the File menu
- The Excel 'Ribbon': composed of 'tabs' that include most of Excel functionality
  - Home : general functions for editing and formating
  - Insert : add additional elements to the worksheet (charts, text boxes, graphics, pivot tables, etc)
  - Page layout: themes and printing options
  - Formulas: command buttons for inserting and editing formulas
  - Data: options for importing, formatting imported data and validation and scenario analysis
  - Review: spellchecker, manage comments and protection options
  - View: options for changing how you view the workbook(s)
- Formula bar: address and contents of the current cells
- Worksheet area: all cells of the worksheet

Ranges and Tables

- A range is simply a selection of consecutive cells
  - Can be in a row, column or table form
- A table is simply a set of data in your model
  - Table cells can contain values, text or formulas
  - Excel has tools for easily manipulating data on tables, but are not necessary in practice

- Cells, ranges and tables can be named!
  - useful when you want to often refer to a certain value or range of values
  - …still, a convenience feature rather than a necessity

Data manipulation and formulas

- Cells can contain values, but you can also place mathematical formulas in them
  - formulas are one of the most powerful features of Excel and essential to spreadsheet modelling!
- Can be simple arithmetic functions:
  - eg: =(20+5)*2/5 returns 10
- Or named formulas:
  - eg: =average(H3:H14) will return the mean for the values found in the H3:H14 range
  - or: PV(Rate,Nper,Pmt,…) will return the present value of an investment based on Rate, periods and starting investment

- Formulas are extremely useful for manipulating data
  - Data manipulation can be achieved by simpler methods (ie coping-pasting), but these should be avoided because they do not leave an audit trail

Charts and Graphs

- Charts is another powerful feature of Excel
- Graphically represent (and summarise) data
  - A picture is worth a thousand words! (sometimes…)
- Excel provides a range of chart types and styles to use
  - Most common are
    - Line charts
    - Column and Bar charts
    - Pie charts
    - Scatter diagrams
- Simply select the range of data you need and the required chart type
  - Don’t forget to add labels where needed, legends and titles!

Practical advice for Excel modelling

- Be neat!
  - label your work (clearly!)
  - try to separate your work in concise parts and devote a specific space (usually a spreadsheet) to each part
- Be consistent!
  - before you start, pick formatting rules and stick to them
  - likewise, decide on the structure of your model at the start and don't deviate
- Be smart!
  - design your model such that:
    - Processes are clear
    - Results can be easily replicated
  - leave an audit trail!

- Following these simple guidelines will allow you to find and correct mistakes.
- These guidelines might seem restrictive, but will save you time in the long run!

Online resources

- Large number of introductory websites, books and videos online
- Books: try the 'Excel for Dummies' series as an introduction
  - Available online on http://it-ebooks.info/book/1497/
  - Also check out the Tufts University quick guide
    - http://ase.tufts.edu/its/trainDocuments/excel10Basics.pdf
- Websites: try the Official Microsoft website
  - http://office.microsoft.com/en-gb/support/getting-started-with-microsoft-office-2010-FX100996114.aspx
- Video tutorials: too many to list
  - A good start would be the ExcelIsFun YouTube channel

- Search online for additional resources and share with your colleagues!
  - Google is your friend!