



CHAPTER 2: SPREADSHEET AND PROGRAMMING TOOLS FOR BUSINESS ANALYTICS

Lesson Plan

Chapter Overview

This chapter covers the importance and use of spreadsheet tools for business analytics. It can be covered in one 50-minute class period. You could also spend an additional 50–120 minutes on the suggested exercises outlined in the exercise tabs in the chapter. When applicable, the exercises include additional instructions based on each tool (Excel, Python, and R).

Exercise Overview

For those focusing on Excel in most chapter exercises, consider giving students some exposure to R and Python in this chapter's exercises. Likewise, for those focusing on R or Python in most chapter exercises, consider giving students some exposure to Excel in this chapter's exercises.

Exercises 1 and 2 are highly recommended. While they are optional, students will greatly benefit from hands-on experience with Excel and either R or Python, even if you avoid future exercises for either. Likewise, it is recommended to add either Exercise 11 using R or Exercise 12 using Python in order to give students some tutorials on basic coding in R or Python.

RECOMMENDED TIME BREAKDOWN FOR THE EXERCISES

15-45 minutes – Exercise 1: Practice Excel Basics

60-120 minutes – Exercise 2: (ONLINE) Practice Advanced Excel Functionality

15-45 minutes – Exercise 3: Practice Pivot Tables in Excel

15-45 minutes – Exercise 4: (ONLINE) Install the R and RStudio Tools

15-45 minutes – Exercise 5: (ONLINE) Try Basic Functions of R in RStudio

15-45 minutes – Exercise 6: Install a Package for Plotting in RStudio

15-45 minutes – Exercise 7: Try a Basic Linear Model using R in RStudio

15-45 minutes – Exercise 8: (ONLINE) Install Python and Try Basic Functions

15-45 minutes – Exercise 9: (ONLINE) Install a Package for Plotting in Python

15-45 minutes – Exercise 10: Try a Basic Linear Model using Python

60-120 minutes – (ONLINE) Exercise 11: R Tutorials: Practice R Coding

60-120 minutes – (ONLINE) Exercise 12: Python Tutorials: Practice Python Coding

BUSINESS ANALYTICS: DATA ANALYSIS AND STORYTELLING FOR BUSINESS

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Note that each chapter will often suggest both statistics-based and non-statistics-based exercises, depending on the experience of the class. This business analytics textbook does not require students to have a background in statistics. At the same time, for those students with a background in statistics, we suggest some exercises to connect business analytics to statistics.

Learning Outcomes

- Communicate the importance of spreadsheet tools for business analytics
- Understand the role of programming tools in business analytics
- Articulate the advantages and disadvantages of different business analytics tools
- Understand the ways this textbook will use business analytics tools
- Apply spreadsheet and/or programming tools to tasks like data transformation

Resources

- Chapter 2 lecture slides
- Chapter 2 quiz review slides
- Expert Session video: [How to Leverage Data to Optimize Marketing Automation](#), presented by Braydon Unsicker

Assignments

- Quiz 2

Instructor Preparation

- Read Chapter 2
- Preview chapter lecture slides
- Prepare for and review exercises

Student Preparation

- Read Chapter 2

BUSINESS ANALYTICS: DATA ANALYSIS AND STORYTELLING FOR BUSINESS

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CLASS PERIOD 1

Go over the spreadsheet and programming tools from the chapter. Give students an overview of the three different programming tools: Excel, R, and Python. It is recommended that you take an additional class period in order to cover all the exercises.

LECTURE SLIDES

Present the chapter lecture slides.

DISCUSSION

Go over the example used in the beginning of the chapter with the sports-apparel company and the t-shirt of the week. Ask the students what other ways business analytics tools can help companies improve their product offerings and sales.

ASSIGN

Have students watch the Expert Session video and complete the accompanying quiz. Have students take Quiz 2 and read Chapter 3 before the next class period.