

INTRODUCTION

A good chart should both explain and arouse curiosity. A chart can summarize thousands of data points into a single picture. The arrangement of a chart should explain the underlying data but also enable the reader to isolate trouble spots worthy of further analysis.

Excel makes it easy to create charts. But although the improvements in Excel 2007 allow you to create a chart with only a few mouse clicks, it still takes thought to find the best way to present your data.

INTRODUCTION

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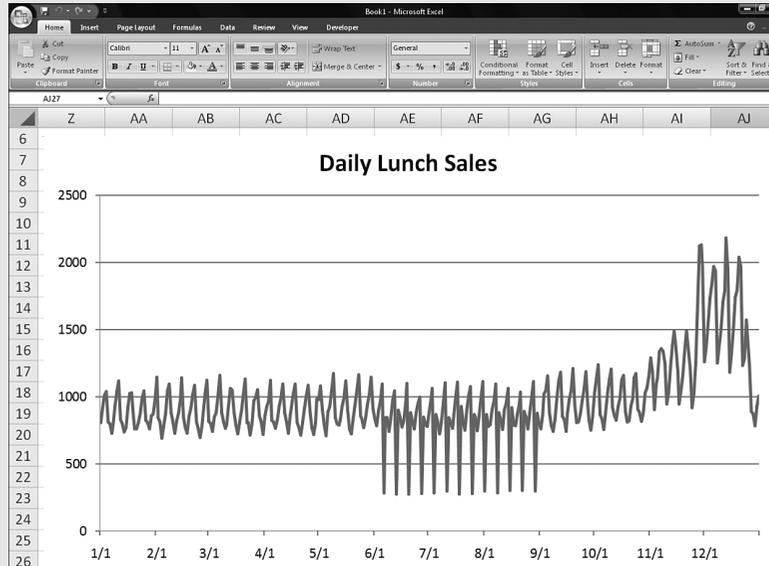
CASE STUDY

Choosing the Right Chart Type

Say that you are an analyst for a chain of restaurants, and you are studying the lunch hour sales for a restaurant in a location at a distant mall. The mall is surrounded by corporations that provide a steady lunchtime clientele during the week. On the weekends, the mall does well in the holiday shopping months but lacks weekend crowds during the rest of the year.

From the data contained in the chart in Figure I.1, you can spot a periodicity in sales throughout the year. An estimated 50 spikes indicate that the periodicity might be based on the day of the week. You can also spot that there is a general improvement in sales at the end of the year, which you attribute to the holiday shopping season. However, there is an anomaly in the pattern during the summer months.

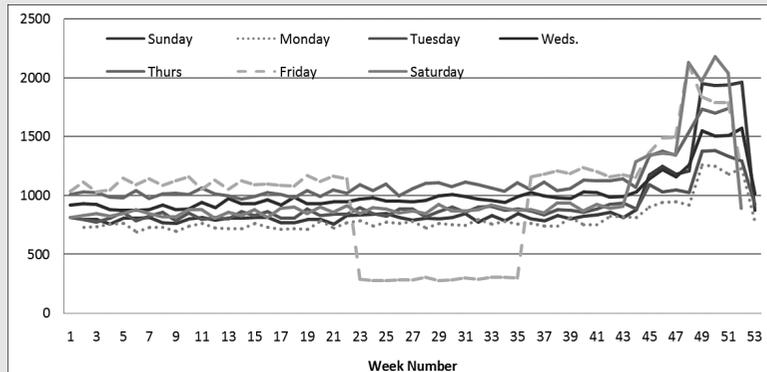
Figure I.1
This chart shows the sales trend for 365 data points.



After studying the data in Figure I.1, you might decide to plot the sales by weekday in order to better understand the sales. Figure I.2 shows the same data presented as seven line charts. Each line represents the sales for a particular day of the week. Friday is the dashed line. At the beginning of the year, Friday was the best sales day for this particular restaurant. For some reason, around week 23, Friday sales plummeted.

Figure I.2

When you isolate sales by weekday, you can see a definite problem with Fridays in the summer.



The chart in Figure I.2 prompts you to make some calls to see what was happening on Fridays at this location. You might discover that the city was throwing free Friday lunchtime concerts from June through August and that the manager of the restaurant was offered a concession at the concert location but thought that it would be too much trouble. Using this pair of charts enabled you to isolate a problem and equipped you to make better decisions in the future.

Using Excel as Your Charting Canvas

Excel 2007 offers a complete rewrite of the 15-year-old charting engine from previous versions of Excel. Although the software offers no new charting types, Excel 2007 provides plenty of tools that allow you to make eye-catching charts. In Excel 2007, you have the ability to create better versions of the 11 existing chart types. Maybe in Excel 14, Microsoft will add support for new chart types.

Creating charts in Excel 2007 basically requires these steps:

1. Set up and select your data in an Excel worksheet.
2. Choose the appropriate chart type from the Insert ribbon.
3. Change the chart layout or color scheme by using the Design ribbon.
4. Customize chart elements by using the Layout ribbon.
5. Micromanage formatting for individual data points by using the Format ribbon.

Most charts require steps 1 and 2. The remaining steps are optional and are used with decreasing frequency. It should be rare that you will need to venture to step 5. However, you are likely to change at least a couple items in step 4.

This book covers the improved charting engine in Excel 2007 as well as the new SmartArt graphics that you can use to create business diagrams. You will also learn to use spreadsheet cells to present graphical information.

Besides charts, Excel 2007 offers many other ways to visually display quantitative data. The new conditional formatting features, such as data bars, color scales, and icon sets allow you to add visual elements to regular tables of numbers. In Figure I.3, you can easily see that Ontario has the largest population and that Nunavut has the largest land area. You can add in-cell data bars such as these with a couple mouse clicks, as described in Chapter 9, “Presenting Data Graphically Without Charts.”

Figure I.3

In-cell data bars draw the eye to the largest values in each column.

	A	B	C	D	E
26					
27	Province	Population		Area	
28	Alberta	2974805		639987	
29	British Columbia	3907740		926493	
30	Manitoba	1119580		551938	
31	New Brunswick	729495		71356	
32	Newfound and Labrador	512930		370502	
33	Northwest Territories	37360		1141108	
34	Nova Scotia	908005		52917	
35	Nunavut	26745		1925460	
36	Ontario	11410045		907656	
37	Prince Edward Island	135295		5684	
38	Quebec	7237480		1357743	
39	Saskatchewan	978930		586561	
40	Yukon Territory	28670		474707	
41					

This book also takes a look at tools that you can purchase to add functionality to Excel. Many vendors offer tools to create sparklines, speedometer charts, and specialized stock analysis tools. Perhaps one of the best tools is a Microsoft product called MapPoint. Using MapPoint, you can easily plot your Excel data in a geographic orientation on a map. See Chapter 10, “Presenting Your Excel Data on a Map Using Microsoft MapPoint,” for more information about the cool tricks available with MapPoint.

This Book’s Objectives

The goal of this book is to make you more efficient and effective in creating visual displays of information using Excel.

In the early chapters of this book, you will learn how to use the new Excel 2007 charting interface. Chapters 3 through 6 walk you through all the built-in chart types and talk about when you can use each chart type. Chapter 7 discusses about creating unusual charts. Chapter 8 covers pivot charts, and Chapter 9 covers creating visual displays of information right in the worksheet. Chapter 10 covers mapping, and Chapter 11 covers the new SmartArt business graphics, as well as Excel 2007’s shape tools. The penultimate chapter presents macro tools you can use to automate the production of charts using Excel VBA. In Chapter 14, you will see several techniques that people may use to stretch the truth with charts. Finally, in Appendix A, I provide you with a list of resources to give you additional help with creating charts and graphs.

A Note About Bugs

Microsoft's complete rewrite of the charting engine for Office 2007 was ambitious. As this book goes to press in March 2007, about a half-dozen charting bugs have surfaced in the initial release of Excel 2007. While I will call these bugs out in the relevant sections of the book, note that most of the bugs should be patched with Service Release 1 in early 2008. If you are using the service release of the software, you may not be able to reproduce the bugs.

Special Elements in This Book

This book contains the following special elements:

NOTE

Notes provide additional information outside the main thread of the chapter discussion that might be useful for you to know.

TIP

Tips provide you with quick workarounds and time-saving techniques to help you do your work more efficiently.

CAUTION

Cautions warn you about potential pitfalls you might encounter. It's important to pay attention to these because they alert you to problems that could cause you hours of frustration.

CASE STUDY

Case studies provide a real-world look at topics previously introduced in the chapter.



DESIGNING CHARTS LIKE THE PROS

Throughout the book, I've asked several non-Excellers to contribute charts unlike those found in Excel. After showing the designer's chart, you can walk through how to adjust the Excel settings to create a chart that approximates the designer's chart.

Next Steps

Chapter 1, “Introducing Charts in Excel 2007,” introduces the new Excel 2007 interface for creating charts. You will learn how to create your first chart and understand the various elements available in a chart.