Data Visualization

with Excel® Dashboards and Reports

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Introduction

Businesses are collecting and storing more data than ever before. It's not just very large businesses either. Small and medium-sized businesses have unprecedented access to data and storage. It's management's job to use that data in decision making, but they simply can't consume all of it in its raw form. Business intelligence (BI) is the process of turning raw data into useful information.

BI has been around in some form for a long time. But recently the increase in quality and accessibility of BI tools have increased its popularity. These tools, coupled with a new widespread availability of data, have fueled an environment where it seems that everyone is creating dashboards.

Excel is becoming the standard for BI tools (if it's not already). Microsoft has invested heavily in the BI tools built in to Excel and some that are outside Excel. They have created the PowerBI family of tools (PowerQuery, PowerPivot, and PowerBI) and have added many more chart types than were available just a few versions ago.

What was once highly specialized software soon became a feature in Excel and available to anyone. In the past, you may have needed an IT project to get the data and the tools to create a dashboard. Now, you likely have it all on your computer already. And at the center of those tools is Excel, a program you probably already have regardless of the size of your business.

Maybe you've been wanting to create a dashboard but never thought you had the skills. Or maybe management has asked you to create one. This book will guide you through Excel's data visualization features from shapes to

conditional formatting to charts. I include several realistic case studies so you can see how a business question can turn into a chart or dashboard.

What Does This Book Cover?

The chapters in this book are divided into three parts. In Part I, I discuss dashboards as a whole, including three case studies that result in a full dashboard. Part II focuses on how to get the most of out of the individual elements that make up a dashboard and introduces you to some non-chart data visualization elements. In Part III, I discuss individual charts in detail and provide case studies for many different chart types.

Chapter 1: Dashboard Basics This chapter covers the very basics of dashboarding, including when a dashboard is appropriate and the big-picture steps for building and formatting a dashboard.

Chapter 2: Dashboard Case Studies This chapter includes three case studies. Each case study provides background for the business need, the details around the request for a dashboard, and the construction of the dashboard elements.

Chapter 3: Organizing Data for Dashboards This chapter is all about data. It covers best practices for organizing your data into layers. I also discuss several external data sources and how to get them into Excel.

Chapter 4: The Fundamentals of Effective Visualization This chapter is for users who are new to creating visualizations. In it, I cover what makes an effective visualization, how to use elements like color and text, and how to choose a chart type for the data you want to present.

Chapter 5: Non-chart Visualizations Not all dashboard elements are charts. In this chapter, I discuss visualization features in Excel, and dive deeply into custom number formatting.