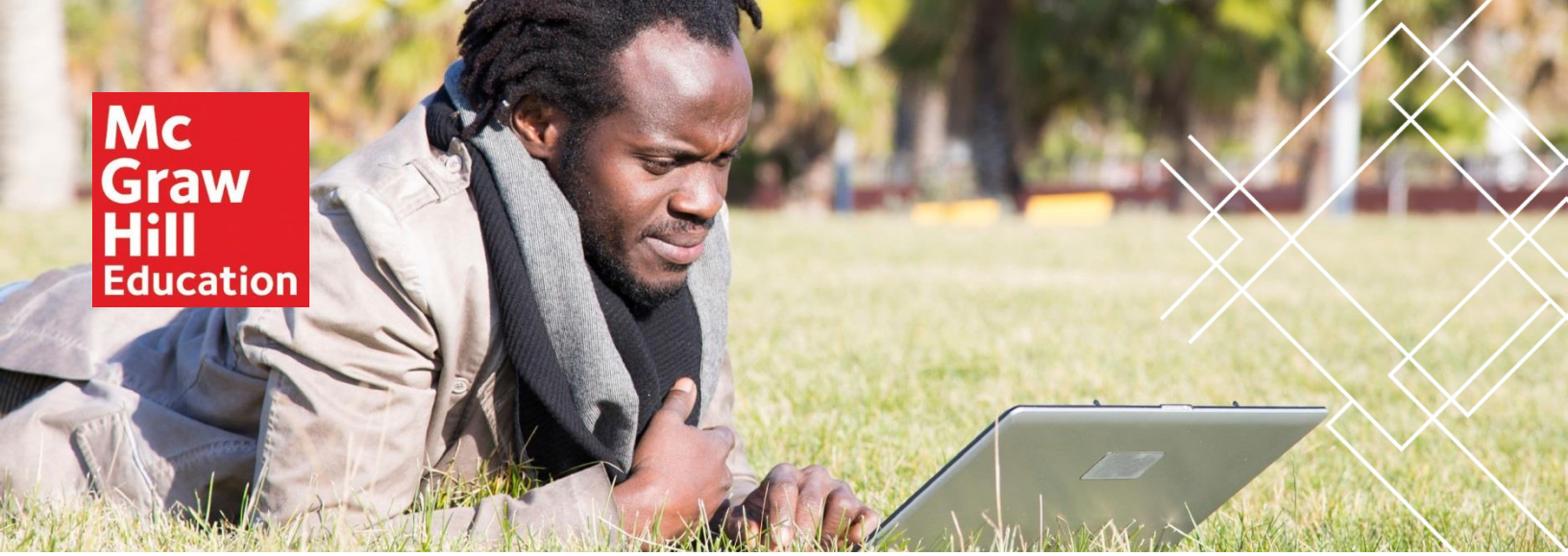

Business Statistics: Communicating with Numbers, 3e

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ISBN: 1259957616

Detailed List of New Features

The third edition of Business Statistics features a number of improvements suggested by many reviewers and users of earlier editions. The following are the major changes.

Integration of R. R is a powerful software that merges the convenience of statistical packages with the power of coding. We feel that there are several good reasons for learning R in a Business Statistics class. First, R is open source as well as cross-platform compatible. This means that there is zero cost to download R, and it can be run on Windows, Mac OS X, or Linux. Second, with the availability of several data analysis tools for conventional and modern statistical models, R is easy to use. Third, R is wildly popular and quickly becoming one of the most powerful programming languages for data analytics. It is estimated that R has about 2 million users, and many of these users regularly interact on discussion forums. And finally, employers find knowledge of R very attractive in prospective hires. Leading firms like the New York Times, Google, Facebook, Bank of America, Pfizer, and Merck are all using R. For these reasons, in addition to Excel, we now provide R instructions in all relevant sections of the text; however, for those instructors who prefer to focus only on Excel, the R instructions sections are easily skipped.

Focus on the p-Value Approach. In the earlier editions of Business Statistics, we stressed both the p-value approach and the critical value approach in all chapters related to hypothesis testing. We have found that students often get confused with the mechanics of implementing a hypothesis test with both approaches. While the critical value approach is attractive when a computer is unavailable and all calculations must be done by hand, most researchers and practitioners favor the p-value approach since virtually every statistical software package reports p-values. We also surveyed users of Business Statistics, and the decision was unanimous: focus on the p-value approach. So, this is what we have done throughout the text. A discussion of the critical value methodology is now provided in the appendix to Chapter 9.

Business Statistics Coupled with Connect. Since both of us use Connect in our classes, we have attempted to make the technology component seamless with the text itself. We have reviewed every Connect exercise, and during this process, we have painstakingly evaluated rounding rules and revised tolerance levels. The positive feedback from users of the earlier editions has been well worth the effort. In addition, we have

reviewed every LearnSmart probe. Instructors who teach in an online or hybrid environment will especially appreciate our Connect product.

Chapter by Chapter Changes

Dozens of new examples, exercises, introductory cases, and case studies have been added.
Many Learning Outcomes have been streamlined or rewritten for the sake of simplicity and consistency.

- **Chapter 1 (Statistics and Data),** structured data, unstructured data, and big data are introduced, and the section on online data sources has been revised.
- **Chapter 4 (Introduction to Probability),** the Writing with Statistics example now examines marijuana legalization in the United States.
- **Chapter 6 (Continuous Probability Distributions),** the normal distribution is covered in one section, rather than two sections.
- **Chapter 7 (Sampling and Sampling Distributions**), a discussion of the Trump election coupled with social-desirability bias has been added.
- **Chapter 14 (Regression Analysis),** the estimation of a simple linear regression and a multiple linear regression is covered in one section, rather than two sections.