9

Conducting Business Research

You live in an exciting world, a world rich with information that provides answers to many questions. Whether you want to learn about stock prices, company histories, product reviews, or market demographics, you can search the internet and other databases and immediately find a wealth of data. Further, you can read books, blogs, news articles, posts, tweets, and other content that provides insight into problems or opportunities that you face in the workplace. Using this information, you can make good management decisions and help your organization be successful.

Given such abundant information, it is hard to imagine that you will tackle problems or opportunities that no person has ever encountered before. Yet in an ever-changing social and business environment, you will face many situations that are unique. In these situations, the knowledge of others can take you only so far, and you will need to create, gather, and analyze new data on your own.

This chapter discusses research strategies you will need when you seek to learn from others (secondary research) and when you create your own data (primary research). After learning the material in this chapter, you should be able to do the following:

Publication Categories. In addition to selecting databases to search, consider four major publication categories—scholarly journals, trade journals, popular magazines, and newspapers. Any of these publications may be available in print or online versions. In general, the information in scholarly journals is more reliable, but less current; the information in the other three categories may be less reliable, but more current.

Figure 9.2 *Online trade journals, magazines, and newspapers can quickly provide both current and historic information.*

Scholarly Journals. Scholarly journals contain many research-based articles carefully reviewed by the author's professional peers before being published. Many have been subjected to a "blind review," meaning that the reviewers did not know the identity of the author and the author did not know the identity of the reviewers. The blind review, therefore, enables reviewers to be unbiased in their critique and objective in their feedback. Because of this time-consuming, painstaking process, the content of scholarly journals is highly reliable, but it may not contain information on the latest issues.

Trade Journals. Trade journals target a specific industry or profession, such as the beverage industry or the field of human resource management. Although not scholarly in nature, many trade journals are recognized as authoritative within their industry or profession.

Popular Magazines. Popular magazines cover a wide array of current topics. Because they are published for general audiences, the writing is intended to be both informative and interesting. Sometimes magazines will report findings from scholarly research, but when possible, find and review the original scholarly publication to gain a better understanding of the findings.

Newspapers. Newspapers are also published for general audiences. Newspapers are the most current of all four publication types, covering news, editorial opinions, and other

search will provide fewer results, but those results will be more relevant; a broader search will provide more results, but they will include some less relevant items.

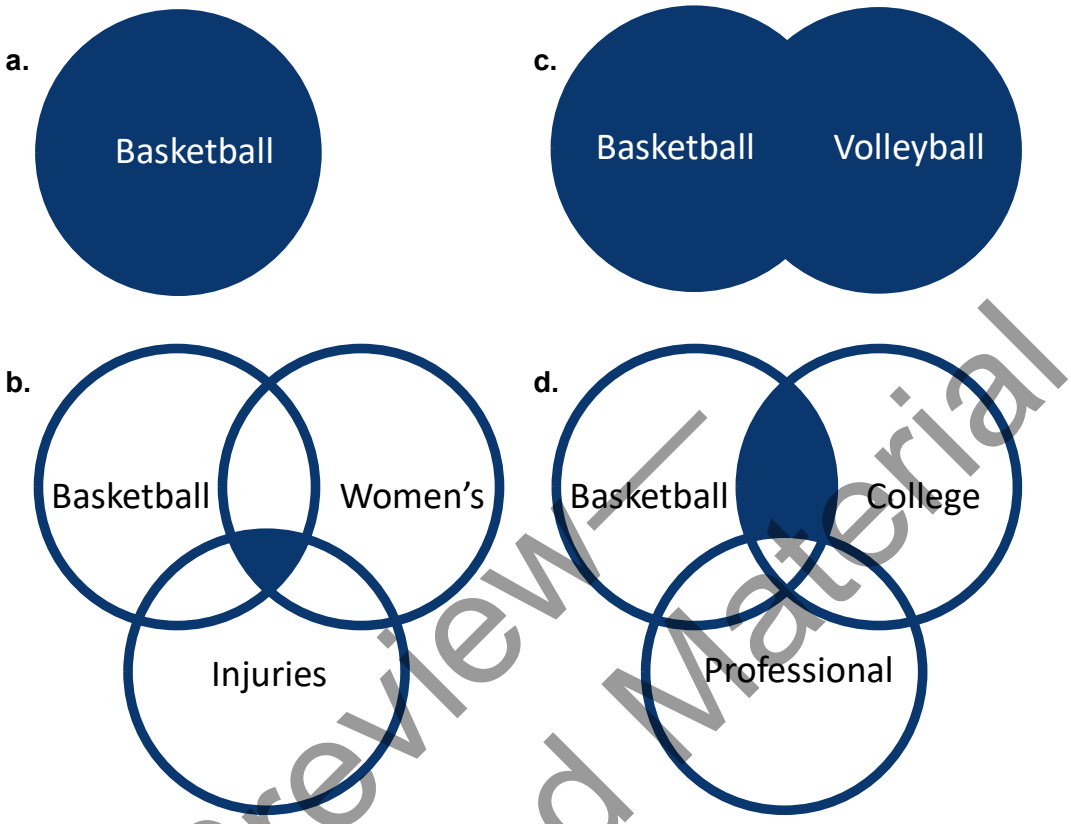

Figure 9.3 *Search results are shaded for (a) basketball, (b) basketball AND women's AND injuries, (c) basketball OR volleyball, and (d) basketball AND college NOT professional.*

To further learn as you go, take the time to read the content of a few of the pieces generated by the search. This time can yield multiple benefits. For instance, the articles you examine might contain better search terms than the ones you have been using. In addition, the articles you read might include bibliographies or references that can lead you to other relevant articles.

Figure 9.4 illustrates an advanced search screen from the Library of Congress Online Catalog. As you visit this screen, you enter your keywords in the appropriate blanks, and then indicate whether you want the AND, OR, or NOT Boolean operators to be used. You can then further tailor your search by specifying that your search terms must be present in the title, in the author's name, or in the keywords tagged to the article. After each search, check the results and, as needed, change your search fields to further limit or expand the results.

When you find an article you want to use, select the PDF version if it is available. The PDF version will give you a literal image of the printed pages, including graphics and correct page numbers, whereas the HTML version won't give accurate page numbers. With accurate page numbers included in the PDF, you will have all the information needed to document the location of content you cite in your article or report.

Understand Your Data Types. Much data can be broadly classified as numerical, grouped numerical, and textual. Numerical data might include measures for salary, number of product defects, or customer satisfaction ratings. Numerical data can also be broken down into groups or categories, such as data from part-time versus full-time employees. Textual data might include open-ended responses to questions or transcripts of interviews. Your type of data will influence the way you analyze it.

Calculate Descriptive Statistics. To gain a big-picture view of your numerical data, calculate descriptive statistics as appropriate, including statistics of central tendency (mean, median, mode), frequency (mode), dispersion (range, variance, and standard deviation), and shape (skewness and kurtosis). Note that wildly different data can produce similar descriptive statistics (see Figure 9.7), so don't forget to visualize your data, too.

	Datasets							
	Set 1		Set 2		Set 3		Set 4	
	X	*Y*	*X*	*Y*	*X*	*Y*	*X*	*Y*
	10.00	8.04	10.00	9.14	10.00	7.46	8.00	6.36
	8.00	6.95	8.00	8.14	8.00	6.77	8.00	5.76
	13.00	7.58	13.00	8.74	13.00	12.74	8.00	7.71
	9.00	8.81	9.00	8.77	9.00	7.11	8.00	8.84
	11.00	8.33	11.00	9.26	11.00	7.81	8.00	8.47
	14.00	9.96	14.00	8.10	14.00	8.84	8.00	7.04
	6.00	7.24	6.00	6.13	6.00	6.08	8.00	5.25
	4.00	4.26	4.00	3.10	4.00	5.39	19.00	12.50
	12.00	10.84	12.00	9.13	12.00	8.15	8.00	5.56
	7.00	4.82	7.00	7.26	7.00	6.46	8.00	7.97
	5.00	5.68	5.00	4.74	5.00	5.73	8.00	6.89
Mean	**9.00**	**7.50**	**9.00**	**7.50**	**9.00**	**7.50**	**9.00**	**7.49**
Standard Deviation	**3.32**	**2.03**	**3.32**	**2.03**	**3.32**	**2.03**	**3.32**	**2.04**

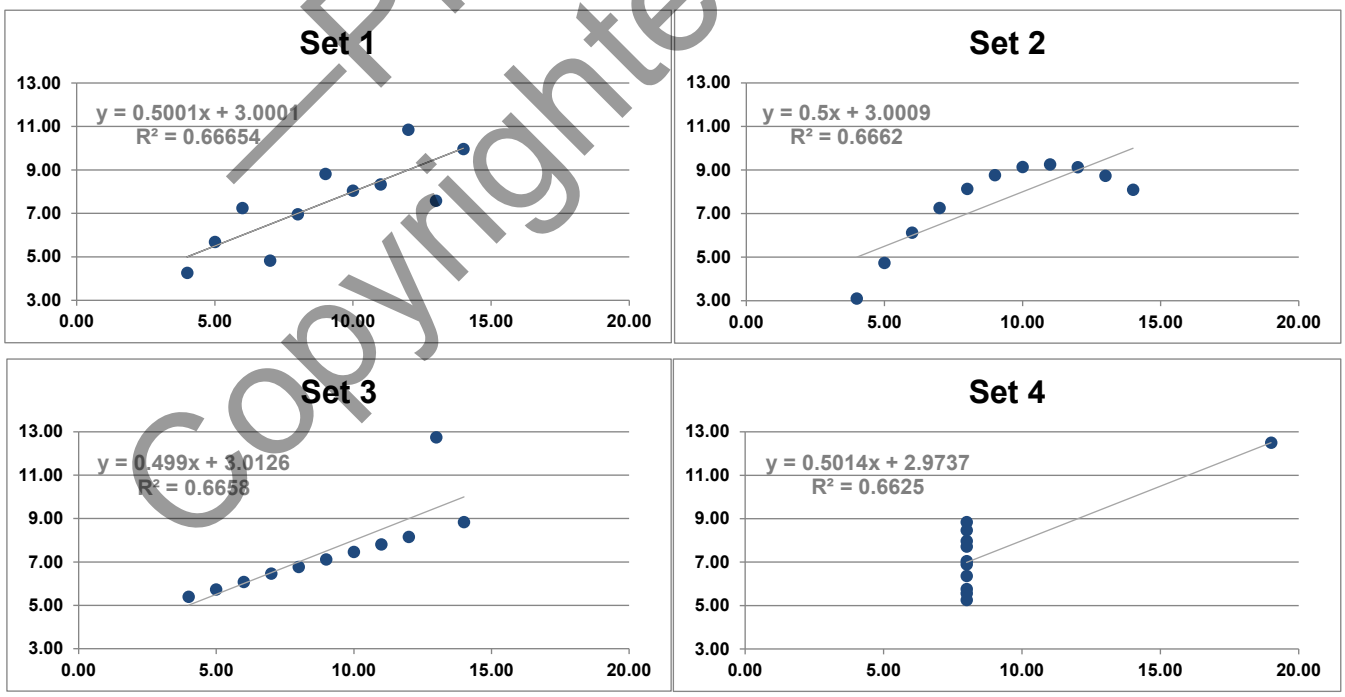

Figure 9.7 *Even if data sets appear statistically similar, take time to visualize the data to see trends, correlations, or outlying data. Source: Data from F.J. Anscombe, "Graphics in Statistical Analysis,"* The American Statistician *27, no. 1 (1973): 17-21.*

Visualize Your Data. Graphically chart your numerical data, paying attention to trends, correlations, or outlying data (see Chapter 4 for more information about graphics). For textual data, consider creating word-frequency charts (see Figure 9.8) or word clouds (see Figure 9.9) that emphasize recurring words and textual themes. These patterns and themes alert you to areas for further analysis and help you draw conclusions from the data. Visuals also provide an effective and efficient way to communicate your research to others, condensing large quantities of data into more accessible and refined formats than raw numbers or text.

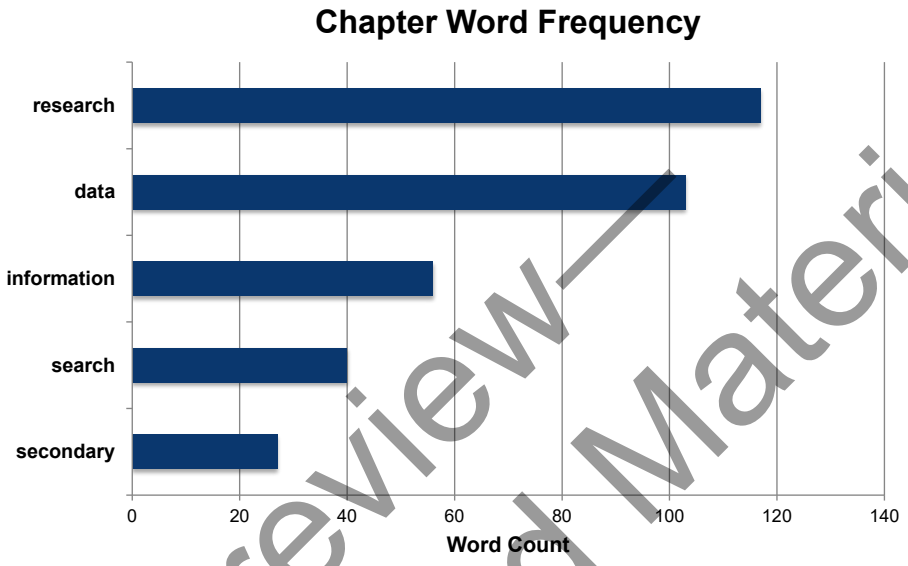

Figure 9.8 *This word-frequency chart visualizes the top five recurring words in this chapter. (Common words have been removed.)*

Figure 9.9 *This word cloud visualizes this chapter's text. Because size correlates with frequency, you can sense the themes in the text.*