

CHAPTER OVERVIEW

14: Visuals in Business Documents

Chapter Objectives

The purpose of this chapter is to:

- Understand the various types of visuals in business documents and their uses
- Identify and apply best practices when selecting and creating tables, charts, graphs, and images for use in business documents
- Format and attribute visuals in business documents appropriately

One of the nice things about business and technical writing courses is that most of the papers have graphics in them—or at least they should. A lot of professional writing contains graphics—drawings, diagrams, photographs, illustrations, tables, pie charts, bar charts, line graphs, flow charts, and so on. Graphics are an important feature of business communication.

We learn more from a document when graphics are included (Gatlin, 1988). In fact, people learn about 1/3 more from a document with graphics than without (Levie and Lentz, 1982). A recent study found that readers learn faster and are better able to use the information they learn when the text includes graphics (Große, Jungmann, and Drechsler, 2015). That does not, of course, mean that one should place graphics willy-nilly into every spot possible, nor should they be treated as mere decoration. On the contrary, graphics should be used carefully and correctly. The information below will help you make informed decisions regarding graphic creation and placement in order to improve the readability of your documents.

Getting Started with Graphics

Before getting into details on creating, formatting, and incorporating graphics, it is important to understand the different types of graphics and their functions. You can use graphics to represent the following elements in your writing:

- **Objects-** If you're describing a fuel-injection system, you'll probably need a drawing or diagram of the component parts. If you are explaining how to graft a fruit tree, you'll need some illustrations of how that task is done. Photographs, drawings, diagrams, and schematics are the types of graphics that show objects.
- **Numbers-** If you're discussing the rising cost of housing in Austin, you could use a table with the columns marking off five-year periods since 1970; the rows could be for different types of housing. You could show the same data in the form of bar charts, pie charts, or line graphs. Tables, bar charts, pie charts, and line graphs are some of the principal ways to show numerical data.
- **Concepts-** If you want to show how your company is organized, detailing the relationships of the different departments and officials, you could set up an organization chart-- boxes and circles connected with lines that show how everything is hierarchically arranged and related. A concept graphic shows nonphysical, conceptual ideas and their relationships. In the figure below, see how Apple Computer illustrated the difference between 32-bit processors and 64-bit processors in an infographic.
- **Words-** Finally, graphics can be used to depict words. You've probably noticed how textbooks put key definitions in a box, sometimes using a different color. The same can be done draw attention to key points or extended examples.

Tables

Tables are rows and columns of numbers and words, mostly numbers. They permit rapid access to and relatively easy comparison of information. If the data is arranged chronologically (for example, sales figures over a ten-year period), the table can show trends-- patterns of rising or falling activity. Of course, tables are not necessarily the most vivid or dramatic means of showing such trends or relationships between data; that's why we have charts and graphs (discussed in the next section).

The most common use of tables is to share numerical data. Imagine that you are comparing different models of laser printers in terms of physical characteristics, such as height, depth, length, weight, and so on. This type of information is perfect for a table.

However, don't get locked into the notion that tables are strictly for numbers. Whenever you have situations where you discuss several things about which you provide the same categories of detail, you've got the possibility to use a table. Again, imagine that you are comparing several models of a laser printer, but you want to know more detailed information about things like its cost,

print speed, supply costs, and warranty terms. This is an ideal opportunity to use a table, and it would be mostly words rather than numbers (and in this case, you would probably want to leave the textual discussion where it is and "re-present" the information in table form).

Formatting Requirements

In its simplest form, a table is a group of **rows** and **columns** (horizontal and vertical groups of cells, respectively.) At the top of each column is a column heading, which defines or identifies the contents of that column (and indicates the unit of measurement when applicable). On the left edge of the table may be row headings, which define or identify the contents of that row. Things get tricky when rows or columns must be grouped or subdivided. In such cases, you have to create row or column subheadings.

Traditionally, the title of a table is placed on top of the table or is the first row of the table. If the contents of the table are obvious and there is no need to cross-reference the table from anywhere else in the report, you can omit the title.

When formatting tables for a business document, keep the following guidelines in mind:

- Explain the general significance of the data in the table; don't expect readers to figure it out entirely for themselves.
- Don't overwhelm readers with an enormous 11-column, 30-row tables. Simplify the table data down to just that amount of data that illustrates your point while making sure that this does not distort or misrepresent the data.
- Don't put the word or abbreviation for the unit of measurement in every cell of a column. For example, in a column of measurements all in millimeters, don't put "mm" after every number. Put the abbreviation in parentheses in the column or row heading.
- Right- or decimal-align numbers in the columns. If the numbers 156 and 4 were in the same column, the 4 should appear right below the 6, not the 1.
- Normally, words in columns are left-justified (although you will occasionally see columns of words all centered).
- When there is some special point you need to make about one or more of the items in the table, use a footnote instead of clogging up the table with the information.

Producing Tables

When conducting research, you may find data in a table that you wish to incorporate into your own work. If it's a simple table without too many rows and columns, you can retype it yourself into your own document (but remember to document where the data came from in the figure title). However, if it is a large table with lots of data, you can scan, screen-capture, or photocopy it and bringing it into your report that way.

Occasionally, in report drafts, information is presented in regular running-text form that could be better presented in table (or tabular) form. Be sure and look back over your rough drafts for material that can transformed into tables.

Charts and Graphs

Charts and **graphs** are another way of presenting the same numeric data that is presented in tables, although a more dramatic and visually interesting one. At the same time, however, you get less detail and precision in a chart or graph than you do in a table. Imagine the difference between a table of sales figures for a ten-year period and a line graph for that same data. You can convey a better sense of the overall sales trend by using a graph, but it may be harder to decipher a single, precise dollar amount than it would be in a table.

Formatting Requirements

When you create charts and graphs, keep these formatting tools in mind:

- **Axis labels.** In bar charts and line graphs, don't forget to indicate what the x and y axes represent. One axis might indicate monetary increments while the other shows time in five or ten-year segments over a specified targeted period of interest. Make sure to include what is being measured and units of measurement.
- **Keys (legends).** Bar charts, line graphs, and pie charts often use special color, shading, or line styles (solid or dashed) to distinguish between two or more sets of data. Be sure to indicate what these mean by translating them onto a key in some unused place in the chart or graph.
- **Figure titles.** For most charts and graphs, you'll want to include a title. In many cases, this will be a numbered figure, as seen throughout this chapter. Readers need some way of knowing what they are looking at.
- **Cross-references.** Whenever you use a chart or graph, don't forget to put a cross-reference to it from the related text. With that cross-reference, provide some explanation of what is going on in the graphic, how to interpret it, what its basic trends are, and

so on.

- **Documentation.** When you borrow information to create a graphic, be sure to use the standard format to indicate the source. It does not matter how you import the graphic into your report—it is all borrowed information, which some brave and noble soul worked hard to develop and who deserves credit for that effort.

Producing Charts and Graphs

As with tables, you can screen-capture, scan, or photocopy charts and graphs that you find to use in your work. You can also generate your own graphics with many types of software. If you use programs like OpenOffice, Word, or WordPerfect, familiarize yourself with their table-generating tools since they will be able to draw the lines and create other formatting details automatically. Free charting and graphing tools are also available online if you want even more design control. Some helpful resources for creating your own charts and graphs include the following:

- [Online Chart Tool](#)
- [Chart Chooser](#)
- [Creating Charts in Word](#)

Illustrations and Photographs

If your document needs to depict objects, places, people, and the relationships between them, the options can run from minimal detail to maximal. A **line drawing** reduces an image to just its essential details, omitting things like colors, shadows, or texture; for example, a line drawing of how to graft a fruit tree reduces the detail to simple lines representing the hands, the tools, the graft stock, and graft. **Diagrams** are a more abstract, schematic view of things; for example, a wiring diagram of a clock radio hardly resembles the actual physical thing at all. **Photographs** provide the most detail of all, as they show the person or object exactly as they exist in the world. These graphics, supplying gradations of detail as they do, have their varying uses. Here are some examples:

- In instructions, simple drawings (often called line drawings) are the most common. They simplify the situation and the objects so that the reader can focus on the key details. In the examples below, you can see a fully detailed photograph of a microprocessor alongside a simplified, labeled diagram of one. In this circumstance, the diagram has less visual distraction, making it more helpful to the person carrying out the task.
- In descriptions, you would want to use drawings, but in this case drawings with more detail that show shading and depth perspectives or employ techniques that display key features, as in a map, a floor plan, a cross-section, or an exploded view.
- In feasibility, recommendation, and evaluation reports, photographs are often used. Since photographs are a precise representation of the object depicted, they are useful tools when accuracy is important. For example, if you are recommending a photocopier, you might want to include photos of the leading contenders.

Formatting Requirements

When you use an illustration in a report, there are several design considerations to keep in mind:

- **Labels.** Just about every illustration should contain labels—words and phrases with pointers to the parts of the objects being depicted.
- **Keys.** If the illustration has certain shadings, colors, line styles, or other such details that have a special meaning in the illustration, these should be indicated in a key—an area in an unused corner of the illustration that deciphers their meaning.
- **Titles.** Illustrations should have specific titles that briefly describe the image, and these titles should be numbered (Figure 1, Figure 2, and so on). If there is only one graphic element in the document, the title may be omitted.
- **Cross-references.** Illustrations should be referred to at the relevant point in the discussion. Identify the figure by its number, and discuss the illustration a bit—focus readers' attention on the key details of the illustration.
- **Location within the report.** Ideally, illustrations should be placed just after the point where they are needed. However, sometimes because of the pagination (the way the text falls on the pages) and the size of the illustrations, this close placement is not possible. When this happens, just put the illustration at the top of the next page.
- **Size of illustrations.** Illustrations should be between one-half to one-quarter of the vertical size of the page, and should fit on the page with other text. In fact, that's what you really want—to intersperse text and graphics in a report. Avoid appending the illustration to the back of the report; if your reader has to go searching for it, the image will not be as useful.
- **Placement within margins.** Make sure that your illustrations fit neatly and comfortably within standard margins. You don't want the illustration spilling over into the right or left margins. Allow the equivalent of at least one blank line above and below each illustration.

- **Level of technical detail.** Illustrations should be at the appropriate technical level for your readers. Remember to be mindful of your audience when creating and selecting images.

Producing Illustrations and Photographs

Technology has made capturing and manipulating images easier than ever, and most computers and smartphones come equipped with basic photo editing tools. Digital clip art and stock photography are also readily available on from a number of websites. Even if you are not taking and editing your own pictures or using existing digital images, there are still several options available: scanning, using computer graphics software, and hand-drawing. No matter which method you choose, don't forget that you must indicate the source of any borrowed graphics.

- Scanning is the best way to pull graphics from printed materials into your document files. Universities and colleges usually make scanners available to students and faculty. Print shops will allow you to scan for a fee. Save your graphics as graphic-format files (such as .jpg or .png) then copy them into your document files.
Note: When you scan a graphic, trim off the title, caption, and any other written content from the original if possible. This will prevent any issues with legibility in the text. Retype the information directly into your document or replace it with words of your own.
- Using computer graphics software has become more user-friendly in recent years. With a little practice, you can create graphics like the ones shown in the figure below in OpenOffice Writer or Microsoft Word (and of course GIMP and Illustrator). With a computer-graphics drawing like the keylock mechanism in Figure 9, you are at the very edge of what OpenOffice Writer or Microsoft Word can do.
- Drawing images by hand is also an option. You can trace shapes to get rough images to start, then sketch over this lightly with a soft-leaded pencil. Keep working until you have the drawing the way you like, then use a black marker to ink in the lines that you want, erasing any stray pencil markings. Once the drawing is complete, just scan the image following the method described above.

Indicating Sources

As mentioned earlier, it's perfectly legal to borrow graphics—to trace, photocopy, scan, or extract subsets of data from them. But you're obligated to cite your sources for graphics just as you are for the words you borrow. Normally, this is done either in the figure title of the graphics or in a source notation immediately below the image, but an instructor may want images credited on your references page as well, so always check the your instructor or the assignment sheet for any such requirements.

Best Practices for Creating Graphics in Business Writing

What are best practices for creating graphics? How can one mess up when adding a graphic to business communication? This video will show you how to do things correctly and incorrectly:

Graphics in Technical Writing

For more information and examples on how NOT to create graphs, please look at C.J. Schwarz' "[A Short Tour of Bad Graphs](#)."

Review: General Guidelines for Using Visuals

- Intersperse graphics and text on the same page. Place graphics as near to the point in the text where they are relevant as is reasonable. However, if a graphic does not fit properly on one page, put it at the top of the next, and continue with regular text on the preceding page. Don't leave half a page blank just to keep a graphic near the text it is associated with.
- Watch out for areas in your text where you discuss lots of numeric data in relation to two or more things—that's ideal for tables, charts, or graphs.
- Watch out for areas in your text where you define a series of terms—that's ideal for tables.
- Always discuss visuals in the preceding text. Don't just place a table, chart, graph, or image in your document without explanation. Orient readers to it and explain its significance.
- Make sure your visuals are appropriate to your audience, subject matter, and purpose—don't overwhelm beginners with massive, highly technical constructions they can't understand.
- Label all visuals with appropriate identifying information: column and row headings, keys, axis labels, and so on.
- Use a title unless the table, chart, or graph is very informal. Remember that the title goes just above the table; for charts and graphs, below.

- Indicate the source of all visuals you have borrowed whether in part or in whole. This can be done in the figure title or in a footnote.

All links live as of July 2021.

References

Gatlin, P. L. (1988). Visuals and prose in manuals: The effective combination. In *Proceedings of the 35th International Technical Communication Conference* (pp. RET 113-115). Arlington, VA: Society for Technical Communication.

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Levie, W.H., and Lentz, R. (1982). Effects of text illustrations: A review of research. *Journal of Educational Psychology*, 73, 195-232.

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