Using Figures in Text and as Attachments

JoAnne Yates

When you have figures to present in a written document, you must decide where to present them (within the text itself or as attachments) and what form (table, graph, diagram) to use. Your decision should be based on your readers' needs and preferences, as well as on your purposes.

Where to Present Figures

Today's word processing software makes it easier to present displays in the text itself than it used to be. You should distinguish, however, between those that ought to be in the text and those that fit better as attachments. Normally, figures that are important to understanding the main flow of the document and need to be seen by all readers should be placed in the text, rather than at the end. Those that provide additional details that some, but not all, of the audience will want to see should typically be added to the end as attachments. Whether figures are in the body of the document or attached, you should refer to them in the text, telling the readers where to find the figure and what its point is (see reading on the use of exhibits).

Often, a longer report or proposal will have one or more appendices to provide back-up materials such as tables, text, examples of survey questionnaires, and calculations. Each coherent set of materials forms a separate appendix usually designated by a letter of the alphabet. The body of the report should include at least one reference to each designated appendix.

What Format to Use

When your figures are intended to convey data, you will need to decide what form they should take, based on your readers' needs and interests, as well as on your purposes. Basically, a graph is better for conveying the general significance of data, while a table provides more exact data.

> Graphs: If your audience is busy and wants or needs the general significance of the data without the exact details, use a graph or chart rather than a table. Graphs are much better than tables at revealing general trends, relationships, and proportions. They also have much greater impact. The significance of a well-designed graph should be immediately clear, while the significance of a table is determined only by examination. In addition,

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research shows that people tend to remember the meaning of data presented in graphs longer than that of data presented in tabular form.

Based on the data in Figure 1's table, the bar graph in Figure 2 shows at a glance the trends in one company's dividends per share. For many stockholders this general trend is enough. If you want the impact of a graph but your audience is likely to want the exact figures as well, you can provide both by adding the figures to the graph, as Figure 3 does with the earnings per share data.

Note the simplicity of these graphs. In using graphs, be careful not to clutter or distort them with what Edward R. Tufte calls "chartjunk."[1] Such decorative efforts distract the audience from, or manipulate their reactions to, your data.

Tables: If your readers are familiar with the general significance of the data but want or need the exact figures, use tables. The tabular data shown in Figure 1 takes more time to absorb and has relatively low initial impact, but it is exact. Some specific types of audiences (e.g., engineers, financial analysts) prefer tables to graphs for many purposes. In addition, some quantitatively oriented individuals distrust graphs in general and prefer to deal only with figures. If your audience is likely to distrust graphs or prefers tables, you should obviously use tabular data.

In longer documents, you can often gain the advantages of both tables and graphs by using a graph in the text and providing tables as attachments or appendices. This approach is particularly useful when you have multiple readers with different interests and needs.

In incorporating figures into your documents, take the audience's needs, preferences, and norms into account. A figure is effective in relation to the document's audience and context, not independent of them.

[1] Edward R. Tufte, The Visual Display of Quantitative Information, 2nd ed. (Graphics Press, 2001).

Sample Tables and Graphs

Figure 1. Selected Consolidated Financial Data

|	1994	1995	1996	1997	1998
Earnings per common share ($)	3.68	2.81	3.41	4.17	4.22
Dividends per common share ($)	2.24	2.40	2.60	2.76	2.92

Source: Annual Report, XYZ Corporation, 1999.

The table has less impact than Figure 2 and Figure 3, but provides as much detailed data as desired.

Figure 2. Dividends per Common Share, 1994 – 1998
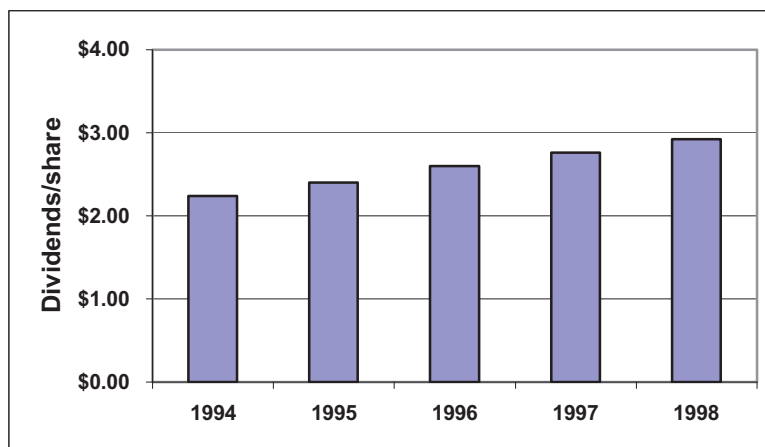
Source: Annual Report, XYZ Corporation, 1999.

This graph reveals the trend immediately, and has high impact.

Figure 3. Earning per Common Share ($), 1994 – 1998
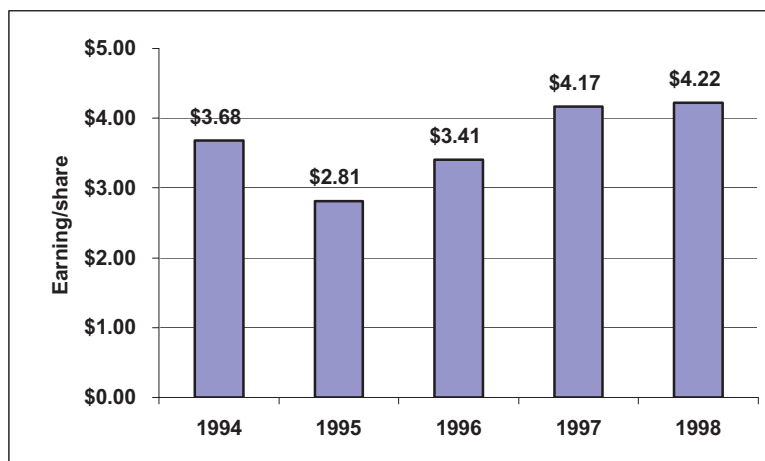
Source: Annual Report, XYZ Corporation, 1999.

This graph retains high impact but also provides exact data with data labels.

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