

Including SAS/GRAPH® Software Output into a Microsoft® Word Document

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ABSTRACT

The SAS® system provides powerful tools for the graphical visualization of information. What's a good way of incorporating these graphics into a report. Using the SAS system and Microsoft® Word, we will show how to generate a graph with specific protocols that allow quick, easy, and compatible incorporation into a Word document.

BACKGROUND

No matter what business you are in, there is a need for printed communication. Often, this communication is in the form of a report or some other document which distributes information and conclusions based on that information. Due to the wide use of Microsoft business software packages, Microsoft Word has become the document processing software of choice for many companies. Similarly, The SAS system has become the information management and analysis package of choice for many companies.

The SAS system provides powerful tools for graphic visualization and reporting of data. However, sometimes it is not clear how we can transfer the SAS system graphics to a Word document and make it appear in a style that is compatible with the document as a whole. This paper will provide some tips on easy ways to do this. These techniques were developed using SAS Version 6.12 and Word Version 7.0a.

GRAPHICS DRIVER

One of the first considerations when attempting to create a graph in the SAS system is what driver to use. A driver is a collection of information that tells SAS/GRAPH® how to format the output in order that the graph can be read by a particular graphics protocol, such as PostScript®. SAS contains an exhaustive list of drivers for a large number of printers, terminals, and graphics packages. Using PROC GDEVICE, you can browse a list of these drivers. The one that we have found to work the best with Word is called CGMMW6C, which

stands for 'computer graphics metafile, Microsoft Word 6, color'. This formats the output into a computer graphics metafile, which is a more or less generic graphics protocol, that is compatible with Word 6.x. These are also upward compatible with Word 7.0. The metafile contains information particular to the generation of the graph, or picture, in the Word document.

FONT

Each different driver will have a list of available fonts, colors, line styles, etc. In the CGMMW6C driver, we usually select a hardware font style, HWCGM005, which duplicates Times New Roman®. This is set as the default font style for text and titles in the graphs by using the FTEXT= and FTITLE= graphics options in SAS.

OUTPUT FILES

When the SAS/GRAPH code is run, the GOPTIONS statement directs the output to a file. We use a .cgm extension to designate that it is a metafile. This makes things easier on Word, since it knows that a .cgm extension is a metafile. If multiple graphs are being generated by the same SAS program, be sure to route each graph to a different file. You can append graphs into one file, but this will not allow them to be incorporated into Word easily.

INSERT INTO WORD

When the graphics files have been generated, use the Insert Picture command to bring them into Word. Word will automatically scale the graphics to fit the page. It will most likely be necessary to re-fit the graphs to your page. Select the graph and use the Format Picture command. This will bring up a dialog box which will allow you to set both the horizontal and vertical dimensions of the graph. It is also advisable to check the orientation of the graph on the page. The default will be right-justified. You may want the graph centered.

Though SAS/GRAPH has numerous font styles available for titles and text in graphics, you may find the need to use Word-generated titles for your graphs. Simply type in the title that you prefer for your graph in Word, move the cursor to a line below the title, and insert the graph there. Be sure to modify your title statements in SAS/GRAPH so that you don't have duplicate titles, one inside the graph and one outside the graph.

SUMMARY

SAS/GRAPH output is most easily imported into a Word document as a computer graphics metafile or cgm file. Use Word to construct titles and footnotes for the graph and SAS/GRAPH to construct the graph itself. The Format Picture command within Word will allow you to alter the dimensions and orientation of the graph within the Word document.

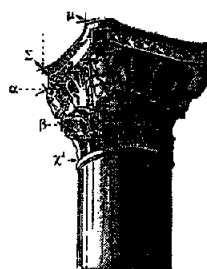
There are a number of different techniques for incorporating SAS graphic output into a Word document. This is one quick way that we have found useful.

REFERENCES

Microsoft Corporation, Inc. (1994), *Microsoft® Word Users Guide, Version 6.0*, USA: Microsoft Corporation, Inc.

SAS Institute, Inc. (1990), *SAS/GRAPH® Software Reference, Version 6, First Edition*, Cary, NC: SAS Institute, Inc.

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