Creating Effective PowerPoint Presentations

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PowerPoint offers a simple and effective way to increase the effectiveness of a speech or presentation. Studies have shown that people learn more with their eyes than they do with their ears. A study from North Carolina State University found that 69% of learners prefer visual input such as charts, pictures and animations. A similar study at the University of Minnesota found that visual support increased the persuasiveness of a speaker by 43%. Further, the quality of the visuals plays a significant role in the amount of material that is retained by the audience.
For this article, visuals refer to the use of PowerPoint slides. While the design principles suggested here also apply to overhead transparencies or 35mm slides, the use of PowerPoint slides are recommended due to the increasing availability of LCD projectors, ease of use of the software, and the flexibility that PowerPoint gives the user to add animations and sound to the presentation.

But, and this is the key point, poorly designed PowerPoint slides do not help but in fact harm the presentation. Well-designed slides draw the viewer in, they reinforce key points, they are visually attractive and most importantly, they are immediately visible and understandable to the audience. This point cannot be emphasized enough: The reason for any PowerPoint slide is to help the audience see and understand a few (usually two or three) key points. If a slide does not reinforce these few key points, then it is a distraction and not an aid to your presentation.

This article will explore a few design principles that you can use when designing PowerPoint slides. It will focus on four areas of PowerPoint that can be easily manipulated to create an effective visual presentation: color, font style, font size and slide content.

COLOR

Using color is a simple and effective way to add interest to a presentation. The default setting when creating a new PowerPoint file is a white background with black text. While black and white may be fine for print, it is not recommended for PowerPoint. The extreme contrast between black and white is both distracting and distorting to the viewer. Consider this simple fact: Think of all the movies you have ever seen. Now think about the credits that roll at the beginning and end of the movie. How many of these credits have been on a white background? Almost certainly, the answer is none. Check the next time you go to a movie. The credits are almost always a dark background with a white (or light) font color.

Some people claim that colors convey a psychological meaning. Much of this may be related to culture, but some of it may be universal. For example, red often conveys danger and for that reason it is
not a desirable background color. In contrast, most experienced PowerPoint designers use a dark background—typically blue or green with white or yellow lettering. (See Exhibit 1 for a brief description of each color.)

Some colors to avoid as a background are red, yellow and white. As stated earlier, red is viewed by some as a “danger color.” Yellow, when used in large blocks, can irritate the eye and cause fatigue in the audience. White is boring and leaves the audience with the impression that the speaker did not care enough to add color.

### Blue
- Peaceful
- Clear
- Good contrast with white or yellow lettering

### Green
- Thought to stimulate feedback and interaction
- Restful, refreshing
- “Growth”; “Money”
- Good contrast with white or yellow lettering

### Red
- “Stimulating”
- May be good accent color for charts (when not dealing with money)
- Never use in a financial presentation

### Black
- Clean background
- Can be boring

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Exhibit 1 The “Meaning” of Color
Even though red and yellow are bad as background colors, they can make excellent accent colors. When using a blue background, colors such as white, yellow, bright orange and red will show up well in charts. White and yellow are excellent colors for text as the contrast with the blue background is substantial enough for the text to “pop off” the screen.

Contrast is key to layering colors on top of each other. Many think of black and white as the ultimate in contrast, but it is actually black and yellow. Yellow text on a black background is the most easily readable combination that can be used in a PowerPoint slide. Yellow and white also work with dark blue.

When designing a chart, whether it is a line, pie or bar chart, the contrast of the chart colors with the background and the contrast of the color of the elements within the chart must be taken into account. Each series in the chart should have a different color. If a chart has several “series” (Exhibit 2) it can be difficult to find colors that have a high level of contrast and are pleasing to the eye. The best advice is to create simple charts. Don’t include extraneous data. The

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Exhibit 2 Each Line is Known as a Series
audience should be able to look at the chart and be able to instantly recognize what it is. They don’t have to completely understand it. But, they shouldn’t have to study it intently just to know what it represents.

When creating a chart with several different colors, a good rule of thumb is to arrange colors from darker to lighter. Darker colors should be at the bottom and the colors should get progressively lighter as you get to the top. This is a natural color scheme and one that humans have become accustomed to. In nature, the ground is darker than the trees. The trees are darker that the sky and the sky is darker than the clouds. Following the same sequence in a chart will provide a “natural” look and feel.

One key warning when it comes to choosing colors is that colors that appear on the computer monitor will not necessarily look the same when projected through an LCD projector. To complicate matters, colors will change depending on the LCD projector being used. This relates to the quality of the computer monitor and the projector as well as the manufacturer. There is no way to accurately predict what a color will look like until it is seen on the screen. For example, orange may come out as yellow. The only way to ensure that the colors chosen will look good to the audience is to test the PowerPoint on the projector being used to display the slides to the audience.

**FONT STYLE**

Font is the name for the typeface and size of type used in a project. Fonts come in two styles: Serif and Sans Serif. A Serif font has small horizontal lines added to the tops and bottoms of the typeface. Sans Serif fonts do not have these lines. Exhibit 3 shows a comparison of Serif and Sans Serif.

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<tr>
<td>Serif</td>
<td>Sans-Serif</td>
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Exhibit 3 Serif and Sans-Serif Fonts
Serif fonts are used primarily in print. The lines at the top and bottom of the characters aid the eye in reading. Common serif fonts include: Times New Roman, Courier and Garamond. Serif fonts are not recommended for use in PowerPoint slides. The lines that guide the eye in reading on paper hinder the movement of the eye when text is on screen. Part of this is due to the distance the viewer is from the screen. The serif lines blur the letters together. It takes longer for the brain to sort out what the letters are.

Sans-Serif fonts do not have the lines to aid in reading. This makes them ideal for use on PowerPoint slides. Common Sans Serif fonts are: Arial, Helvetica, Tahoma and Verdana. The absence of the lines helps the eye to scan the words faster and it allows the letters to stand out more.

**FONT SIZE**

The next factor affecting quality of the slides is the size of the font. PowerPoint is capable of a wide range of font sizes, literally as small as 1 point to as large as 4,000 points. Obviously, font sizes at these extremes are not actually usable. The realistic usable range is roughly 30 to 100 points. There are several ways to determine an optimal font size. Some users divide the size of the screen by the distance to the last seat. But the bottom line is this: If the average person in the back of the room can’t read every word on the slide, then the font size is too small. Let me repeat that. The point of the slide is for the audience to be able to read it. If the audience can’t read it, it fails the most basic test. With that in mind, the easiest and most effect way is to use at least 44-point type for headlines and 38-point type for main bullets.

As a final test, stand back at least four feet from your computer screen. If everything on the screen is not clear, your font size is too small.

When using fonts that are sufficiently large for the audience you will notice that you are unable to fit much text on a slide. This is good. An
effective slide will have no more than five lines of text with about five words each. The words that appear on screen are meant to support what the speaker is saying. It is not the text of the speech. A slide should not contain complete sentences. It contains bulleted statements, which are fragments of sentences—single thoughts captured visually to reinforce what the speaker is saying.

There is a school of thought that believes that PowerPoint slides should be packed with information even if the speaker is not covering the information. The thinking behind this is that the audience can be given the slides as a handout and can use them for future reference. The problem in this is two fold.

First, the slide will become so cluttered with content that the words generally end up being unreadable by most people in the audience. The slides become a distraction and the speaker will lose the audience’s attention. The second problem is that even if the slides are given as a handout, it is still hard to read because when printed as a handout, the font size because even smaller. A slide with 38-point font will print out as a 12-point font handout. A slide that is crammed with information and uses a 24-point font produces a handout with a font size of 8 points. This is too small to read.

The ideal practice is to develop slides that enhance your presentation by using short bullets that emphasis what you are talking about.

The ideal practice is to develop slides that enhance your presentation by using short bullets that emphasis what you are talking about. If you have supporting material that you do not cover in your speech, do not place it into your PowerPoint. Create a separate handout that discusses the topic in greater detail. This will serve your audience better and enhances your credibility because it looks professional.

SLIDE CONTENT

Thanks to PowerPoint’s multimedia abilities, a slide can contain text, pictures, movies, charts, audio or any combination of these. Presenters are not required to only use words to represent what is
being discussed. The key is that the elements reinforce and not detract from the speaker's message.

When using a picture, it should match what the speaker is discussing as closely as possible. For example, if you are talking about coal burning power plants, don't show a nuclear reactor. It will confuse the audience and bring your credibility into question.

There are two types of pictures that can be used in a PowerPoint: Photographs and Clip Art. Photographs came in a variety of file types. They can be jpg, gif, tiff or bitmap. Each file type has advantages and disadvantages. For a PowerPoint presentation, either a jpg or a gif should be used due to their small file size and ability to contain rich color. A photo can be an image that has been scanned from a real photograph, taken from a digital camera or taken from a web site. When taking an image from a web site, copyright laws must be followed.

One of the most popular images to add to a PowerPoint is the logo of the speaker's company. While this seems to be straightforward, it can lead to a negative reaction. PowerPoint contains a feature that allows the user to place an element on a master slide. Everything on the master slide will appear on every slide in the presentation. Some people place their logo on every single slide. There are two potential problems. The first is if the logo is made small enough to make room for the text of the PowerPoint it will not be readable to the audience and will serve as a distraction. The second problem occurs if the logo is made so big that it becomes the dominant element on each slide. Often the logo will be partially covered by text or other objects on the slide. This looks sloppy and unprofessional. The best way to approach this is to include the corporate logo twice: on the first slide and the last slide. Most audiences do not need to be consistently reminded of where the speaker works. The same principles apply to any photos that appear on a master slide.

For print work, a photo should have a resolution of 300 dpi (dots per inch). Dpi refers to the quality of a picture. The higher the dpi the
Which Kind of File For What Job?

When working with digital photos, one can become overwhelmed with the wide variety of photo file types. Each type has a role to play whether it is intended for use on a web page, newsletter, magazine or PowerPoint.

**BMP (Bitmap)**: A bitmap file can be read on any Windows-enabled PC. The pictures are not typically of high enough quality for print work and the file size makes them too large to be used on a web site or PowerPoint.

**GIF (Graphics Interchange Format)**: GIF was developed by CompuServe, one of the original on-line services. The files are small in size but do not contain rich color. They are ideal for use on web pages and can be effective in PowerPoint. GIF files can have a transparent background on web sites or in PowerPoint. This can produce a nice visual effect. GIF files also support an animation feature that can be used on the Internet as well as PowerPoint starting with PowerPoint 2000.

**JPG or JPEG (Joint Photographic Experts Group)**: JPG (pronounced jay-peg) has become the most commonly used photo file format on the Internet due to the file’s ability to contain rich color and ability to compress the file size small enough to make downloading easy. JPG is also ideal for PowerPoint and can be used in newsletters depending upon the quality of the photograph. However, it is not advisable for high quality print work.

**PNG (Portable Network Graphics)**: This is the next generation of the GIF file and is expected by some to replace it. PNG files hold more color and retain the ability to have a transparent background. However, they cannot contain animation.

**TIFF (Tagged Image File Format)**: TIFF files are the highest quality photo file type. It is ideal for high-quality print work such as for magazines. However, with the high quality comes a large file size. This makes TIFF files a bad choice for PowerPoint and for web sites.

**PSD**: PSD is the file system produced by PhotoShop. PhotoShop is one of the most widely used photo editing software packages. It is supported on both PC and Mac platforms. The software has the ability to perform advanced editing functions and can save a photo as another file type. Users do not generally use...
the actual PSD file for a purpose other than editing. PhotoShop is used to create separate files in any of the other file types for use in various projects.

The following table provides a reference to guide to use in deciding which file format works best with what job. In the ideal situation, a photo starts in PhotoShop (PSD) format and is saved in one of the following to fit the job.

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<th>Magazines</th>
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Which Kind of File for What Job?

more image data a photo contains. However, 300 dpi is too high for a PowerPoint presentation. Due to the nature of a computer's display, a 72 dpi and a 300 dpi picture look almost indistinguishable when viewed in PowerPoint. The advantage of using a 72 dpi in PowerPoint is that the file size will be smaller and that makes it easier to e-mail or save on a disk. If size is not of great concern to the speaker then it doesn’t matter unless the computer the PowerPoint is being presented from is a slower, older machine. Some photos can be so large that they will slow a computer’s performance.

Clip Art, also known as Line Art, look like cartoons. PowerPoint comes with access to the Microsoft Design Gallery that contains hundreds of Clip Art images. Since Clip Art is a cartoon, it can detract from the seriousness of a presentation.

A common and useful visual to add to a slide is a chart or graph. Charts and graphs are excellent ways to present data. As discussed in the section on color, the user must be aware that some color combinations will not work. Charts should be kept as free of clutter
as possible. They should be simple. A complex chart causes the audience to lose interest, or worse, causes the audience to focus solely on trying to figure out the chart and ignore what the speaker is saying. Exhibit 4 is an example of a chart with too much information and Exhibit 5 is one that will be easily identifiable by the audience.

Another helpful tip when creating a chart is delete the chart legend. The legend is that part of the chart that sits to the side and informs users what each color represents. While it is useful in print, in PowerPoint it distracts the viewer’s eye. The audience has to look at the legend to see what a color is representing. During this time, the audience has shifted their attention away from the speaker, losing out on what is being discussed. The better option is to place chart labels such as names and numbers as close to the chart piece as possible. This is easier for the audience to process and they will not become distracted. Exhibit 6 shows a chart that uses a legend and Exhibit 7 shows a chart that places the data close to the individual pieces.
Movie and audio files are two other design elements that can be added to slides. Movies are a helpful tool to add motion and sound to a presentation. Instead of pausing the PowerPoint to start a VCR, a video can be digitized and saved electronically to be placed inside a PowerPoint. The downside to digitizing a video clip is there will be a loss of quality from the videotape to the digital file. This is a result of compressing the file to save computer space. Even a small video file can take up a lot of computer space. A thirty second video clip can be almost 6 Mb in size.

The inclusion of audio files is a double edge sword. An audio clip can bring attention to a point or it can bring a nice touch of levity to a presentation. However, too much audio can be annoying. The best advice is to have a colleague preview your presentation. If they comment about the sound, then it is probably too much. The audience shouldn’t remember the sound. They should remember your message.
10 Tips to a Great PowerPoint

1. Keep it simple. The fewer words the better. Use several simple slides instead of one complex slide. Limit each slide to 20-25 words with a maximum of 5 lines.

2. Headlines should be specific and action oriented. Do not make your audience guess. For example: Distribution Costs Rise 45%, instead of Costs Rise


4. Use the 10-second rule. If it takes longer than 10 seconds to read a slide then it has too much content.

5. Remember that color is important in electronic presentations and that what looks good on your monitor may not be easily read on a 20x30-foot screen. Many people have some degree of color blindness. Avoid combining red/green, brown/green, blue/black and blue/purple in charts and graphs.

6. Background color should be dark and text color should be light for greatest contrast. Good background colors are dark blue, green and black. White and yellow are excellent colors for text and headlines.

7. Make visuals available as handouts to be given to the audience prior to your speech. This allows the audience to take notes as you speak. If there is back-up material or in-depth material, provide a white paper after the presentation.

8. Keep data and graphs simple. Delete the grid lines to lessen the visual clutter, make words horizontal and delete data points. Place the subject next to the appropriate piece of the chart.

9. Test your slides on the projector that they will be shown on ahead of time. This will help to avoid color problems.

10. Avoid having background images (such as logos) appear on every slide.
Finding the right balance of slide content is the most challenging part of designing a successful PowerPoint presentation. But, adding the right picture or a nicely designed chart can turn a boring PowerPoint presentation into an effective learning tool.

CONCLUSION

PowerPoint slides are an effective tool in enhancing any message when designed properly. When an audience attends a presentation that is accompanied by a poorly designed PowerPoint, they remember that they saw a poorly designed PowerPoint. If they attend a presentation that is accompanied by a well-designed set of visuals they remember a good overall presentation.

By following a few simple rules concerning font, color and content you will be able to greatly increase the effectiveness of your PowerPoint slides. This should increase the effectiveness of your speech.

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