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Visual Presentations • 5

Basics of good graphics

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Graphs require care

Our discussion so far centred around some basic themes such as:

- There is more to graphs than simply producing them;
- Just because a graph looks pretty does not mean that it is in any way useful.
- Graphs can inadvertently distort the meaning;
- Such distortions are not easy to spot, especially if the analyst did not have anything specific to convey to begin with;
- Graphs can seriously mislead unless care is taken to avoid distortions; and
- Viewers cannot spot the distortions since they are not usually aware of what they should be looking for in the graph.

Graphs -When to use what (cont'd from September 1994 Imprints)

Purpose	Examples	What to use	Comments
Show exact values	Sales figures in different cities	Tables, annotated graphs	If you use graphs to show exact values, make sure that they are annotated. For example, if you use a bar chart, put the actual value at the end of each bar.
Part-whole relationship (components not mutually exclusive)	Profile of Segment A <ul style="list-style-type: none"> ● 60% male ● 49% higher income ● 58% urban 	Independent bar or column chart	Avoid stacked bar charts or stacked column charts
Part-whole relationship (components mutually exclusive)	Size of different market segments	Pie charts, stacked column/bar charts of constant height	
To show choices	Example: there are four ways of marketing this product.	Bullet form list, Organization chart, Tree chart	
To show alternative course of action	If product X captures a market share of 2% we will spend \$2 million on advertising; otherwise we will spend \$1 million.	Any decision chart such as flow diagrams.	

What makes a good graph?

If a graph is as likely to distort as it is to convey something meaningful, it becomes important to know the factors

that make a graph effective and distortion-free.

Faithful representation

Most graphs suffer from sloppiness. Faithful representation requires taking care of certain details such as:

Avoid comparing dissimilar items

A common mistake is to show two or more dissimilar items in the same graph. An example of this would be to show average attribute ratings as bars in the same bar chart although they might have been collected on different scales. Even warning the reader does not help since most people tend to interpret graphs visually. In general, it is not a good idea to put dissimilar items in the same graph.

Use simple representations

We saw earlier how complex depiction of data (such as using 3D visuals to represent 2-dimensional data) can potentially distort the meaning. Effective graphs are simple representations. A good procedure would be to start with a simple graph and gradually increase elements that would make it attractive, as long as such additions do not distort or obscure the basic message.

Use complete labels and figures

A graph should be able to 'speak for itself'. It should also contain enough information to enable an independent observer to assess the reasonableness of the conclusions drawn. This means that a graph should be complete. The reader should not have to guess the value represented by a bar (in a bar chart) or a by a slice of pie (in a pie chart). The values should accompany the graph, unless they are not relevant.

User-friendly representation

A user should not have to struggle to understand what we meant to convey through a given graph. We should make the meaning of a graph as self-explanatory as possible. The following principles make a graph user-friendly:

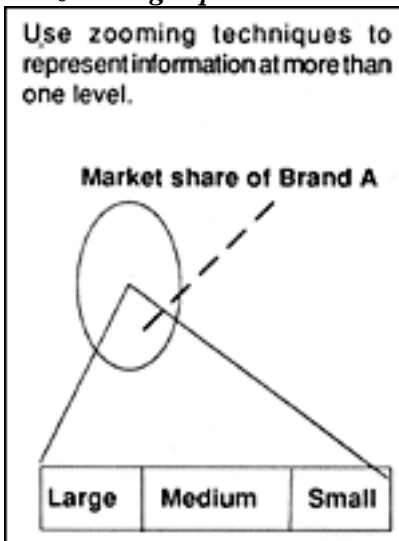
Make the idea stand out

For example, if your intention is to make the point that a disproportionate amount of sales were generated by your department, you can use an exploding pie chart.

Focus on the central theme

If you want your presentation to centre around a brand, you can represent the brand in a distinct colour or use a distinct icon so the audience will immediately focus its attention on your central theme.

Use zooming representations where necessary

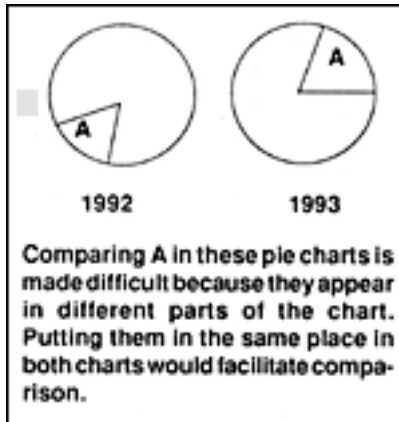


Consider a situation in which your brand is too small. You can use zooming techniques. Zooming techniques represent information at more than one level. The chart on the right shows how brand A fits into the overall market (pie chart). The second level (bar chart) shows different categories of Brand A.

Make scanning easy

Suppose you are representing attribute ratings as a series of bar charts. Instead of simply representing attribute ratings, it might be helpful to arrange them from the highest to the lowest. This will enable the reader to see immediately where the brand is strong and where it is weak.

Be consistent



If you are using colour or patterns to represent different brands (for example), it is a good idea to represent the same brand with the same pattern or colour throughout the presentation. Where possible, you should also attempt to use the same position. For instance, if your brand is represented on the right hand side on a pie chart, it should appear in the same position (to the extent it would make sense) in subsequent pie charts as well.

Be coherent

A graph is not a random representation of assorted facts. Each graphic should have a purpose and it is our responsibility to communicate this properly. If we cannot clearly and convincingly state the purpose of a given graph, neither can the reader.

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