

DATA VISUALIZATION.

8 TIPS FOR AN EFFECTIVE DASHBOARD

12345678

LESS IS MORE

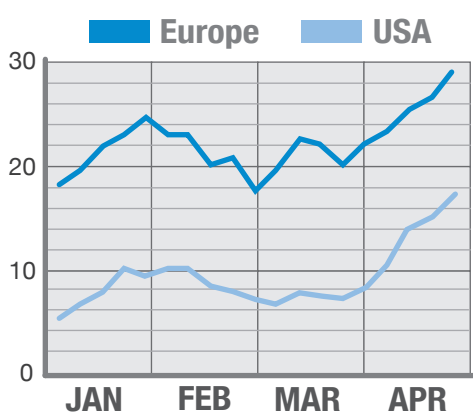
The art of omission; highlight what is important, leaving out what isn't.

When designing a dashboard, the old adage, 'less is more' still applies. An efficient dashboard allows users to focus on what is really important; numbers, relationships, trends and anomalies. Decorations often make a dashboard less readable and thus less efficient

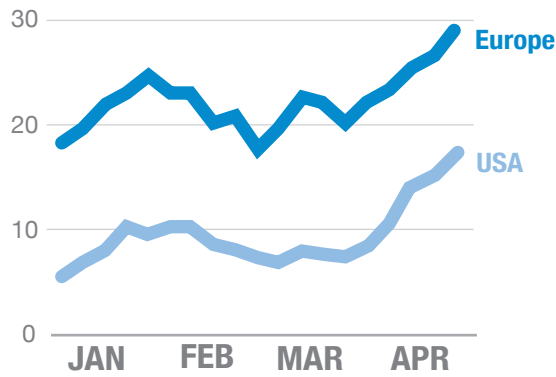
In the late 1970's, Edward R. Tufte, famous for his books on data visualization, introduced the term "data-ink". In data-ink you cannot delete anything without inevitably changing the message. "Non-data-ink" is the term he's using for all other, non essential, information.

His message? Increase the ratio between data-ink and non-data-ink; Highlight what's important, leave out what isn't. This includes for instance unnecessary 3D effects, colour gradients, shadows and other effects that are often purely decorative.

Here is a typical line graph:



And one based on the 'less is more' principles:



Only the important parts of the graph are highlighted and the less important ones, such as grid lines, have a light shade of grey. We believe that the principles of Tufte still have their value in helping us develop efficient dashboards.

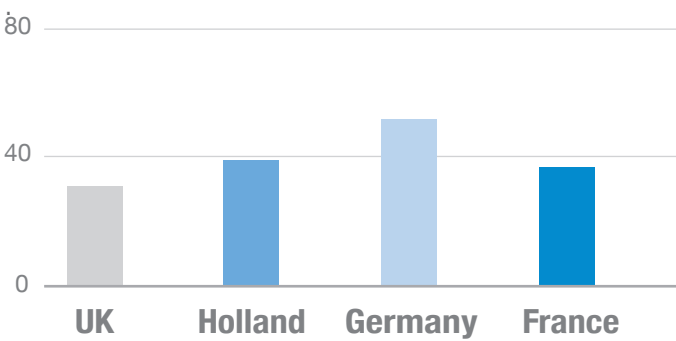
CHOOSE YOUR COLOURS WITH CARE

Good use of colours can highlight and clarify, while poor use will obscure or conceal information.

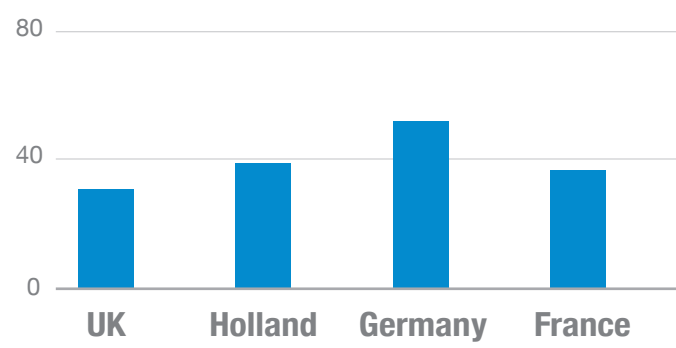
How to choose the right colours in a dashboard? Use of colour is often about personal taste; and that cannot be argued.

Or can it? In dashboard design aesthetic aspects also play a role, but it is mainly about how you can best deliver the message.

In a dashboard colour has multiple functions. You can use colours to highlight what is important but also to group what belongs together. There's often an unnecessary use of different colours while it does not have a specific function. The colours add nothing and provide a less clear graph.



By properly choosing the colour, charts will be much easier to read.



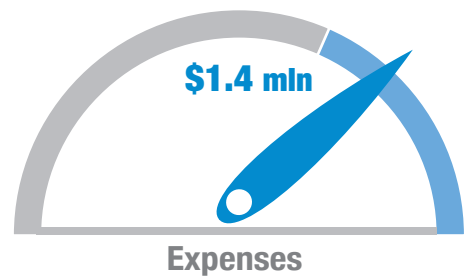
Not everyone sees colours in the same way. Therefore we use special tools, to view our designs through the eyes of someone who is (partly) colour-blind. So we know for sure that the dashboard is useable for everyone.

Whatever colours you choose, do it deliberately and apply them consistently.

NO MORE GAUGES

Although the use of gauges and speedometers in dashboards is quite popular, there are better and more effective visualizations available that also take up less space.

Often the dashboard of a car is used as a metaphor when designing a dashboard to manage an organization. Speedometers like the one below can often be found in a dashboard:



However, they are not very effective.

One major shortcoming is that they take up a lot of space while they communicate very little information. In this case, only the actual value is being displayed which you could also represent as a single number; possibly supported by a signal color if the value crosses a certain threshold.

Also there is nothing to compare it with. Is the current value better or worse than the one from the previous month? That is something we are not able to read from this visualization. Furthermore it is hard to place the value in perspective since there is no scale available.

The following alternative already gives some more historical context since it displays the last 12 months as well.



It becomes immediately clear that the expenses go up and that it is currently outside the ideal bandwidth.

This type of graph also takes up less space making it very well suited for dashboards in which large numbers of values need to be depicted.

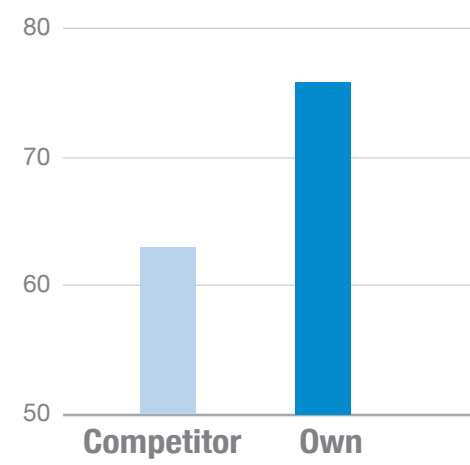
In short, there are often better alternatives available than the familiar gauges and speedometers.

START AT ZERO

With a bar chart, always allow the vertical axis to start at zero (0) to prevent graphs from being wrongly interpreted.

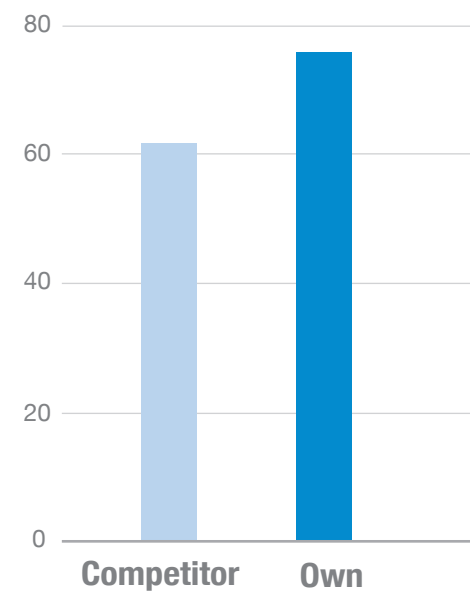
The purpose of a graph is to communicate information fast and accurate by means of visualization.

How many times bigger is the number of sold products compared to the ones sold by the competitor?



The number of own products seems to be approximately twice as big. Seems to be. After all, the length of the bar denotes the value and the one for own products is about twice as tall. This graph however gives a distorted or even deceptive representation of the truth since the vertical axis (y-axis) does not start at zero.

If we draw the same graph again but this time with a correct y-axis, the gap between the two bars becomes a lot less dramatic.



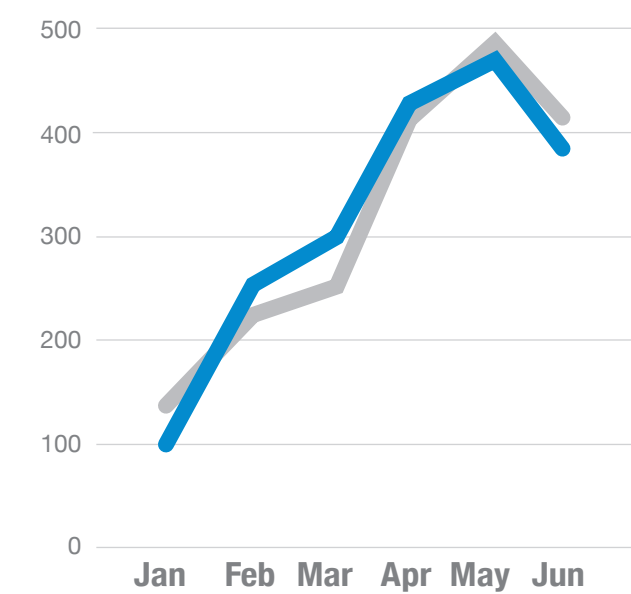
An incorrect y-axis can thus result in a misrepresented picture and erroneous interpretations. To prevent this from happening, the y-axis of a bar chart should always start at zero.

SHOW THE DIFFERENCE

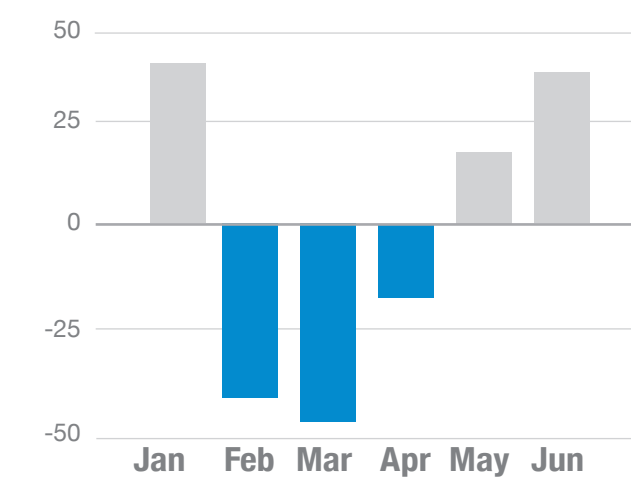
If you want to compare two series you can also show and highlight the difference.

Often actual values are being compared with budget values. The difference between these two values is important.

Because they are both set up in time it allows you to show the development of the individual values. The differences you need to calculate yourself.



Another approach is focusing on the difference itself:



By highlighting negative values it is immediately clear where results differ from expectations.

This graph can be used both for absolute differences as well as relative percentage differences. The last one for example makes it possible for various KPIs to be compared.

DASHBOARDS PROVIDE INSIGHT INTO THE PERFORMANCE OF ORGANIZATIONS AND CAN THUS IMPROVE THE DECISION-MAKING PROCESS.

A dashboard isn't there just to inform you about the current situation but mainly to answer the question: "What improvements can be made?" A successful dashboard can help you to improve on management and operating profit. But what makes a dashboard successful? Correct and timely figures? Unquestionable! But just having the right figures isn't enough anymore.

A dashboard stands or falls by the degree in which it gives you the required insights. A picture is often worth more than a thousand words. But this also applies to figures and data. By cleverly displaying data visually, patterns, trends and exceptions become visual at a glance.

Therefore effective data visualization is critical for the success of a dashboard. But how do you make the right decisions? What works and what doesn't? With some of our best practices on effective data visualization we want to help you with these decisions.

We not only offer a unique experience in dashboard design but we are also the experts in SAP Business-Objects BI.

Want to know more? Contact the THE NEXT VIEW!.

info@thenextview.nl
www.thenextview.nl

HIGHLIGHT WHAT'S (REALLY) IMPORTANT

Keep a dashboard neutral and highlight what is important; like the current position or a different value.

In a dashboard you want the most important information to immediately stand out. An important visual tool here is to provide sufficient contrast.

Do you immediately see the number of 3's in the rows?

8545398542
7543798971
6198842715
2275192439

Probably not. And what about now?

8545398542
7543798971
6198842715
2275192439

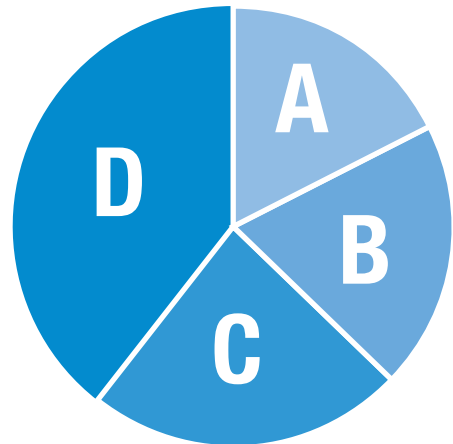
Therefore we use a neutral dashboard and use highlights to immediately show what is really important.

NO MORE PIES

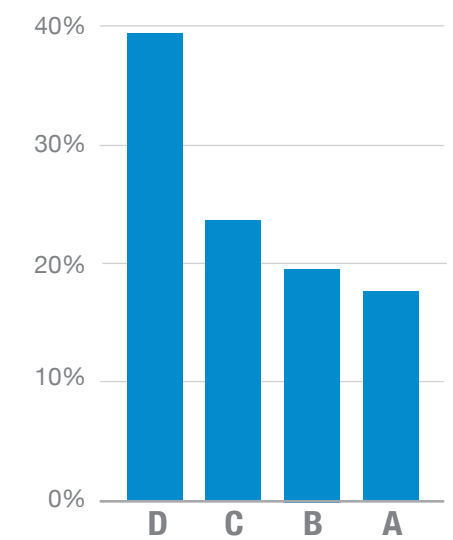
The pie chart. Colourful and popular but not very effective.

The pie chart, who hasn't used it? This graph form is very popular not only in the media but also in reports and dashboards. The pie chart has one major advantage: it immediately shows a "share-of-the-whole" relationship. But is it effective?

Which slice is bigger, A or B?



Without the exact values it is difficult to compare the slices. Our ability to estimate corners and surfaces is much less developed than for horizontal or vertical lines.



Much clearer, right?

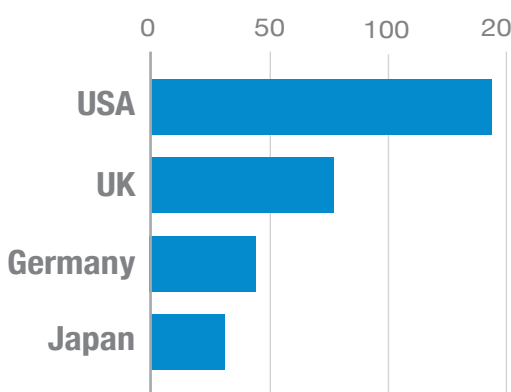
A pie chart looks nice but is one of the least effective graph forms. There are specific situations where a pie chart is effective but most likely there are better alternatives to use.

YOUR GRAPH FROM ANOTHER ANGLE

A horizontal bar (graph) is often the best choice when long labels are used or when you want to show the hierarchy.

Bar (graphs) are most likely to be displayed vertically but a horizontal orientation also has its advantages. Labels sometimes are displayed vertically if they are too long to be placed next to each other. This does not improve the readability however.

A horizontal orientation has a practical advantage that the category labels can also be placed horizontally and therefore are easier to read. Because you read such a graph top-down this form is very suitable for displaying a hierarchy:



By sorting categories top-down the relationship is immediately clear.

If you want to show a relationship in time always choose an orientation from left to right. This is also the best match with our natural sense of time.

