Deloitte’s 10 commandments for Effective Dashboard Design
The 10 commandments
Follow the following rules to create an effective and user friendly dashboard

1. What’s your point?
Know the message or goal that you want to get across before thinking about the framework or chart type

2. Chart choice can make or break the comprehension
The most well-suited chart type is set by the message it has to convey

3. Location, location, location
Make sure every element on the page is aligned to an underlying grid

4. Use 50 Shades of Grey… & 1 Color
Design your dashboard in grey tones and use one color to draw attention

5. Cleanliness makes it easier to see the details
Remove all redundant or obsolete elements from the page

6. Less is More
Don’t fill the page with too many charts

7. Ease of use may be invisible, but its absence sure isn’t
Do not underestimate the difference a good user interface design can make

8. Spend time on your text – not only the charts
Most underestimate the power that good typesetting has on the effectiveness of a dashboard

9. Moving to Mobile First
Always keep in mind that your dashboard may be viewed on a wide range of devices

10. Good Design
Follow the rules set out by the companies that rule design space – don’t try to reinvent the wheel yourself
What’s your point
Know the message or goal that you want to get across before thinking about the framework or chart type

The most important question to ask yourself before building a dashboard is “What’s your point?”
- What is the message that the dashboard as a whole should convey?
- What should people remember/have learned after using it?

This also applies to each separate chart that is placed onto the dashboard. Know exactly why it is needed and how it will help the user in understanding the message of the entire dashboard.

Only be satisfied when the answer is specific and measurable. Too often clients give vague answers which betray the fact that they haven’t thought things through enough.

“ Asking the most important question sharpens the thinking and the messaging surrounding the data and, in doing so, reveals the best way to visualize the data

Goal: Quickly see the difference between Actual & Budget

Original chart: Shows the absolute Actual & Budget values
Redesign: Shows the percentage difference between Actual & Budget

Goal: The number of families where the wife is the breadwinner has increased the most

Original chart: Shows all categories in a bar chart
Redesign: Using an index brings out the enormous growth
Chart choice can make or break the comprehension
The most well-suited chart type is set by the message it has to convey

All charts are trying to demonstrate one of four possible eventualities:

- **Relationship**: With this, you attempt to show a connection or correlation between at least two variables through the data presented. This might include a bubble or **scatter plot**
- **Comparison**: This demonstrates the relationship of one set of variables when measured against another, and shows how those variables interact with each other. A **bar chart** and a heat-map are both examples of comparisons
- **Composition**: This data type collects different types of information and displays them together. Stacked bar charts and **waterfall charts** are good examples of composition-type charts
- **Distribution**: With a distribution, you attempt to lay out a mass of data – either apparently related or unrelated. The goal is to see how it correlates, if it does at all, and to determine what relationships exist. Both **histograms** and box-plots are excellent types of distribution charts

As a general rule for the most common data visualized

- If your data represents **time** (such as the sales throughout the year), use a **line chart** that highlights the continuity of the underlying data
- If your data shows the differences between discrete **groups** (say regions), use a **bar chart** which visually reaffirms the discreteness of these groups

"The right chart for your data and message will make for a much more interesting and influential chart that will tell the story almost by itself"

Extensive chart suggestions exist to give guidance to the chart type that best fits the data
Location, location, location
Make sure every element on the page is aligned to an underlying grid

All elements of a dashboard should adhere to an **underlying, invisible, grid structure**

- A grid is a structure made up of a series of straight guide lines. It divides the page into a set of, usually 12, identical columns

The foremost goal of using an underlying grid is to establish a **set of guidelines** for how elements should be positioned within a layout

- Grids bring order to a layout making it easier for users to find and navigate through information
- Grids lead to consistency in the layout of pages across a single tab or even several tabs creating a structural harmony in the design

“Proper alignment will make dashboards visually more appealing, easier for users to scan over a page, and sub-consciously also offers a calmer reading experience

Every element fits exactly inside an underlying (invisible) grid which creates an orderly dashboard

- Grid alignment is widely used in good web design
- Nothing screams unprofessionalism like a badly aligned dashboard
Use 50 Shades of Grey… & 1 Color
Design your dashboard in grey tones and use one color to draw attention

There are several reasons why the excessive use of colors is harmful for understanding a dashboard:

• Most dashboards feature red for bad and green for good. However, **10% of the male population is color blind** and cannot see the difference. Furthermore, it depends on culture whether or not people have learned to associate red with bad. In China red is the color of good fortune and green for death, so quite the opposite.

• **When everything has a color, nothing stands out**. The whole point of color coding is to alert the user to the issues or successes at a glance.

• If the dashboard is printed, and yes people still do this, on black and white most likely any meaning the different colors had are lost, since only the lightness of a color remains visible.

Focus on creating a dashboard that draws attention intuitively to the areas that need it most, not that the house style colors or spotlight palette are implemented.
Cleanliness makes it easier to see the details
Remove all redundant or obsolete elements from the page

Designing a dashboard aims at telling a story. A simple, clear and accurate presentation of data is required for directing attention to the information that tells that story.

Verbally, we can raise our voice to emphasize. Graphically, emphasis comes from reducing information to what is essential to the message you want to broadcast. Essential objects, numbers, illustrations, texts, lines etc. provide meaningful information themselves or support the interpretation of meaningful information.

Inaccurate graphic design often involves:
- Merely decorative graphics
- Meaningless color variations
- Unnecessary borders
- Distracting background colors
- 3-D effects.

When improving cleanliness of the created charts, Data-ink ratio supports your efforts in two clear steps:

1. Reduce the non-data pixels
   a. Eliminate unnecessary non-data pixels
   b. De-emphasize and regularize remaining non-data pixels

2. Enhance the data pixels
   a. Eliminate all unnecessary data pixels
   b. Highlight the most important data pixels that remain

To find signals in data, we must learn to reduce the noise

From messy to clean table design

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<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
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<tr>
<td>Company B</td>
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<td>€1,924,241.00</td>
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<td>€2,020,989.00</td>
<td>€2,124,832.00</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Revenues (€ M)</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company A</td>
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<td>2.0</td>
<td>2.1</td>
<td>2.0</td>
<td>2.1</td>
</tr>
<tr>
<td>Company B</td>
<td>2.0</td>
<td>1.9</td>
<td>2.0</td>
<td>2.0</td>
<td>2.1</td>
</tr>
</tbody>
</table>
Less is More
Don’t fill the page with too many charts

A common misperception is that more information leads to more added value. In fact dashboards were invented to provide at a glance insights and serve as a solution to information overload, not to recreate this overload. A dashboard should immediately draw the eye to the most important information. On a page stacked with object and where everything is visually prominent, nothing stands out.

Usability and added value increase when you limit the amount of information and focus on that what is really relevant. Understanding the story to be told and selecting the essential information to tell that story is fundamental to effective dashboard design.

“Perfection is achieved not when there is nothing more to add, but when there is nothing left to take away.”

Really good example
Ease of use may be invisible, but its absence sure isn’t
Do not underestimate the difference a good user interface design can make

Don’t make your user think. An intuitive design is vital for users to effectively use your dashboard

- Starting with a good **user story** before you develop your dashboard is a very helpful way to creating intuitive dashboards
- Be **consistent** throughout your dashboard, make sure key navigational items are always in the same place
- Ask yourself some key questions about your **user interface**: What happens when you press here? Did you expect to end up here? How can you go back one page? Back to the front page? How can you undo the current selection?

And the golden rule: Make sure to test your design with volunteers. Someone taking a fresh look at your design can spot things you didn’t even consider.

“One should aim not at being possible to understand, but at being impossible to misunderstand”

Clear interface highlighting the structure within the data and clear navigational elements
Spend time on your text – not only the charts
Most underestimate the power that good typesetting has on the effectiveness of a dashboard

A dashboard with well executed typography will look more professional, neater and better organized

- Choose **one font for the heading & one font for the body** and axes. Make sure the two fonts have enough contrast, they shouldn’t look too much alike. General rule: use three or less fonts
- Avoid goofy fonts, monospaced fonts, and system fonts, especially Times New Roman, Arial & Comic Sans
- **Alignment** is an extremely important concept. Center alignment is actually the weakest, hardest to read alignment and should be used very selectively
- Never use underlining, unless it’s a hyperlink
- Use **titles, legends and axes labels** to support unambiguous interpretation of information. Not to clarify and explain every aspect of it

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**Wrong choice of two fonts; the difference is hard to tell**

Avoid small, wimpy differences

**Good choice of two fonts; a lot of contrast between the two**

BUMP UP

the **contrast** in size, weight, style

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哪個履歷表您覺得更專業？

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- Analytics
- Business Strategy
- Strong time management

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Typography is the use of type to advocate, communicate, celebrate, educate, elaborate, illuminate, and disseminate. Along the way, the words and pages become art
Moving to Mobile First
Always keep in mind that your dashboard may be viewed on a wide range of devices

Responsive design is an approach aimed at providing an optimal viewing and interaction experience across a wide range of devices, from desktop monitors to smartphone screens

- Ask the client on which devices the dashboard will be viewed. Keep these devices in mind when designing the dashboard and test your dashboard on all devices
- Always try to avoid scrollbars. Scrollbars make your design messy and might hide content for the end user
- Use large and intuitive icons so that users on devices equipped with a touchscreen can use the dashboard
- Keep performance in mind. If your are designing a dashboard for mobile devices, serve your content in small chunks. No one likes to wait longer than a couple of seconds for their content

The web’s moved beyond the desktop, and it’s not looking back

Non responsive design will only show a small section of the dashboard

Visual concept of responsive design; the dashboard can be viewed optimally on all devices

Good example of a responsive dashboard that can be viewed on different devices
Good Design

Follow the rules set out by the companies that rule design space – don’t try to reinvent the wheel yourself

By using popular design styles you can simply create tight, consistent, clean, and minimalistic dashboards without having to reinvent the wheel yourself

• Design styles can save a lot of time in the development of a dashboard. They are often based on best practices and scientific studies and will provide good guidance during the design process
• Good design is defined as functional, intuitive, user-oriented, innovative and useful
• Leading design styles of this time are **Flat Design, Material Design & Metro Design**. These styles are very closely related to each other and are characterized by their minimalistic nature
• Large companies such as Microsoft, Apple and Google are using these design styles for the user interface of their products

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The details are not the details. They make the design.
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