

DASHBOARD DESIGN

PRESENTATION AND VISUALIZATION – MIREIA RIBERA

DATA SCIENCE MASTER DEGREE

2 DEFINITION (a)

A dashboard is
a visual display
of the most important information
needed to achieve one or more objectives that has been
consolidated on a single screen
so it can be monitored at a glance

Few, 2013

3 DEFINITION (b)

A dashboard in business
is a tool to manage
the most important business information
from a single point of access.

It helps managers and employees to keep track of company's KPIs. (Key performance indicators)

It also utilizes business intelligence to help companies make data-driven decisions.

Klipfolio.com

4 DESIGN GUIDELINES

- Consider your end goal
- Consider your audience
- Be selective
- Choose relevant KPIs
- Provide context
- Simplicity over detail
- Display a focal point
- Be consistent
- Layout and white space
 - One single screen
- Include interaction
- + Visualization best practices

5 CONSIDER YOUR END GOAL: TYPES OF DASHBOARDS

OPERATIONAL

Immediate action

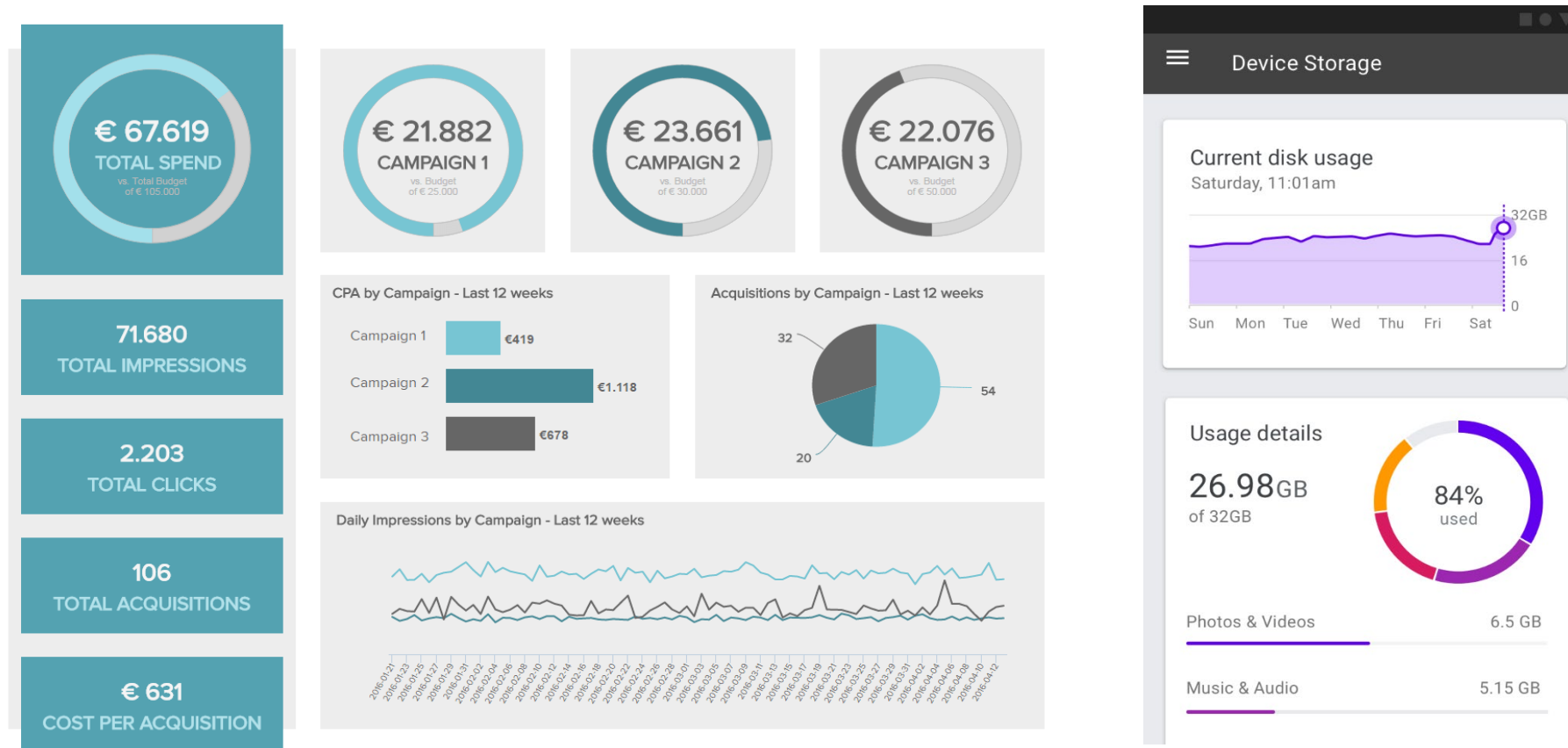
- Current performance
- Real time

ANALYTICAL

Drive decision making

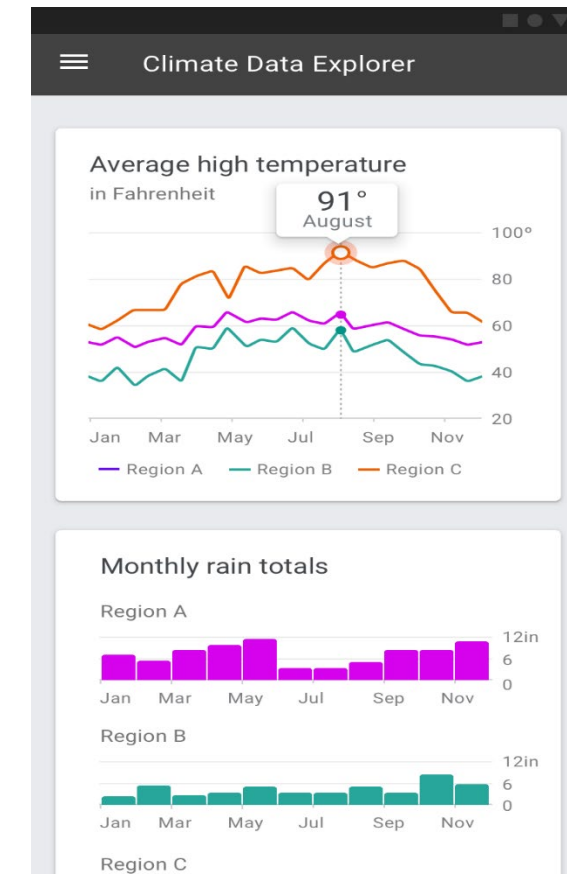
- Explore data
- Discover trends
- Establish targets

6 OPERATIONAL DASHBOARD: EXAMPLES



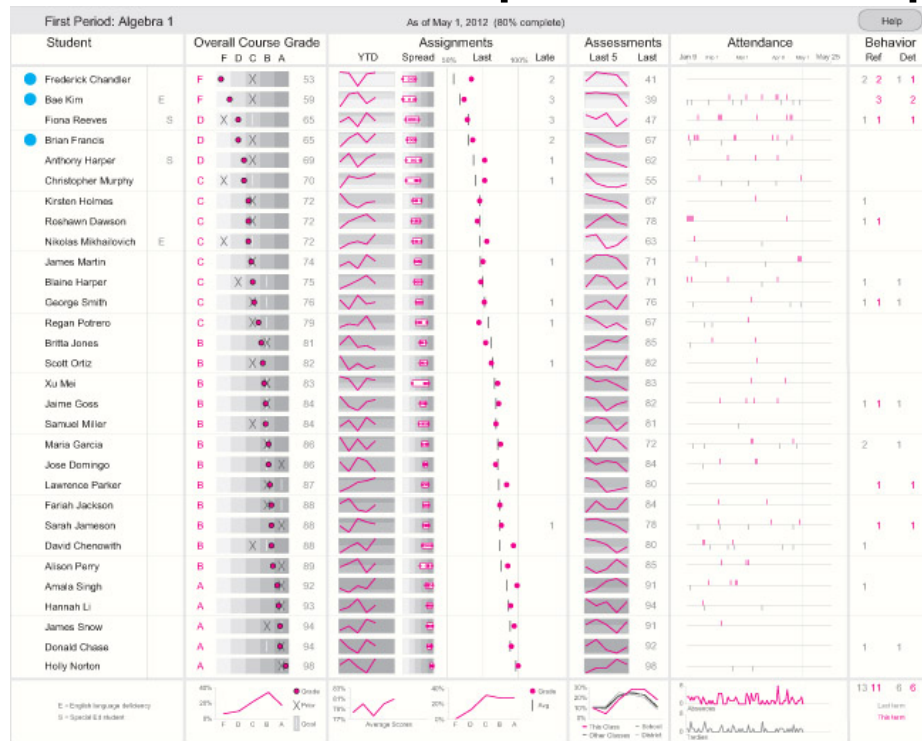
7 ANALYTICAL DASHBOARD: EXAMPLES

Revenue and Customer Overview - Q1 2016

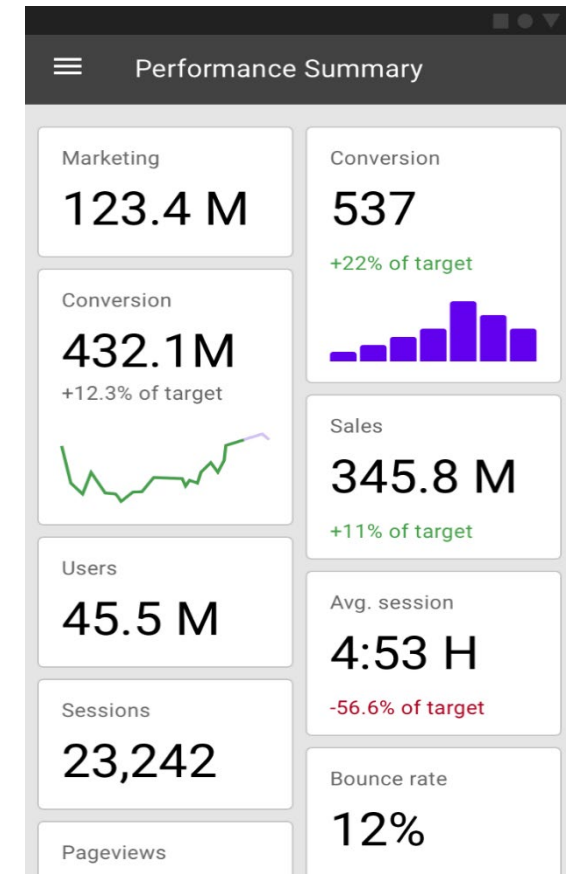


8 PRESENTATION DASHBOARD

- A curated snapshot on a topic of interest



Source: Dashboard design competition by Stephen Few
 The data
 The author's solution
 The competition winner's version



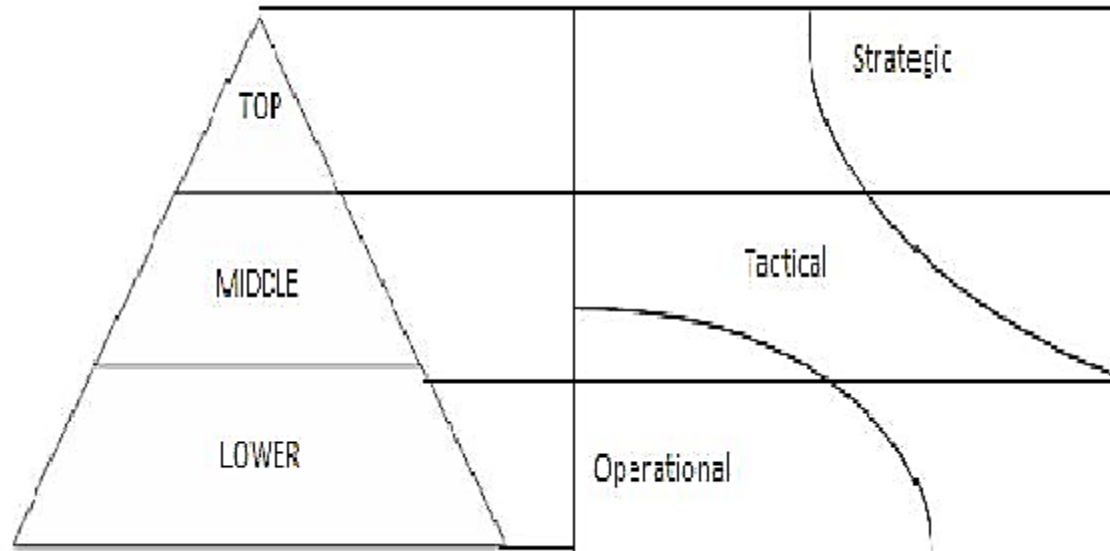
9 CONSIDER YOUR AUDIENCE

OPERATIONAL

Lower levels of business

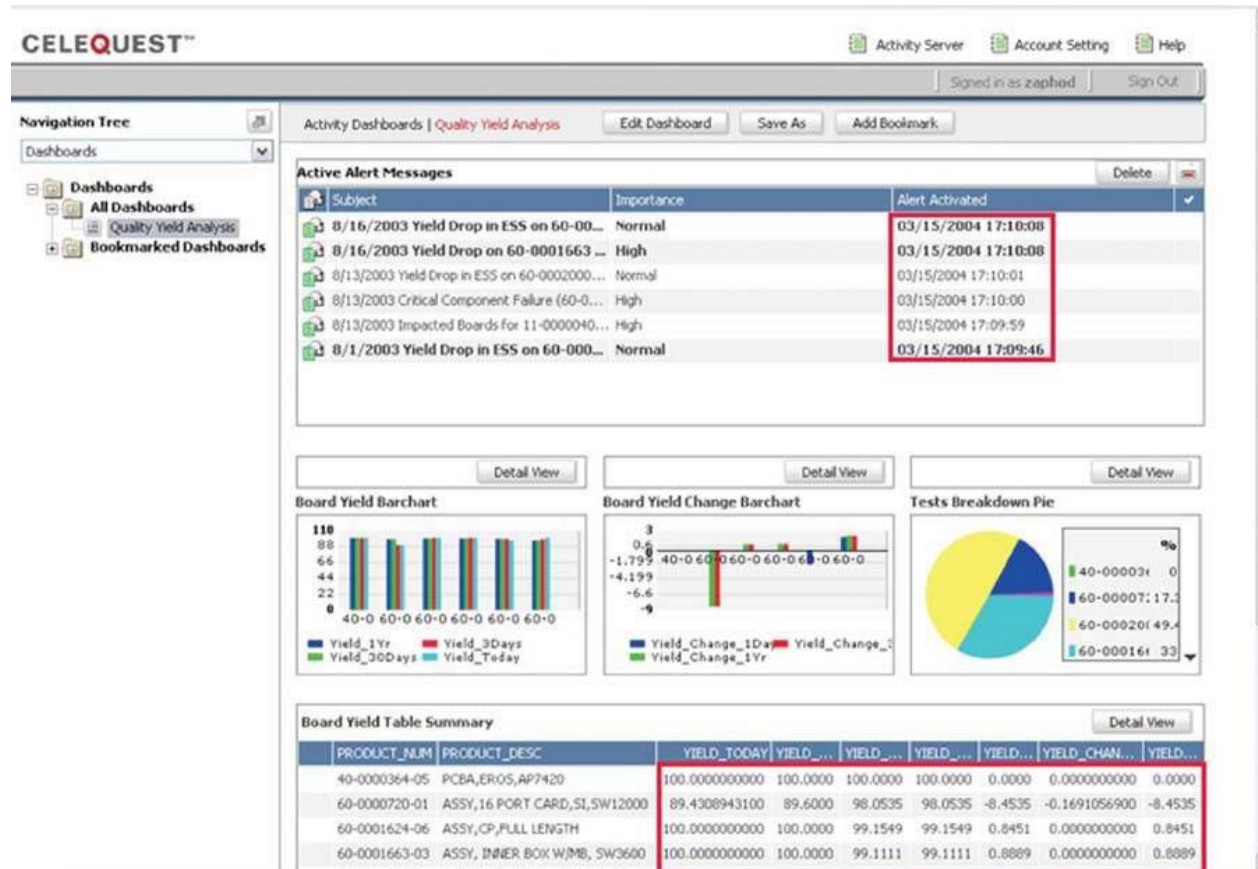
ANALYTICAL

Managers or experts



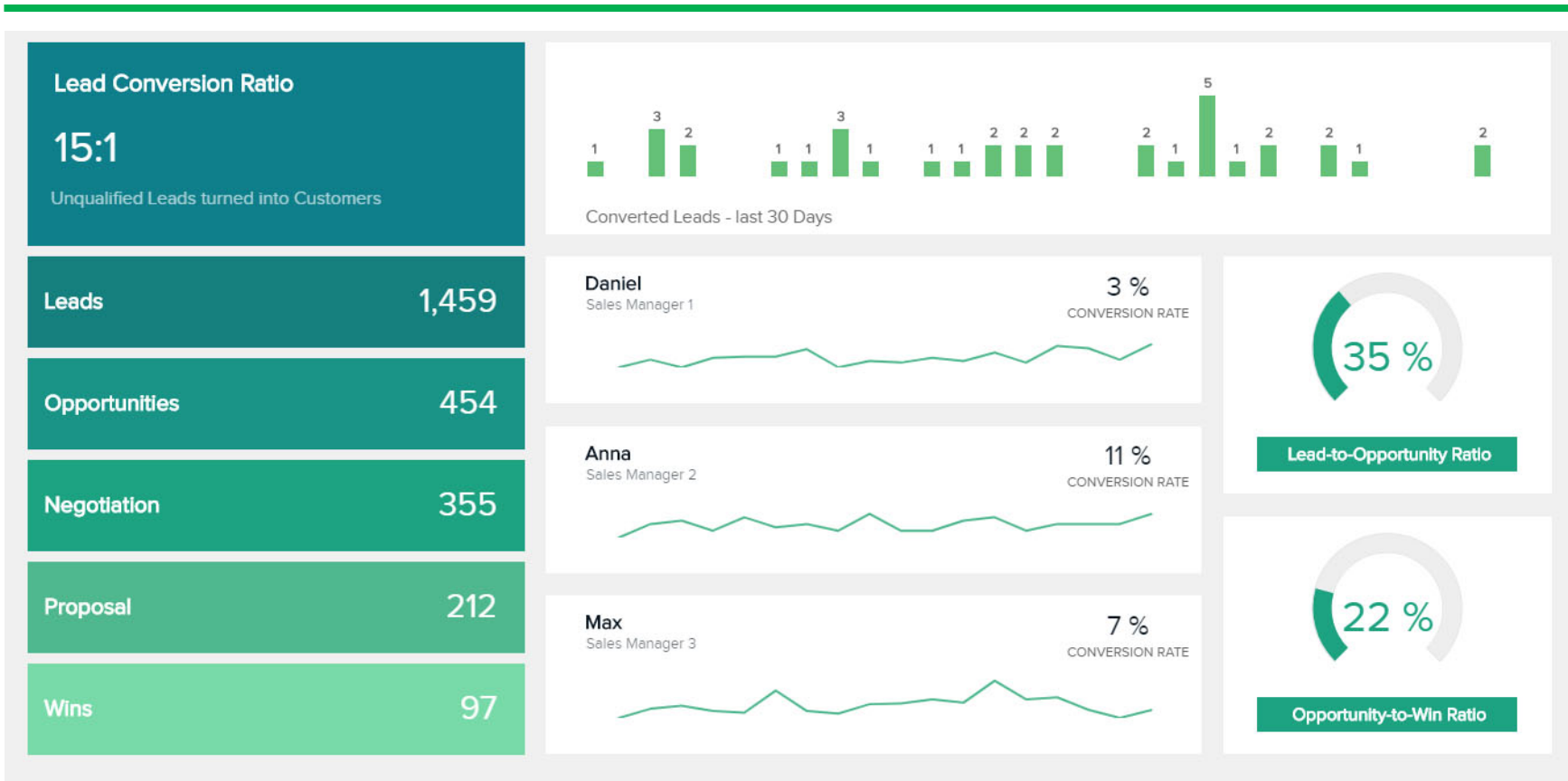
10 BE SELECTIVE

Don't



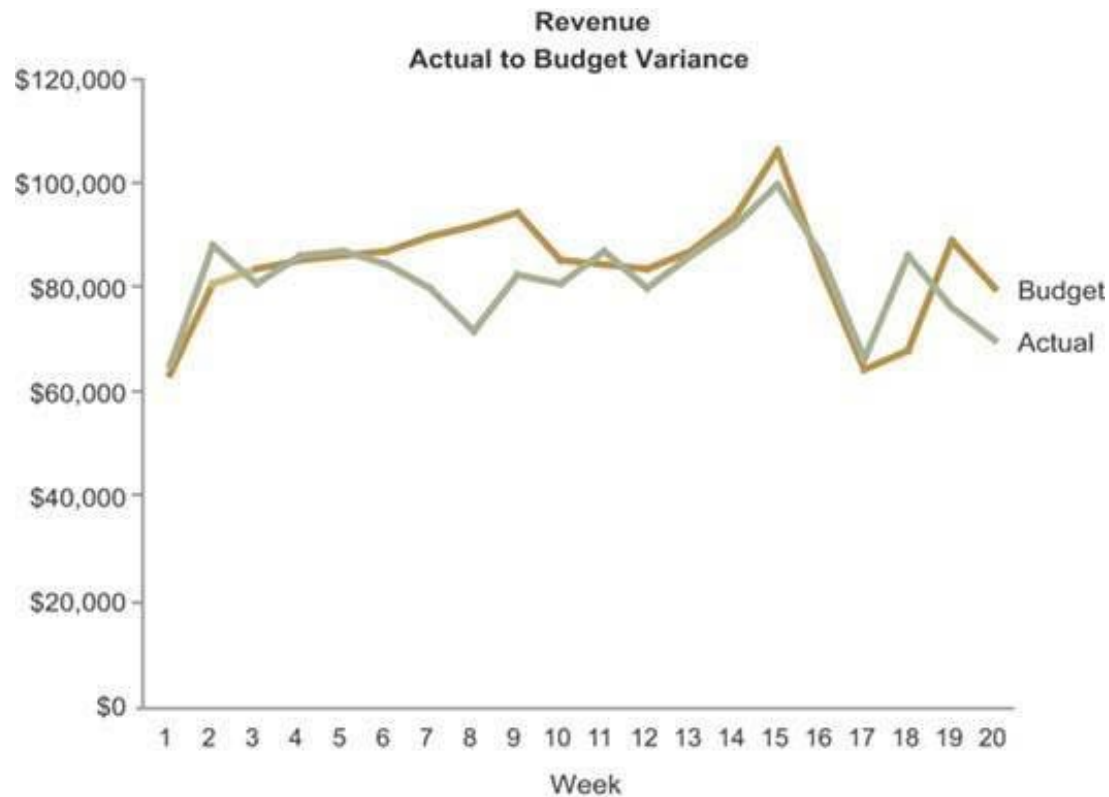
BE SELECTIVE

Do

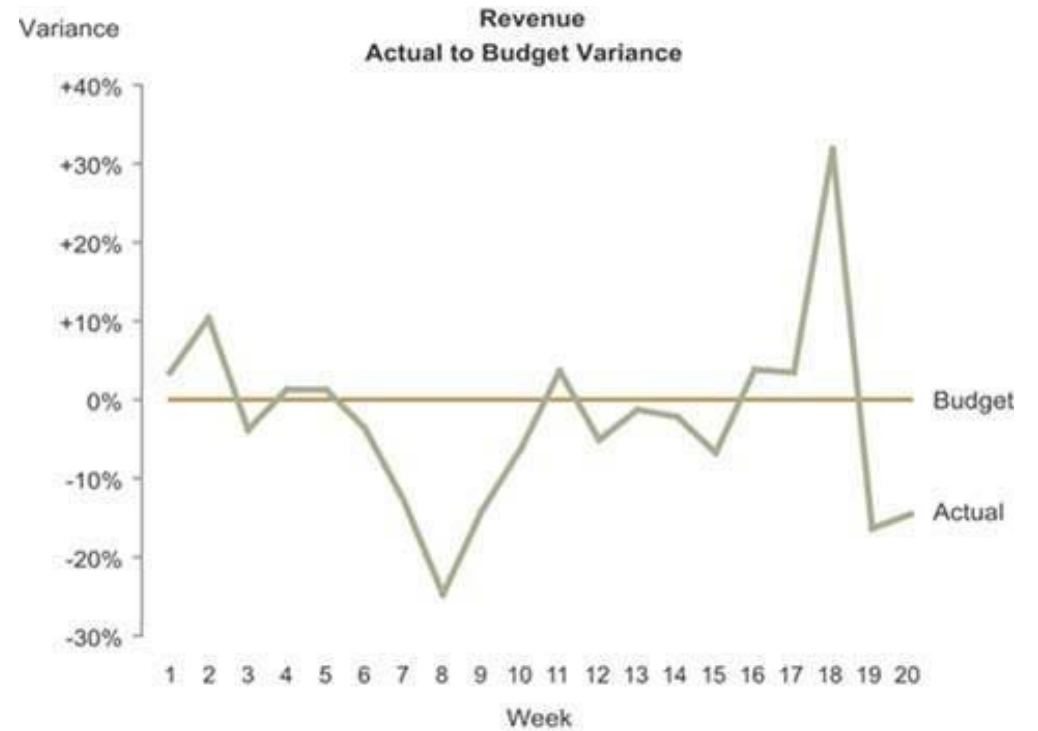


I2 RELEVANT KPIs

Don't



Do

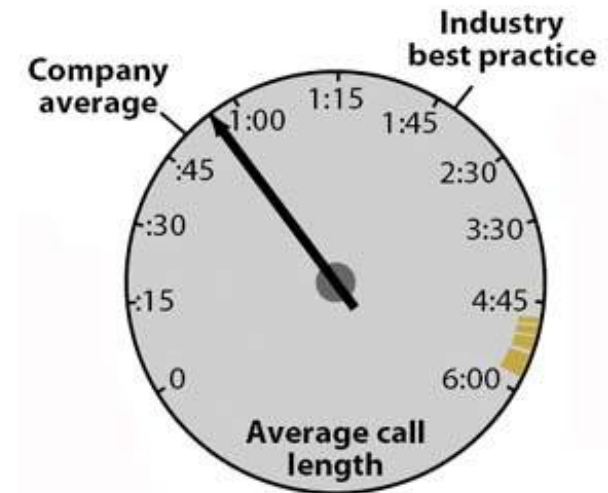


13 CONTEXT

Don't

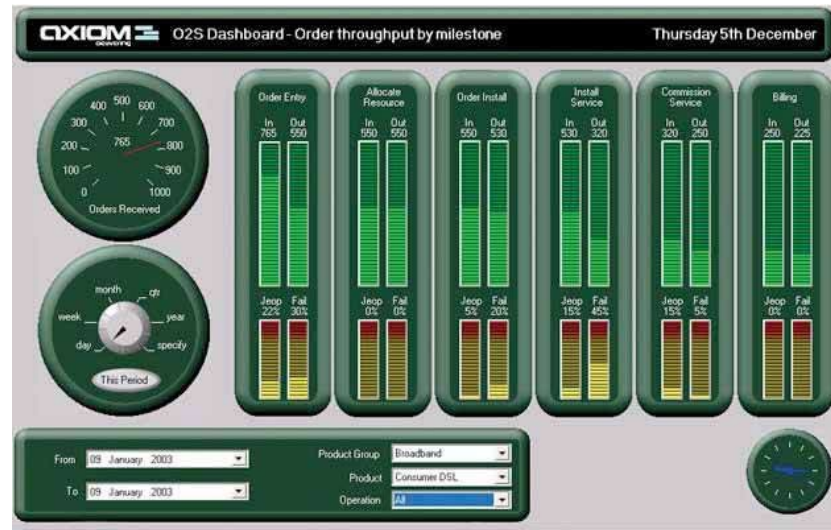


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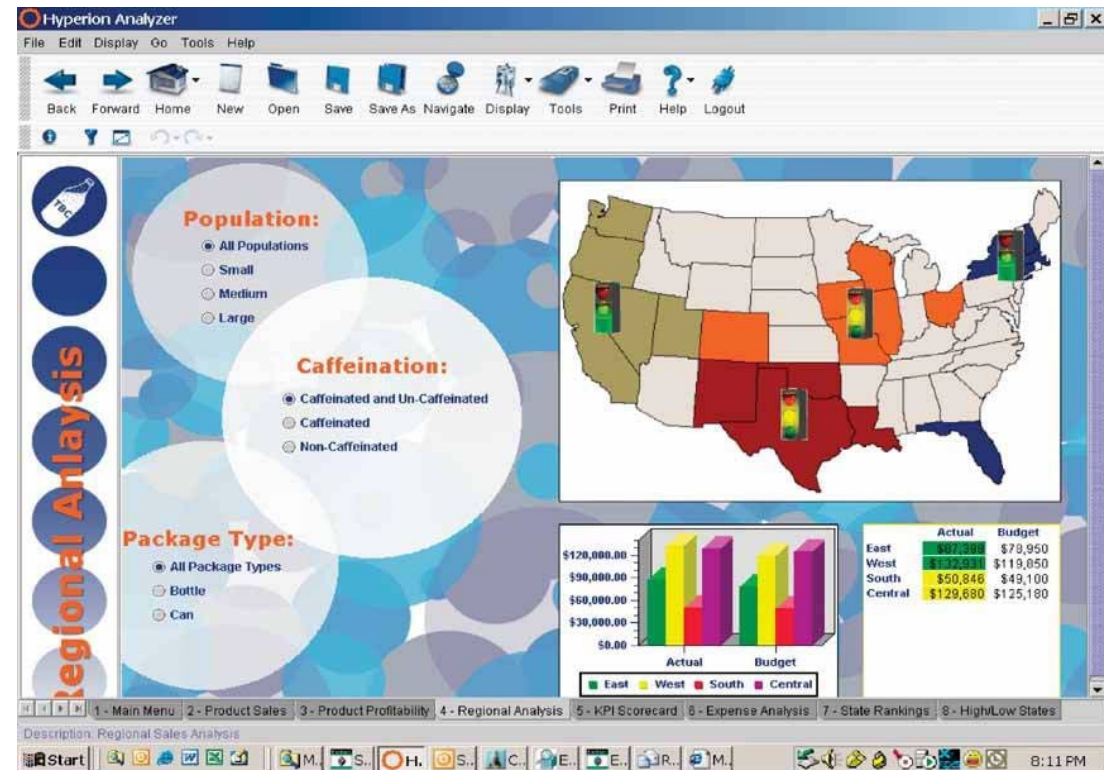


I4 SIMPLICITY

Don't

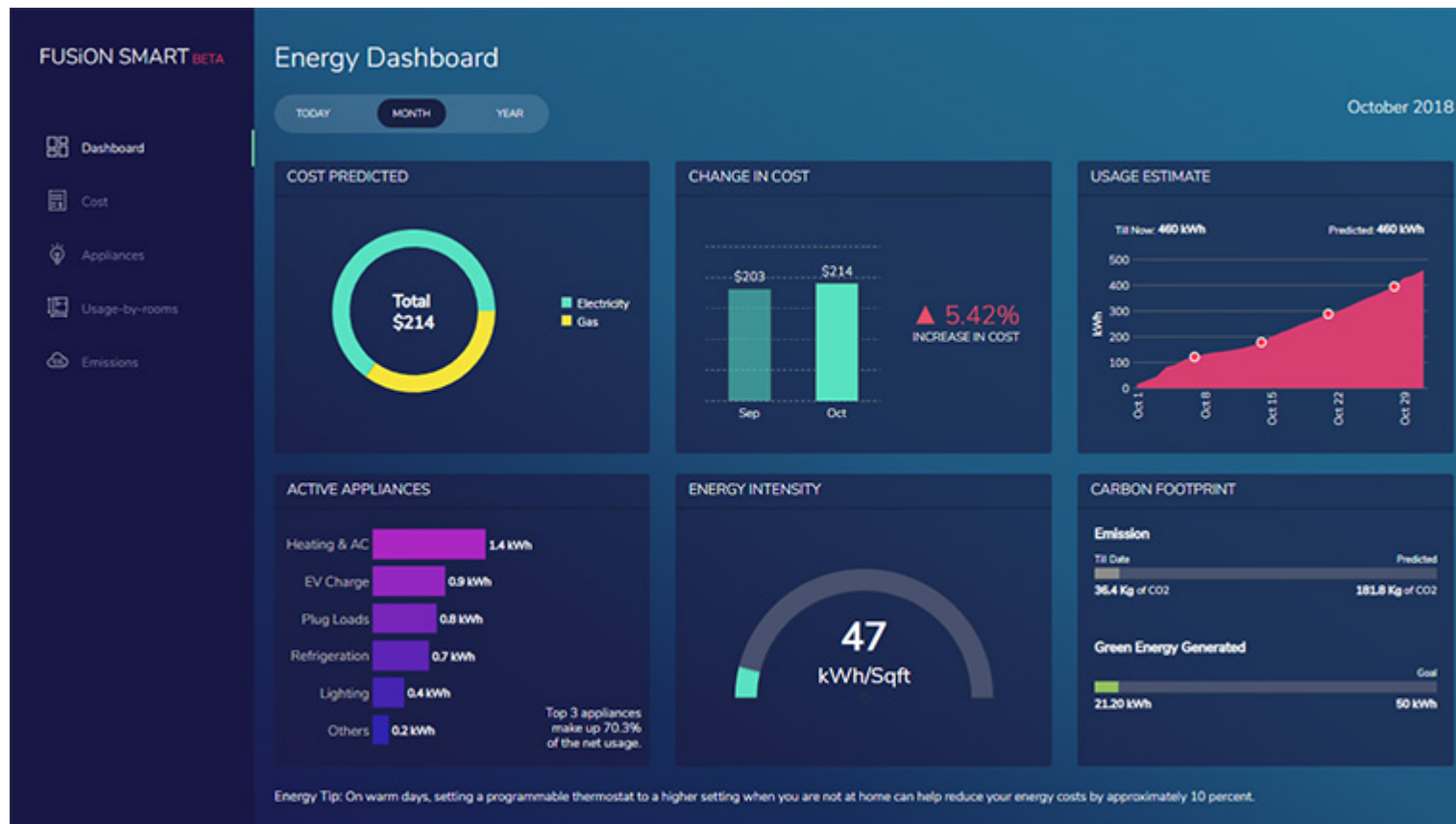


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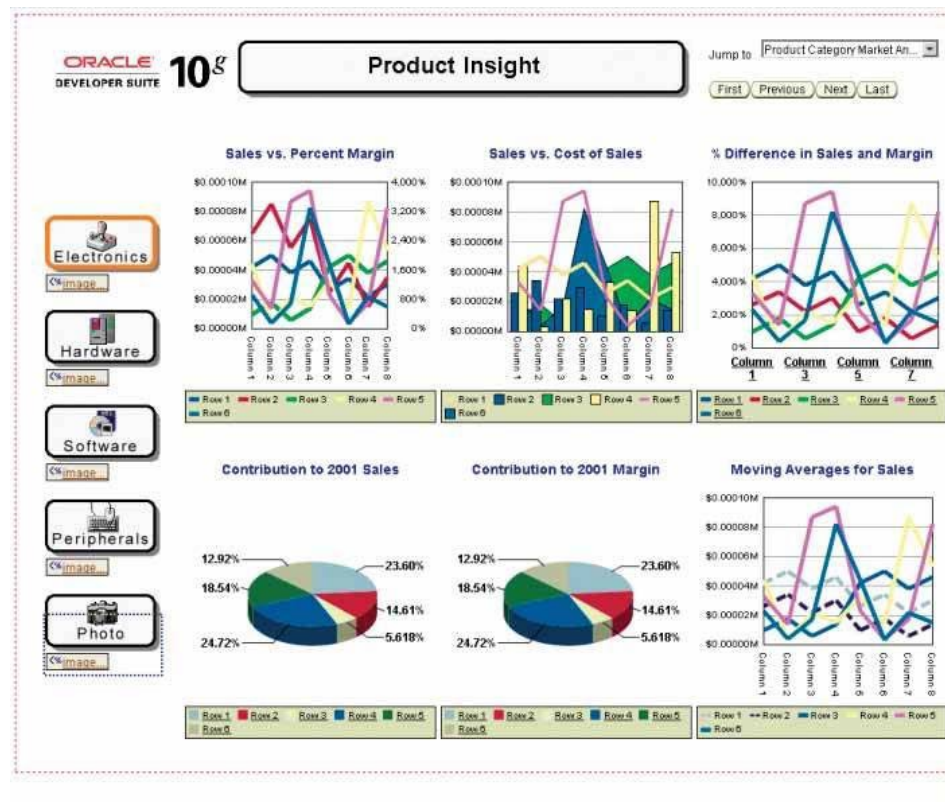
15 SIMPLICITY

Do



16 FOCAL POINT

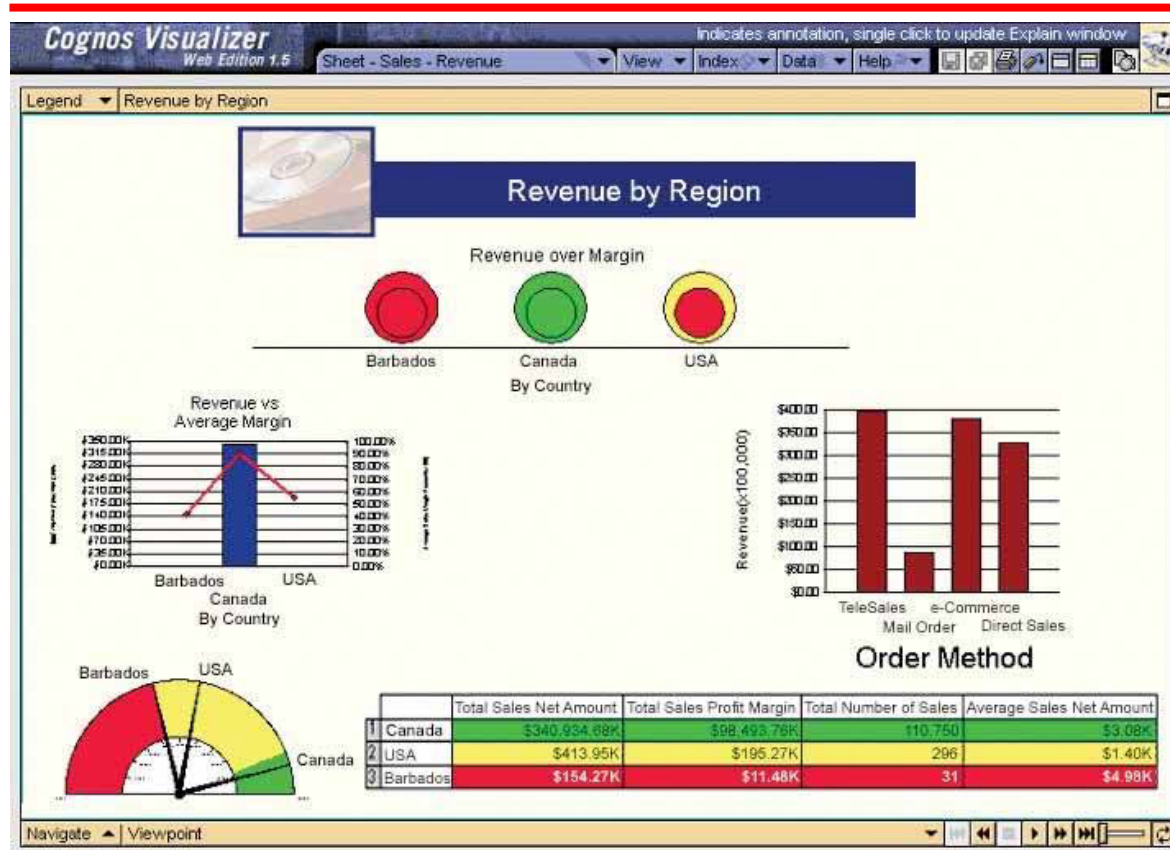
Don't



Source: Stephen Few *Information dashboard design* 2nd ed. California: Analytics Press, 2013

17 BE CONSISTENT

Don't



Source: Stephen Few *Information dashboard design* 2nd ed. California: Analytics Press, 2013

18 BE CONSISTENT

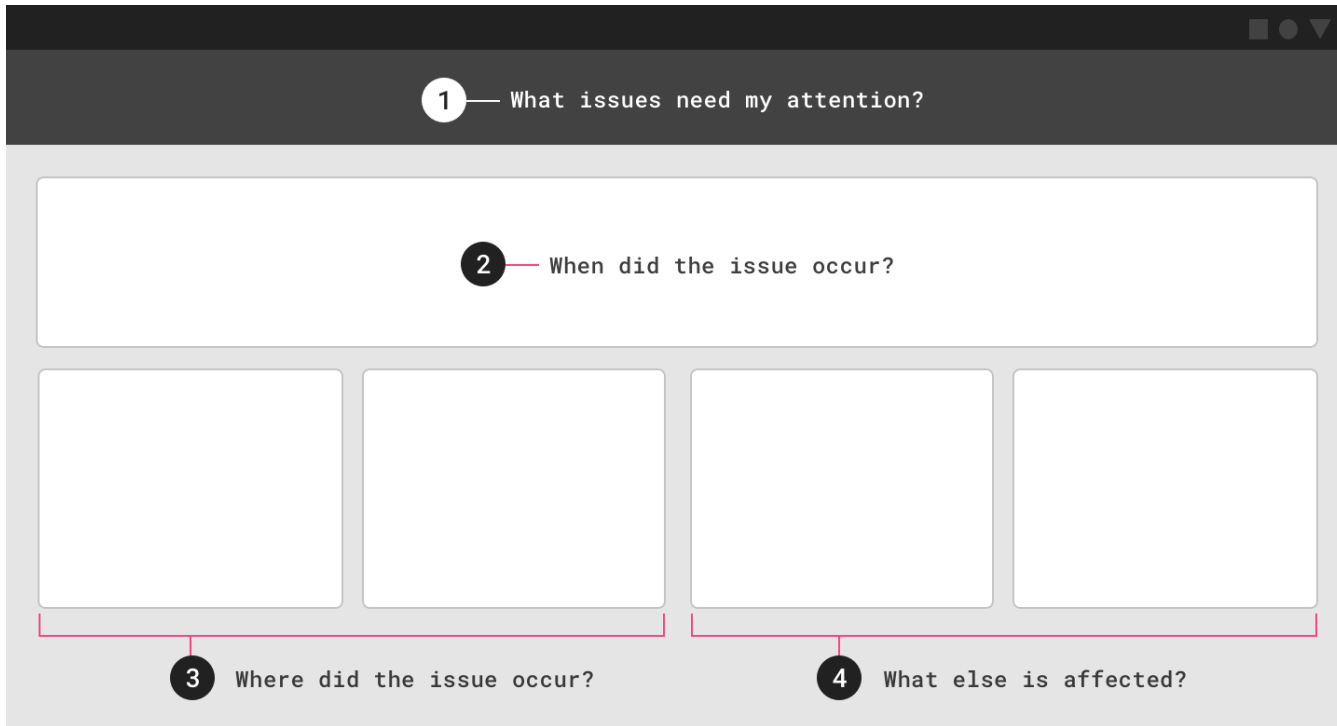
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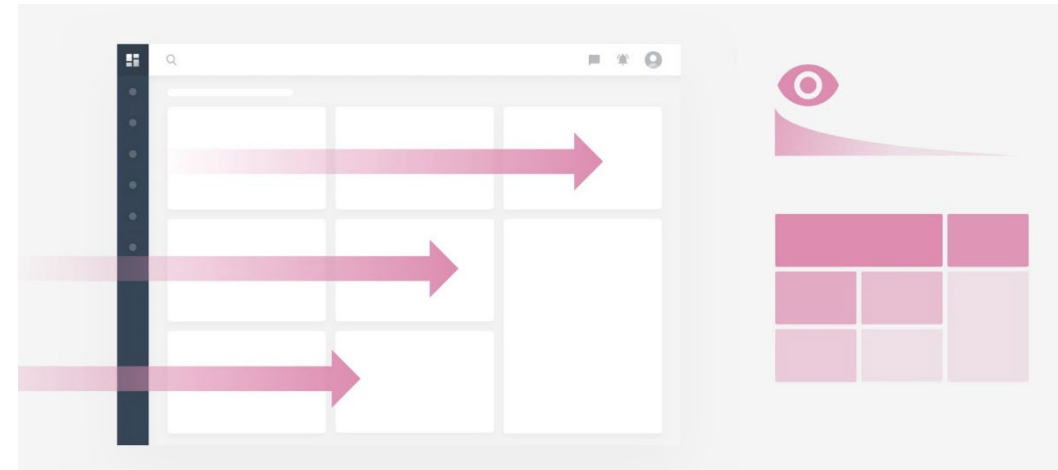
Source: <https://www.codewall.co.uk/best-dashboard-examples-for-inspiration/>

19 LAYOUT

Do



Do



Source: <https://uxplanet.org/10-rules-for-better-dashboard-design-ef68189d734c>

20 LAYOUT

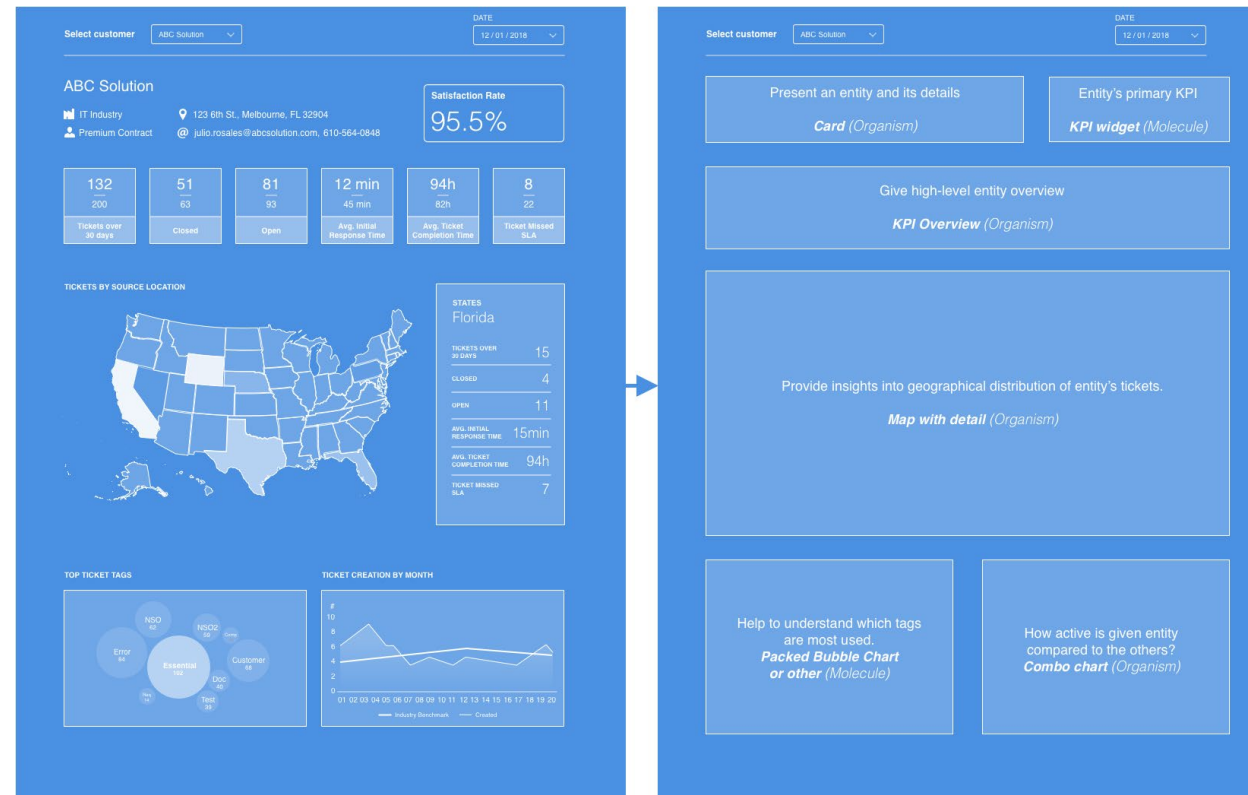
Don't



Source: Stephen Few *Information dashboard design* 2nd ed. California: Analytics Press, 2013

21 HOW TO BUILD A DASHBOARD (I): HIGH LEVEL

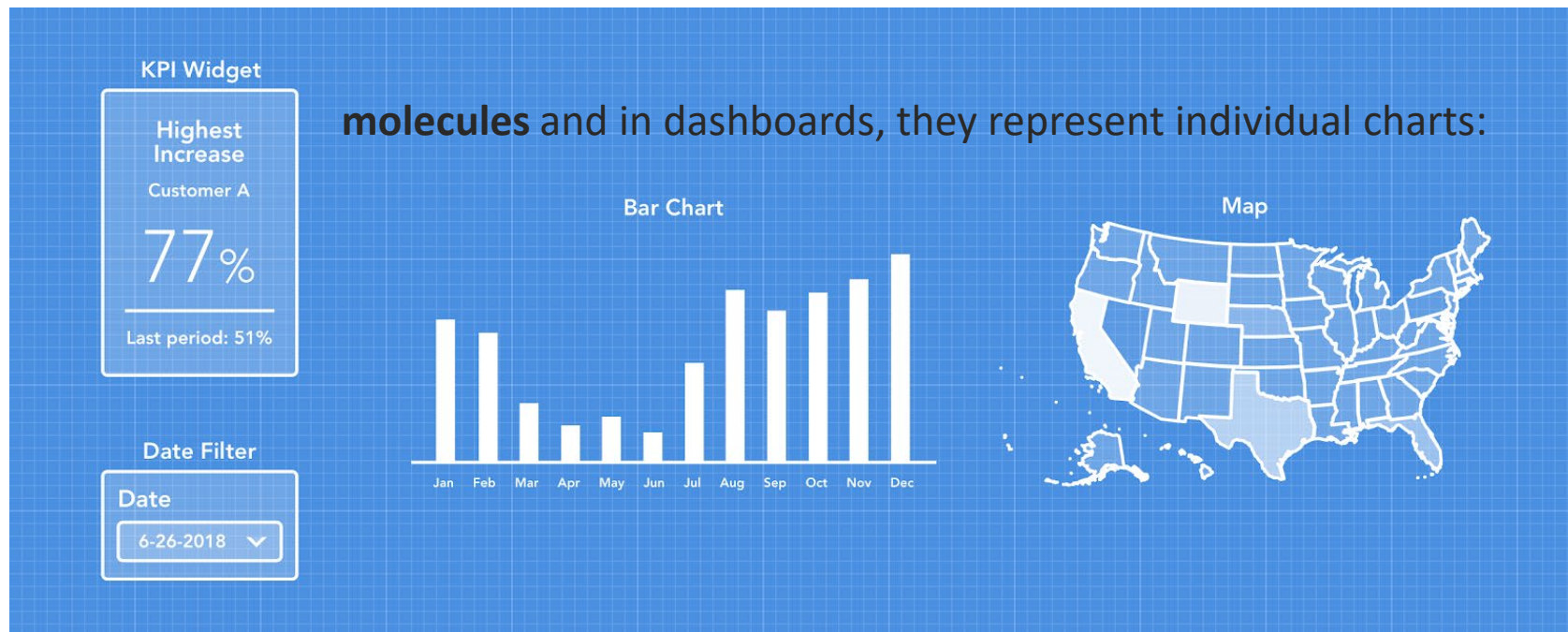
- Dashboards are constructed of building blocks, the high level ones covering a use-case or need.



Source Ondrej Langr UX Anatomy of Dashboards [https://medium.com/gooddata-developers/ux-anatomy-of-dashboards-73dbf6515199]

22 HOW TO BUILD A DASHBOARD (II): COMPONENTS

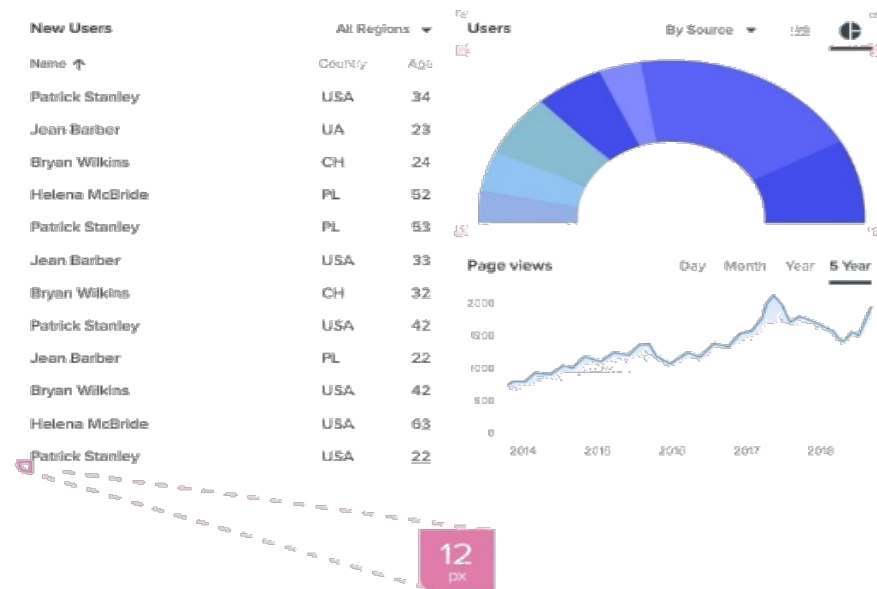
- Each high level component consist on individual charts and KPIs



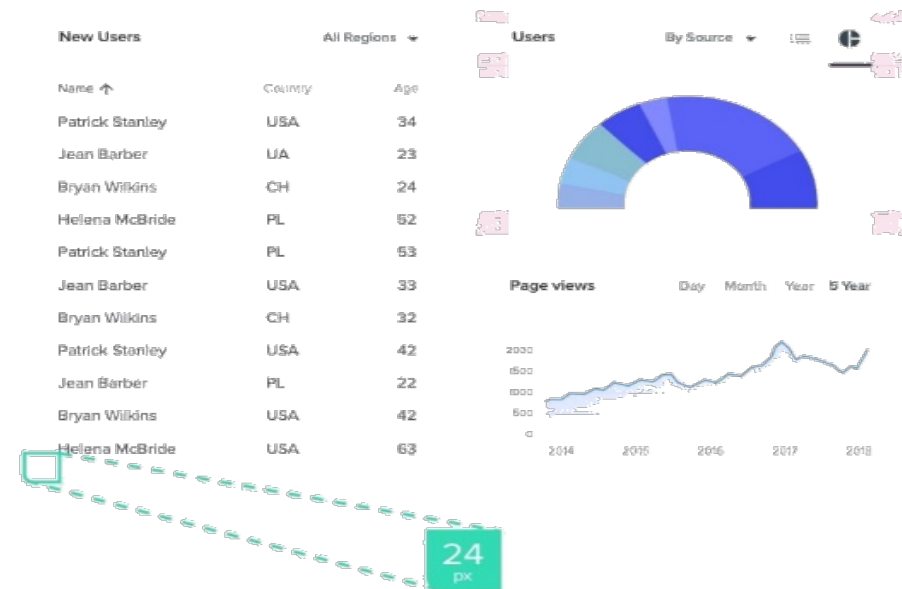
Source Ondrej Langr UX
Anatomy of Dashboards
[<https://medium.com/gooddata-developers/ux-anatomy-of-dashboards-73dbf6515199>]

23 WHITE SPACE

Don't



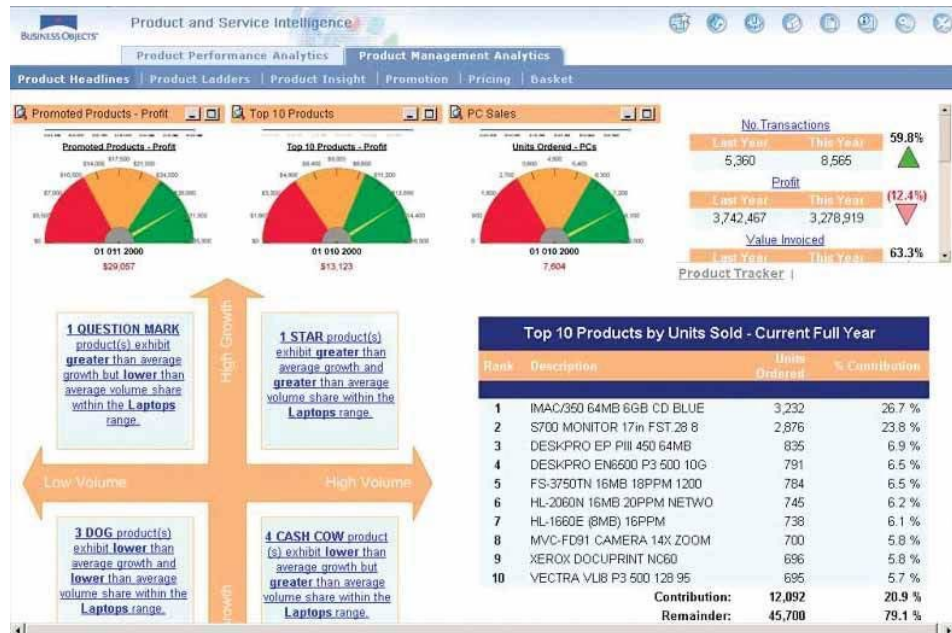
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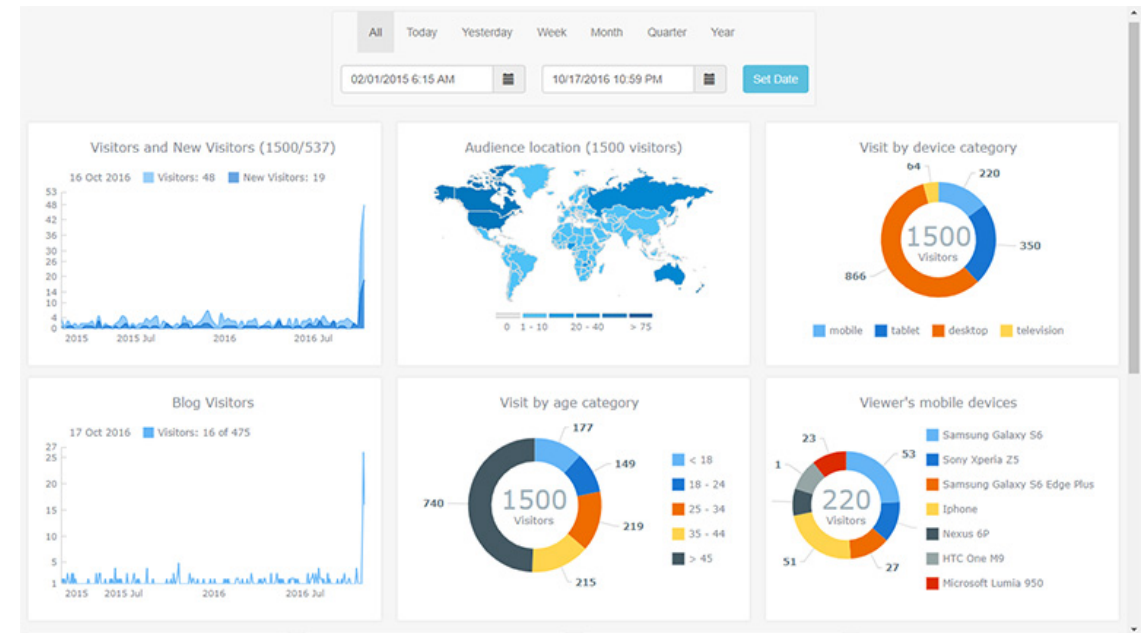
Source: <https://material.io/design/communication/data-visualization.html#dashboards>

24 ONE SINGLE SCREEN

Don't



Do

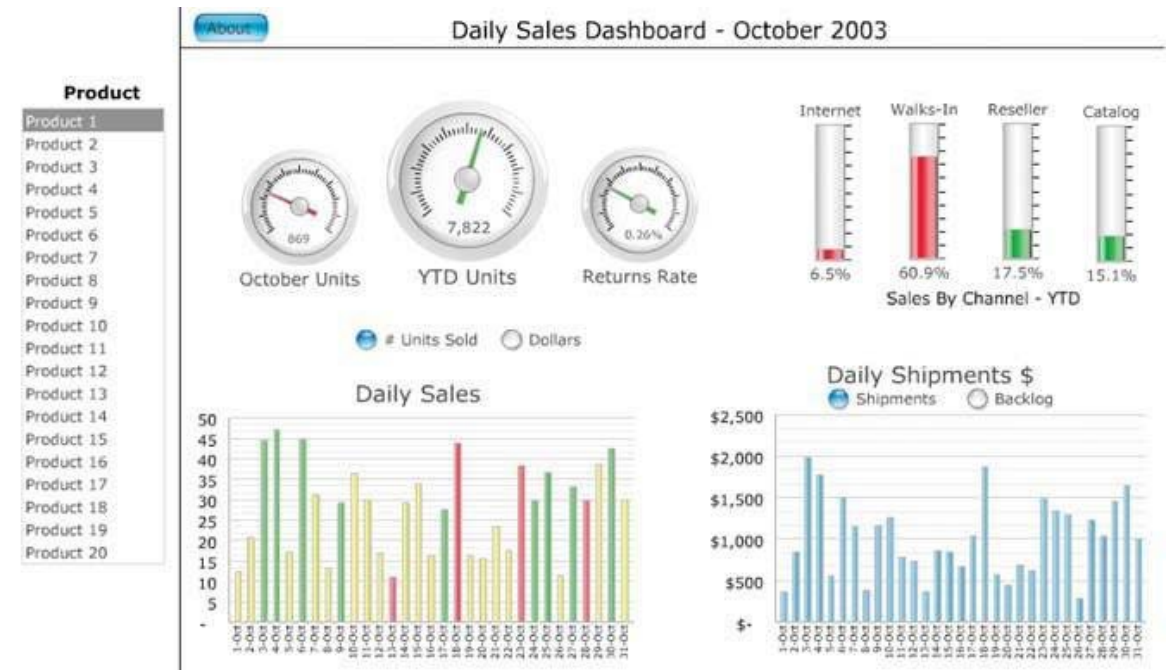


25 ONE SINGLE SCREEN

Don't

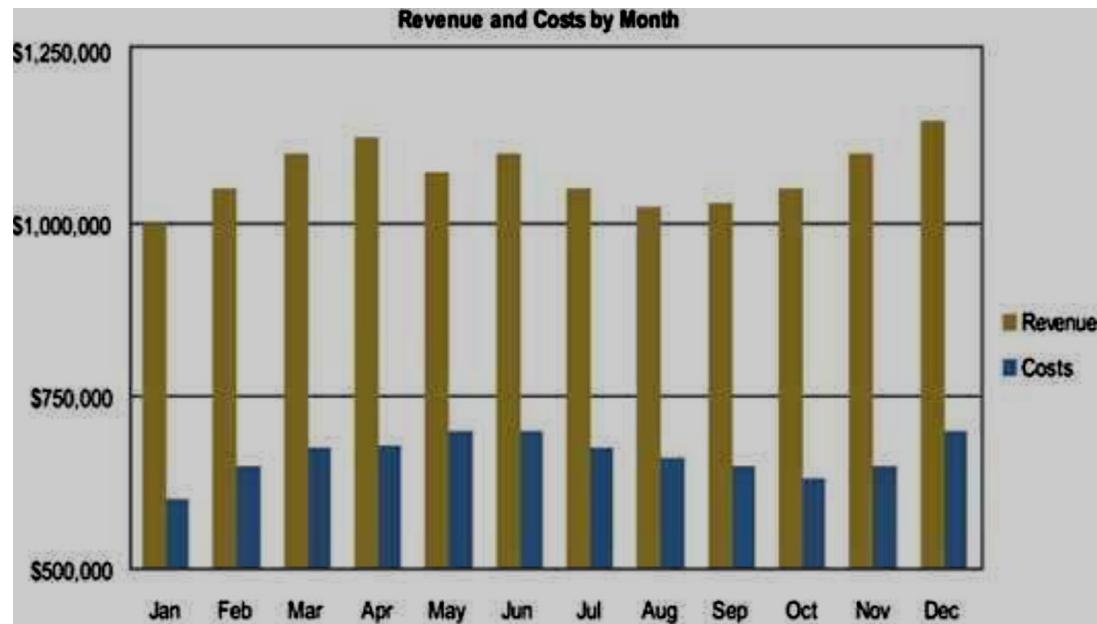


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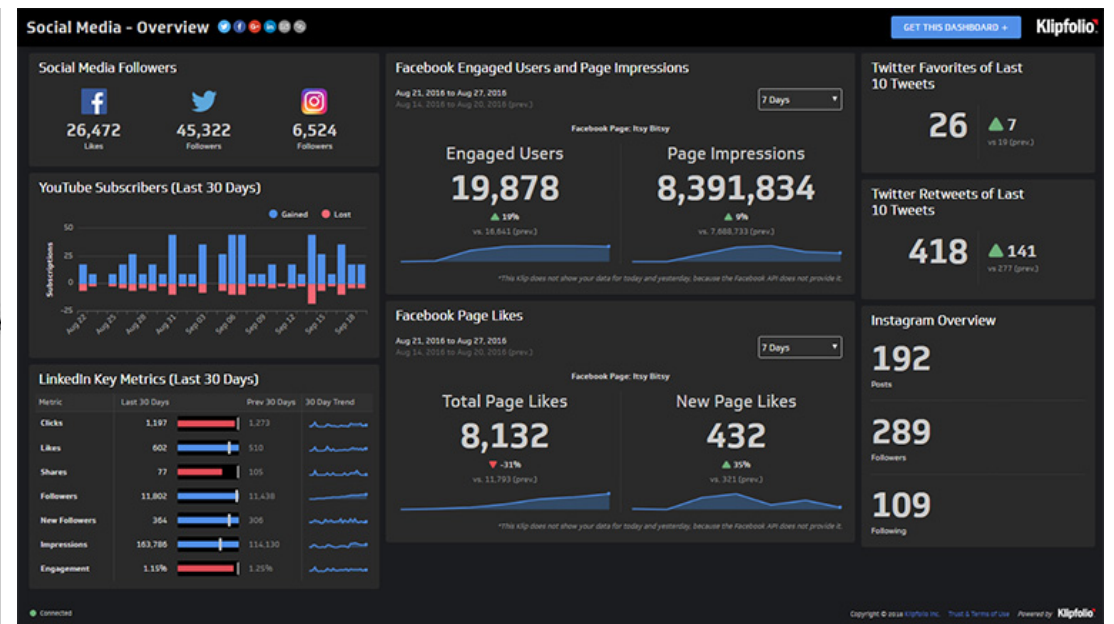


26 VISUALIZATION BEST PRACTICES: UNTRUTHFUL CHARTS

Don't

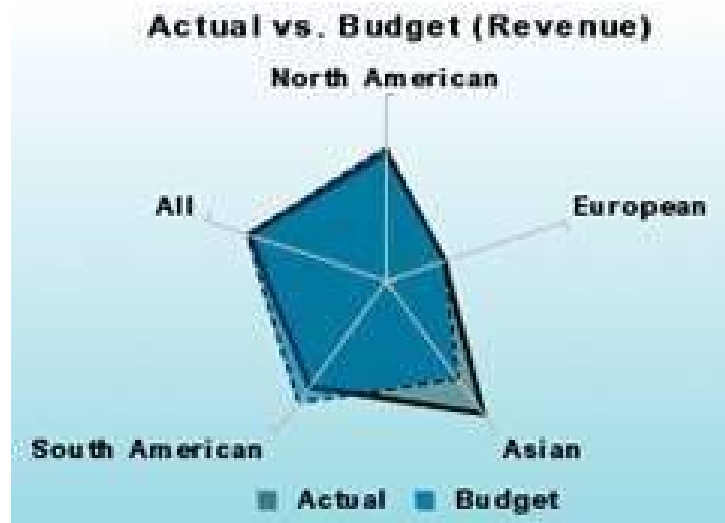


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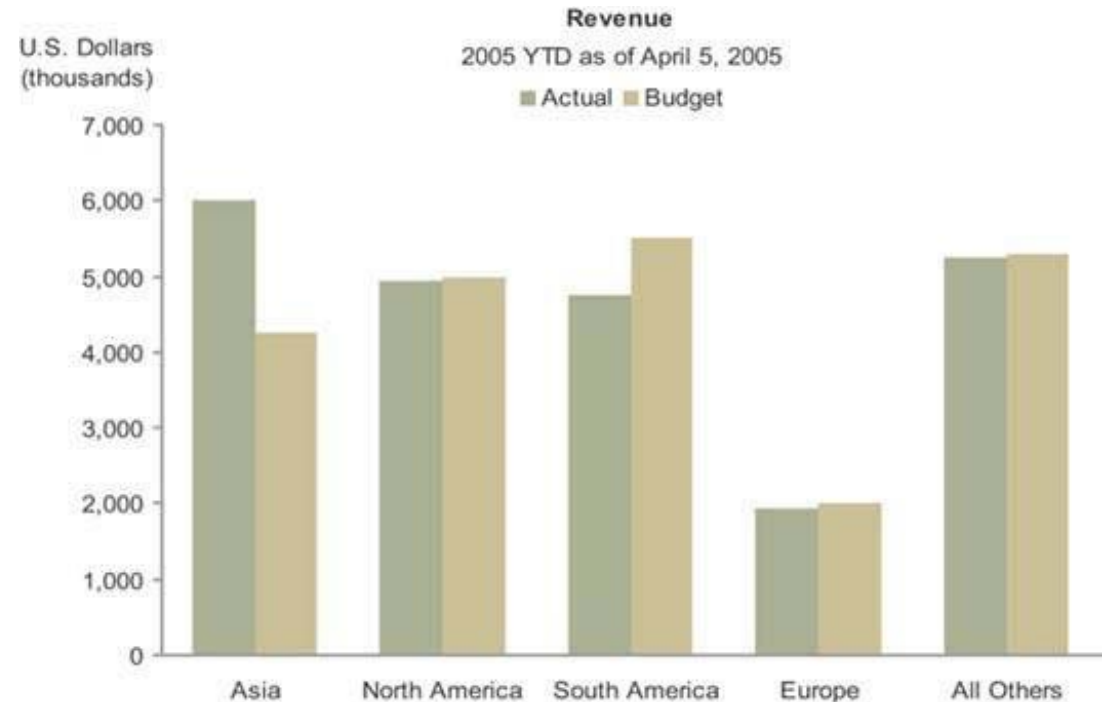


27 VISUALIZATION BEST PRACTICES: TYPE OF CHART

Don't



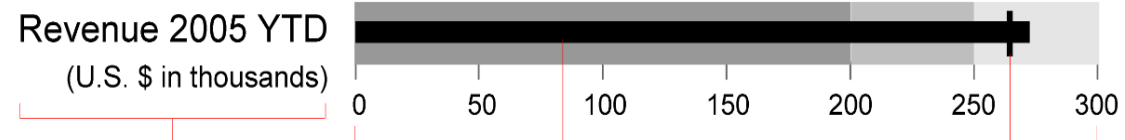
Do



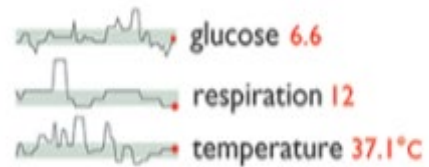
28 VISUALIZATION BEST PRACTICES: TYPE OF CHART

Do

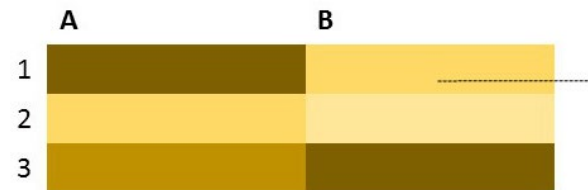
- Bullet charts



- Sparklines

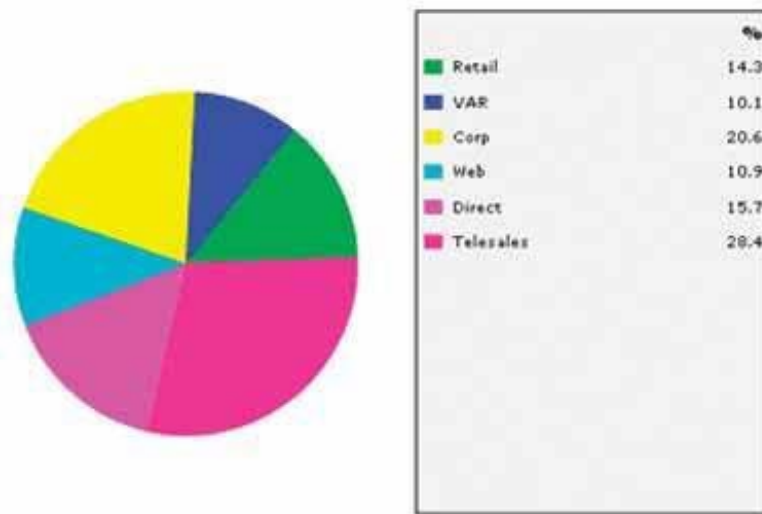


- HeatMaps

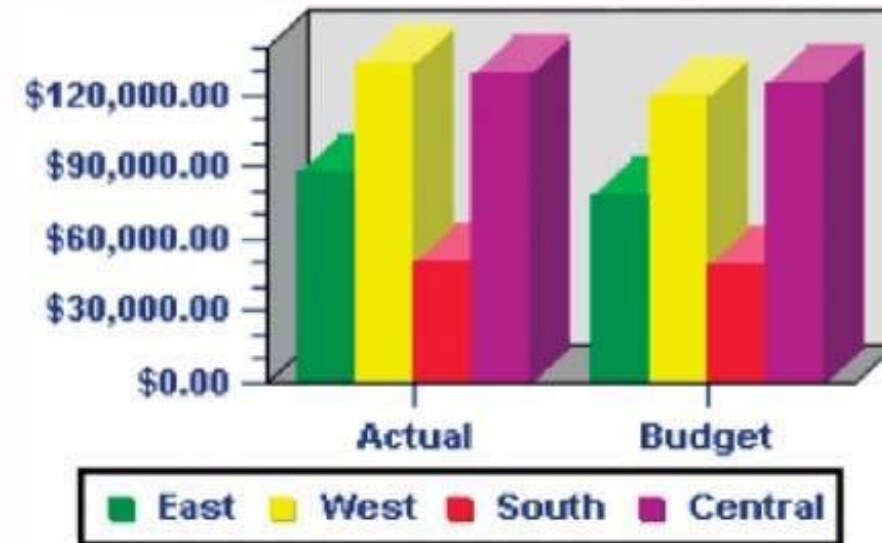


29 VISUALIZATION BEST PRACTICES: ENCODING

Don't



Don't



30 VISUALIZATION BEST PRACTICES: ENCODING

Do



Source: <https://www.codewall.co.uk/best-dashboard-examples-for-inspiration/>

3 | VISUALIZATION BEST PRACTICES: AESTHETICS

Don't



32 VISUALIZATION BEST PRACTICES: AESTHETICS

Do



Source: <https://www.codewall.co.uk/best-dashboard-examples-for-inspiration/>

33 VALIDATION

Once you have a prototype of your dashboard, go to the users and ask them:

- What: what information in your opinion will this graph represent
- Why: why is it (isn't it) useful? What would you use it for?
- Control: What control would you like to have over this data?

Source Joanna Martin
“[Designing a dashboard: how to make sure it will show useful data](#).” Sep 18, 2018

QUESTIONS?

Presentation and visualization

SOME CRITICAL THOUGHTS ABOUT DASHBOARDS

- Taylor Brownlow, 2020, apr 9th
“[Dashboards are dead](#)” the author presents the limitations on trust and customization of Dashboards and defends Notebooks as an alternative