

Don't be blinded by new data visualisation software

Andrew Le Breuilly

ASC – The future is now!

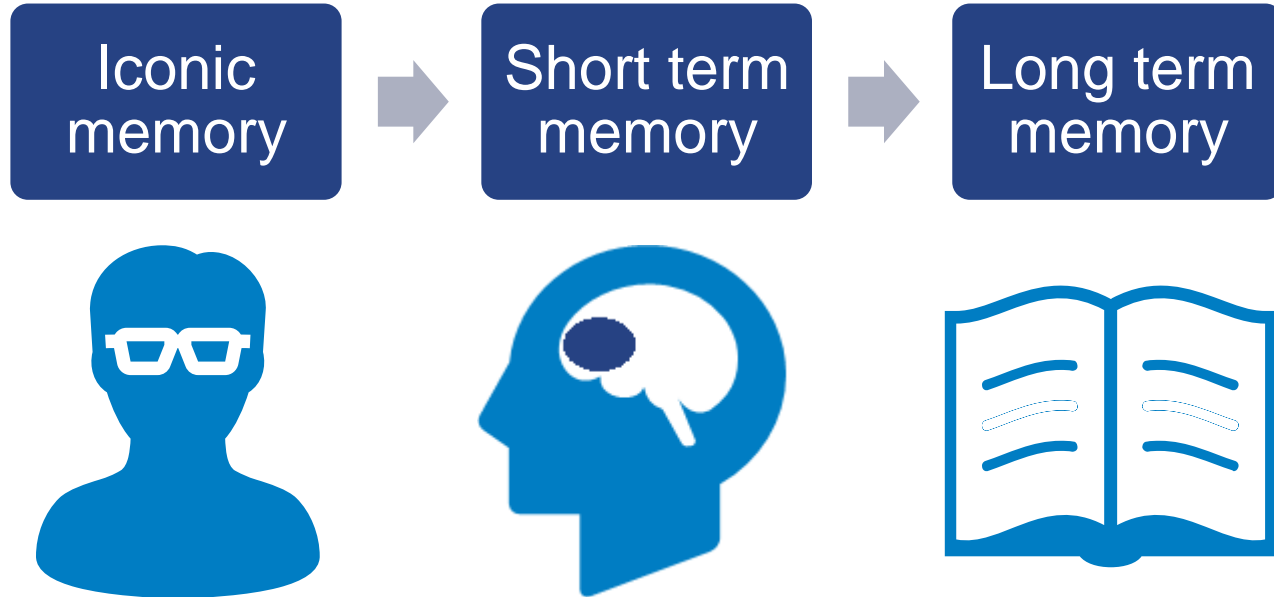
Making sense of
your sight

Adopt a
"less is more"
technique to focus
attention

Use a guided-
analytical approach
to encourage
insight discovery

Be an architect,
not a builder

Making sense of your sight



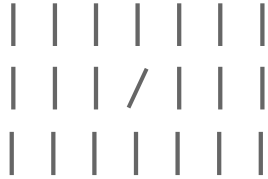
How many fives appear below?

4324234923425458787290
3802842750943850128070
8432502874350832470928
3407909843275098432740
8437528364123648932749

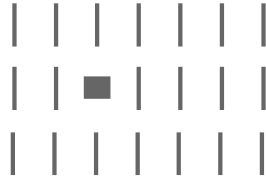
How many fives appear below?

432423492342**5**4**5**8787290
38028427**5**09438**5**0128070
8432**5**028743**5**0832470928
340790984327**5**098432740
8437**5**28364123648932749

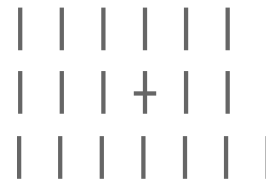
Attributes of iconic memory



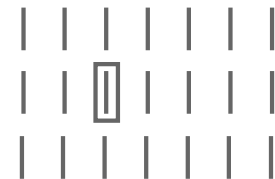
Orientation



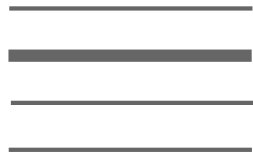
Shape



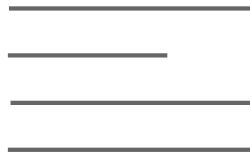
Added marks



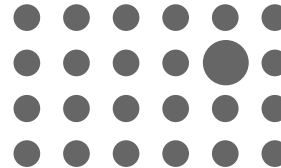
Enclosure



Line width



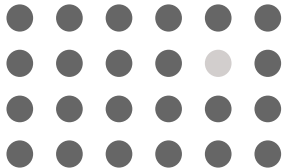
Line length



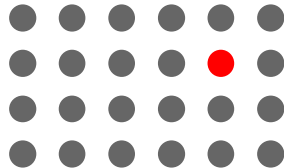
Size



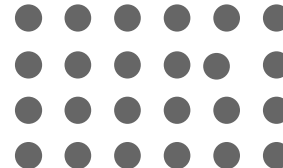
2-D position



Intensity



Hue



Direction



Flicker

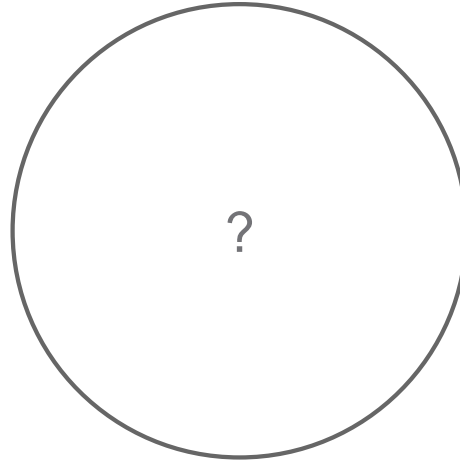
There are limits....

4324234923425458787290
3802842750943850128070
8432502874350832470928
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8437528364123648932749

How much bigger is circle B compared to circle A?



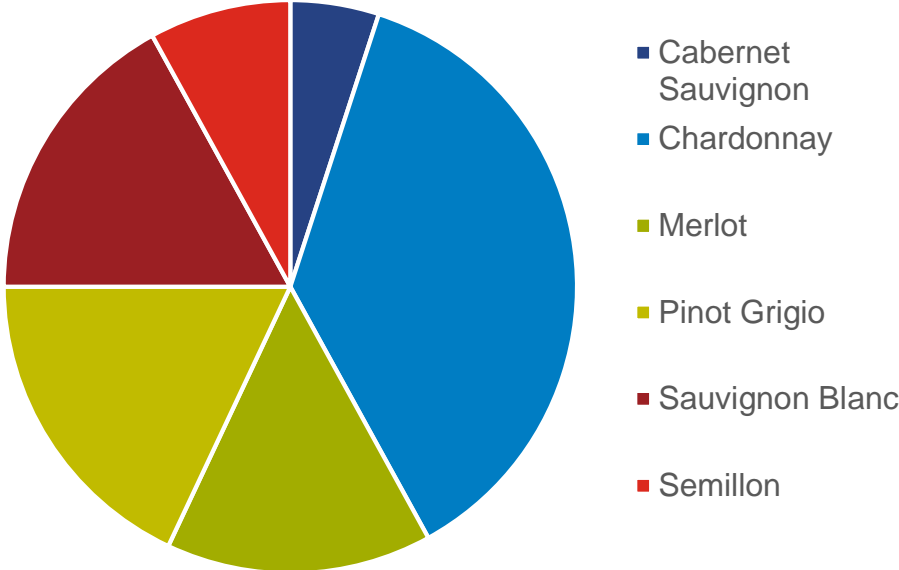
A



B

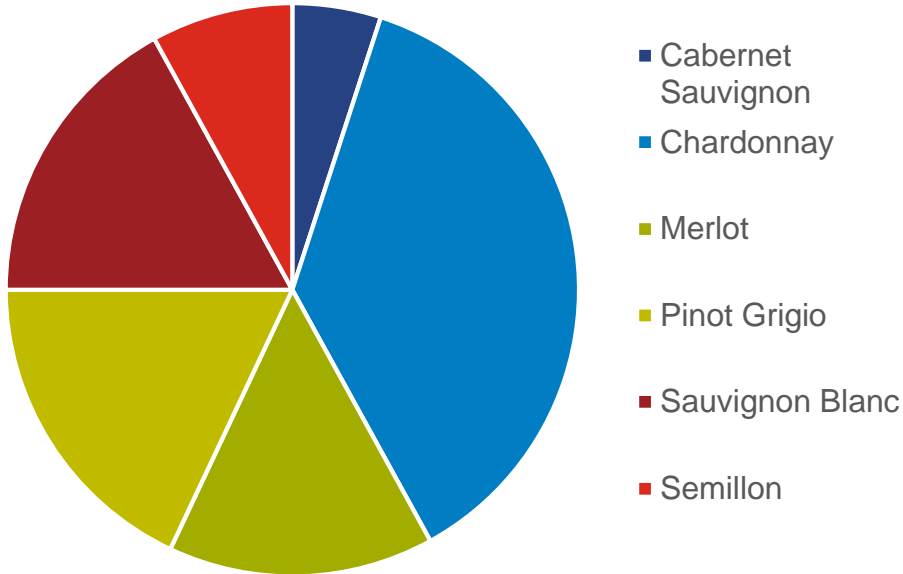
Are the sales of Pinot Grigio smaller, larger, or the same as Sauvignon Blanc?

Breakdown of sales by grape variety

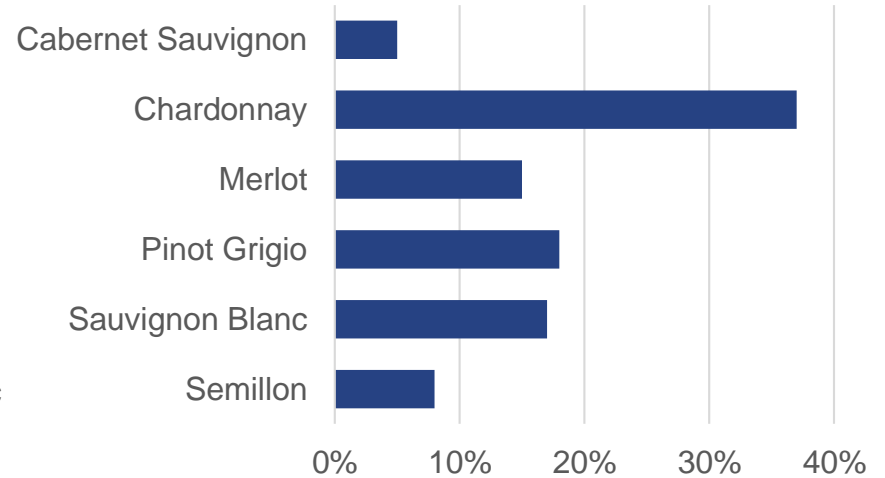


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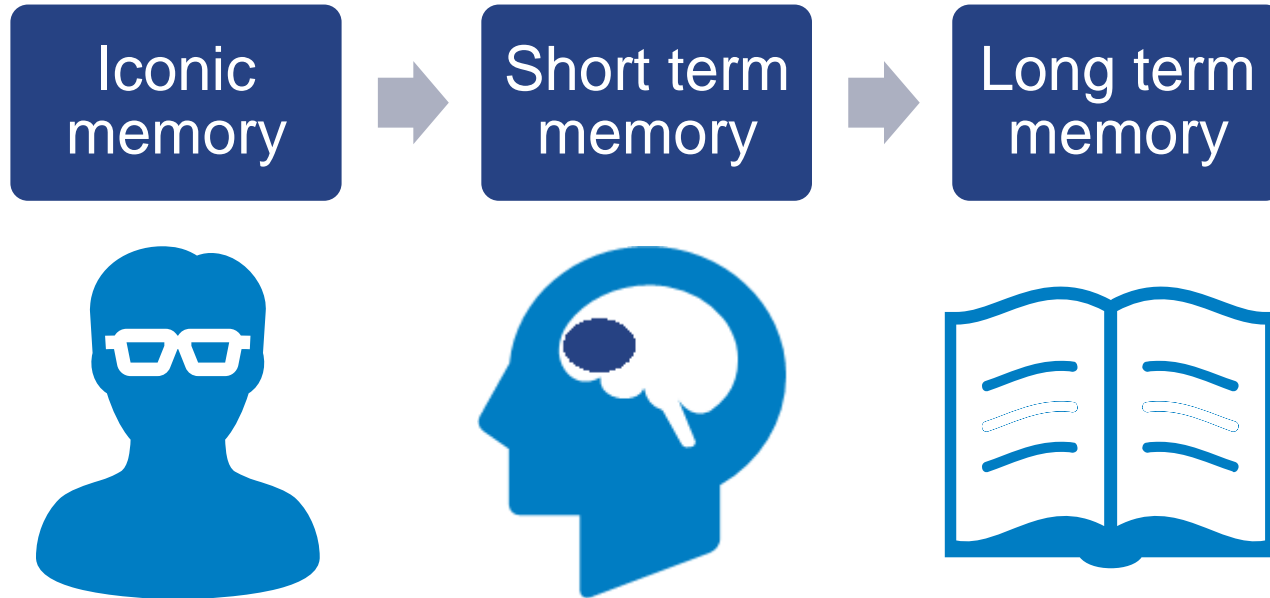
Breakdown of sales by grape variety



Breakdown of sales by grape variety



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Maximise the Data Ink Ratio

$$\text{Data Ink Ratio} = \frac{\text{Amount of ink for data}}{\text{Amount of ink on page}}$$

Sales Summary by Region					
1st Quarter, 2016					
Regions are Sorted by Revenue					
Region	Revenue	% of Total Revenue	Expenses	Profit	% of Total Profit
Europe	\$75,904,604.00	31.06%	\$40,988,486.16	\$34,916,177.84	22.31%
Canada	\$51,527,694.00	21.09%	\$17,534,715.96	\$34,037,978.04	21.75%
Western U.S.	\$42,660,178.00	17.46%	\$11,944,849.84	\$30,715,328.16	19.63%
Eastern U.S.	\$33,977,385.00	13.91%	\$7,135,250.85	\$26,842,134.15	17.15%
Central U.S.	\$26,139,598.00	10.70%	\$3,920,939.70	\$22,218,658.30	14.20%
Asia	\$14,135,278.00	5.78%	\$6,360,875.10	\$7,774,402.90	4.97%
Total (or Avg)	\$244,344,737.00	100.00%	\$87,885,117.61	\$156,504,619.39	100.00%

The quantitative display of visual information: Edward Tufte
 Show Me the Numbers: Stephen Few

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Sales Summary by Region

1st Quarter 2016

Regions are Sorted by Revenue

Region	Revenue (\$)	% of Total Revenue	Expenses (\$)	Profit (\$)	% of Total Profit
Europe	75,904,604	31.1%	40,988,486	34,916,178	22.3%
Canada	51,527,694	21.1%	17,534,716	34,037,978	21.7%
Western U.S.	42,660,178	17.5%	11,944,850	30,715,328	19.6%
Eastern U.S.	33,977,385	13.9%	7,135,251	26,842,134	17.2%
Central U.S.	26,139,598	10.7%	3,920,940	22,218,658	14.2%
Asia	14,135,278	5.8%	6,360,875	7,774,403	5.0%
Total (or Avg)	244,344,737	100.0%	87,885,118	156,504,619	100.0%

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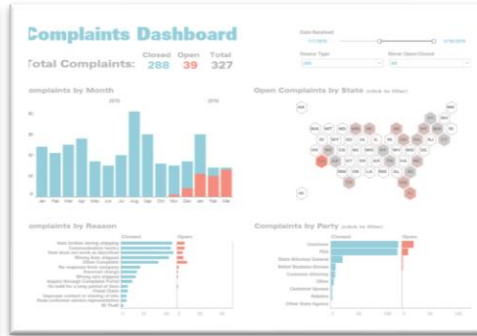
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Different types of visualisation need different approaches

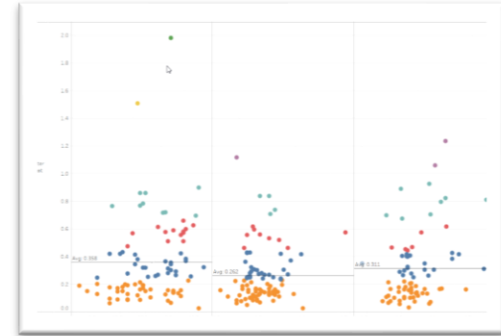
Infographic



Dashboard



Explorer



Audience

Broad audiences

Decision Makers

Analyst



Decision

Identify one or two key points

Guided Analytics

Identifies exceptions

Hypothesis testing

Investigative and iterative



Functionality

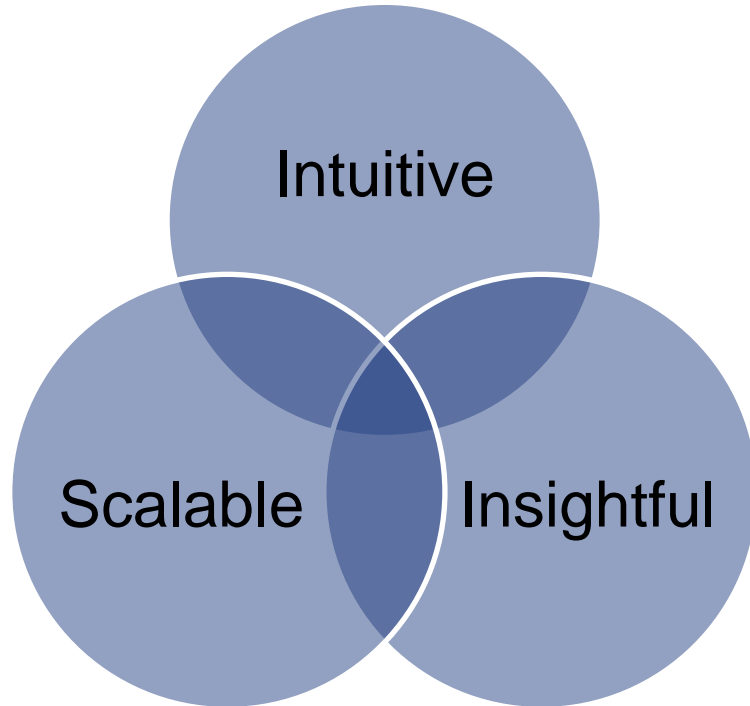
Visually appealing

Defined structure based on business relevance

Categorize and filter data in many ways

Encourage insight with guided analytics

Modular approach to creating intuitive, insightful and scalable dashboards



Intuitive – Simple enough for new users to immediately become familiar and understand

Scalable – Provide good performance at all levels of analysis and irrespective of data volumes.

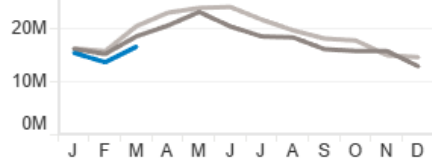
Insightful - Prescribe key information but still allow users to interactively pursue deeper insights

Give the reader what they want, when they want it

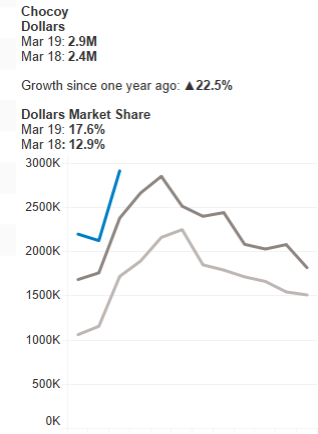
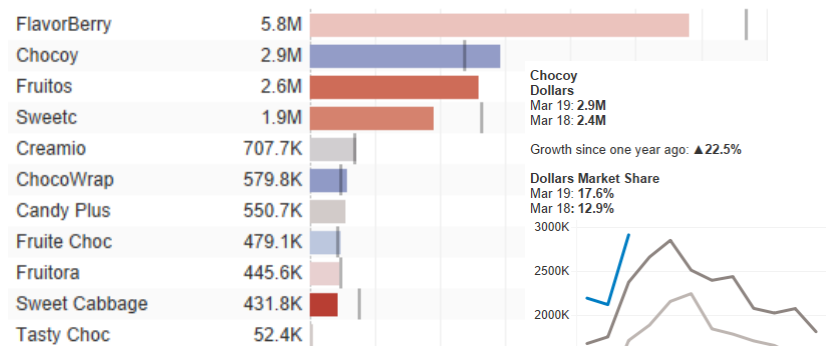
A worked example

16.1M units

Growth since 1
year ago
▼10.5%



Brands Figures show sales in March 2019



- Use a BAN to show the latest KPI
- Highlight the change from a year ago
- Show the change
- Display a sparkline to show how the trend has changed over time
- Breakdown of the most important dimension of the data
- Use colour to indicate what you need to look at first
- Create intuitive tooltips to help the user get more understanding from the data

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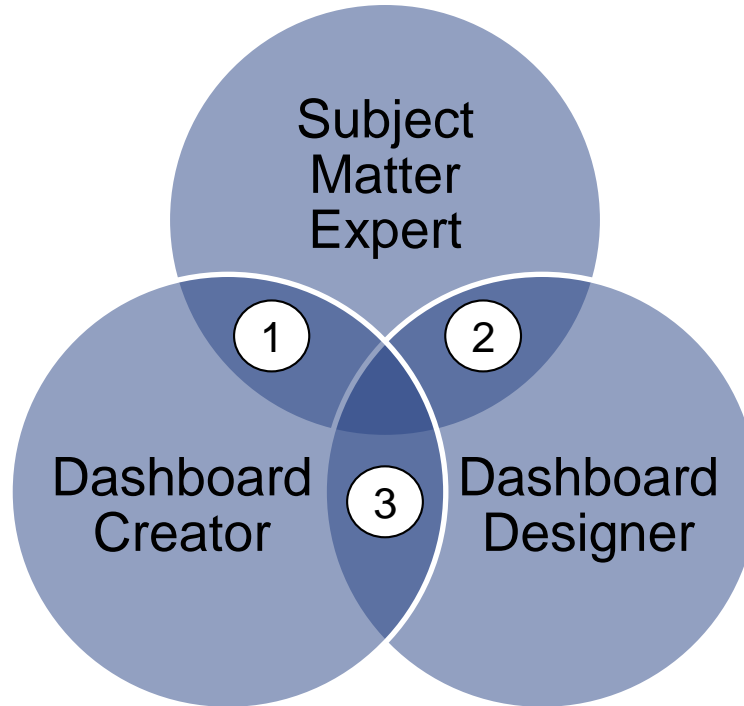
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Teach to design dashboards, not to build

Skills required to create a great dashboard

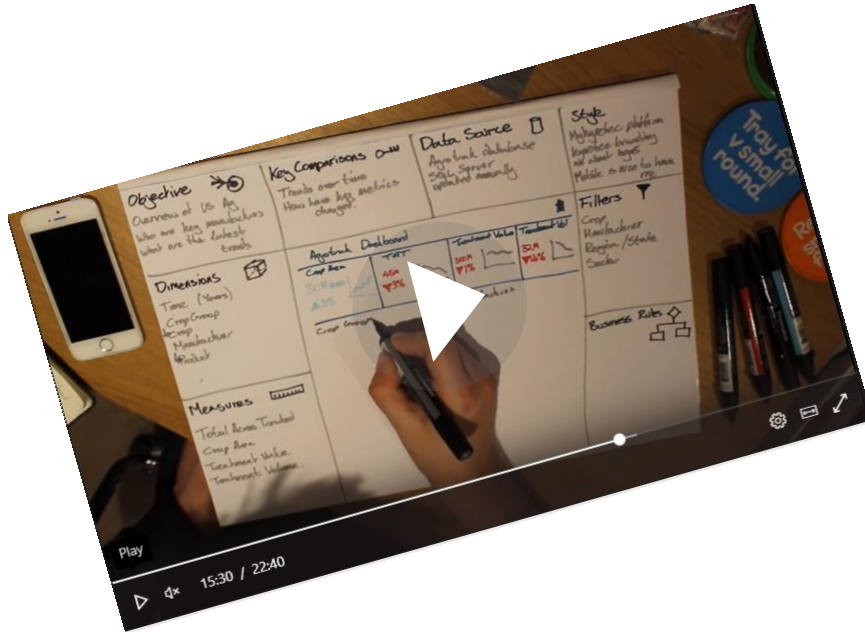


One page strategy for dashboard design

An approach that we use to speed up the dashboard production

Teach to identify:

- The purpose of the dashboard
- The key comparisons
- The sources of data
- The filters, dimensions and measures
- Business logic that needs to be considered



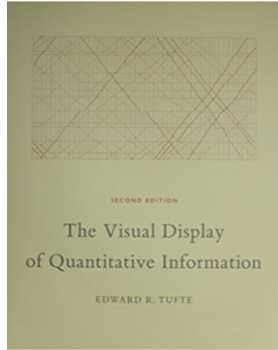
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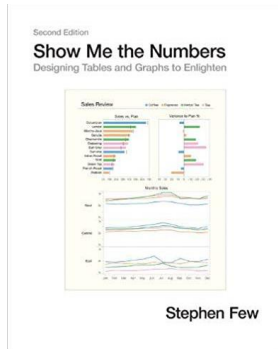
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Further reading



The visual display of quantitative information

Edward Tufte



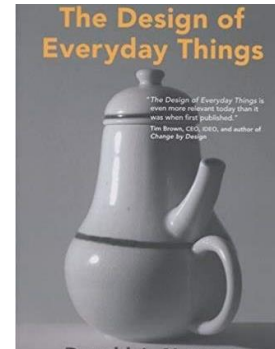
Show me the numbers

Stephen Few



Information dashboard design

Stephen Few



The design of everyday things

Donald Norman