

Tips on Presenting: Tables, Graphs and Visuals

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**Economics Analysis and Communication 2021
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Outline

Useful tips from experts

Tables

Graphs

Infographics

References

Tips from George Orwell

- ▶ Never use a **metaphor**, **simile**, or other figure of speech which you are used to seeing in print
- ▶ Never use a **long word** where a short one will do
- ▶ If it is possible to **cut** a word out, always cut it out
- ▶ Never use the passive where you can use the **active**
- ▶ Never use a **foreign phrase** or a **jargon** word if you can think of an everyday English equivalent
- ▶ Break any of these rules sooner than say anything outright barbarous

Tips from Greg Mankiw

- ▶ Keep sentences **short**
- ▶ Avoid **jargon**
- ▶ Avoid **unnecessary** words
- ▶ The word “**very**” is very often very unnecessary
- ▶ Never make up your own **acronyms**
- ▶ Keep it simple. Think of your reader/audience as being your college roommate who majored in English literature. Assume he/she has never taken an economics course, or if he/she did, he/she used the wrong textbook.

Tips from Eliana La Ferrara I

- ▶ **Importance:** a question the audience wants to know the answer to
- ▶ Creating **ENTHUSIASM** and interest is the key goal of your first 5 min.
- ▶ **Delivery:** a question you CAN answer
- ▶ Do not create **expectations** you cannot satisfy
- ▶ Motivations coming from real world **problems/ stylized facts** are preferred, rather than from gaps in the literature. *Use graphs when striking.*

Tips from Eliana La Ferrara II

- ▶ State exactly what you do, **connecting** it to broad motivation
- ▶ Give enough info to allow audience to grasp **originality** of your contribution, but **NOT** too many details
- ▶ **Challenge:** not to **trigger** 20 questions that will block you for 30'
- ▶ You should know everything which is in the slides

- ▶ **Criticise others:**
 - ▶ You want to show that what you do **DIFFERS**, not that the others were wrong
 - ▶ You can **IMPROVE** also starting from good work!

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Bad table: Small Text

Table 1: Effect of Political Reservation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent Variable:	Road upgrade							
	Is the village connected by a dirt road?				Is the village connected by a tar road?			
Sample:	No		Yes		No		Yes	
SC	0.00185 (0.00244)		0.000581 (0.00117)		0.00195 (0.00120)		0.00297* (0.00157)	
(GEN \Rightarrow SC) \times SC		0.0216*** (0.00315)		0.0105*** (0.00160)		0.0112*** (0.00167)		0.0157*** (0.00214)
(SC \Rightarrow GEN) \times SC		-0.0238*** (0.00393)		-0.0110*** (0.00185)		-0.00863*** (0.00184)		-0.0135*** (0.00245)
Constant	0.0558*** (0.000621)	0.0568*** (0.000427)	0.0328*** (0.000305)	0.0332*** (0.000209)	0.0249*** (0.000308)	0.0254*** (0.000193)	0.0576*** (0.000380)	0.0488*** (0.000255)
Observation(n)	1444976	1444976	4715104	4715104	3076928	3076928	4127328	4127328
Village(n)	90311	90311	294694	294694	192308	192308	257958	257958
Village FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.644	0.645	0.586	0.587	0.614	0.614	0.605	0.605
Cluster SE	Two-way	Two-way	Two-way	Two-way	Two-way	Two-way	Two-way	Two-way

Bad table: Labelling

Table 2: Effect of Political Reservation on Nightlights: India

	(1)	(2)	(3)	(4)
<i>Dependent Variable:</i>	Average Nightlights in the village			
<i>Sample:</i>	Main Analysis (2004 - 2013)		Placebo Test (1994 -2003)	
SC	0.0585 (0.0389)		0.00851 (0.0200)	
(M2)× SC		0.151*** (0.0503)		0.0379 (0.0264)
(M4)× SC		-0.0551 (0.0633)		-0.0276 (0.312)
Constant	4.674*** (0.0111)	4.683*** (0.00876)	3.476*** (0.00579)	3.478*** (0.00458)
Observation(n)	4220030	4220030	4220030	4220030
Village(n)	422003	422003	422003	422003
Village FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R-Squared	0.897	0.897	0.943	0.943
Cluster SE	Two-way	Two-way	Two-way	Two-way

Bad table: Dependent Variable

Table 3: Effect of Political Reservation on Nightlights: India

	(1)	(2)	(3)	(4)
SC	0.0585 (0.0389)		0.00851 (0.0200)	
(M2)× SC		0.151*** (0.0503)		0.0379 (0.0264)
(M4)× SC		-0.0551 (0.0633)		-0.0276 (0.312)
Constant	4.674*** (0.0111)	4.683*** (0.00876)	3.476*** (0.00579)	3.478*** (0.00458)
Observation(n)	4220030	4220030	4220030	4220030
Village(n)	422003	422003	422003	422003
Village FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R-Squared	0.897	0.897	0.943	0.943
Cluster SE	Two-way	Two-way	Two-way	Two-way

Bad table: Highlight

Table 4: Effect of Political Reservation Road Construction

	(1)	(2)	(3)	(4)
<i>Dependent Variable:</i>	Road (Re)construction			
	New Road		Road Upgrade	
SC	-0.00588*** (0.00153)		0.00348*** (0.00111)	
(GEN \Rightarrow SC) \times treated		-0.00799*** (0.00202)		0.01446*** (0.00154)
(SC \Rightarrow GEN) \times treated		0.00329 (0.00243)		0.00991*** (0.00172)
Constant	0.0679*** (0.000420)	0.0693*** (0.000331)	0.0412*** (0.000298)	0.0432*** (0.000216)
Observation(n)	7,406,416	7,406,416	7,406,416	7,406,416
Village(n)	462,901	462,901	462,901	462,901
Village FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
R-Squared	0.609	0.609	0.606	0.606
Cluster SE	Two-way	Two-way	Two-way	Two-way

Bad table: Notes

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	Electrification in the village					
Sample:	Whole Sample		Extensive		Intensive	
SC	0.0102 (0.00714)		0.0234** (0.0111)		0.00353 (0.00839)	
(GEN \Rightarrow SC) \times SC		0.0292*** (0.00973)		-0.0198 (0.0170)		0.0571*** (0.0112)
(SC \Rightarrow GEN) \times SC		-0.0135 (0.0112)		0.0672*** (0.0161)		-0.0688*** (0.0132)
_cons	0.292*** (0.00224)	0.293*** (0.00185)	0.334*** (0.00398)	0.337*** (0.00325)	0.275*** (0.00249)	0.275*** (0.00207)
Observation(n)	2832038	2832038	809094	809094	2022944	2022944
Village(n)	257458	257458	73554	73554	183904	183904
Village FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.638	0.638	0.690	0.690	0.622	0.623
Cluster SE	Two-way	Two-way	Two-way	Two-way	Two-way	Two-way

Note: * $p < .10$, ** $p < .05$, *** $p < .01$. The dependent variable is a binary variable indicating if the village is electrified under the Indian government electrification scheme. SC is a dummy which takes value one whenever a village is part of assembly constituency reserved for Scheduled Caste. GEN \Rightarrow SC is a dummy which takes value 1 when a village becomes part of an SC reserved constituency from the unreserved constituency as a result of delimitation (vice versa for SC \Rightarrow GEN). Standard errors are in parenthesis are corrected for two-way clusters at the level of the village (to account for correlation over time) and at the level of pre-delimitation assembly constituency in each year (to account for within-constituency-year correlation). Column 1 and 2 reports the effect of reservation on electrification for the whole sample. Electrification Scheme was implemented in two ways: *extensive electrification* - a village is considered electrified when 10% of the household of a village is electrified, *intensive electrification* - a village is considered electrified when the whole village is electrified. Column 3-4 reports the result for the extensive electrification scheme, and column 5-6 reports the result for intensive electrification.

Broader audience - I

Table 1: Effect of supporters on players performance

	OLS Estimation							
Dependent Variable: <i>Player performance score</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
No Supporters	-0.021 (0.015)	-0.049 (0.032)	-0.050* (0.030)	-0.055* (0.030)	-0.059** (0.030)	-0.059* (0.032)	-0.053* (0.032)	0.053 (0.068)
Non-white player	-0.072** (0.028)	-0.072** (0.028)	-0.089*** (0.026)	-0.100*** (0.027)	-0.102*** (0.034)	-0.102** (0.052)		
No Supporters × Non-white player	0.096** (0.044)	0.095** (0.044)	0.093** (0.040)	0.088** (0.040)	0.087** (0.040)	0.087* (0.047)	0.090* (0.047)	0.089* (0.047)
Turn Quadratic Trend		✓	✓	✓	✓	✓	✓	✓
Home Games Dummy			✓	✓	✓	✓	✓	✓
Team Goals			✓	✓	✓	✓	✓	✓
Team FE				✓	✓	✓	✓	✓
Player's Nationality FE					✓	✓		
Player FE							✓	✓
Turn FE								✓
Observations	8952	8952	8952	8952	8952	8952	8952	8952
Cluster SE - player						✓	✓	✓

OLS estimation of the effect of no supporters on player performance by skin color. No Supporters is a dummy taking value 1 for all games played in empty stadiums. Non-white player is a dummy taking value 1 for all players classified as non-white. Beta coefficients reported and robust standard errors in parentheses. Standard errors are clustered by player in Columns (6), (7) and (8). *** significant at 1%, ** significant at 5%, * significant at 10%.

Broader audience - The Economist I

Graphic detail

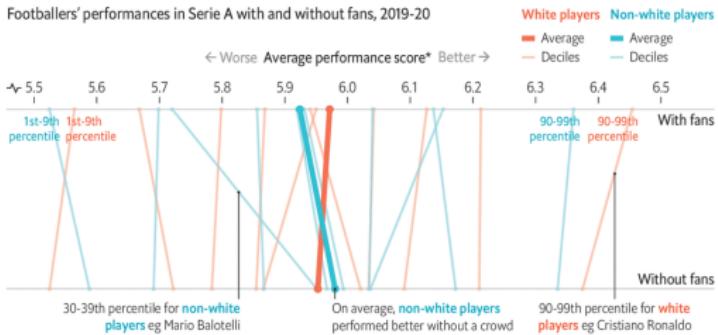
Daily chart

Non-white footballers played better when stadiums were empty during the pandemic

White players fared worse, implying that racist heckling may have an impact

The sweet sound of silence

Footballers' performances in Serie A with and without fans, 2019-20



Sources: Fabrizio Colella; fantacalcio.it

The Economist

Broader audience - The Economist II

The pandemic allowed Mr Colella to find out. For each player in Serie A, the top tier of Italian football, he compiled individual performance scores in every match during the past two years ranging from zero to ten, which were generated by an algorithm used for fantasy-sports competitions. (These numbers take into account contributions in all aspects of the game, not just offensive statistics like goals or assists.) Next, he classified over 500 players as either white or non-white using the Fitzpatrick scale for human skin color, which is commonly used in dermatology research. Finally, he compared how each player fared, on average, in matches played in front of fans against their performances in empty stadiums. Although fans may affect results in many ways, only racist chants could plausibly have a different impact on white players than on non-white ones.

The results were striking. On average, white players scored slightly worse without fans than they did in packed stadiums. In contrast, non-white footballers' performances improved to a statistically significant degree when fans were absent, by an average of 1.2%. Mr Colella built a mathematical model that tried to account for these differences using other variables, such as players' nationalities and teams' overall quality. However, none of these controls eliminated the impact of skin colour. The effect was greater for the darkest-skinned players than for brown- or olive-skinned ones.

Broader audience - Blick

Blick

Home | News | Society | Football: The camera boosts racialized players

Protected from insults

The camera boosts racialized players

A study conducted at the University of Lausanne (UNIL) succeeded in showing that non-white footballers are more effective when there is no one in the stands. The reason: the racist insults of the public would have an impact on the way they play.

Posted: 06.17.2021 17:47
Last update: 18.06.2021 at 17:47 hours



par **Valentina San Martin**
Journalist Blick

"I think racism in football has never been more serious than it is today", here are the few words which the Belgian player Romelu Lukaku launched at CNN at the beginning of June. Between the cries of animals, racist insults, through the throwing of bananas, racialized players are subjected to taunts targeted at their origins during matches. Violence which, according to a study carried out at the University of Lausanne (UNIL), has a concrete impact on the performance of athletes.

Supporters affect players

During the pandemic, the stadiums emptied and the teams had to play behind closed doors. Several researchers then looked at the phenomenon that seemed to influence athletes.

Among them, Fabrizio Colella, doctoral student in economics at UNIL. He was interested in what was happening inside the Italian stadiums emptied of their public. He thus established a mathematical model based both on the individual results of each Serie A player over a period of two years and the complexion of their skin defined by the Fitzpatrick classification (a scale generally used in dermatological research).

Finally, the researcher compared the results of each footballer in matches played in front of supporters, with their performances in empty stadiums.

Skin color: a determining factor

On average, white players performed slightly worse when there was no audience. In contrast, the performance of non-white footballers was better in the absence of supporters. Indeed, they scored more goals, up to around 1.2%. Fabrizio Colella tried to verify whether other variables such as the nationality of the players or the overall level of the teams could explain these differences. However, skin color remains the most important factor.

Faced with these conclusions, no wonder the public is also called "the twelfth man" in football jargon. Indeed, the latter has a decisive role to play in a match. To see if he plays it well or not at the start of the Euro...

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Useful tips from experts

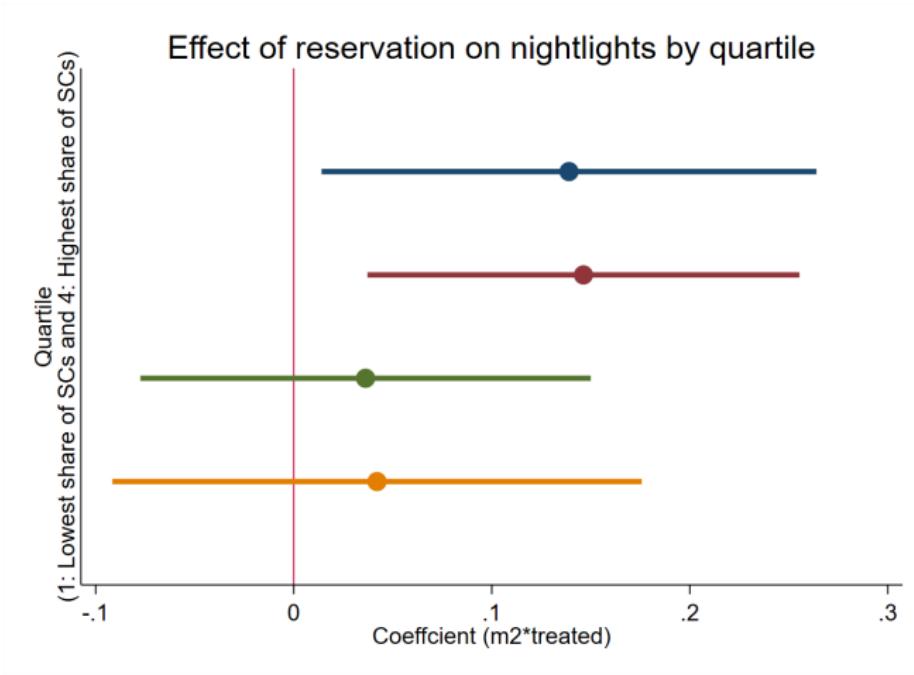
Tables

Graphs

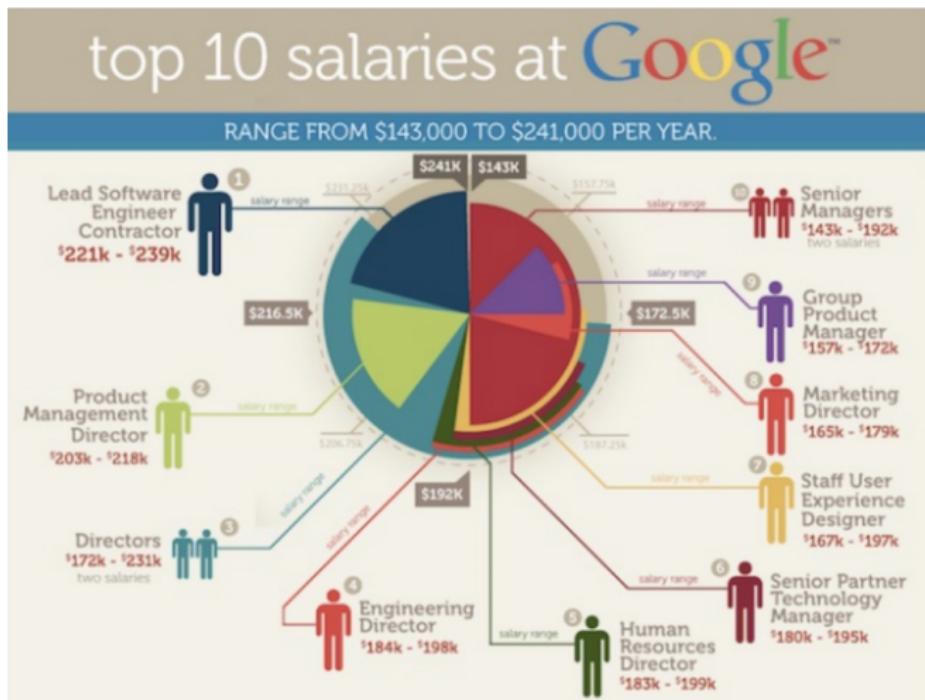
Infographics

References

Present multiple tables in one graph



Beautiful but ...



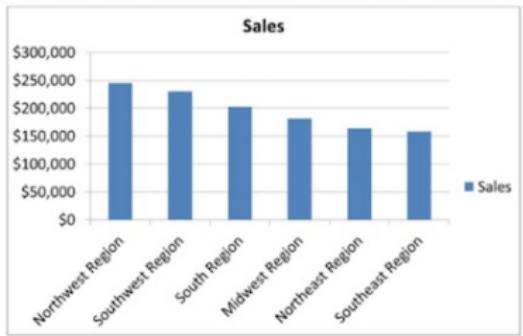
Source: jobvine.co.za

... easy to read



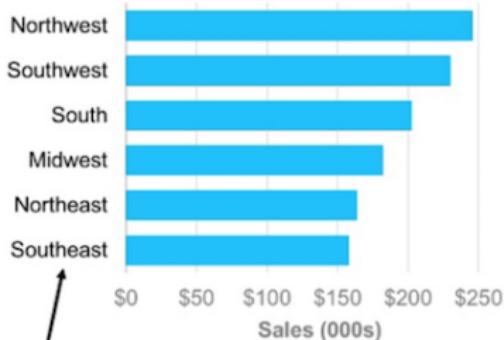
Source: junkcharts.com

Bar and column charts



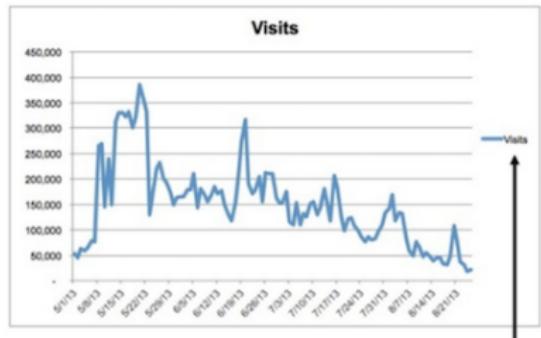
Remove borders

Horizontal is easier to read

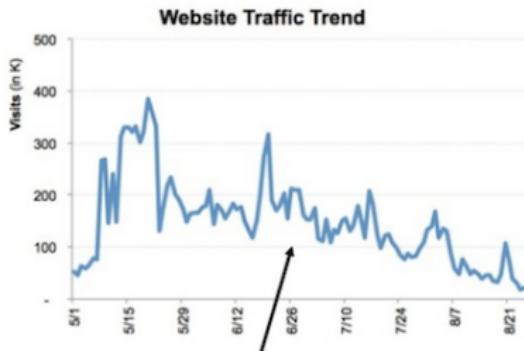


Condense axes

Line charts



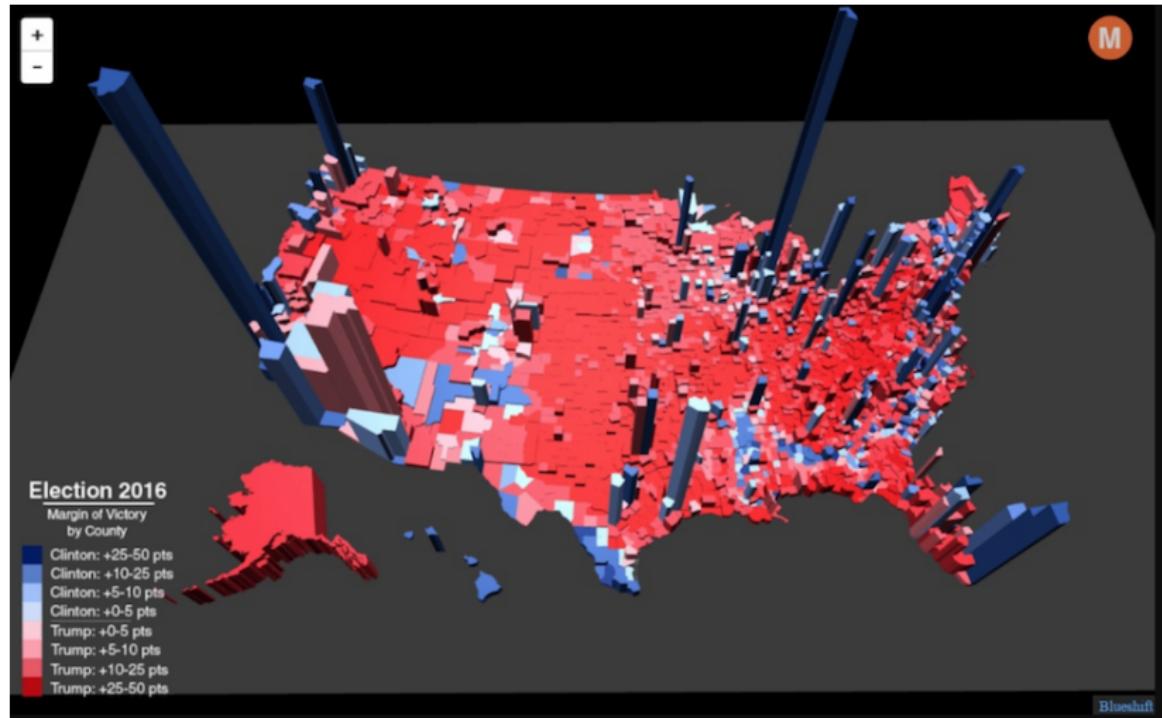
Remove
unnecessary
legends



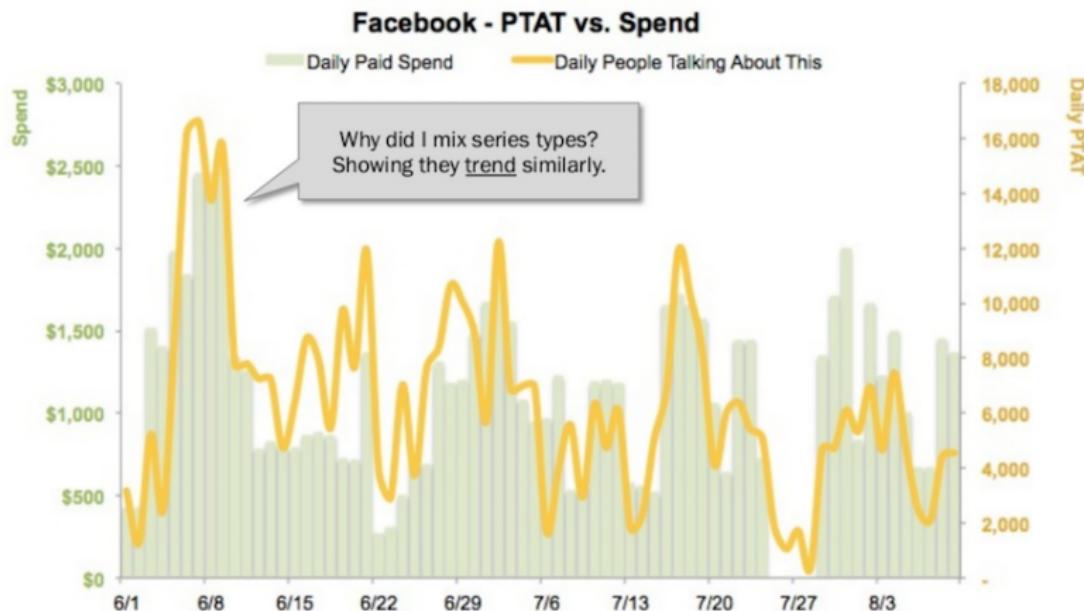
Save 3D for the Movies



Useful 3D map



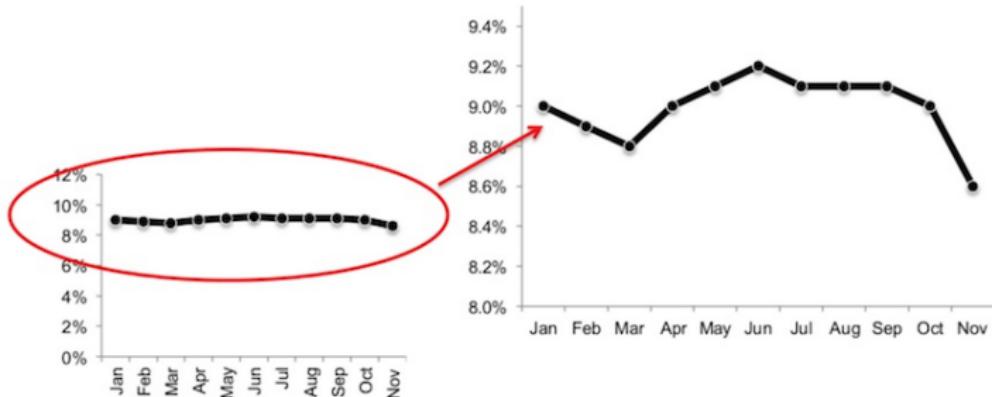
Don't mix chart types for no reason



Axes could be misleading

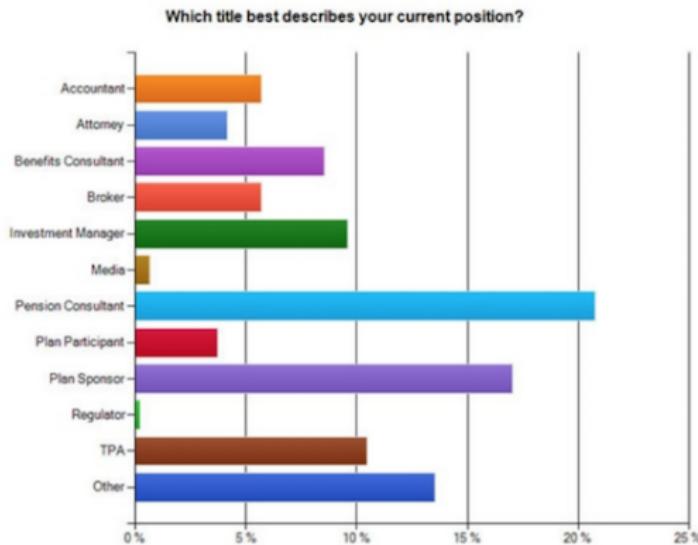
Most truthful: Start at zero

If you *need* to show (not inflate) differences, consider a “second view”



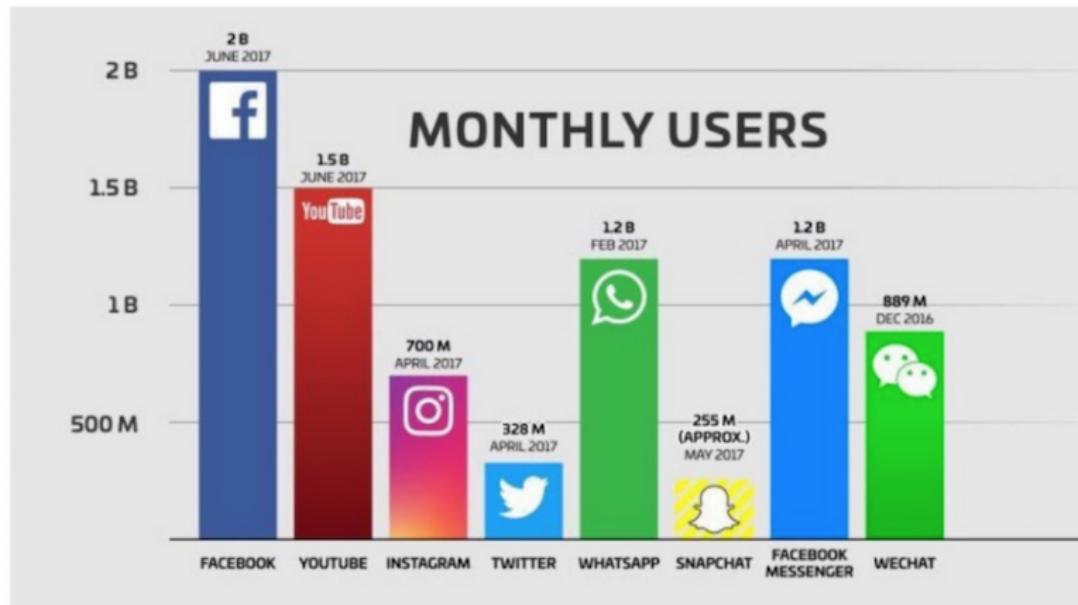
Use color with intention - I

Meaningless:



Use color with intention - II

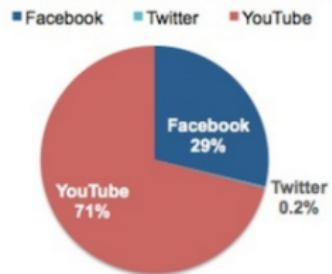
Brand colours:



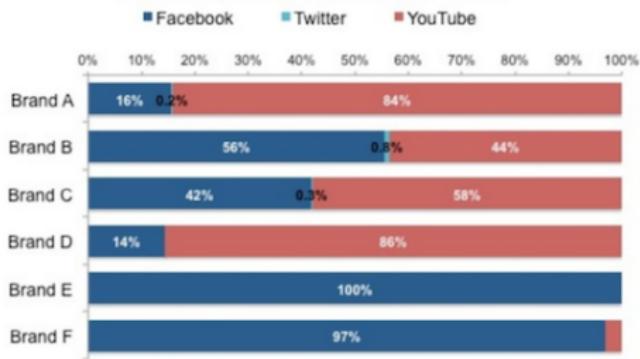
Use color with intention - III

Match series colours on multiple charts:

Percentage of Social Audience

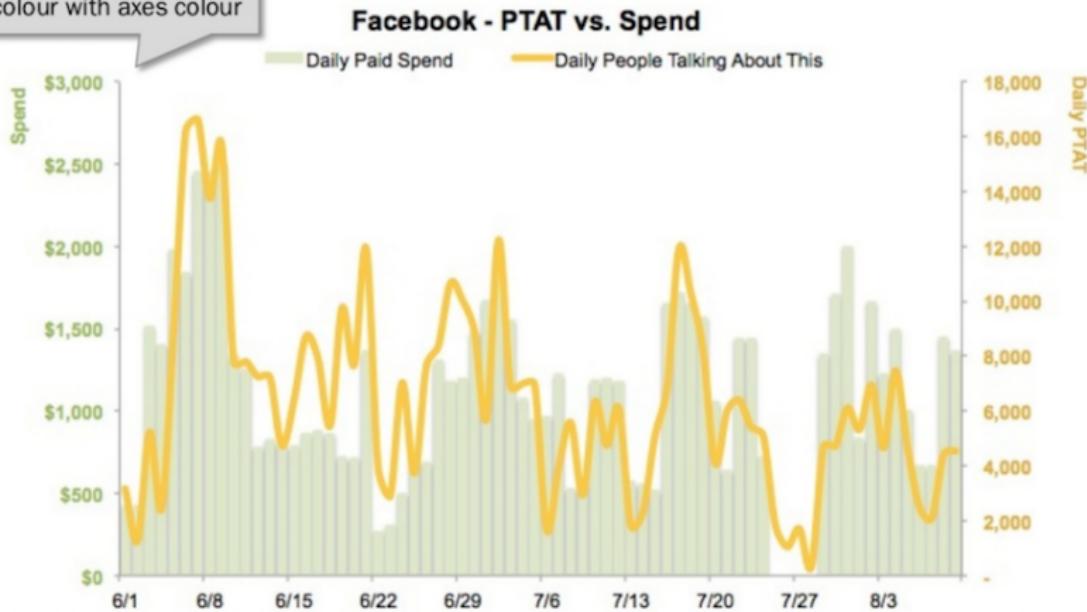


Percentage of Audience by Portfolio



Use color with intention - IV

Co-ordinate series colour with axes colour



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Useful tips from experts

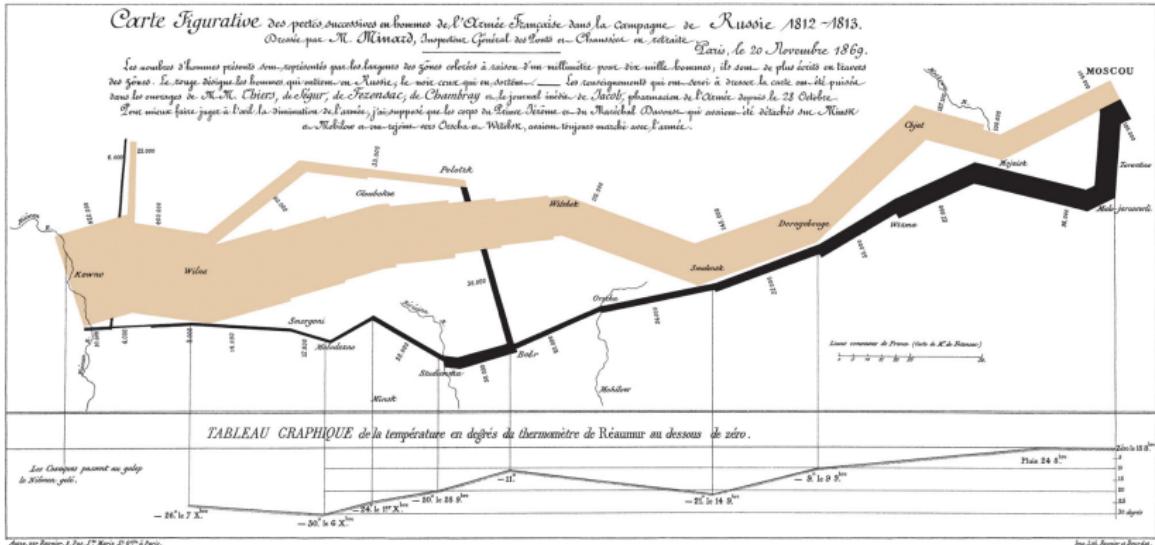
Tables

Graphs

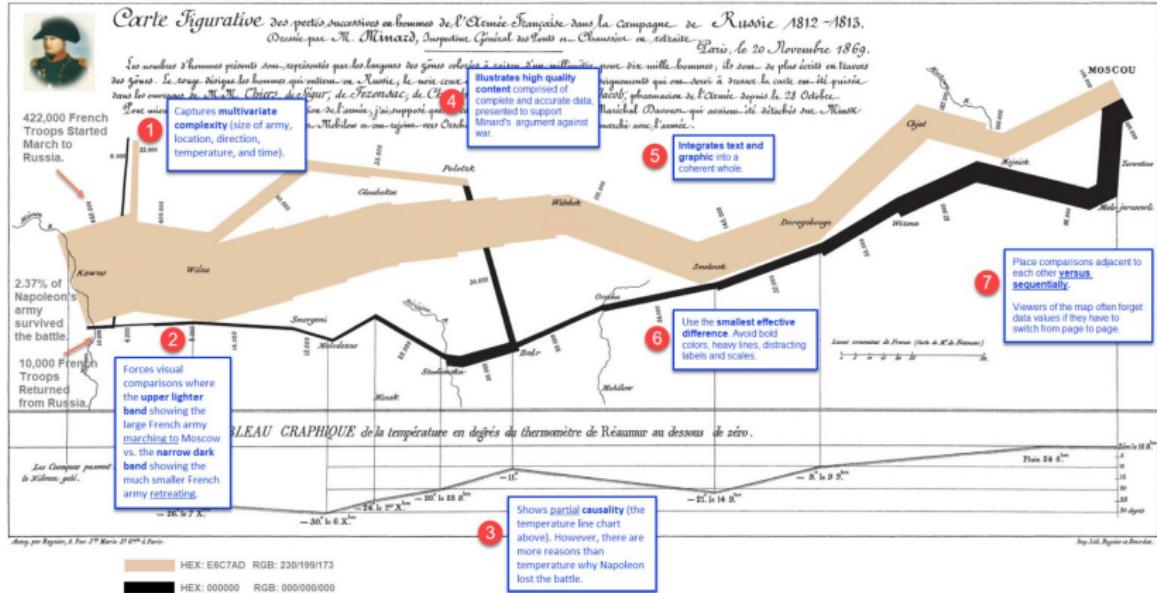
Infographics

References

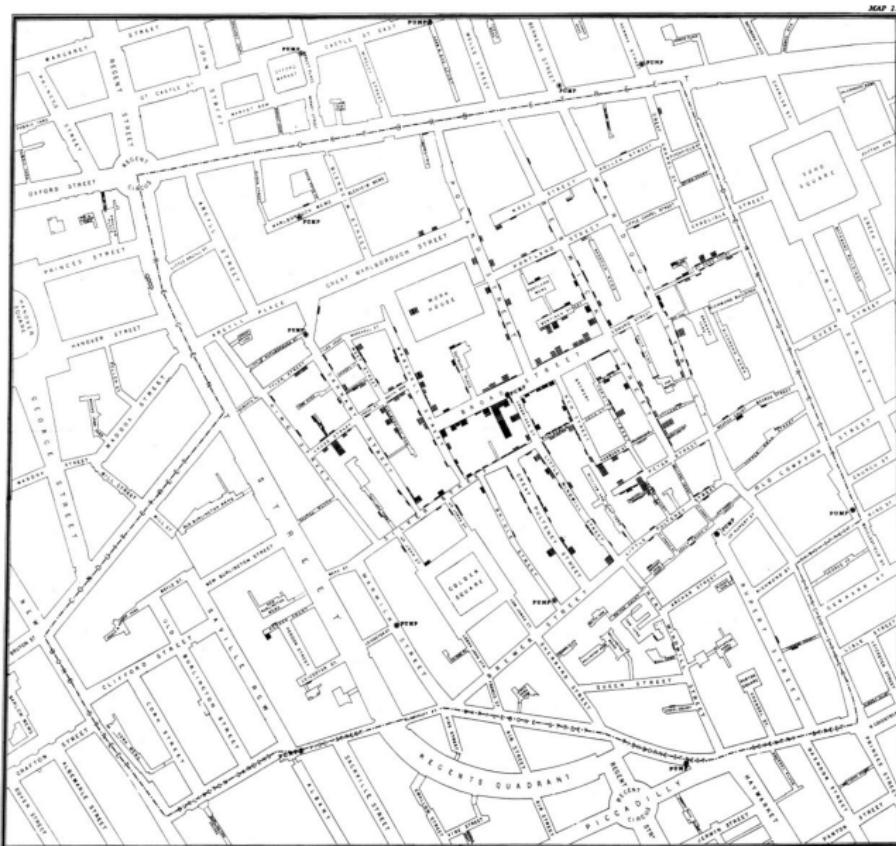
Best Infographics (map) of all time? - I



Best Infographics (map) of all time? - II



Power of a map by John Snow (Not that one!) - I

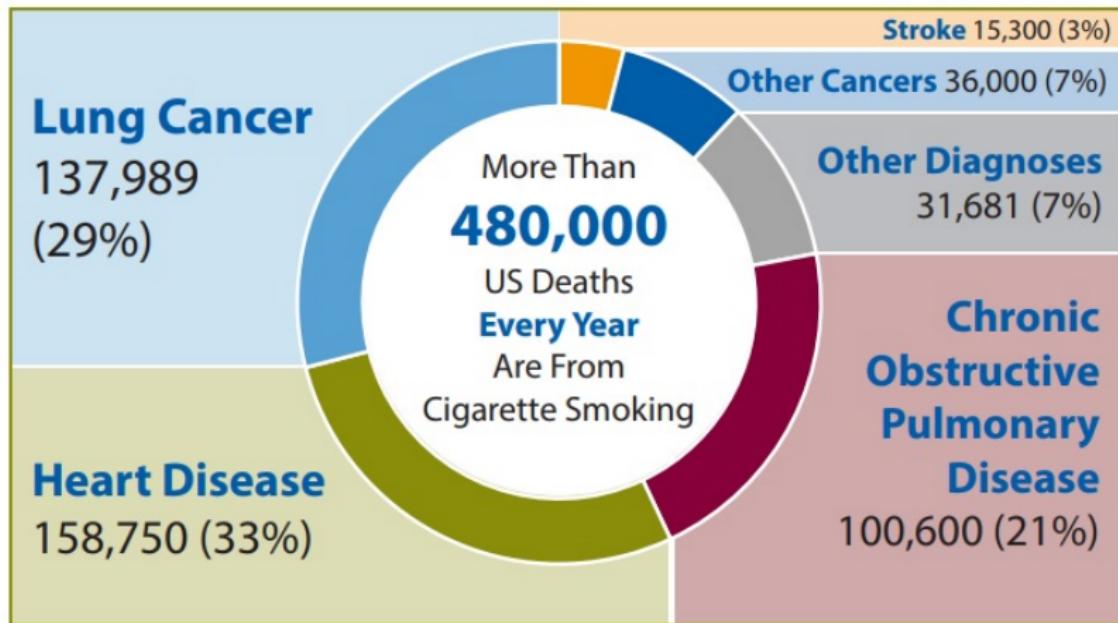


Power of a map by John Snow (Not that one!) - II



Humanize the data - I

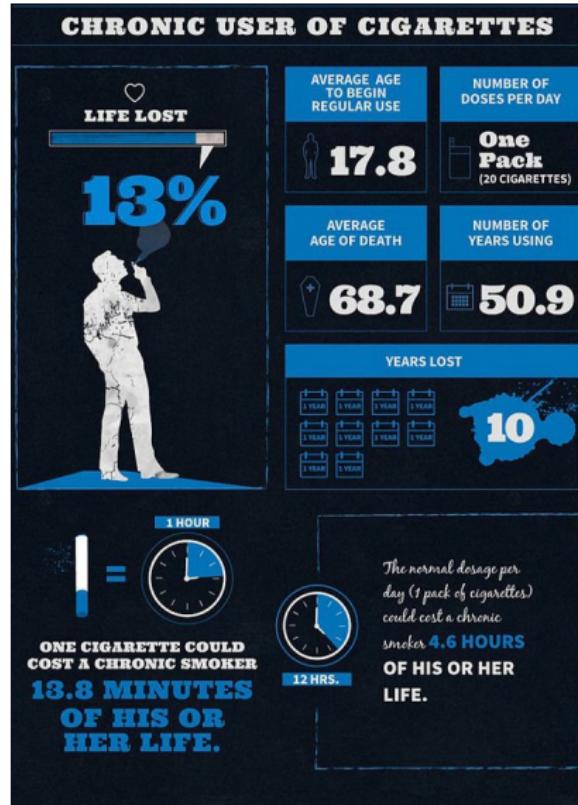
Annual Deaths from Smoking, United States



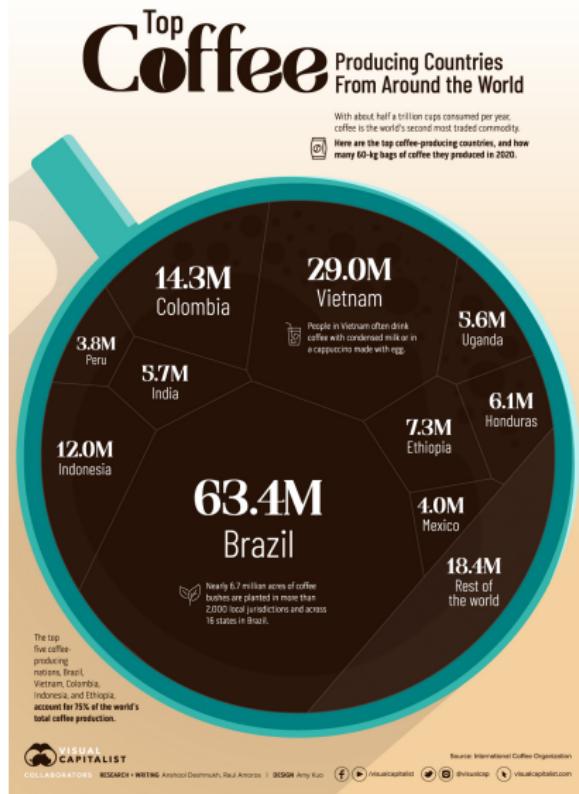
Note: Average annual number of deaths for adults aged 35 or older, 2005–2009.

Source: [2014 Surgeon General's Report, Table 12.4, page 660](#).

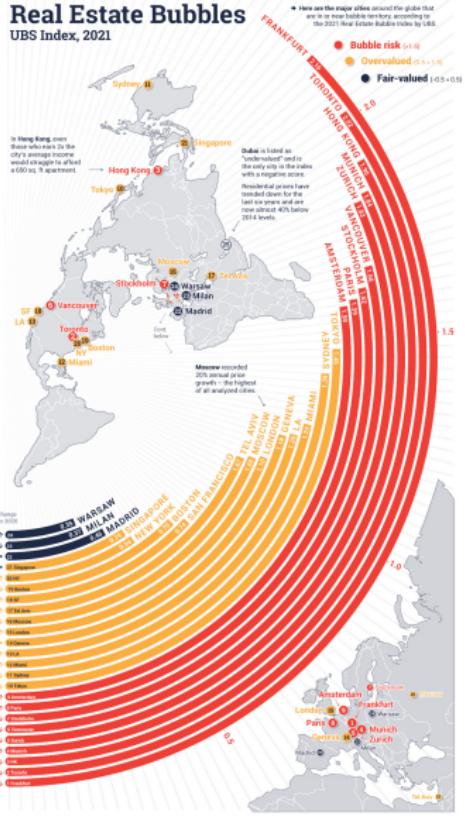
Humanize the data - II



Infographics example - I



Infographics example - II



Absolute master: Hans Rosling

In Hans Rosling's hands, data dances and sings.

Let's have a **look**

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References

- ▶ <https://sites.duke.edu/scientificwriting/orwells-6-rules/>
- ▶ <http://gregmankiw.blogspot.com/2006/10/how-to-write-well.html>
- ▶ How To Present By Elianna La Ferrara
- ▶ F. Collela (HEC UNIL) : Who benefits from support?
- ▶ The Economist Article
- ▶ Blick Article
- ▶ Edward Tufte: Visual Display of Quantitative Information
- ▶ Hans Rosling: Link
- ▶ <https://www.r-bloggers.com/2016/09/analyzing-world-bank-data-with-wdi-googlevis-motion-charts/>
- ▶ Good Charts: The HBR Guide to Making Smarter, More Persuasive Data Visualizations by Scott Berinato
- ▶ Infographics from Visual Capitalist