Data Visualization

My background

- Geography and Cartography

- Statistical analysis

- Political Science

- It has serious consequences for the course
  - Visualization of spatial data will be included
  - The basic statistics will be neccessary
    - It may seem to be a bit complicated
    - Issue of „design" will be almost neglected
    - I am not familliar wit up to date journalist practices

Overview of course

- Several blocs:
  - Data preparation
  - Univariate visualization
  - Visualization of relationship
  - Visualization of time data
  - Visualization of spatial data
  - Visualization of text data
  - Presentation of visualizations

  - ASSIGNEMENTS!!! (8 for 60 points)
  - Final assignement

Final assignement

- Goal is to provide to vizualize some (important) topic
- Prefarably using somethnig from content of course
- It is important for final grade
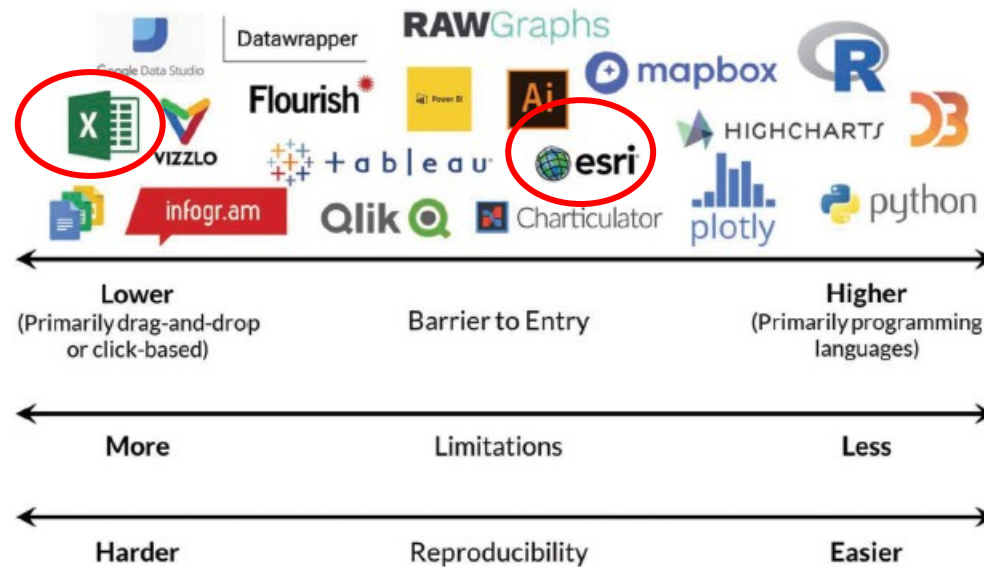- 40 points (total is 100)

Used software

FIGURE 3.1   Source: Based on image from Jonathan Schwabish, Better Data Visualizations: A Guide for Scholars, Researchers, and Wonks.

Introduction

- Visualization as academic discipline
  - Theories
  - Methods
- Visualization as daily practise
  - How to make a chart from some data

Visualization as communication tool

- Way how to communicate
  - Who is talking?
  - Who is listening?
  - What is the message?
    - Issue
    - Time
    - Space
    - Kind of data
  - What is a channel?
    - Internet
      - Static
      - Dynamic
    - Paper

How visualization works?

- Data > **„some work"** > picture

- Something important is missing!
  - STORY TO TELL!!!

- Visual abstraction
  - Selection of „telling" characteristic of data

- Comparison
  - To give a meaning to certain value

Data

- Information
- In form of table
- Metadata: information about data

- Row = case
- Column = variable
  - Name
  - Order
  - Number

Position		Club	Played	Won	Drawn	Lost	GF	GA	GD	Points	Form
1	·	Manchester City	6	6	0	0	16	3	13	18	W W W W W
2	▲	Liverpool	6	5	1	0	15	5	10	16	W W W W W
3	▲	Brighton And Hove Albion	6	5	0	1	18	8	10	15	W L W W W
4	▲	Tottenham Hotspur	6	4	2	0	15	7	8	14	W W W W D
5	▲	Arsenal	6	4	2	0	11	6	5	14	W D W W D
6	▲	Aston Villa	6	4	0	2	12	10	2	12	W W L W W
7	▲	West Ham United	6	3	1	2	11	10	1	10	W W W L L
8	▲	Newcastle United	6	3	0	3	16	7	9	9	L L L W W
9	▲	Manchester United	6	3	0	3	7	10	-3	9	L W L L W

Data

- Individual
  - Data are measured on given level
  - Citizens in opinion polls
  - MPs
  - Books, movies, …

- Aggregated
  - Census
  - Registers

- It is not characteristics of unit
    - Year of establishing of municipality (individual)
    - Unemployment in municipality (aggregate)

Most important typology

- Sample
  - Selection from population
  - Surveys
  - There is some **uncertainty!**

- Population
  - All cases are covered
  - Selection is not „random"

Data sources

- General data about world
- UN: https://unstats.un.org/unsd/demographic-social/products/
- UNESCO: https://uis.unesco.org/
- ILO: https://ilostat.ilo.org/data/
- FAO: https://www.fao.org/faostat/en/#home
- WTO: https://stats.wto.org/
- WB: https://databank.worldbank.org/
- IMF: https://www.imf.org/en/Data
- WHO: https://www.who.int/data
- OECD: https://stats.oecd.org/

- Useful links: ourworldindata.org, www.worldometers.info, www.statista.com

Politics

- Freedomhouse: https://freedomhouse.org/report/freedom-world
  - Democracy index
- Parlgov: https://www.parlgov.org/data-info/
  - Political parties – mostly Europe
- Idea: https://www.idea.int/data-tools
  - Various issues
- CHES: https://www.chesdata.eu/
  - Party positions in Europe and Latin America
- Electoral manifesto: https://manifesto-project.wzb.eu/datasets

Electoral data

- Electoral results:
  - https://electiondataarchive.org/data-and-documentation/
  - http://psephos.adam-carr.net/indexes/index_a.shtml
- Integrity: https://www.electoralintegrityproject.com/data-1
- Comparative surveys:
  - https://cses.org/data-download/download-data-documentation/election-studies/
  - https://u.osu.edu/cnep/surveys/surveys-through-2012/
- Studies from various countries:
  - https://search.gesis.org/

Barometer

- Europe, Africa, Latin America, Asia
- Comparative data
- Various quality, timing and scope
- Europe: https://www.gesis.org/en/eurobarometer-data-service/home
- Africa: https://www.afrobarometer.org/data/data-sets/
- Asia: https://www.asianbarometer.org/datar?page=d10
- Latin America: https://www.latinobarometro.org/latContents.jsp

Comparative Projects

- International Social Survey Programme
  - Role of Government, Social Networks and Inequality, Family, Gender Roles, Work, Religion, Environment, National Identity, Leisure Time, Health
  - https://issp.org/data-download/by-year/
- World Values Survey
  - Wide set of countries, various issues
  - https://www.worldvaluessurvey.org/WVSContents.jsp
  + European Values Survey
- European Social Study
  - https://ess-search.nsd.no/

Public Opinion Survey Data

- World
  - https://ukdataservice.ac.uk/help/other-data-providers/data-archives/other-worldwide-data-archives/
  - https://www.pewresearch.org/tools-and-resources/
- Europe
  - https://www.cessda.eu/About/Consortium
  - https://datacatalogue.cessda.eu/
- Czech
  - http://nesstar.soc.cas.cz/webview/

Parliaments

- IPU: https://data.ipu.org/content/parline-global-data-national-parliaments
- EP: https://data.europarl.europa.eu/en/home
- Czech: https://www.psp.cz/sqw/hp.sqw?k=1300

Media

- Media monitor (only Czech)
  https://ezdroje.muni.cz/prehled/hledej.php?dotaz=newton+media&lang=cs

Searching on google

- " " – exact combination of words
- OR - logical or
- "data about media" OR "data about culture" – pages containg first or second or both statements
- And - Logical and
- "data about media" OR "data about culture" – only pages containg both statements
- - Minus "data about media" –culture – ony pages containing "data about media" without mentionining culture
- * asteriks " data about * " – data about anything.
- () – gives priority to certain word
- "data about culture" 2016..2020 – two dots represents number line (2016, 2017, 2018, 2019, 2020), works in same sense as OR
- filetype:xlsx (other options pdf, doc, xls, docx)
- site:unstats.un.org - searching on given page site:unstats.un.org

WE ARE DROWNING
IN INFORMATION
BUT STARVED OF
KNOWLEDGE