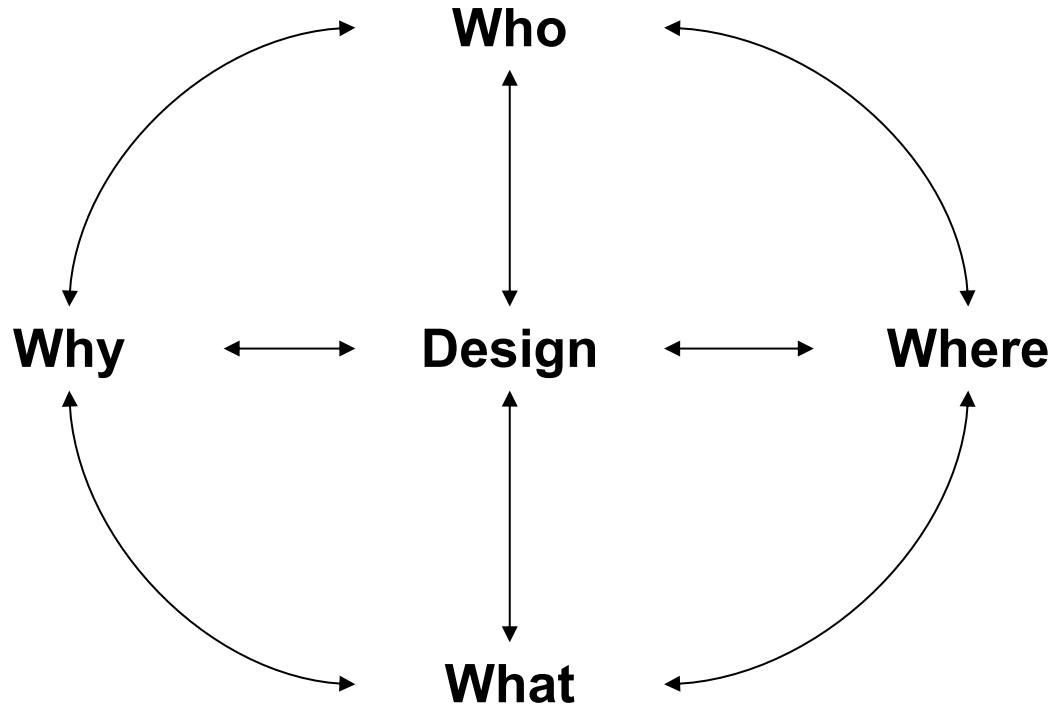




Data Visualization and Analytics with Tableau

PART 4: Dashboard Design Principles



1. Who is your target audience?

- Who is the audience?
- What do they already know?
- How much detail to include or exclude?

2. Where will they view the dashboard?

- Where will the dashboard be viewed?
- Large or small screen?
- Mobile or desktop or print?
- Determine the size of the dashboard
- How many elements can fit?

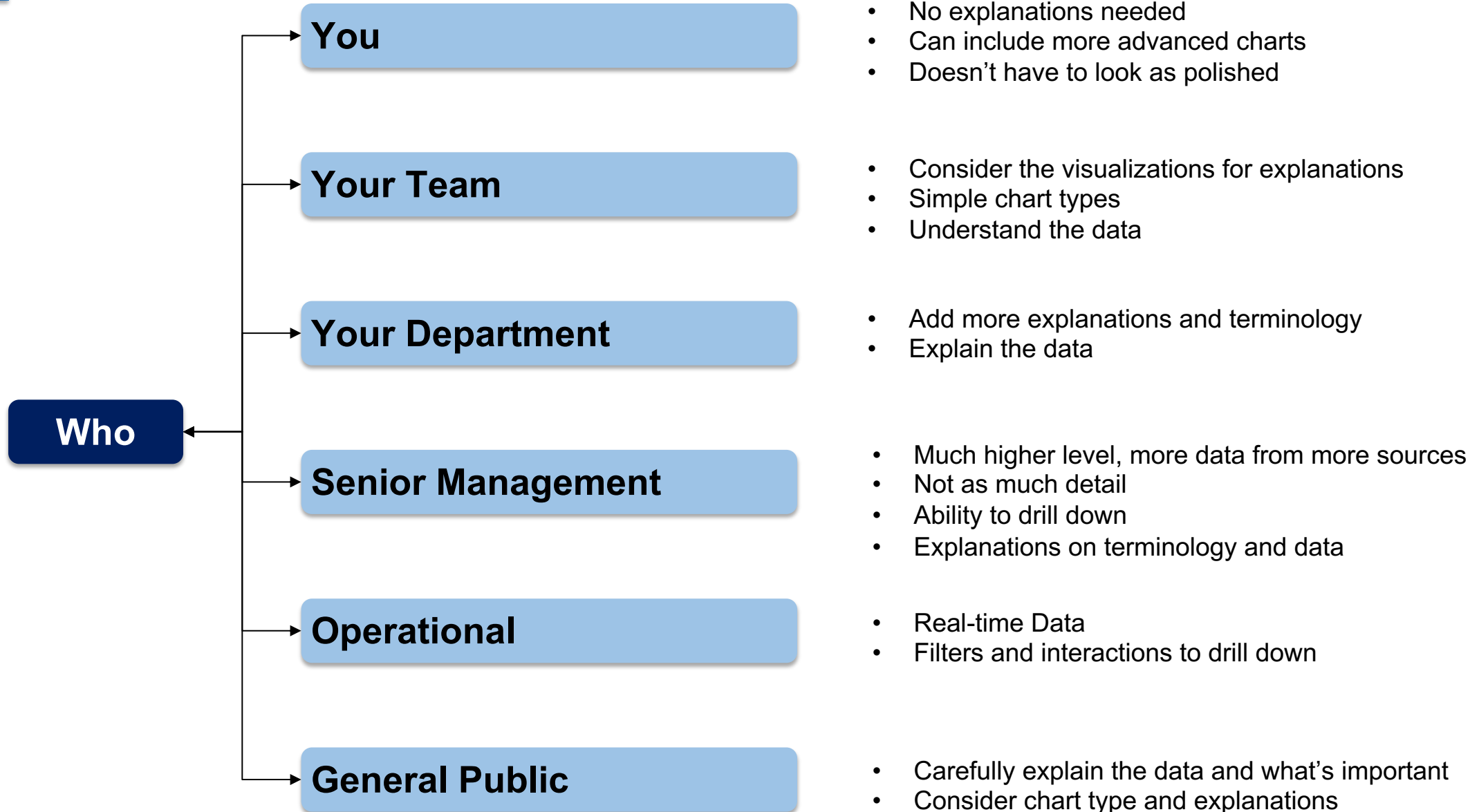
3. Why are you building it?

- Why are you sharing the data?
- What is the purpose?
- Is it to inform or explore or explain or to measure a goal?

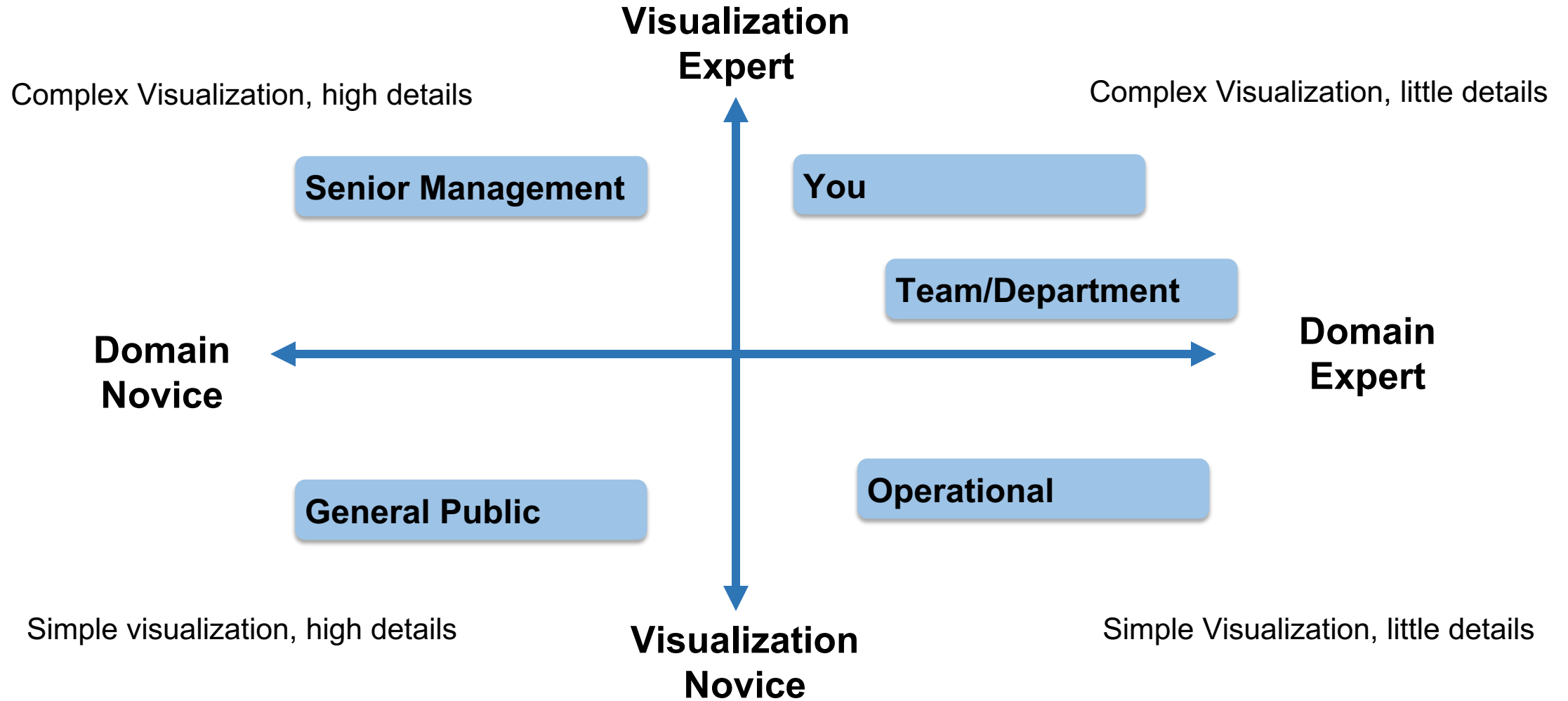
4. What elements do you want?

- What information will you show?
- What questions will it answer?
- What do you want the audience to take away?

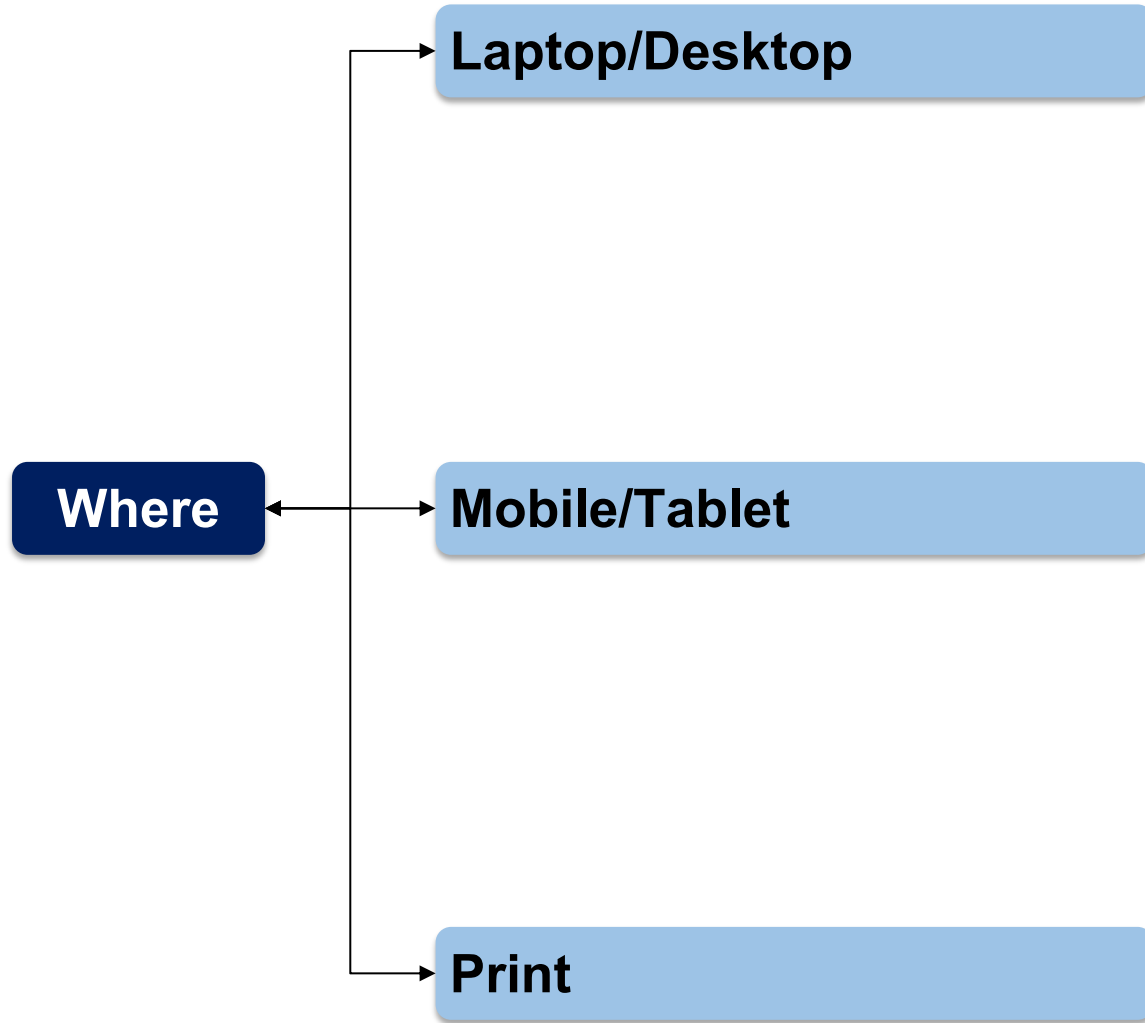
PART 4: Who?



PART 4: Who?



PART 4: Where?

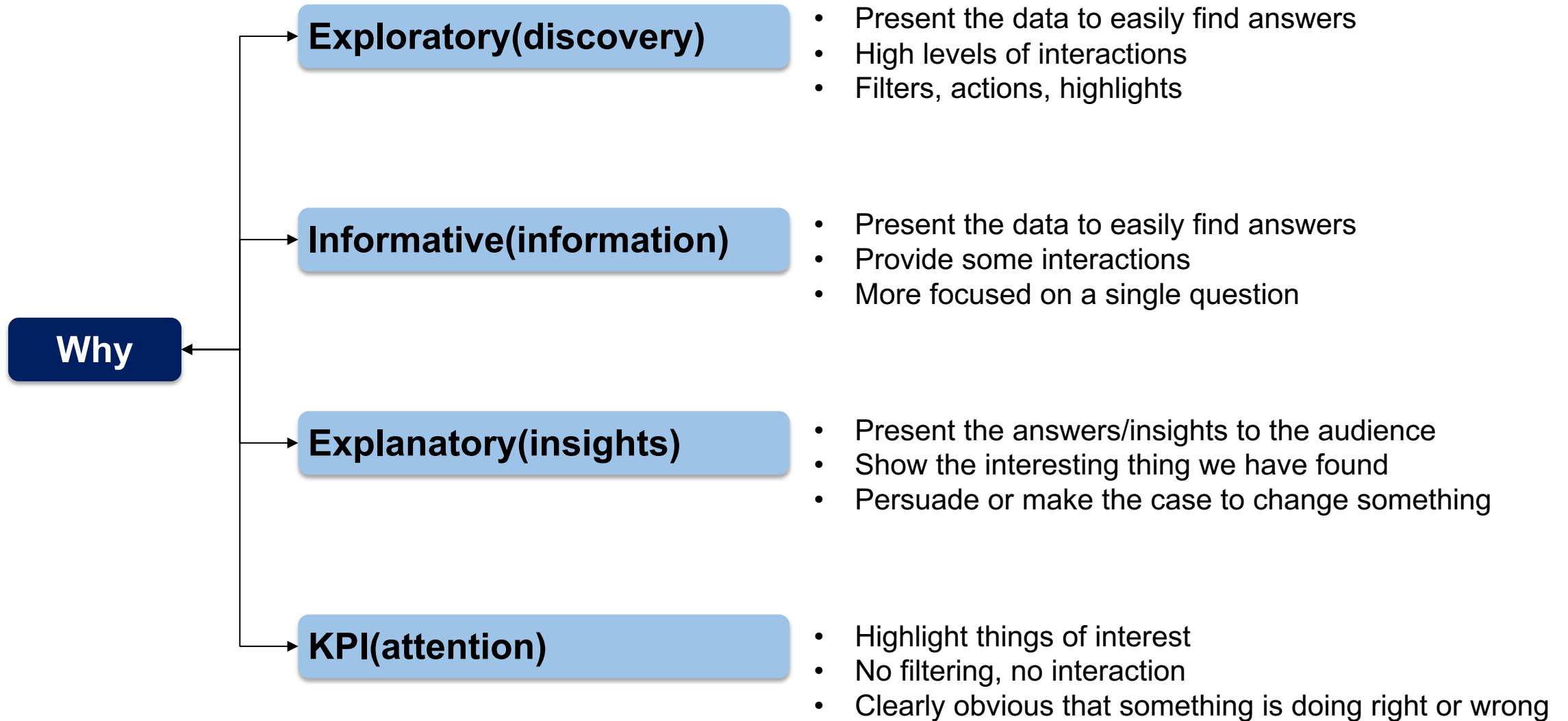


- Great freedom
- Large amount of space
- Lots of interaction
- Filters, parameters, actions

- Smaller maximum size
- Consider the orientation
- Scrolling vs single screen

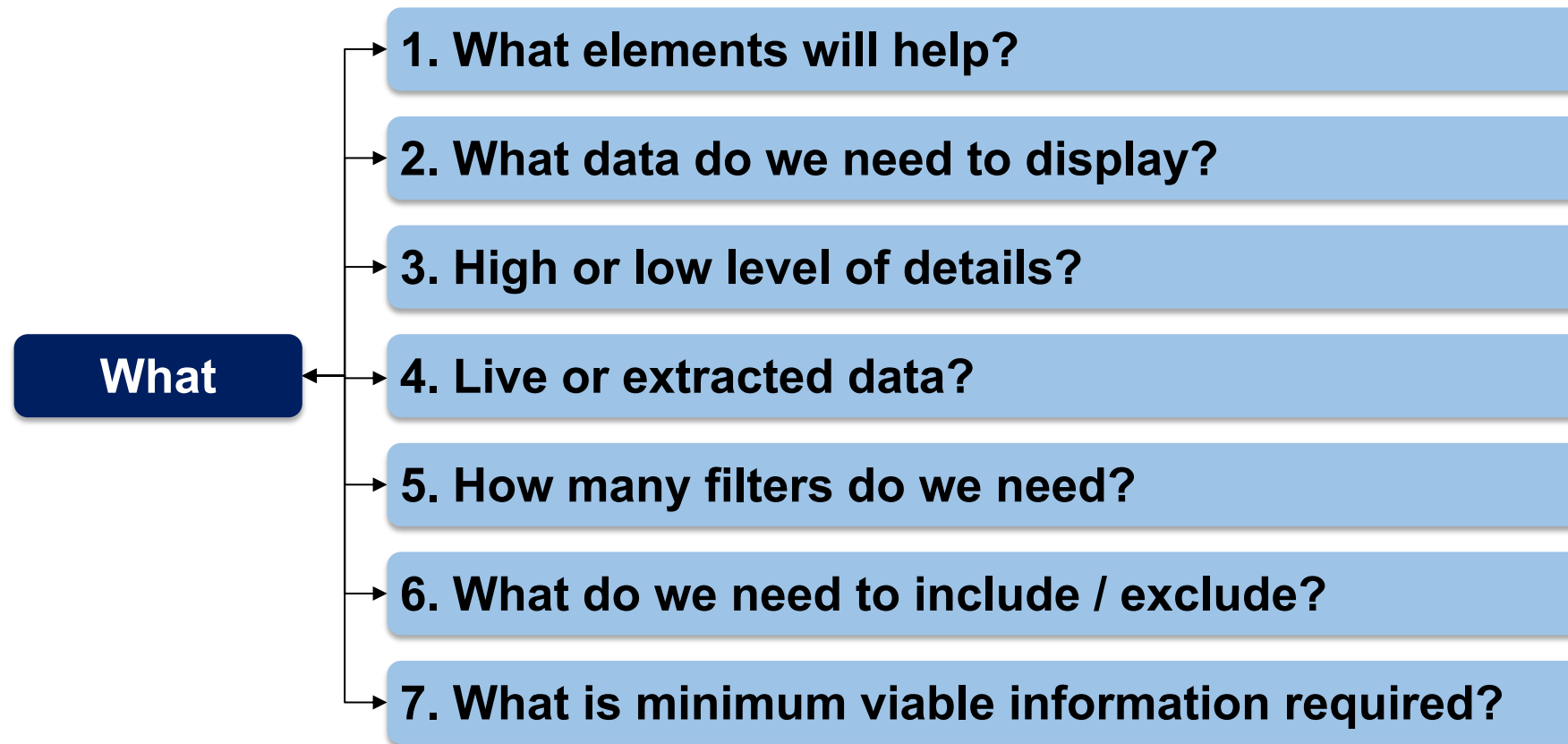
- Cannot interact
- Everything needs to be on screen
- Large fonts and labels

PART 4: Why?

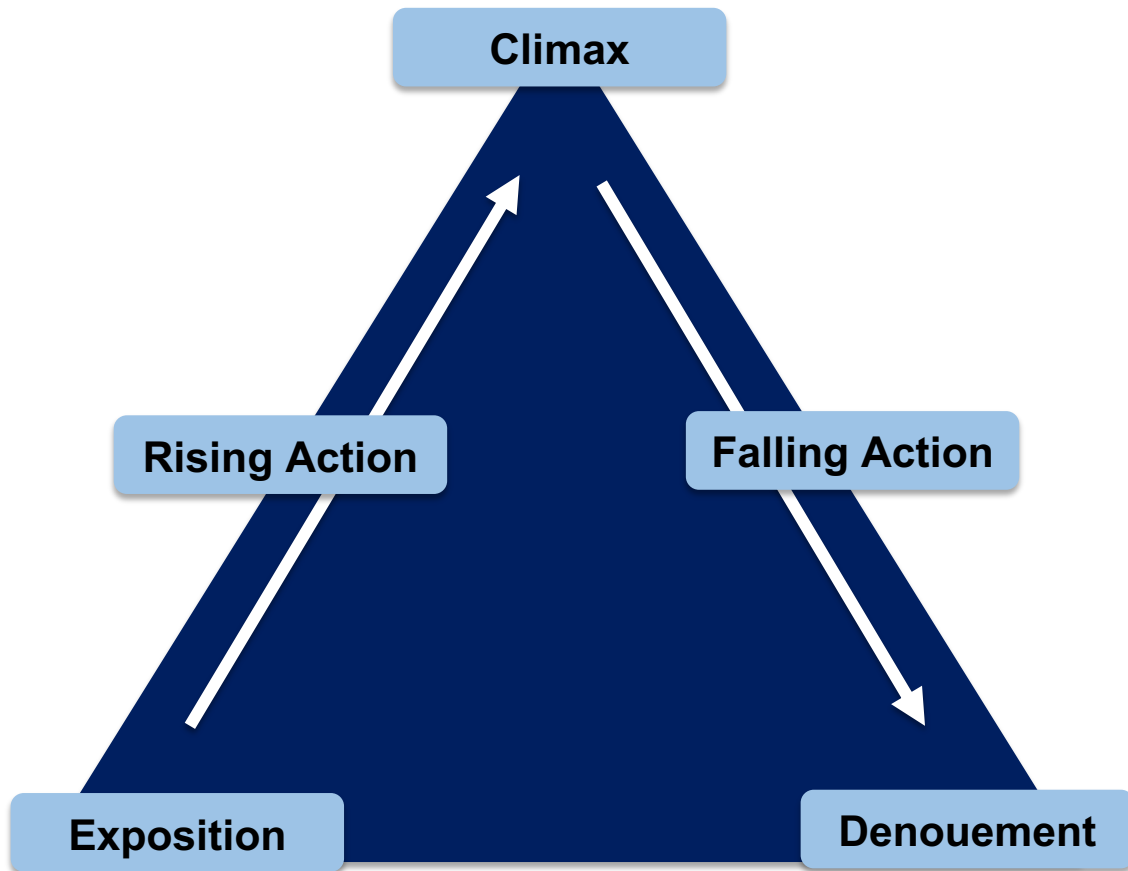


PART 4: What?

Less is more!



PART 4: Narrative Structure



Exposition

What is the dashboard is going to show?



Rising Action

Show different points of view



Climax

Show what you want the dashboard to do



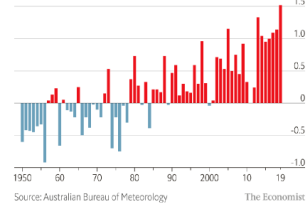
Falling Action/Denouement

Leave user with an action based on data

PART 4: Visual Best Practices

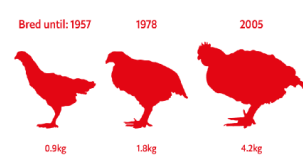
2019 was Australia's hottest year on record

Australia, average surface-air temperature
Deviation from 1961-90 average, °C



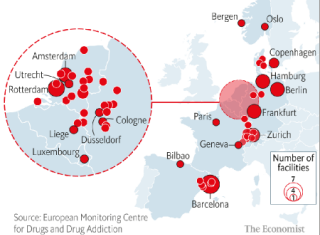
Chickens have grown as they move up the pecking order

Broiler chickens, weight at 56 days old



Safe-injection sites in Europe

Drug-consumption facilities, 2018



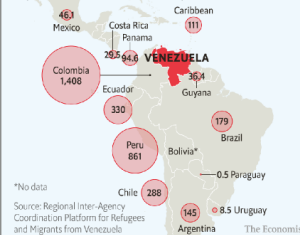
How the world is doing in the battle against Malaria

Malaria, cases as a % of population at risk



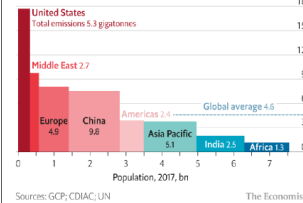
Venezuela's exodus

Population of Venezuelans, '000, September 5th 2019



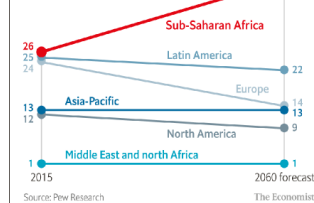
America is the biggest polluter of CO₂ per person

CO₂ emissions per person, 2017, tonnes



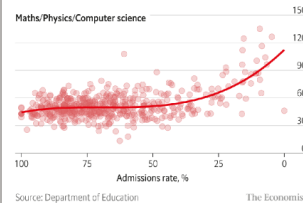
Sub-Saharan Africa is the biggest area of expansion for Christianity

World Christian population % of total



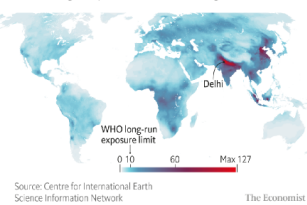
Which degree gives you the best salary after one year in the workforce?

United States, earnings one year after graduation
By major and college selectivity, 2017-18, \$'000



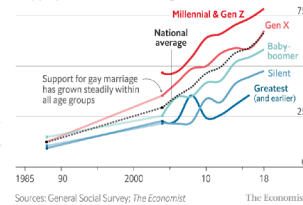
Smog in Asia is much worse than anywhere else

Air pollution, 2016 average
PM_{2.5} micrograms per cubic metre, excluding dust and sea salt



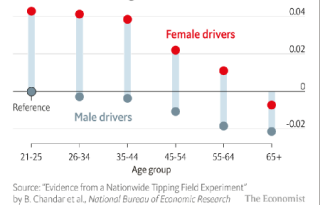
Public opinion changes as younger generations replace older ones

United States, % agreeing by generation
"Gay people should be allowed to get married"



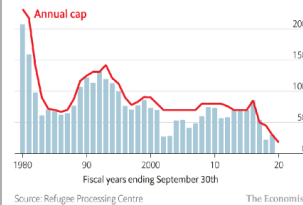
Female Uber drivers receive better tips than men

Expected tip by Uber driver's age and gender
Relative to male drivers aged 21-25, \$



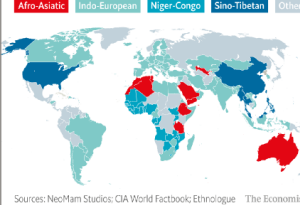
The days when America settled more refugees than anywhere else are over

United States, refugee resettlement, '000



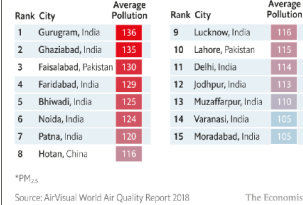
A country's third-most spoken language can be surprising

Third-most spoken language, by language family, 2019



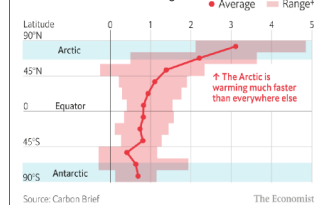
These are the most polluted cities in the world

2018, micrograms per cubic metre*



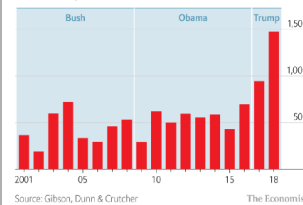
The Arctic is warming twice as fast as the rest of the world

Observed temperature change by latitude, °C
2018, relative to 1951-1980 average



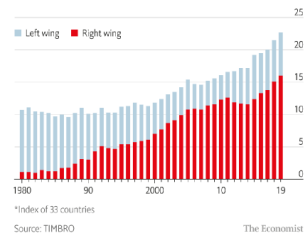
Donald Trump has imposed more financial sanctions than any other president

United States, specially designated nationals and blocked persons list, number of additions



How Europe's populists are changing

Europe, aggregated populist votes*, %

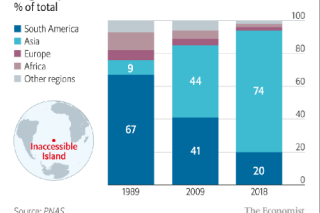


The world's second largest rainforest is shrinking fast



Where do most of the plastic bottles in the ocean come from?

Origin of plastic bottles found on Inaccessible Island % of total



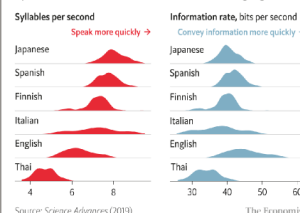
Alcohol firms depend financially on problem drinkers' demand

Britain, alcohol consumption, 2013-14, units per week



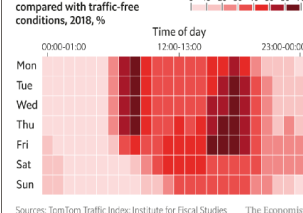
Why are some languages spoken faster than others?

Syllable rate and information rate in selected languages



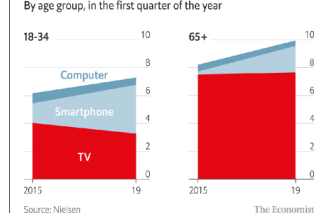
When is the worst time to be on the road in London?

Additional time spent in traffic compared with traffic-free conditions, 2018, %



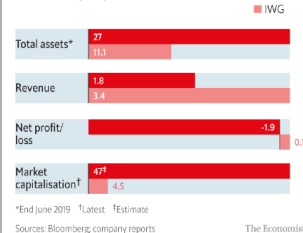
America's elderly seem more screen-obsessed than the young

Daily hours spent consuming media
By age group, in the first quarter of the year



Is WeWork working?

Shared workspace providers, 2018, \$bn



PART 4: Visual Best Practices

1. **Context:** Titles/captions/commentary help audience better understand views.
2. **Chart Choices:** Different chart has their own advantages and downsides.
3. **Layout:** Top left to down right layout
4. **Color:** Consistent color, custom color palettes, alerting vs highlighting
5. **Title/Subtitles:** Add context to titles and guide viewers through the dashboards
6. **Tooltips:** Highlight important information
7. **Fonts:** Define a clear hierarchy for your typography
8. **Interactivity:** Make interactivity (highlight/filter/parameters/sets etc.) obvious to your audience

PART 4: Dashboard Design Checklist



INK

- Color
- Weight
- Lines
- Shading



WORDS

- Fonts
- Alignment
- Labels/Axes
- Tooltips



LAYOUT

- Zones
- Balance
- Negative Space
- Flow



FOOTHOLDS

- Title
- Keys
- Instructions
- Patterns

THE DASHBOARD DESIGN CHECKLIST

www.datadozen.com/tc19