Fundamentals of storytelling

DATA COMMUNICATION CONCEPTS

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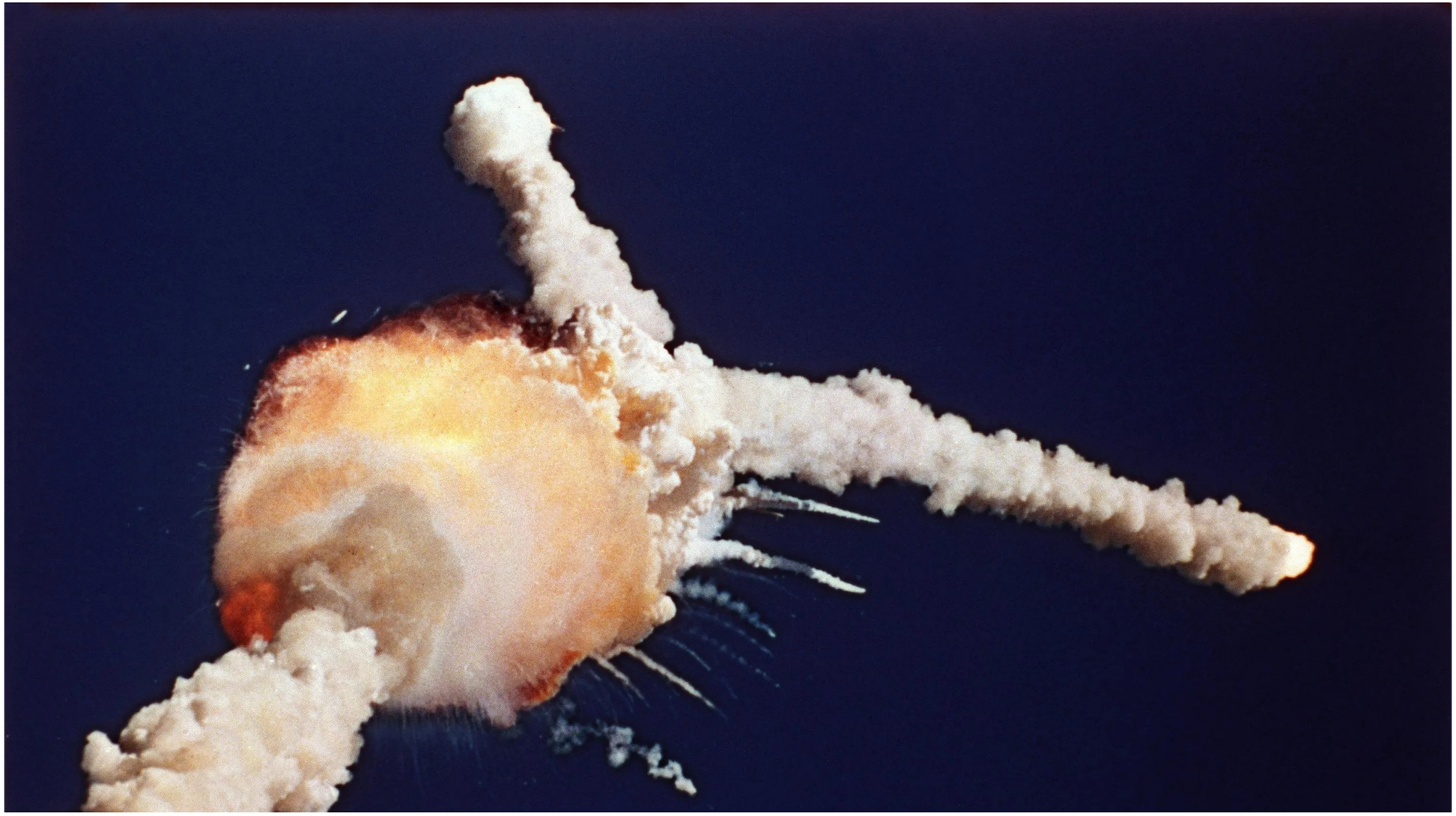
Challenger



Good warning, bad delivery

Review of Test Data Indicates Conservatism for Tile Penetration

- The existing SOFI on tile test data used to create Crater was reviewed along with STS-87 Southwest Research data
  - Crater overpredicted penetration of tile coating significantly
    - Initial penetration to be described by normal velocity
      - Vaires with volume/mass of projectile (e.?g. 200ft/sec for 3cu. Ln)
    - Significant energy is required for the softer SOFI particle to penetrate the relatively hanrd tile coating
      - Test results do show that it is possible at sufficient mass and velocity
    - Conversely, once tile is penetrated SOFI can cause significant damage
      - Minor variations in total energy (above penetration level) can cause significant tile damage
  - Flight condition is significantly outside of test database
    - Volume of ramp is 1920cu in vs 3 cu in for test

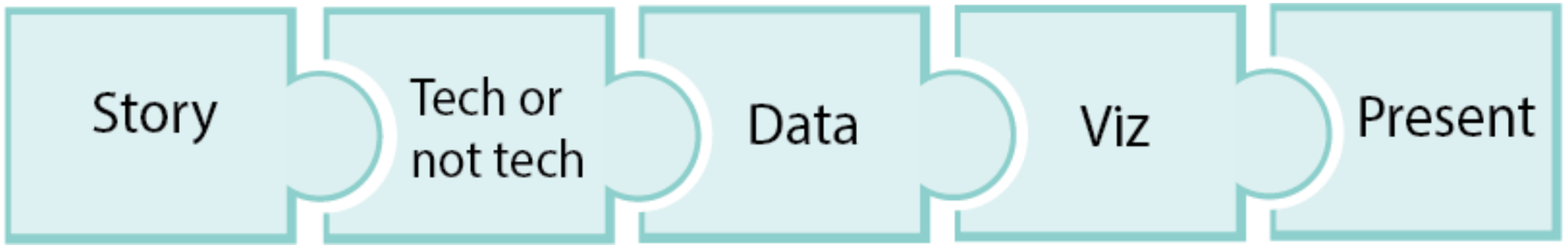
About the course

- **You will learn how to:**
  - **Communicate** results to different stakeholders using storytelling
  - Structure a **written** report
  - Build a compelling **oral** presentation

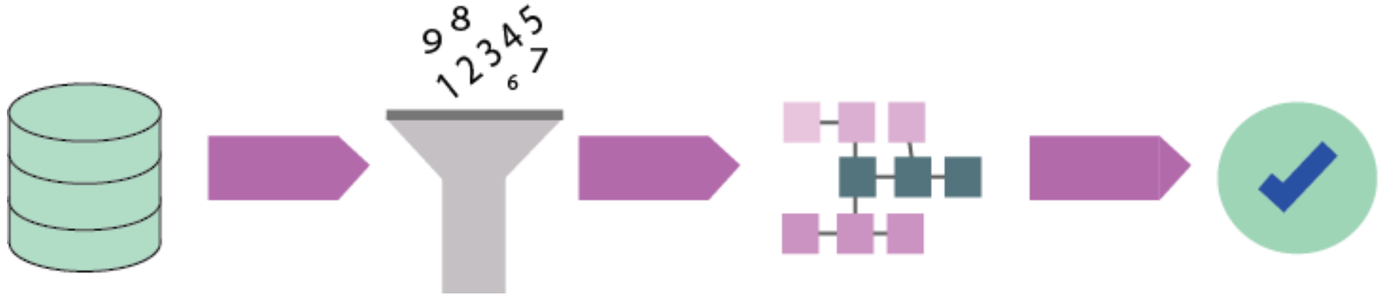
Chapter 1

- **Translating** technical results
- **Impacting** decision-making process
- **Not** about spinning results!
- Making results **stick:**
  - Simple
  - Concrete
  - Credible

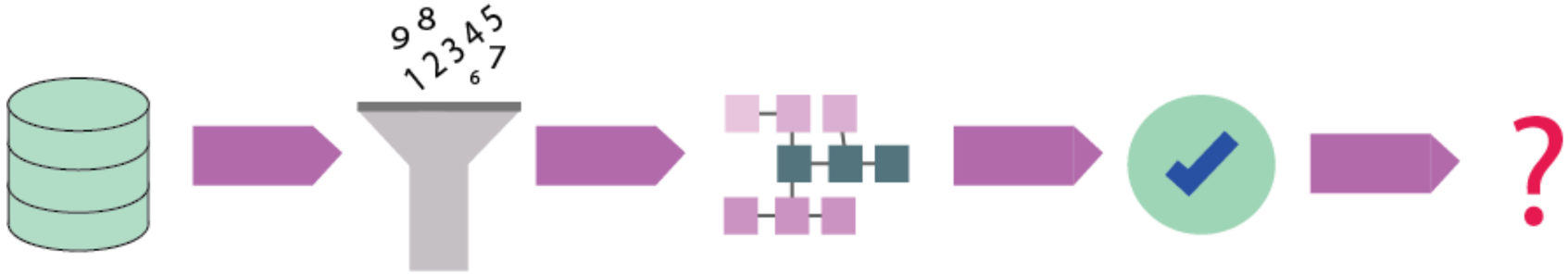
Data storytelling road



Why are stories needed?



Why are stories needed?



- The best results have **no impact without proper presentation**
- **Convince** change-adverse stakeholders
- Non-technical stakeholders

What is data storytelling?

> *Data storytelling is the practice of building a narrative around a set of data and its accompanying visualizations to help convey the meaning of that data in a powerful and compelling fashion*

- Anecdotes = **imagination**
- Stories = **memorable**
- Add value (provide **context**)
- Capture audience's **attention**
- Facilitate **decision**-making
- Drive **change**

[1] https://tdwi.org/portals/what-is-data-storytelling-definition.aspx

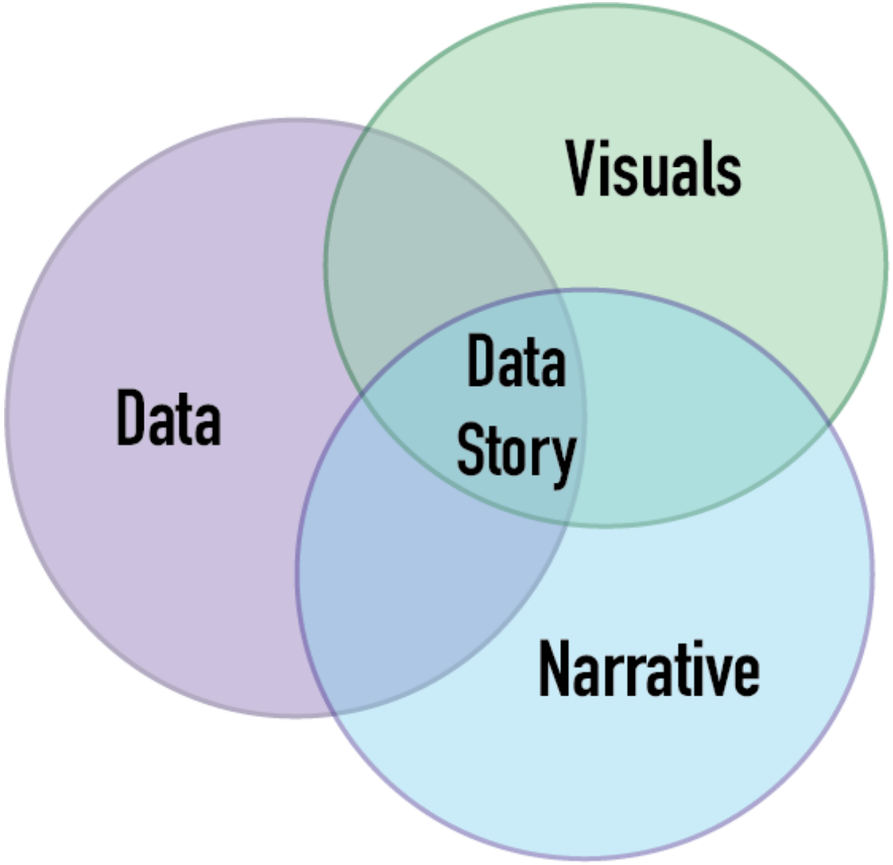
Data storytelling

- **3-minutes story:**
  - What would you say in 3 minutes?
- **Big idea:**
  - Unique point of view
  - One sentence

==> Clear and concise

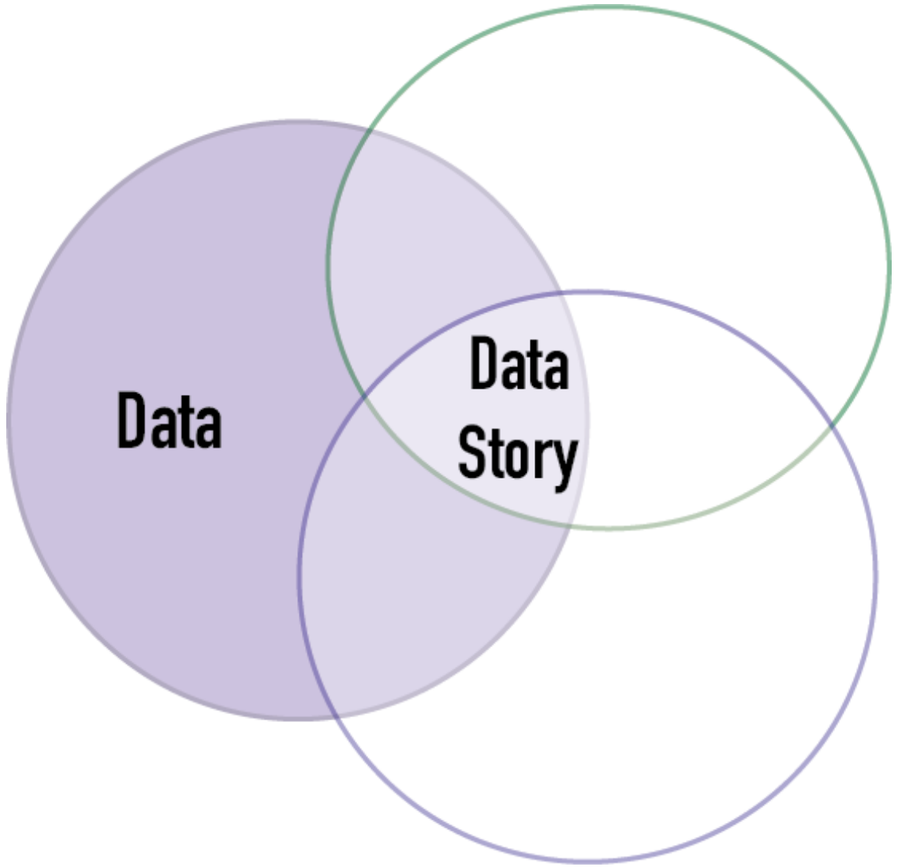
[1] Knaflic, Cole Nussbaumer. Storytelling with Data. Wiley Editorial.

Data storytelling



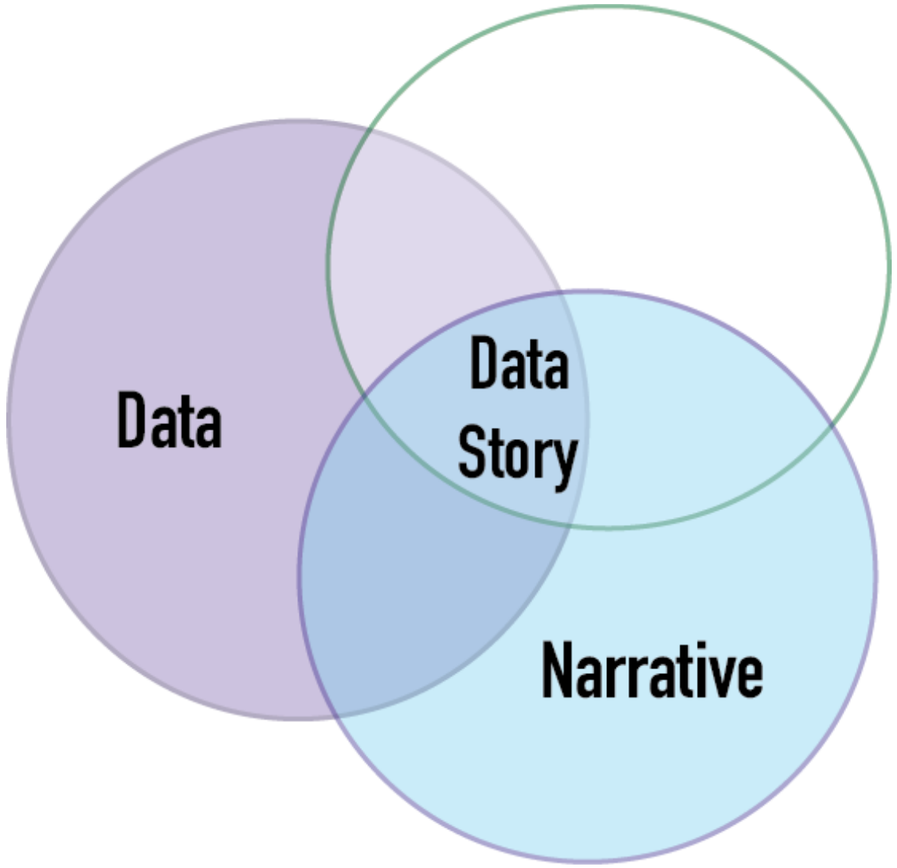
1. Insightful
2. Explatory
3. Concise

Data



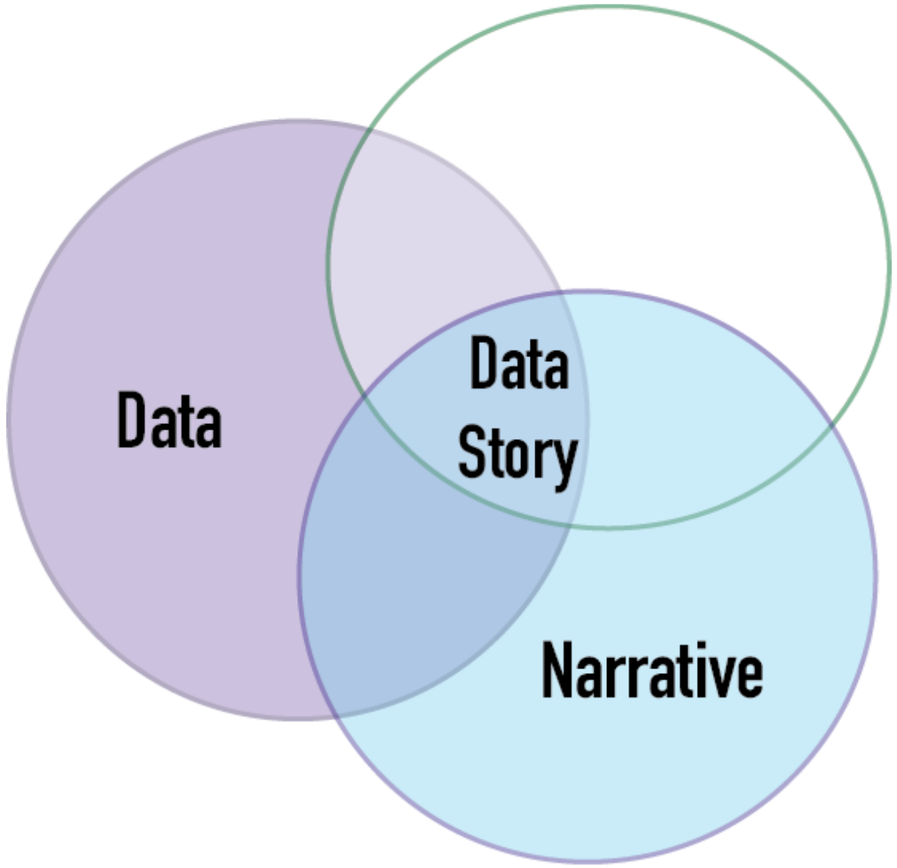
- **Results** (e.g predictions) and **findings** (e.g. data analysis)
- **Relevant**
- **Accurate** and reliable
- **Actionable** insights

Narrative



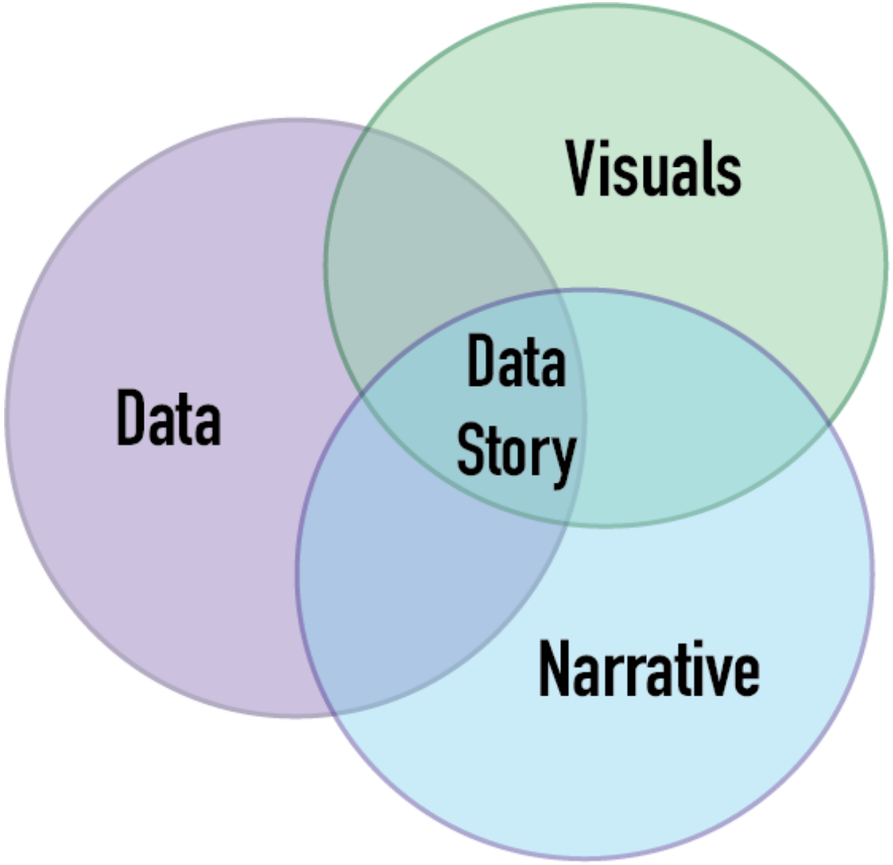
- **Compelling** and **easy** to understand
- Prioritize **essential** points
- Drive **change**

Narrative



- Main point:
  - **Avoid disconnected** facts
  - **Central** insight
- Explanatory context:
  - Understand **background** and audience
  - **Clarify** facts to that audience
- Linear sequence

Visuals



- Graphs should be:
  - simple
  - engaging
  - **not misleading**

Communicatb

Let's practice!

DATA COMMUNICATION CONCEPTS

Translating technical results

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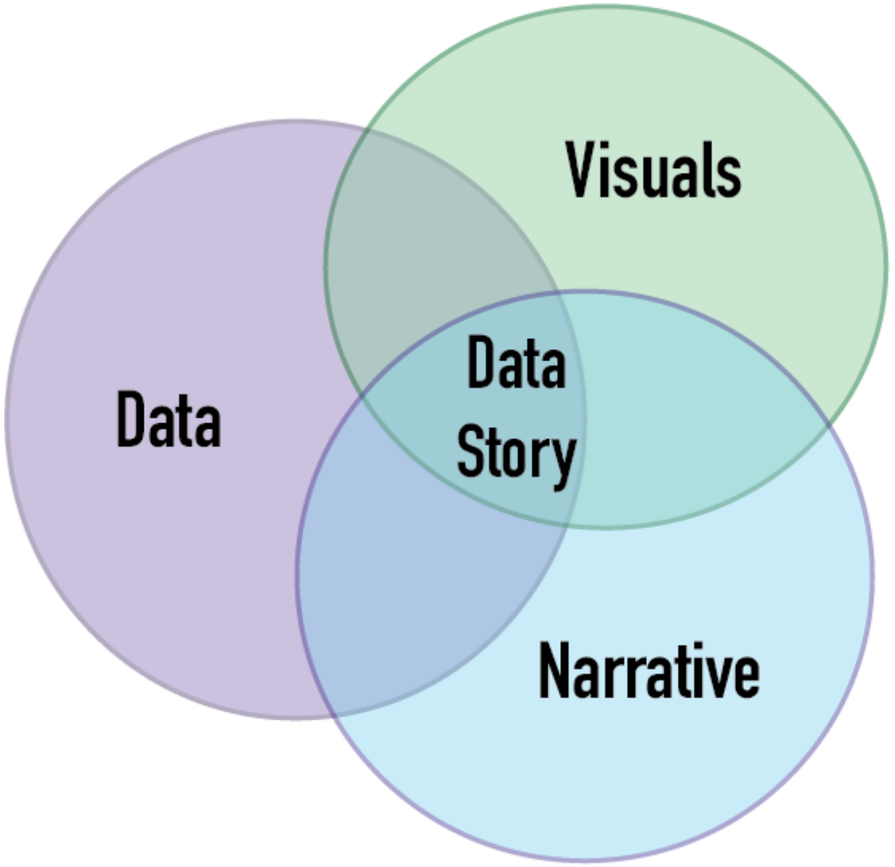
datacamp

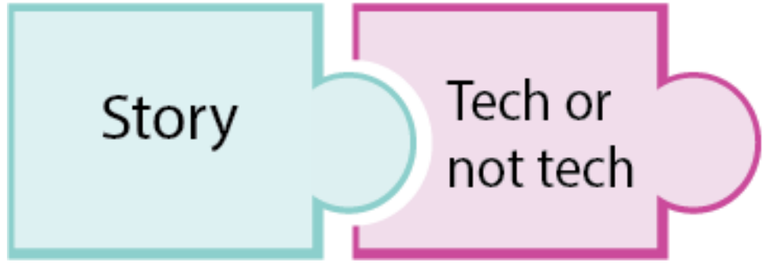
Data storytelling



Benefits:

- Helps focus attention
- Meaning and context
- Helps retain insights
- Better-informed decision-making
- Persuade change-resistant stakeholders

Tech or non-tech approach?



- Technical knowledge is a **continuum**
- **Data professionals** care about their **methods**...
- ...but the **audience** likely cares more about **results** and **implications**

How technical?

- Low accuracy predictions to supply chain agents
  - Don't care about stats
  - Care about their own pain points

Translating technical results into stories

- Easy to understand
- Engage audience
- **Decision-making**
- **Drive change**
- Strategies

Awareness

- **What do they know?**

How our model works

- **What do they need to understand?**

Why we chose our predictive variables

- **What level of information do they need?**

The correlation coefficients between variables

- **Adjust content**

Prediction's impact and limitations

- **Be conversational**

The context on which our model works

- **Serve audience**

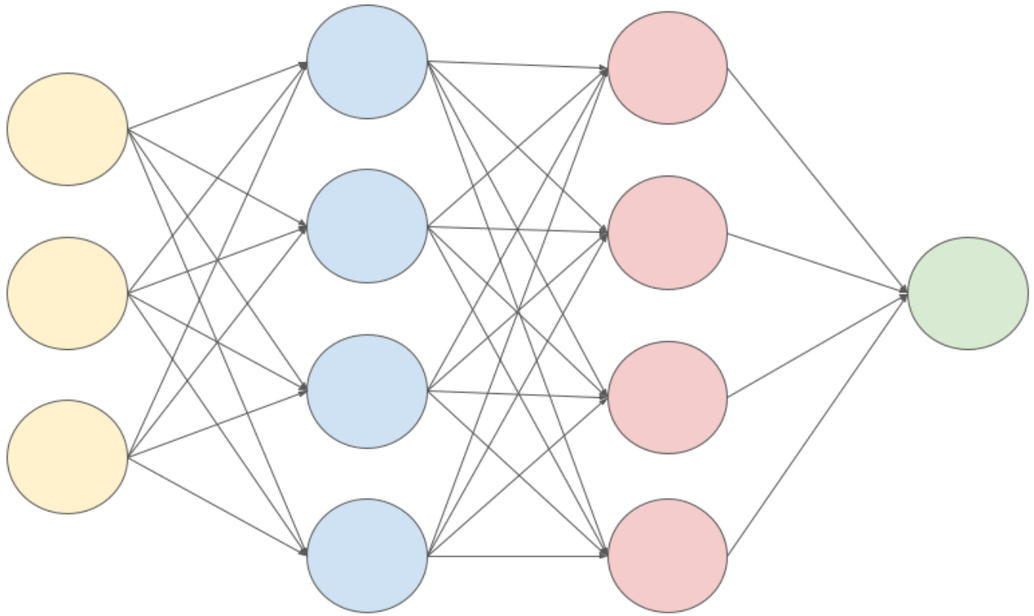
The interactions between customer traits

ADEPT

- Analogy
- Diagram
- Example
- Plain English
- Technical definition

Analogies

Instead of



Use

[1] Alpha, "Liam is an expert on the shape sorter", Creative Commons

Technical jargon

- Use **acronyms** with caution
  - Can help or hurt communication
  - Introduce the term and acronym
- **Jargon**
  - Translate terminology
  - Simple terms
  - Guide
  - Definitions

Focus on impact

Instead of

- *Use a non-relational database to make efficient nested queries.*
- *Number of rooms shows correlation of 0.7 with a house price.*

Focus on

- *Changing the storage approach will save a lot of time.*
- *The more rooms in the house, the higher the price.*

Humility

- Be receptive
- Proactively ensure understanding
- Explain differently

Let's practice!

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Impacting the decision-making process

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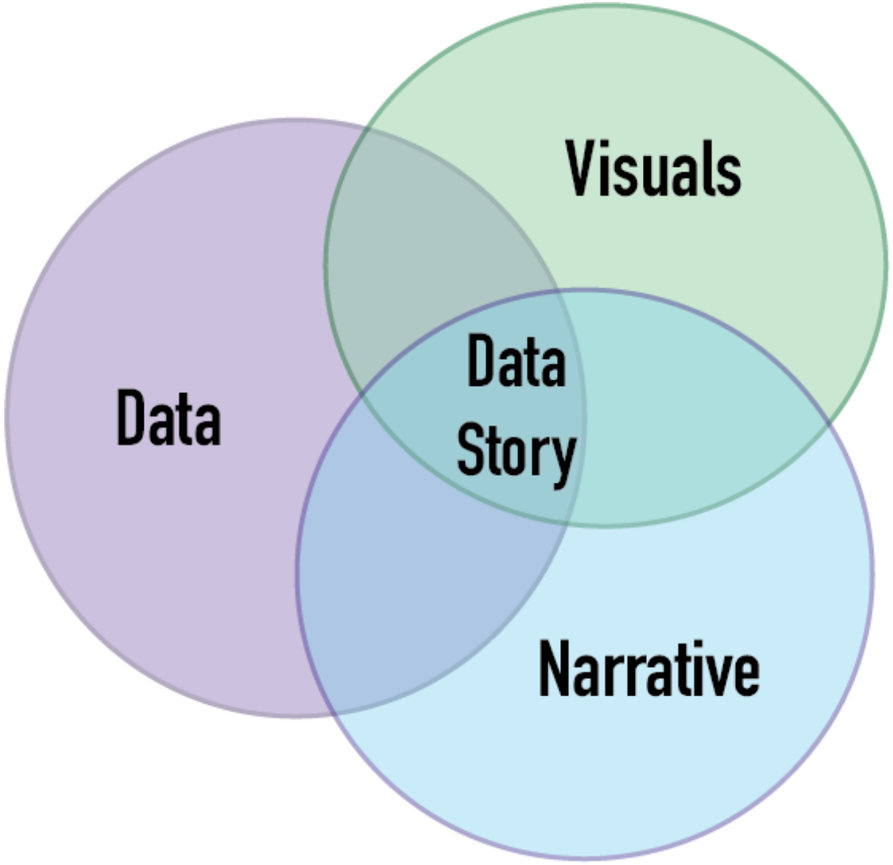
Data storytelling



1. Data
2. Narrative
3. Visuals

Compelling narrative

- **Meaningful** to target audience
- Prioritize **key** points
- **Drive change**

> *A description of connected events that organizes information to engage the audience and make them care for the results or information shared*

Narrative structure

Background

- What **motivated** the analysis?
- What **changed**?
- Who is the **focus** of the analysis?
  - Customers? Employees? Something else?

Our background: Total profit decreased

[1] Dykes, Brent. Effective Data Storytelling. Wiley.

Narrative structure

- **What contributed to the problem?**
- Only relevant information

Our insight: Chips 20% increase. Sweets 30% decrease.

[1] Dykes, Brent. Effective Data Storytelling. Wiley.

Narrative structure

- Add **supporting evidence**
- Help better explain the cause of problem

More insights: Most popular chocolate 50% decreased.

[1] Dykes, Brent. Effective Data Storytelling. Wiley.

Narrative structure

- Central insight
- **What would happen if there is no change**

Our climax: Loss $10M next year.

[1] Dykes, Brent. Effective Data Storytelling. Wiley.

Narrative structure

- Potential solutions
- Course of action
- Proactive

Our next steps: Rebrand chocolate.

[1] Dykes, Brent. Effective Data Storytelling. Wiley.

Building narrative

- **Change over time:** Chocolate lower in summer and higher in winter.
- **Correlation:** Chocolate rating vs. price
- **Comparison:** Two age groups vs. chocolate consumption
- **Clustering:** Groups with different coffee and chocolate consumption

Let's practice!

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