Fundamentals of storytelling

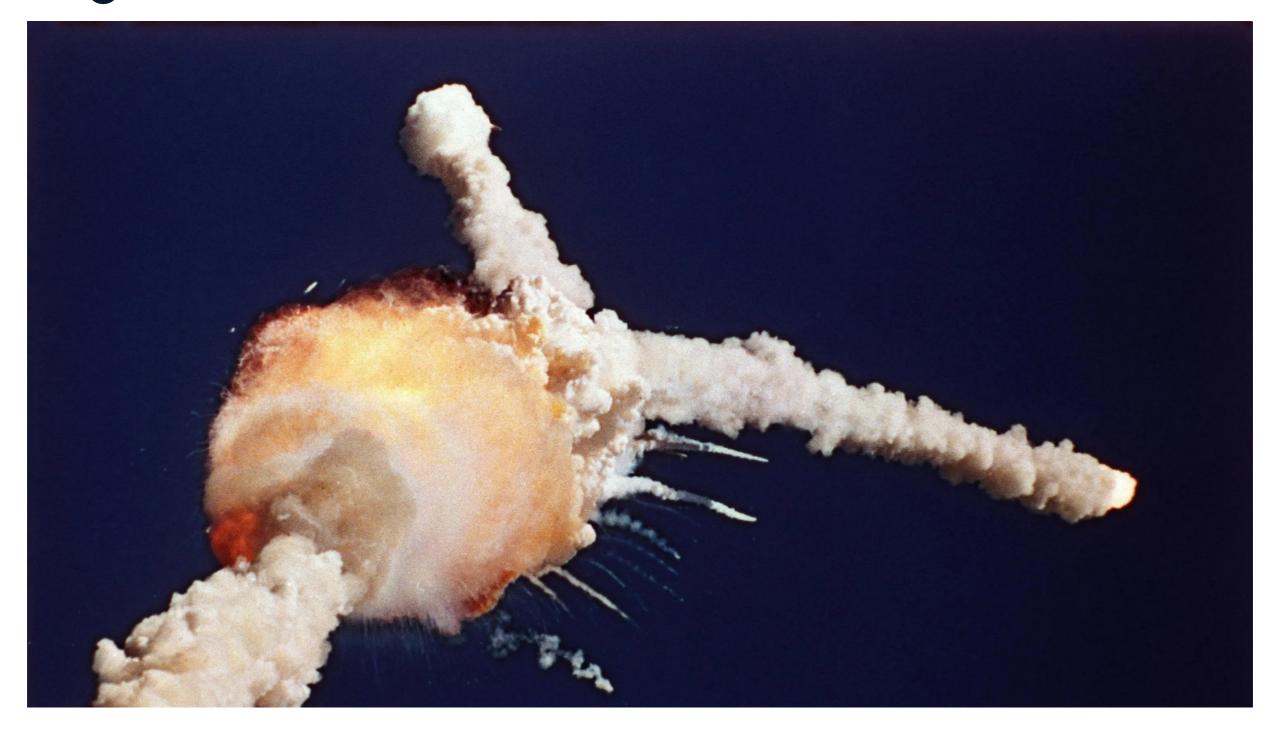
DATA COMMUNICATION CONCEPTS



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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

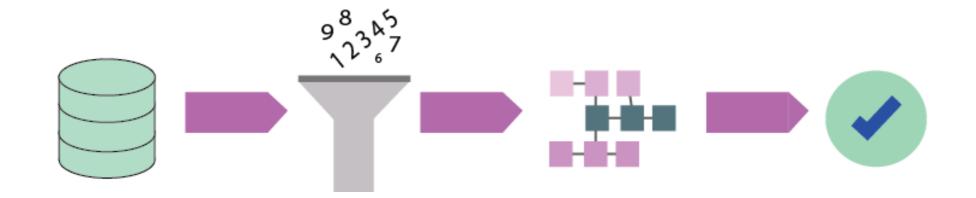
Chapter 1

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

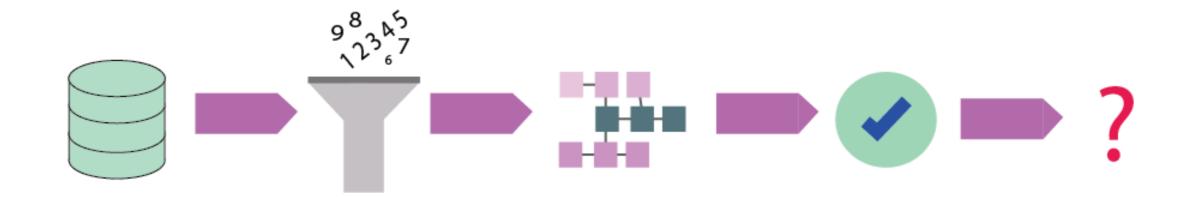
Data storytelling road



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

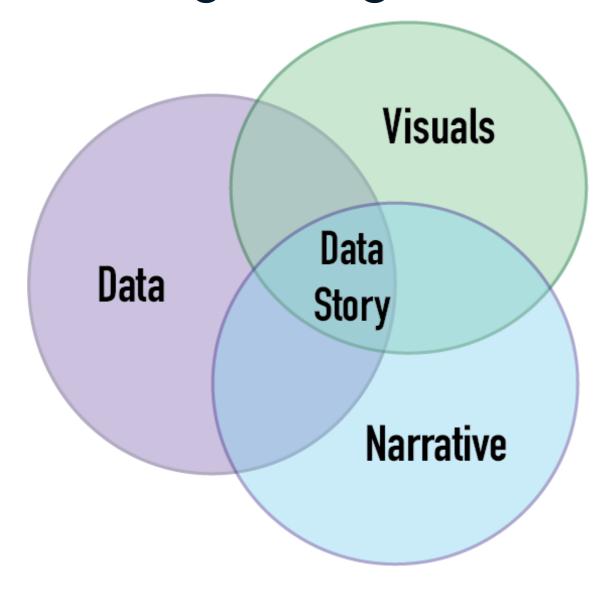
- 3-minutes story:
 - What would you say in 3 minutes?
- Big idea:
 - Unique point of view
 - One sentence

==> Clear and concise

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

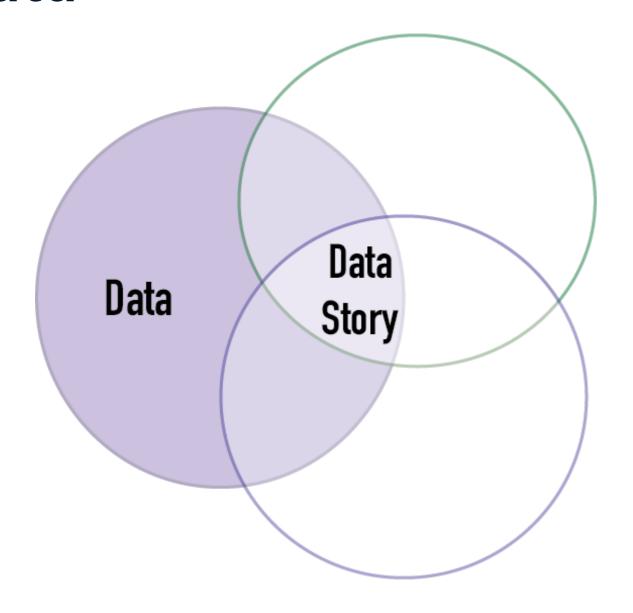


Data storytelling



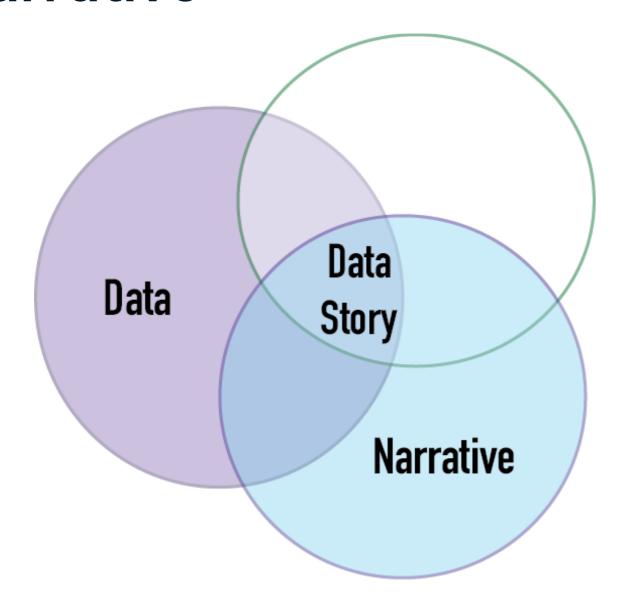
- 1. Insightful
- 2. Explanatory
- 3. Concise

Data



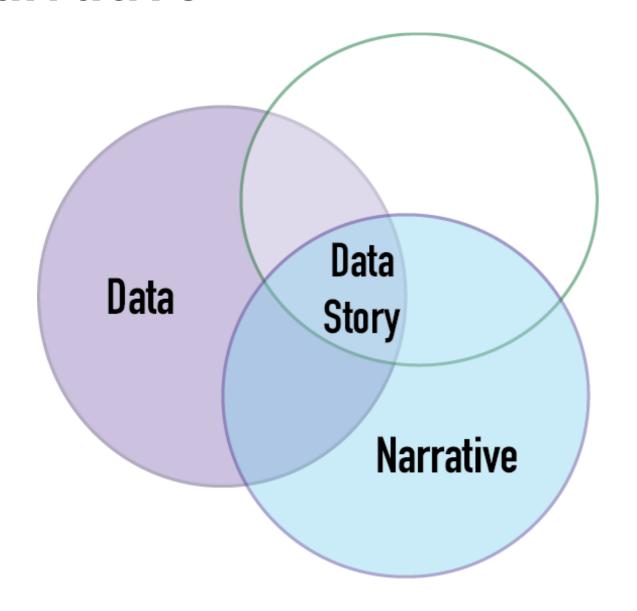
- Results (e.g predictions) and findings (e.g. data analysis)
- Relevant
- Accurate and reliable
- Actionable insights

Narrative



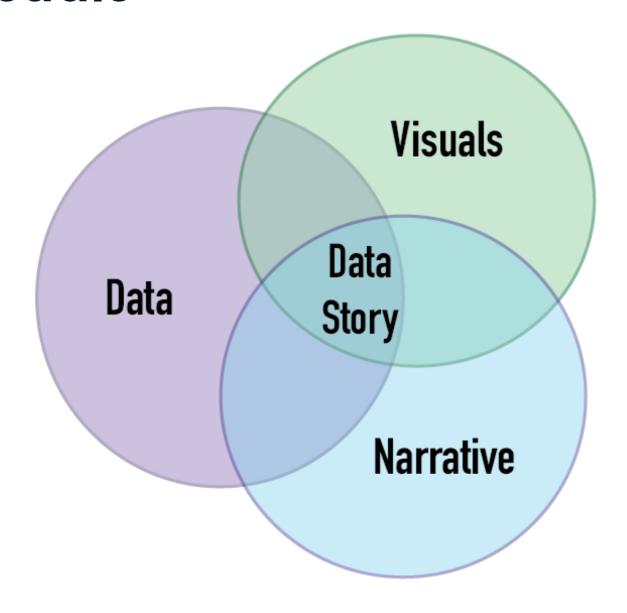
- Compelling and easy to understand
- Prioritize **essential** points
- Drive change

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:
 - o simple
 - engaging
 - not misleading



Let's practice!

DATA COMMUNICATION CONCEPTS



Translating technical results

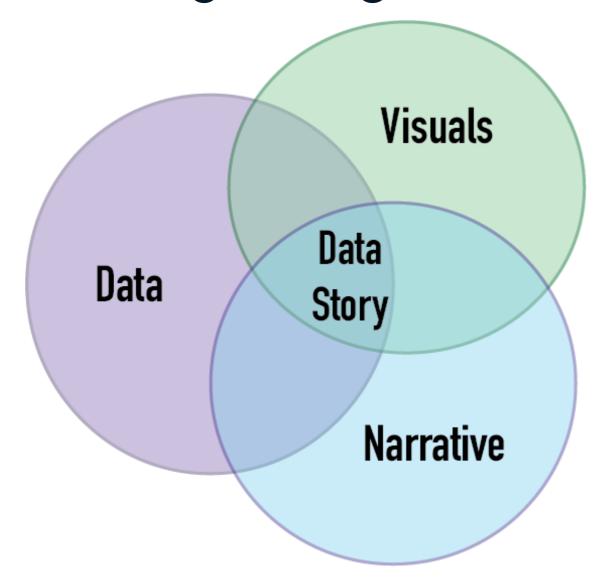
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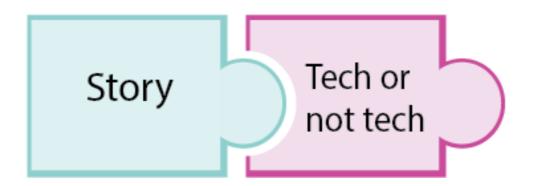
Data storytelling



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

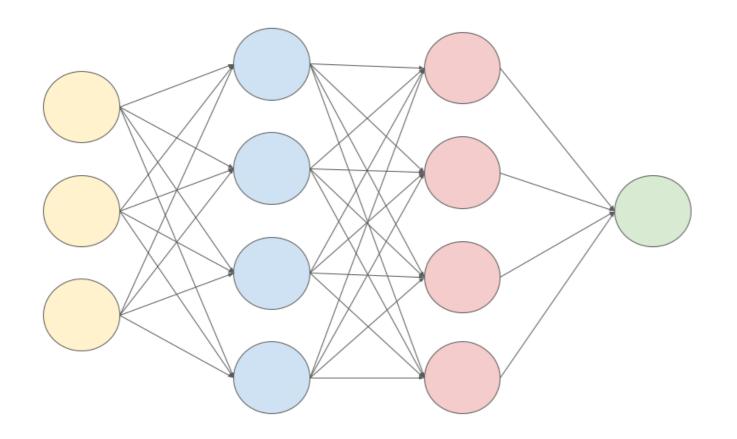
The interactions between customer traits

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

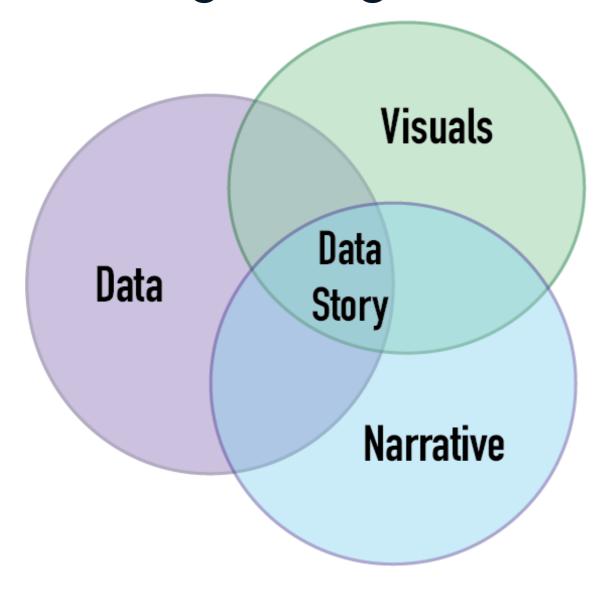
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Data storytelling



- 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



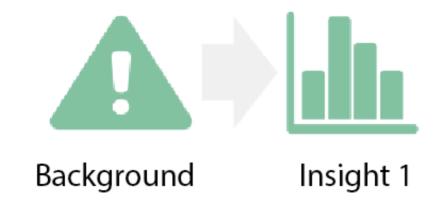
Background

- 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.





- What contributed to the problem?
- Only relevant information

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

¹ Dykes, Brent. Effective Data Storytelling. Wiley.





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

More insights: Most popular chocolate 50% decreased.

¹ Dykes, Brent. Effective Data Storytelling. Wiley.





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

Our climax: Loss \$10M next year.

¹ Dykes, Brent. Effective Data Storytelling. Wiley.





- 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!

DATA COMMUNICATION CONCEPTS

