

# 12 Foundational Principles for Data Story Design

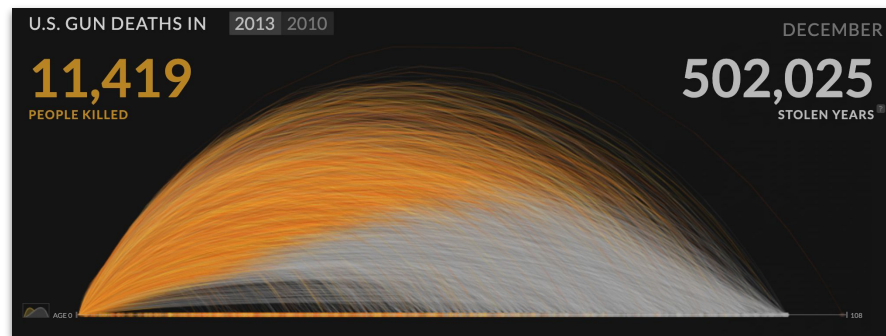
**Part 1: Thinking like a data storyteller**

Part 2: Designing data stories

# 1

## A data story will express your point of view

Data can't tell a story without your help. The choices you make — the metrics and visualization you choose, the sequence of content, even how you label the data — these are all an expression of your priorities and insights into the data.



## 2

# Be ethical in the message and manipulation of data.

With great storytelling power comes great responsibility. Don't hide data that would counter your view. Don't hide your agenda and message. Don't mess with the scale or labels to manipulate how your audience interprets the data.

*Avoid deceptive use of data*

*“...smoking doesn't kill. In fact, 2 out of every three smokers does not die from a smoking related illness and 9 out of ten smokers do not contract lung cancer.”*

- Mike Pence (1)

## 3

## Know your message before creating your data story

We get ahead of ourselves sometimes by creating piles of charts and visualizations, hoping a collection of half-baked thoughts will add up to a complete story.

Step back. What do you really want to say?

Start with the hard work of understanding your data and audience. Then formulate the story in words.

### *A brief data story abstract*

Story: **TITLE**

To understand and improve **TOPIC AREA**, **YOUR AUDIENCE** needs to know the answer to **KEY QUESTION** and **KEY QUESTION**. **YOUR AUDIENCE** will want to know **KEY METRICS** and how it varies by **DIMENSIONS**. With those insights, **YOUR AUDIENCE** will be able to find key **DRIVERS OR OUTLIERS OR INSIGHTS**. Best of all, **YOUR AUDIENCE** will be able to take actions such as **EXAMPLE ACTION** which will help their organization achieve **ORGANIZATIONAL GOAL** and, equally important, let them achieve **PERSONAL GOAL**.

## 4

## Empathy will let you connect with your audience.

You want to reach your audience where they are, with visualizations and insights they can easily consume. Like the Flesch-Kincaid score for reading, you should account for your audiences' level of data literacy. Also, consider how you can deliver your data story in the ways they consume information, and with terminology they will understand.

### *Data Personality Profile*

Metrics	<i>Decision making approach</i> (How do you influence them?)	Gut
Strategic	<i>Types of decisions</i> (What type of detail is most useful?)	Tactical
Fluent	<i>Experience with data</i> (How is the data best presented?)	Novice
Decision-maker	<i>Role in the organization</i> (What actions can they take?)	Influencer

# 5

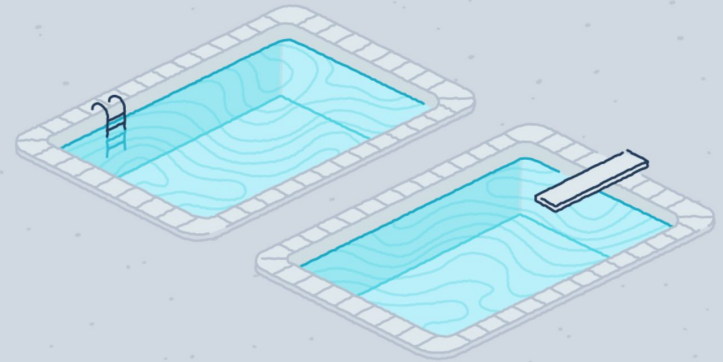
## Find ways to be personally relevant to your audience.

Your data story will have more impact when your audience can personally connect to the information.

What do they care about? How do they talk about the issue?

Comparisons and analogies bridge the gap of understanding to transform data from abstract concepts to personal insights.

An average person produces **25,000** litres of saliva in a lifetime, the equivalent of 2 swimming pools



# 6

## A data stories should spark informed conversations.

Your goals should be to start a conversation, not deliver a conclusion that shuts down conversation.

A good story opens your audience to new ideas and insights. It may even challenge assumptions. Now you are opening up a new dialogue and providing the opportunity for discovery and fresh perspective.

### *NYT's data story about the minimum wage makes us ask tough questions*

#### Can You Live on the Minimum Wage?

By JEREMY ASHKENAS FEB. 8, 2014

More than 4.8 million workers now earn the lowest legal pay. This calculator, for a single childless worker, shows the hard choices that have to be made living on the smallest paychecks.

Start by choosing your state:

In Tennessee the federal minimum wage of **\$7.25** an hour applies.\* Tally your living expenses by entering what you think is the least you need for each item. You may find that even your rock-bottom expenses aren't met and that you have to work more hours, pay your bills late, borrow money or do without. [Related Editorial »](#)



#### Housing

Enter monthly rent or mortgage payments (and don't forget insurance, if this is paid separately) that you would expect to pay for a modest apartment or home in your area.

\$ 1000

**\$4,700** in debt per year

Or, **13** more **hours** a week at a second job

· Each box represents \$1 of debt



<https://www.nytimes.com/interactive/2014/02/09/opinion/minimum-wage.html>

# 7

## Be an advocate for your story

Designing a data story is only the beginning. Your next challenge is to get your audience to pay attention.

Explore different ways to reach your audience. How do they consume content? In what form? When are they open to new ideas?

You'll need to sell your story to ensure it gets the attention it deserves.

*Hans Rosling, Master Data Storyteller*





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**Part 2: Designing data stories**

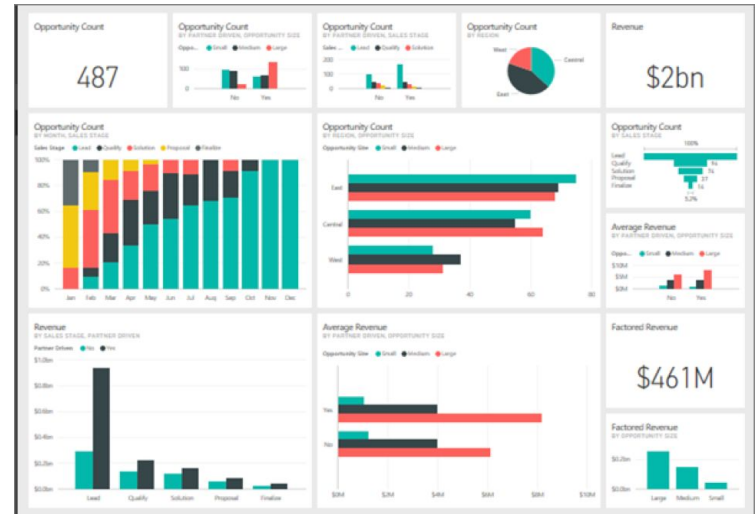
## 8

# Move beyond individual visualizations and dashboards

A good visualization may set the scene for your data story or be the heart of your insights — but it seldom tells the full story. Similarly, a dashboard may contain the information for your data story — but it lacks narrative flow.

Traditional visualization elements are only one building block for a data story.

*Where do I start?  
How does the information relate?  
What's most important for me?*



# 9

## Start by writing to structure your thoughts

Writing is the most direct way to express ideas and messages. It will help you:

- Clarify the structure of your story;

- Articulate the language and terminology you want to use;

- Test the flow and transition between parts of your story, and;

- Ensure a concise, understandable narrative.

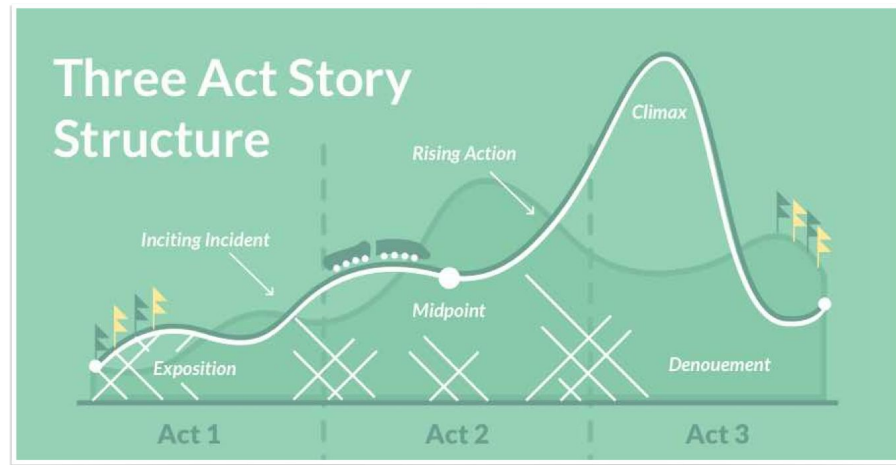


## 10

## Build on traditional narrative structures

Like the traditional three-act play, a data story is structured around three core elements — the context, the core insight, and the action.

Nancy Duarte explains that many effective presentations contain a common structure when they show: (1) what is, (2) what could be, and (3) how to bridge the gap. Your data story can do the same.



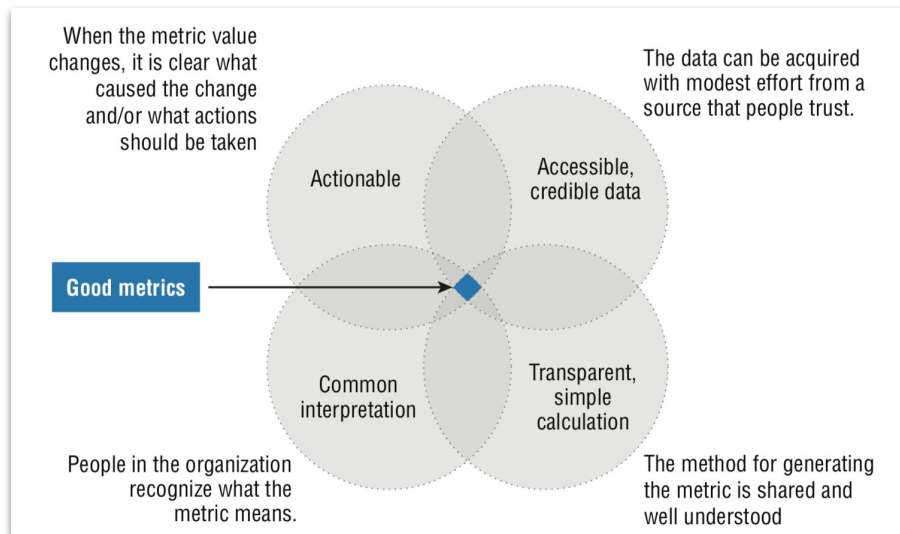
## 11

# Metrics are the essential characters of your story.

Your chosen metrics should be few and thoughtfully-conceived because they powerfully influence what your audience will learn from the story.

The best metrics have a clear link to actions and are easily understood by your audience.

## *A framework for choosing the right metrics*



## 12

# Your data story should lead your audience to actions.

You won't get traction unless you expect an action.

As you design your data story, start with the end in mind. What can your audience do with the insights? How can it change behaviors? With these answers in mind, your data story has a clear objective.

