



# Storytelling with Data

DATA ANALYTICS | IRONHACK



Credit: Unsplash

# Agenda

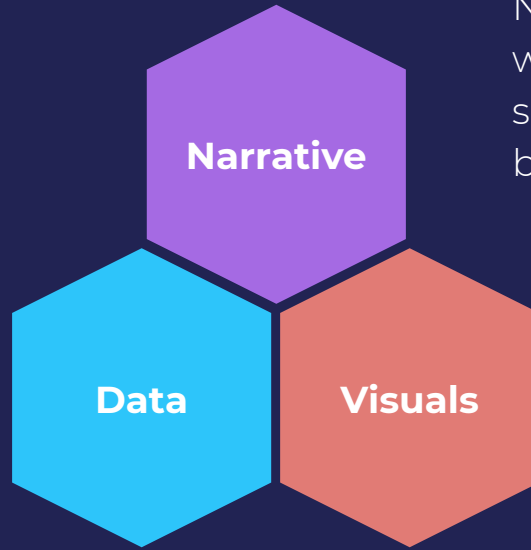
1. What's data storytelling?
2. Why storytelling?
3. Story elements
4. Building an arch / the plot
5. Formatting

# Data Storytelling

- A structured approach for communicating data insights tailored to a specific audience.
- Combination of three key elements: data, visuals, and *narrative*.

# What is data storytelling?

A structured approach for  
communicating data insights  
tailored to a specific audience.



Narrative reveals the insights, whilst data and visualisations serve as evidence helping to build your credibility.

Every good data story needs  
these **key elements**.

**If you want to meet  
the love of your life,  
where should you go  
look for it?**

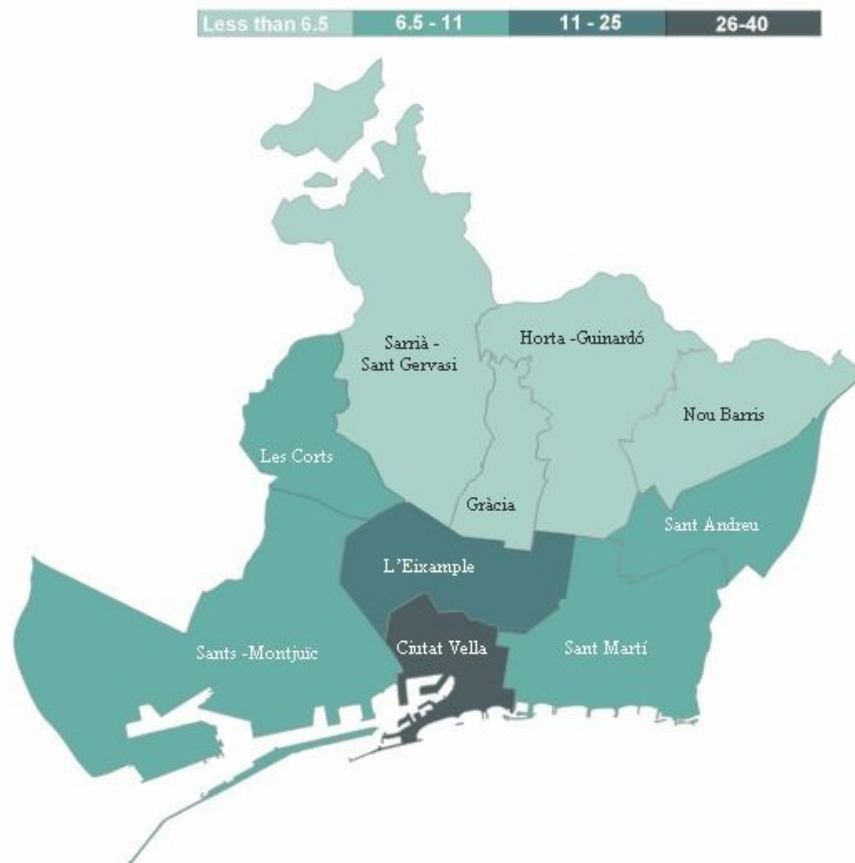
# Population vs facilities vs crime

	dist	population	net_density(hab/ha)	mort_rate	rent_price	facilities_sum	crime_rate	%immi_total_immi	%immi_total_dist
0	Ciutat Vella	101387	High	High	Neutral	Neutral	High	High	High
1	Eixample	266416	High	Neutral	Neutral	Neutral	High	High	Neutral
2	Sant Martí	235513	High	Neutral	Neutral	Neutral	High	Neutral	Neutral
3	Sants-Montjuïc	181910	Neutral	Neutral	Neutral	Low	High	Neutral	Neutral
4	Gràcia	121347	Neutral	Neutral	Neutral	Neutral	Low	Neutral	Neutral
5	Horta-Guinardó	168751	Low	Neutral	Low	Neutral	Low	Neutral	Low
6	Les Corts	82033	Low	Low	High	High	Low	Low	Low
7	Nou Barris	166579	Neutral	Neutral	Low	Low	Neutral	Neutral	Neutral
8	Sant Andreu	147594	Neutral	Neutral	Low	Low	Neutral	Neutral	Low
9	Sarrià-Sant Gervasi	149279	Low	Neutral	High	Neutral	Neutral	Neutral	Low

**Higher populated districts do not have more facilities but do have higher crime rates**

# What's the best neighborhood to live in Barcelona?

Crime rate for every 100 inhabitants  
Registered in 2016 in Barcelona



Fuente: Idescat y Mossos d'Esquadra

LA VANGUARDIA



## **Data Science**

Focus on statistical modelling.  
Forecasting and data processing.



## **Business Intelligence**

Focus on ETL,  
Creating intelligible dashboards for effective decision making.  
From Databases to KPIs.

When you package up your insights as a data story, ***you build a bridge*** for your data to the *influential, emotional side of the brain.*



“

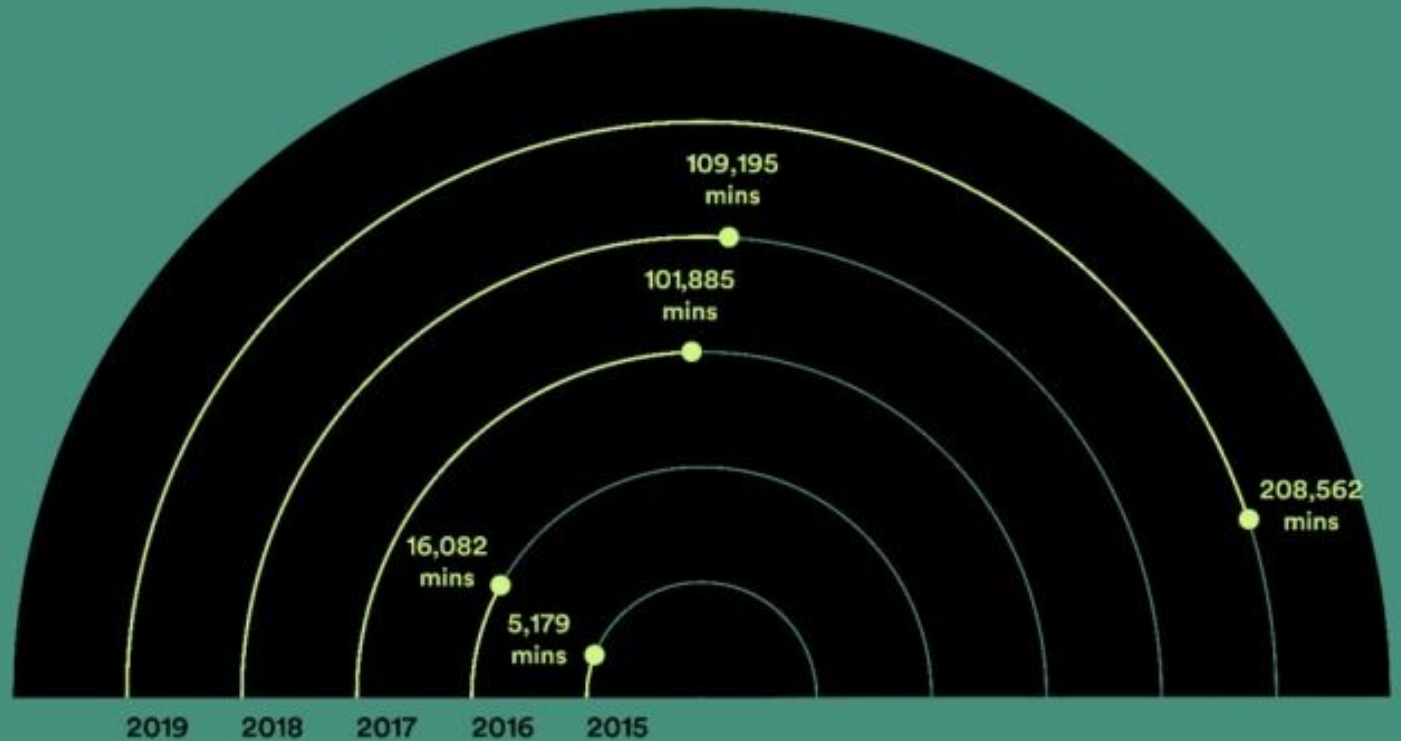
**Why storytelling?**

**Humans engage and  
remember better stories that  
they can relate to.**

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**Presenting data without a  
supporting story makes it  
difficult for us to process.**

# We've spent some serious quality time together.



- **Cliff-hangers** → Dopamin → focus, memory
- **Empathy** → Oxytocin → generosity, love
- **Laughter** → Endorphins → creativity & focus

# How to tell **a good story**



## Speak to people's **EMOTIONS**

Emotions play a larger role than logic when making a choice.



## Build a **'Common Ground'**

Start with something your audience already knows, make them agree. You'll be much more likely to convince them.

## Use the power of **CONTRAST**

Paint a picture of a 'new word' - describe it, then, highlight the contrast with the current world.

## Great ROI (Return on Investment)

- **Easy to learn** (you already know how to tell stories)
- **Huge boost** to how others understand, perceive and remember what you've done.



# What impact could your insights have?

Brief

Problem  
Statement

Data  
Collection

Data  
Processing

Insight  
Extraction

Action  
Plan

STORYTELLING

**Story /elements**

Great stories happen  
**to those who can tell them**



# Elements of the story

- Character
- Plot
- Setting
- Conflict
- Theme
- Point of view / narrator
- Tone or style

Credit: Unsplash



# Character

Who are you talking about?

- Make your protagonist relatable to your audience

What users are you describing?

- What's their characteristics?
- What attributes can we apply?
- What do they do? What's their behaviour? (//plot)





## World Citizen

When it comes to  
your music, borders  
disappear.

You've listened  
to artists from  
39 countries.



J Balvin  
Colombia



Welcome  
to the  
end of a  
decade.

Ready for  
your 2019  
Wrapped?

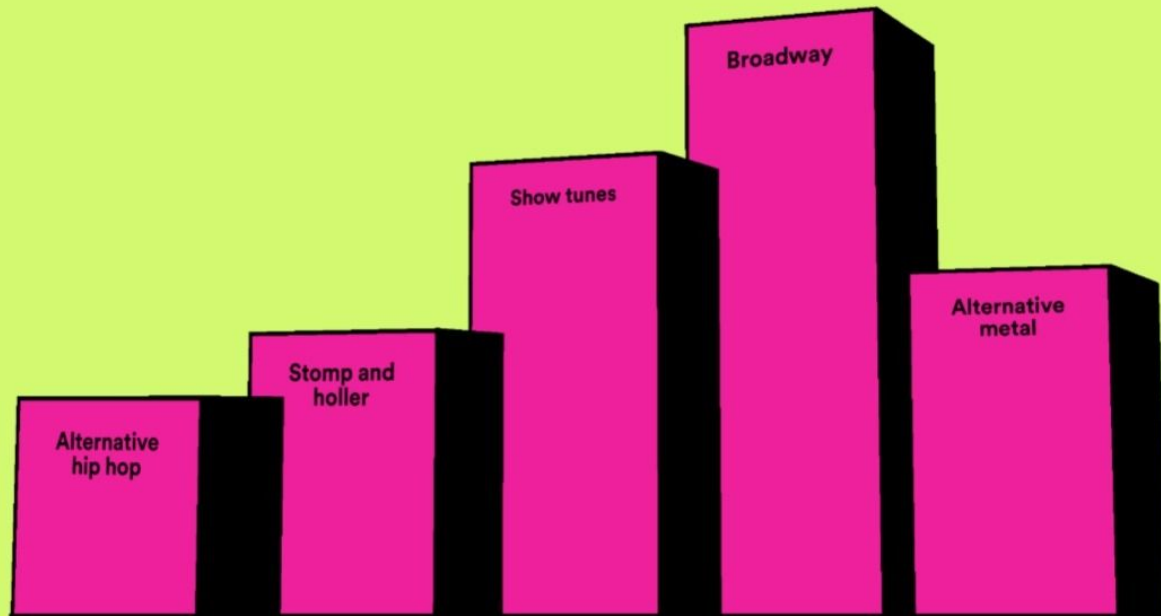
Relive and discover the artists, music, and  
podcasts you've loved the most.

LOG IN

SIGN UP

# You were genre-fluid.

You refused to let one sound define you.





**If there's no conflict,**  
there's no story



What's a  
weird emoji  
that you can  
write a VICE  
Article on?



## Describe Artists With Emoji

Spotify users have created over 35 million playlists with at least one emoji in their titles. Below are the 10 most distinctive emoji to nearly 5000 artists on Spotify. (data as of Feb 2017)  
*Best viewed on Desktop*

Artist Multi Select: <small>(Clear All First)</small>		Genre: <input type="text" value="All"/>										Emoji: <input type="text" value="(All)"/>	
<input type="text" value="(All)"/>		1	2	3	4	5	6	7	8	9	10		
↑ Most Emojid Artists	Drake	🔥	💯	💵	💰	💧	👹	🏀	😬	🍑	💰		
	Justin Bieber	😍	🎄	💜	🐱	❤️	💕	💕	👶	💕	💕		
	One Direction	ID	😍	👫	💕	🇬🇧	💕	💕	😬	❤️	💕		
	Rihanna	👑	💋	👑	🍑	💧	💧	👶	😬	💧	😬		
	The Weeknd	💧	🔥	🍑	😬	👹	😬	😬	💯	😬	💋		
	Ariana Grande	🎄	👶	📺	❄️	🌙	💕	💕	💕	👑	👶		
	Beyoncé	🐝	👑	👑	🍌	💋	👶	💧	💧	👶	💧		
	Ed Sheeran	😬	zzz	🐾	💕	😬	❤️	💕	😬	😬	👶		
	Shawn Mendes	😍	💕	❤️	💕	💕	💕	💕	🐱	😬	💕		
	Chris Brown	💧	🍑	😬	💯	😬	🔥	😬	💧	👹	😬		

**Building the arc /the plot**

# The Story Arc



**Audience**

**Understanding your audience  
is vital** to creating a narrative  
that helps persuade them  
to take action.



# Guiding Questions

- Who is your audience?
- What role do they play?
- Why should they care about your presentation?
- What would they like to achieve from your insights?
- What questions might they have?

# The Big Idea



**The Big Idea** is a concept that  
can help you get clear and  
concise on the main message to  
communicate to your audience.



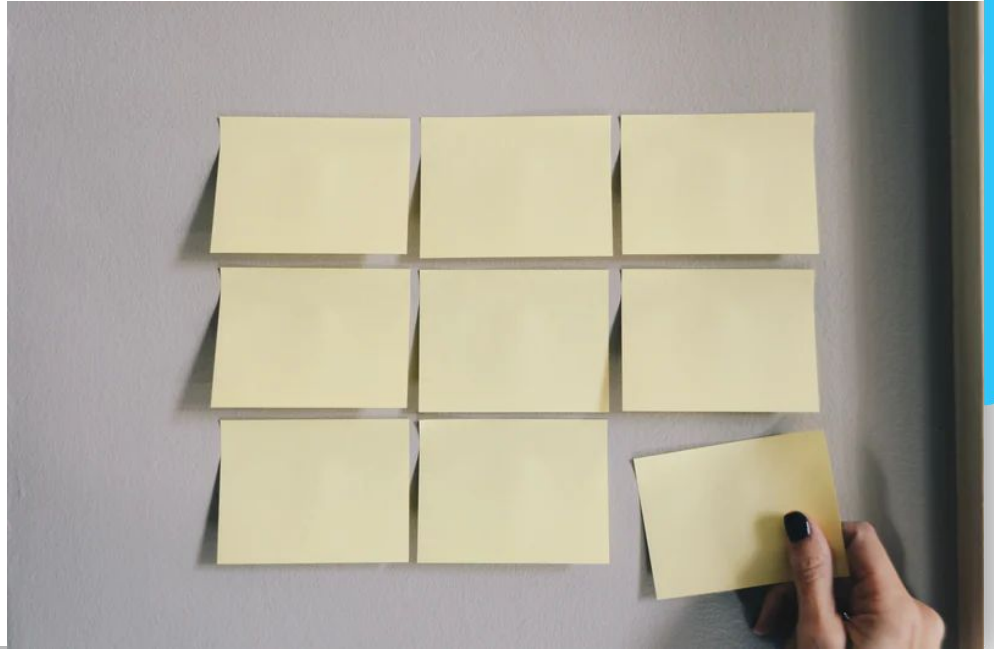
# The Big Idea: Elements

- It must articulate your **unique point of view**;
- It must **convey what's at stake**; and
- It must be a **complete sentence**.

# Storyboard

# What is a Storyboard?

The storyboard is basically **an outline** that establishes the **structure of your communication.**



# Storyboarding: Components

- **Background:** provide context
- **Problem Statement:** what is the problem / challenge you are trying to solve?
- **Analysis:** what kind of analysis did you perform
- **Data:** select data to support your points
- **Findings:** what are your main findings
- **Recommendation:** what are your recommendations

**Visuals / with style**

**How do we create effective  
visualisations to tell our story?**

# Select appropriate charts

## 91%

Simple text

	A	B	C
Category 1	15%	22%	42%
Category 2	40%	36%	20%
Category 3	35%	17%	34%
Category 4	30%	29%	26%
Category 5	55%	30%	58%
Category 6	11%	25%	49%

Table

	A	B	C
Category 1	15%	22%	42%
Category 2	40%	36%	20%
Category 3	35%	17%	34%
Category 4	30%	29%	26%
Category 5	55%	30%	58%
Category 6	11%	25%	49%

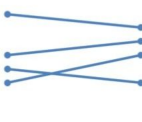
Heatmap



Scatterplot



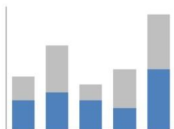
Line



Slopegraph



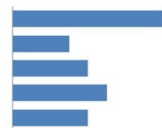
Vertical bar



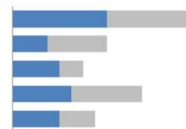
Stacked vertical bar



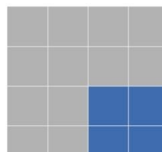
Waterfall



Horizontal bar



Stacked horizontal bar



Square area



# Focus your audience's attention







**THANKS !**