Mastering the **Art** of **Data Storytelling**

that B data guy

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Look who's talking

Data. Data everywhere.
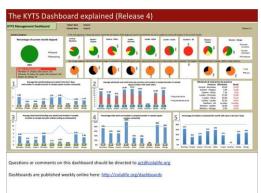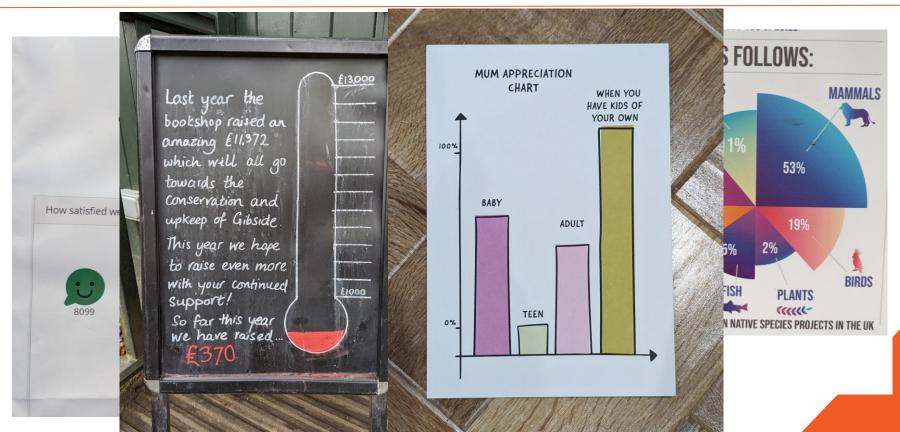
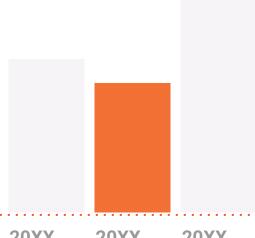**The problem:** not enough of the data communicated results in the desired outcome

The causes

- Catering for your own knowledge
- Audience consideration
- Poor visualisation choice
- Information overload
- Inability to comprehend figures
- Too much noise
- Colour splat
- Lack of context
- No story/Narrative
- No Hook

Tools make it: -

- Easy to do bad practice
- Hard to do good practice

20XX   20XX   20XX   20XX

The solution

Effective data communication.

___

Time is money

Reduce time to insight for stakeholders and decision makers

Persuasion

When words are not enough, then there is data.

Misinterpretation

Make it easy for people to take the correct action.

Inspire

This is the pull factor.
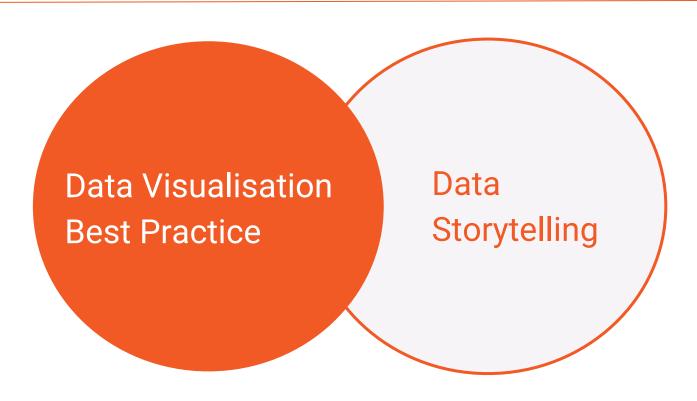
Take bad to good and keep exceptional, exceptional.
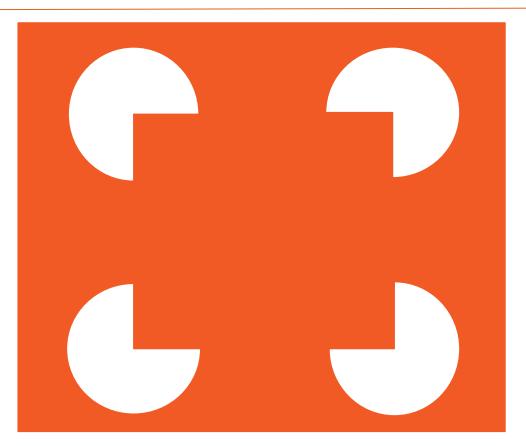
TRUST

Weapons of *mass seduction*

Data Visualisation Best Practice

Data Storytelling

Think like a designer

Gestalt Principles

1. Figure-ground
2. Similarity
3. Proximity
4. Common region
5. Continuity
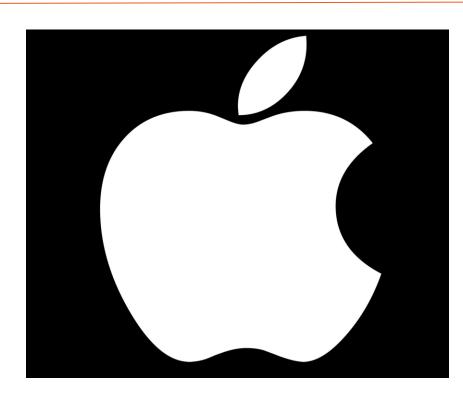6. Closure
7. Focal point

Figure and Ground

How does the human brain interpret the image on the right?

We see an apple, right? Even though the only colour added is black.

This is the concept of <u>Figure and Ground</u>.

- What's in the foreground and what's in the background
- What deserves my attention first
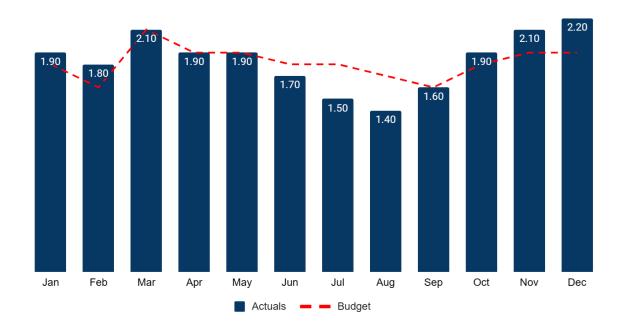- Where do i want my user to focus their attention

Figure and Ground

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Sales vs Target

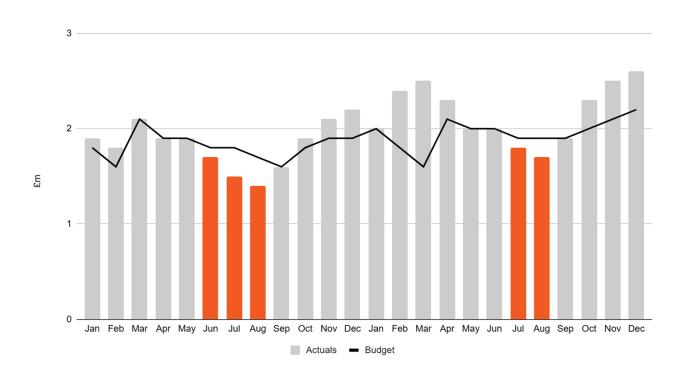|											
1.90	1.80	2.10	1.90	1.90	1.70	1.50	1.40	1.60	1.90	2.10	2.20
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

■ Actuals ----- Budget

In this example all 12 bars are battling for the users attention.

There is no real direction for the user to focus their attention on first.

It leaves things open to interpretation and lacks context, story or narrative.

Figure and Ground

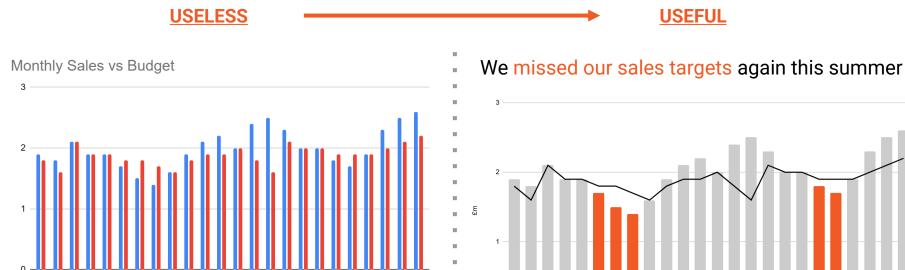When did our actuals fall short of our budget?

By pushing everything into the background and then bringing key elements to the forefront you are immediately drawing attention to the 3 months that are under the Budget line.
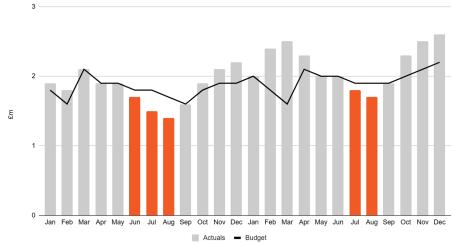
Colour is powerful - use it wisely.

Messy to Minimal
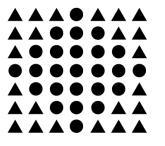
Similarity, Continuity & Focal Point

Similarity
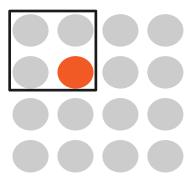
Source: Creative Beacon

Continuity

Source: Smashing Magazine

Focal Point & Common Region
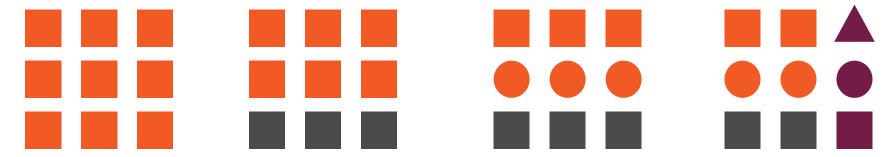
Similarity

Similarity - we like to make sense of colours, shapes and sizes.

Here colours group the shapes together but the actual shape gives a difference meaning to what the grouping consists of.

Your brain will probably will group by colour then break down that grouping by shape.
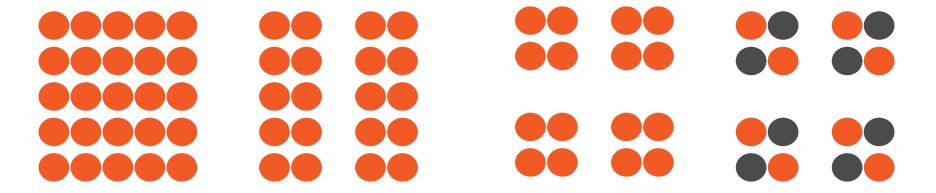
colour beats shapes

Proximity & White Space
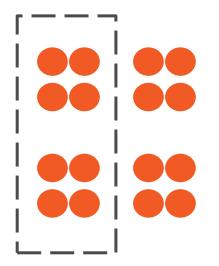
Proximity - the position of elements on you data visualisation, dashboard, data product etc provide a hierarchy and grouping that our brains interpret
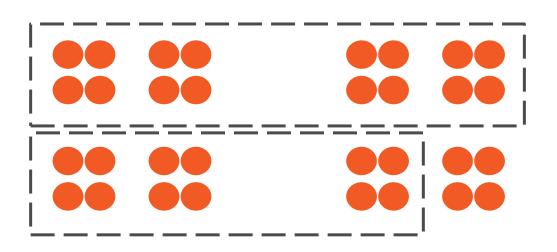
Common Region
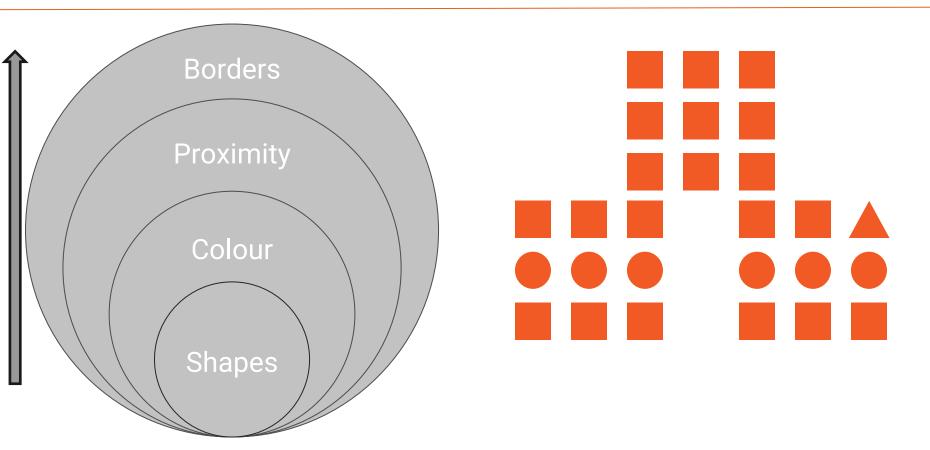
Common Region - a physical boundary or border around a single or multiple visuals . A visible border or boundary will overrule colour and proximity.
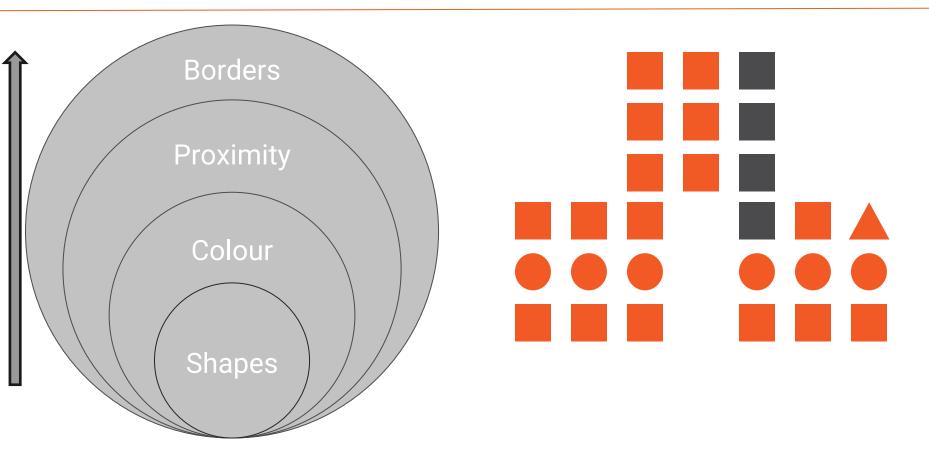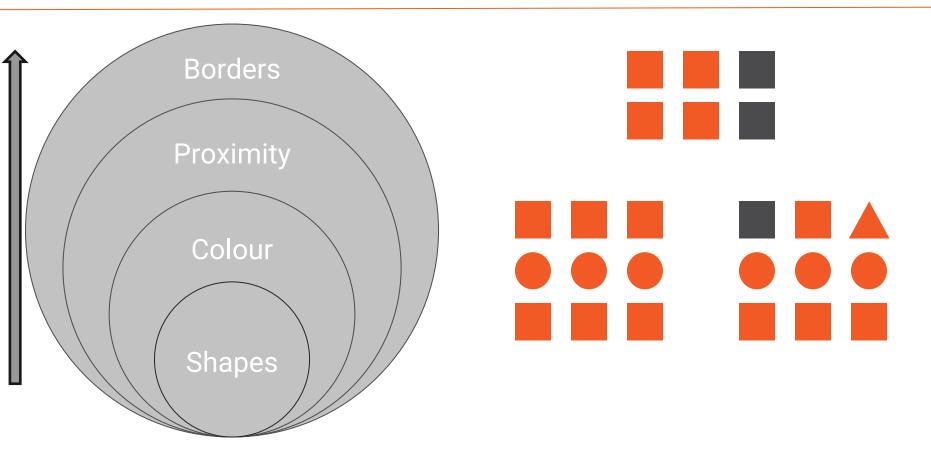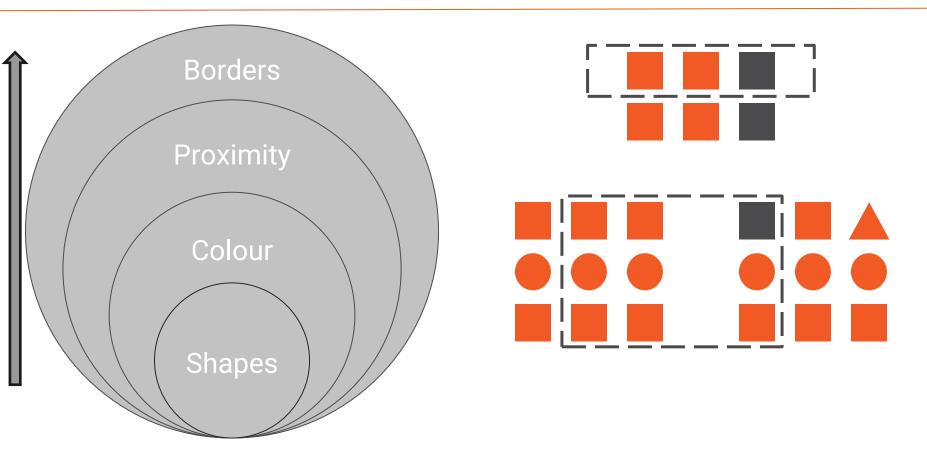
Order of Importance

Borders

Proximity

Colour

Shapes

Order of Importance

Border Patrol

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Sales - YTD

£140k

↑ **£27k** higher than last year

Borders are one of the biggest contributors to non-data ink and a lot of the time it is unnecessary.

Try to rely on white space to create structure and natural groupings.
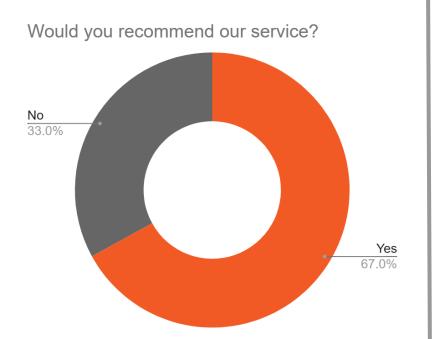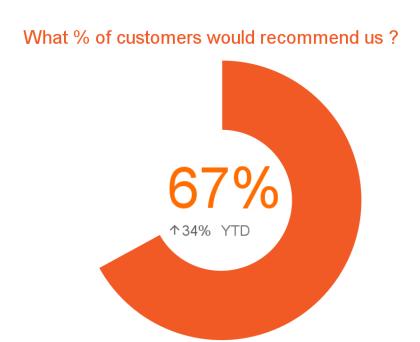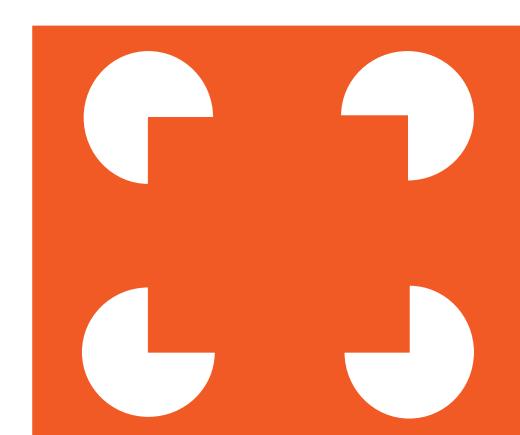
Sales - YTD

£140k

↑ **£27k** higher than last year

Closure

Would you recommend our service?

No
33.0%

Yes
67.0%

What % of customers would recommend us ?

67%

↑34% YTD

1. Figure-ground
2. Similarity
3. Proximity
4. Common region
5. Continuity
6. Closure
7. Focal point

Making numbers relatable

Did you know 6.37 million hectares of forest vanished in 2023? 🌳

That's a **forest** the **size of a football pitch** lost every **2 seconds**!

Did you know 64,000 mobile phones are stolen in London each year?

One phone stolen every **8 minutes**!

The power of relatable numbers

The power of relatable numbers

Selling your data stories
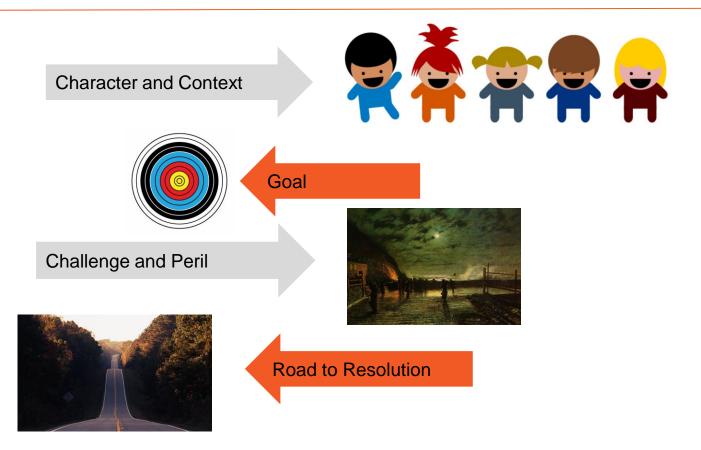
Selting your data stories

Selling your data stories

Character and Context

★ **Stick to the main characters**
  ○ Big players
  ○ Wow/Pull factor

★ **How do they fit into the bigger picture of the story?**

★ **What is the context surrounding them?**
  ○ Back story
  ○ Surrounding circumstances

Selling your data stories

★ What are they trying to achieve?

★ Why should we care?

★ How does it benefit me/us?

Goal

Selling your data stories

Challenge and Peril

- ★ What are the obstacles?

- ★ What are the dangers?

- ★ What is the impact of failure?

Selling your data stories

Road to Resolution

★ How did you navigate the stormy waters?

★ What did you do differently to succeed or atleast try to?

★ What did you learn along the way?

★ What was the payoff?

Techie Version

People — Who asked for the delivery?

Problem — What was the problem they were facing?

Pull — Why did they come to you? (get the trumpet out)

Process — What was the process - no one cares about tech details
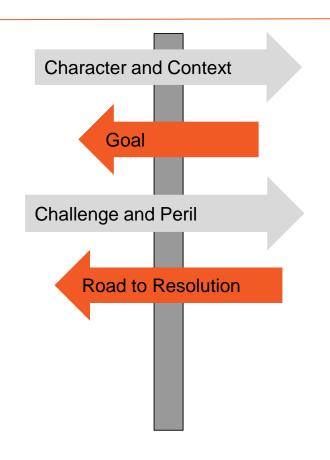
Payoff — What was the outcome … SELL SELL SELL

Beauty & The Beast

Character and Context

Goal

Challenge and Peril

Road to Resolution

www.disneythemes.com

Data vs Covid

During the first Covid breakout, NHS England and the UK government were looking at ways to reduce footfall in GP surgeries.

We had vulnerable patients who would go to the GP to physically pick up a repeat prescription which increased the risk of spreading the virus.

The Insight team at the NHSBSA used their prescription dataset to identify those patients who would qualify for electronic repeat dispensing – this allowed practices to organise for these vulnerable people to have their prescriptions sent directly to the pharmacy reducing the risk of exposure to the virus for some of the most vulnerable people.

The initiative saw 22m additional prescription items issues on ERD and saved over 96,000 hours of GP time which is over £5m in regained productivity. That's around 400,000 extra appointments per year!

How one piece of code saved the NHS over 90,000 hours of GP time

thinking like a designer

making numbers relatable

ready to tell and sell our data story
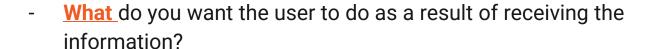
Audience & Action

- **Who** is this message aimed at?
    - Are they technical or are they executives?
    - Does it require specialist knowledge?
    - Who else it be shared with?
    - What do they want?
    - What makes them tick?

- **What** do you want the user to do as a result of receiving the information?

One size fits all, fits no one

Chart

USE

- Bar and Column Chart
- Line Chart
- Performance tile
- Scatter
- Histogram
- Sparklines
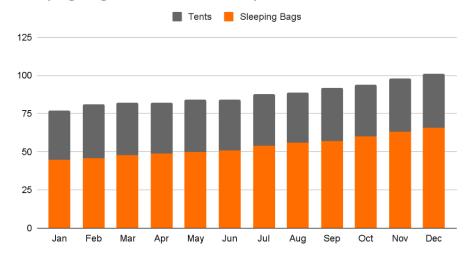
CONFUSE

- Pie/Donut
- Treemap
- Bubble
- Stacked Area
- Spiral
- All other fancy ones

Keep it simple.

Warning: Stacked Bars lie

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Sleeping Bags and Tents: Returns per 1,000 Sold

■ Tents   ■ Sleeping Bags
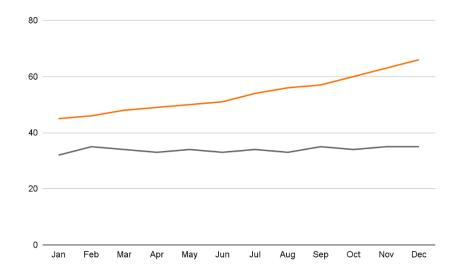
Why are the number of **Sleeping Bag** returns per 1,000 sold increasing?

The number of **Tents** remains stable.

Declutter

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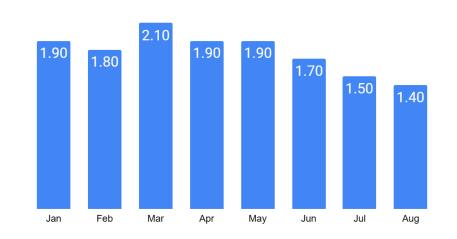
Remove non-data ink:
- Gridlines
- Axis labels
- 3D effects
- Redundant colour
- Axis
- Too many numbers
- Slanted text

Revenue by Month

Revenue by Month (£m)

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Sales YTD

£140,000

Add the 'so what'

Are the numbers good, bad or ugly?

Sales YTD

£140,000

£20,000 more than the same period last year

Farmer Tom and Elon Musk both win £1m on the lottery

Personal Wealth Increase 2000%

He never has to work again

Person Wealth Increase 0.0005%
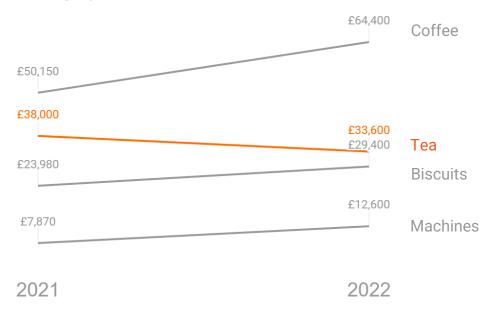
Could lose or make same amount in an hour of stock market shift

Colour

Sales Trend 2021 vs 2022

Tea is the only product category to decrease over the last 12 months

£64,400 — Coffee

£50,150

£38,000

£33,600 — Tea

£29,400 — Biscuits

£23,980

£12,600 — Machines

£7,870

2021   2022
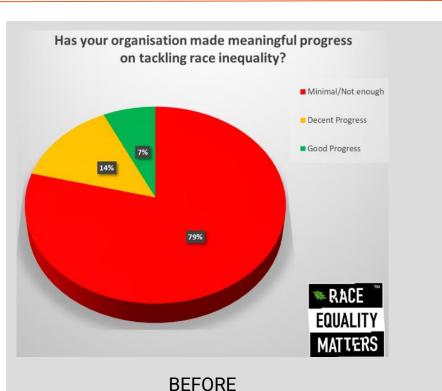
Some examples

Make the point
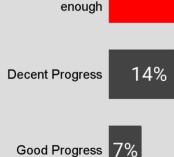
Has your organisation made meaningful progress on tackling race inequality?

- Minimal/Not enough
- Decent Progress
- Good Progress

7%
14%
79%

RACE EQUALITY MATTERS ™

BEFORE

79% of organisations are **not doing enough to tackle race inequality**.

Has your organisation made meaningful process on tackling race inequality?

Minimal/Not enough — 79%

Decent Progress — 14%

Good Progress — 7%

AFTER

Make the point

Has your organisation made meaningful progress on tackling race inequality?

- Minimal/Not enough
- Decent Progress
- Good Progress

7%
14%
79%

BEFORE

4 out of every 5 organisations are **not doing enough to tackle race inequality**.

Has your organisation made meaningful process on tackling race inequality?

Minimal/Not enough	79%
Decent Progress	14%
Good Progress	7%
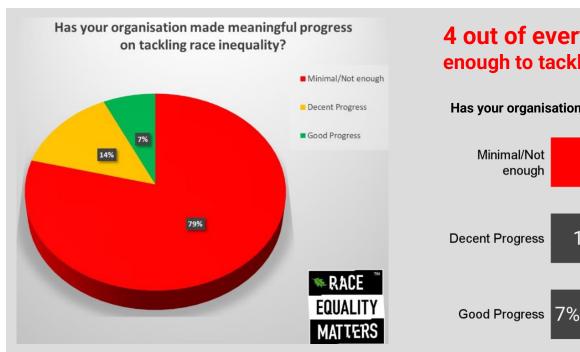
AFTER

Global Charity

Action & Audience: Presenting to potential donors on how their donations are used.
You want them to be assured that their donations are put to good use.

Income	2023		2022	
	in million £	in percentage	in million £	in percentage
Private	79.53	93%	71.64	93%
Public institutional	0	0%	0	0%
Other*	5.73	7%	5.19	7%
Total	85.26	100%	76.83	100%

How money is spent	2023		2022	
	in million £	in percentage	in million £	in percentage
Operations	67.54	80%	62.93	82%
Fundraising	10.16	12%	8.72	11%
General support costs	6.34	8%	5.31	7%
Total	84.04	100%	71.9	100%

For every £1 donated
- 80p goes directly to medical operations around the world
- 12p is reinvested in future fundraising – we raise £6.53 for every £1 spent
- Just 8p is spent on support and overhead costs
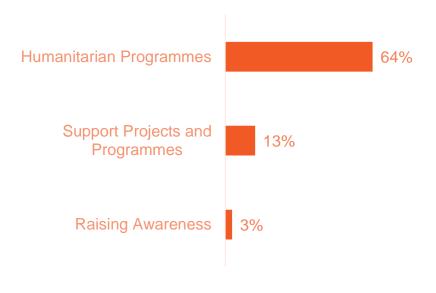
Where your donations go…

80% of donations go directly to medical operations world wide!

£0.80

of every £1 goes to medical operations

What does that 80% go on?

Category	Percentage
Humanitarian Programmes	64%
Support Projects and Programmes	13%
Raising Awareness	3%

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Where your donations go...

12% of donations are reinvested into future fundraising

£0.12

of every £1 goes to fundraising

Guess what we that 12p into?

We turn that 12p into 78p!

£0.78

£0.12

Reinvested in future fundraising

What we turn it into
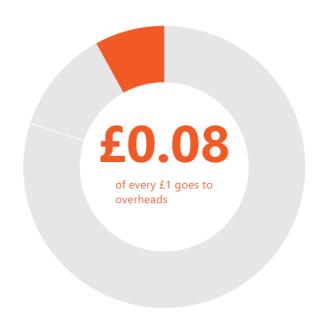
For every £1 we reinvest into future fundraising efforts we get a £6.58 return!

Where your donations go…

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Only 8p of every £1 donation goes to overheads

£0.08

of every £1 goes to overheads
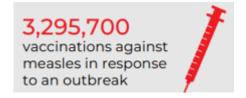
What your donations enable

16,459,000 outpatient consultations

1 consultation every 2 seconds

3,724,500 malaria cases treated

7 cases per minute

3,295,700 vaccinations against measles in response to an outbreak

6 vaccinations per minute

337,000 births assisted, including caesarean sections

1 birth every 2 minutes

Please continue to donate and support our cause

What's that smell?

Oh, it's our NPS score.

"Our NPS stinks!"

"What are you going to do about it?!"

"You've got 2 years"

NPS: Net Promoter Score

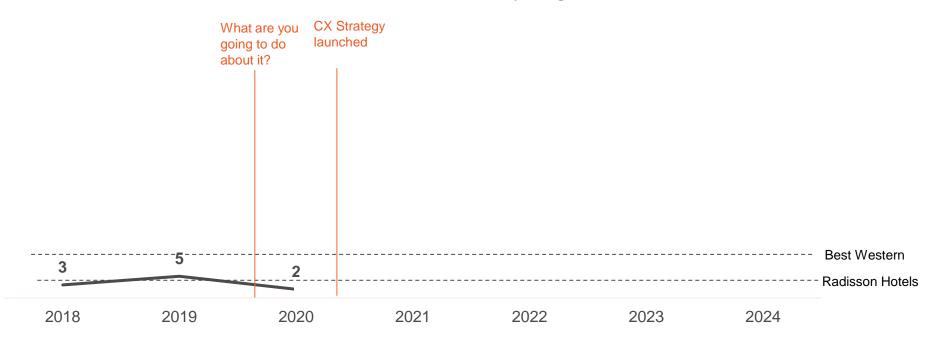Our **NPS** was **N**ot a **P**retty **S**ight

3   5   2

Best Western

Radisson Hotels

2018   2019   2020   2021   2022   2023   2024

NPS – The Plan

Our **NPS** was **N**ot a **P**retty **S**ight

What are you
going to do
about it?

CX Strategy
launched

3

5

2

Best Western

Radisson Hotels

2018   2019   2020   2021   2022   2023   2024

NPS – The Result

What impact has our CX strategy had on our NPS Score?

Hilton Hotels
Marriott Int.

49
42
31
23
3   5   2

Best Western
Radisson Hotels

2018   2019   2020   2021   2022   2023   2024
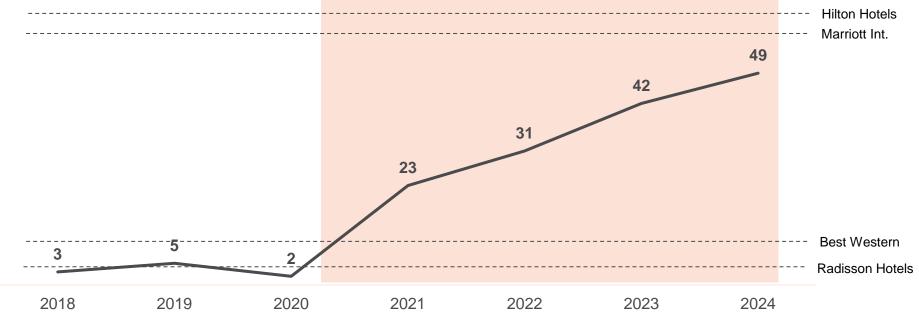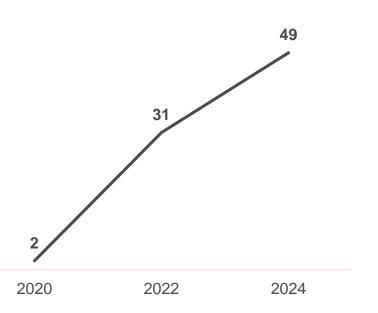
NPS – What does it mean for you?

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NPS: "You have 2 years"

49

31

2

2020   2022   2024

Difference: 2024 vs 2020

+150%
Repeat Bookings

+270%
Loyalty Programme

+30x
5 * Reviews

-200%
Complaints
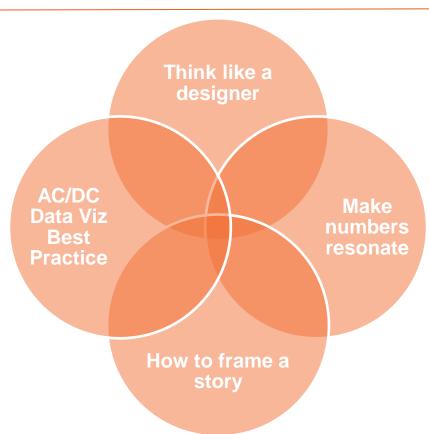
+7%
Prices
(vs expected growth)

+10%
Occupancy

The End.

Recap

Think like a designer

Make numbers resonate

AC/DC Data Viz Best Practice

How to frame a story

follow me for more spiel on
- Data Visualisation
- Data Storytelling
- Data Leadership
- General Data Woes

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