

# Storytelling & Interactive reporting

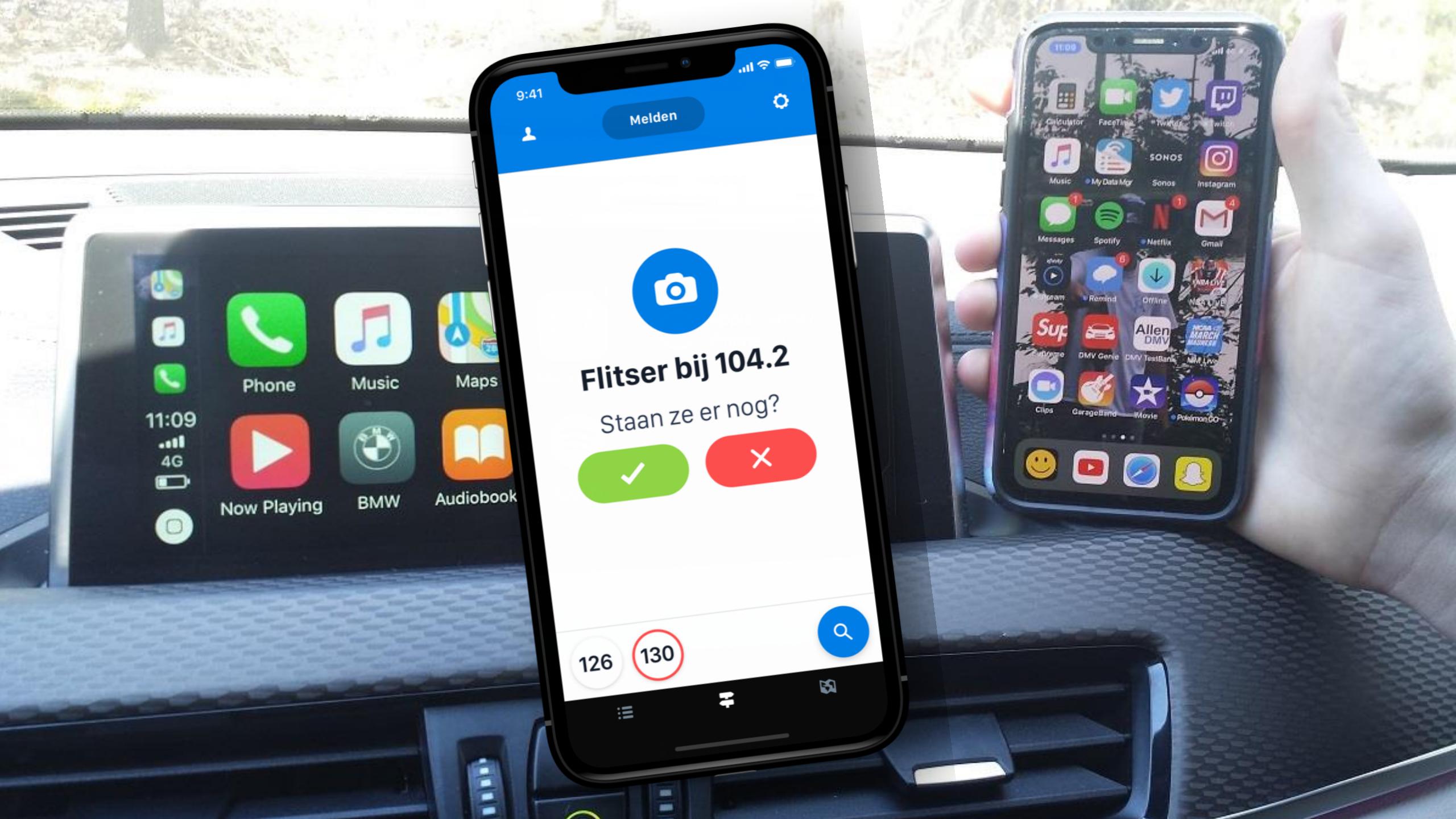
with Power BI bookmarks & drillthrough













# Marc Lelijveld

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Macaw Netherlands



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-  [Data-Marc.com](https://Data-Marc.com)





# Blogging about everything related to Data and AI based on Microsoft technology

[EDIT](#)

**Don't let date columns ruin  
query folding in Power BI**

Previously, I've written a blog post about Top N & query folding to

[EDIT](#)

**Inform your end-users by  
embedding dataflow refresh  
times in your Power BI**

[EDIT](#)

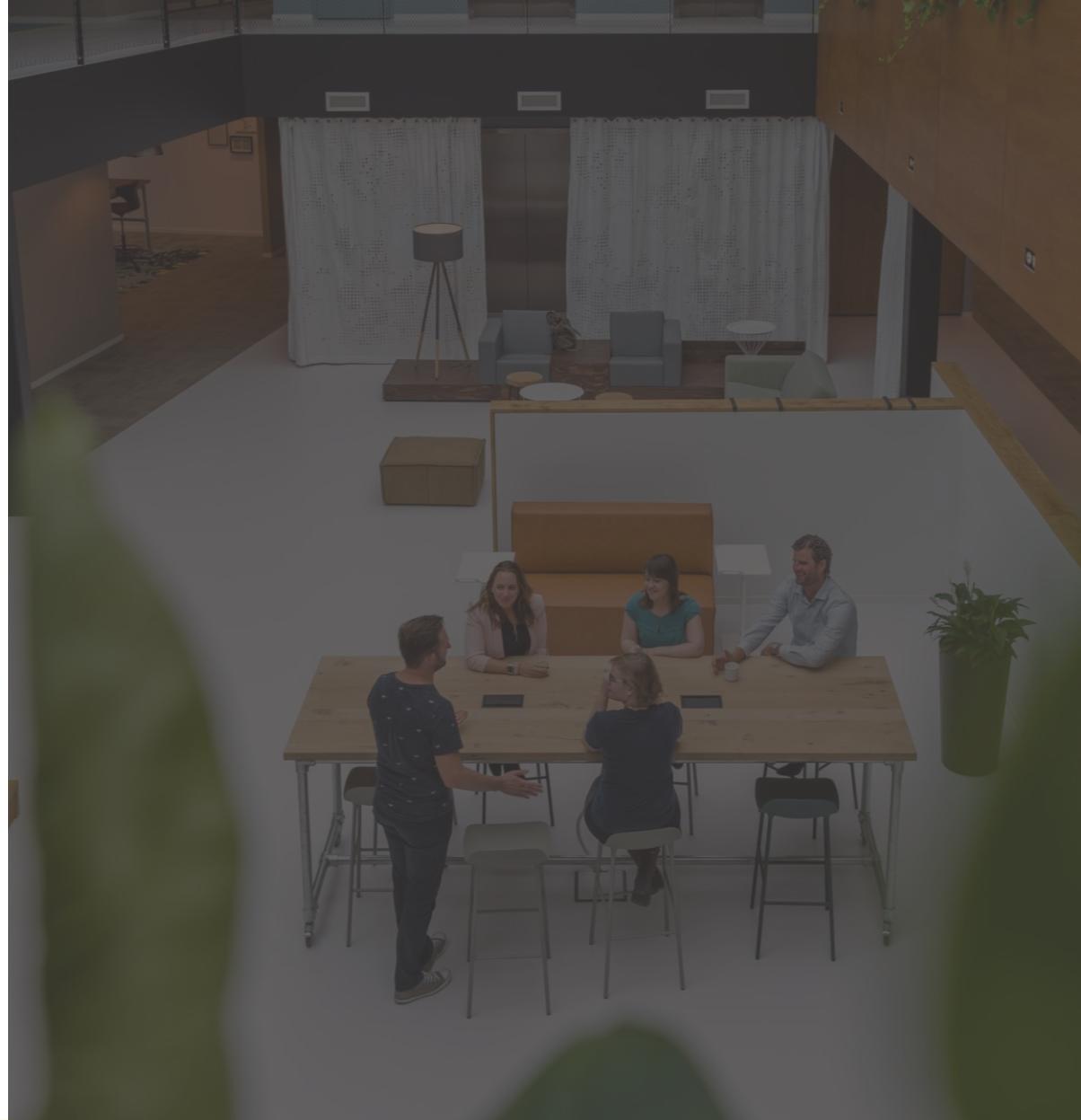
**Top N & query folding to  
improve report building!**

Another week, another event done. This time it was SQL

[Customize](#) [...](#)

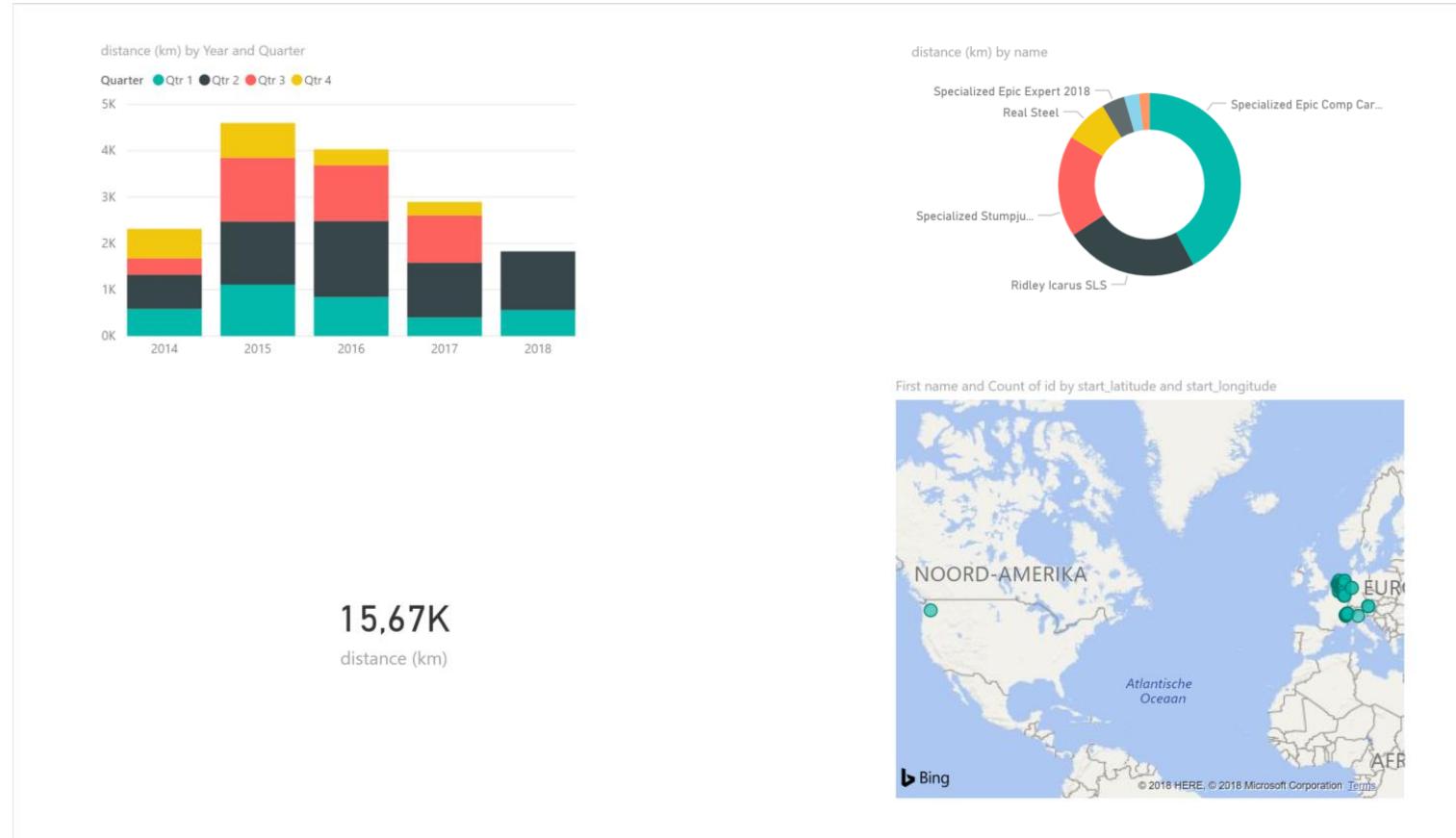
# What we cover today

- Why storytelling?
- Practical use & tips
- Storytelling features
- Demo!

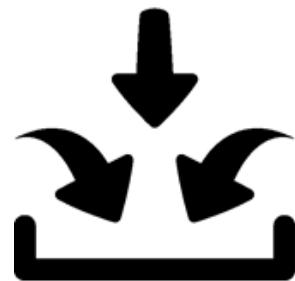


# Why storytelling?

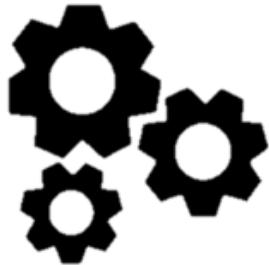
# Classic reports



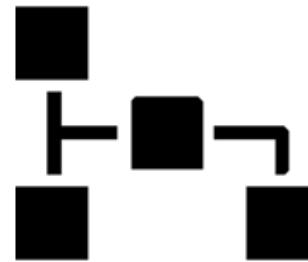
# What we used to do



Collect



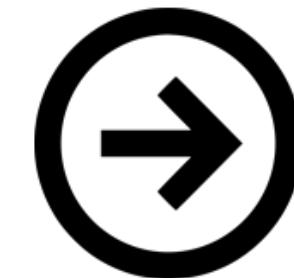
Transform



Model



Analyze



Define

# Storytelling, How and why?

```
("input") "val": "html"; e="Text", r.resetText][n.data("resetText", n[i]()), n[i](r[e])][this.opt(e="loadingText")][n.addClass(t), t.removeAttr("t"), r.removeAttr("t")], r.prototype.toggle=t.closest("[data-toggle='buttons-radio']"); e&e.find(".active").removeClass("active"), this.$elements=e.fn.button; e.fn.button=function(n){return this.each(function(){var ree(this), i=r.data("button", this), n=new t(this, s), n!="toggle" ? i.toggle() : n&&i.setState(n)}), e.fn.button.defaultConstructor=t, e.fn.button.noConflict=function(){return e.fn.buttonon, this}, e(document).on("data-toggle=button"), this.each(function(){var n=e(t.target); n.hasClass("btn") || (n=n.closest(".btn"))}); function(e){"use strict"; var t=function(t, n){this.$element=e(t), this.$indicators=this.$element.options.n, this.$options.pause="# hover" && this.$element.on("mouseenter", e.proxy(this.pause, this)), t.prototype:{cycle:function(t){(return t)().this.paused=1}, this.interval&clearInterval&this.paused&(this.interval=setInterval(e.proxy(this.next, this), this.$options.interval)), return this.$active=this.$element.find(".item.active"), this.$items=this.$active.parent().children(), to:function(t){var n=e(t.target); n.hasClass("btn") || (n=n.closest(".btn")); if(t>this.$items.length-1 || t<0) n.element.one("slide", function(){fr.to(t)); n=e(t); this.pause(); cycle(); this.slide(t, "next", "prev"); if(t){return t} if(this.paused!=0) this.$element.find(".next", ".prev").length&e.support.transition&e.support.transition.end, this.cycle(0), clearInterval(this.interval), this.interval=null, this.$element.find(".item.active", i=n).attr("t", "next")?"left": "right", this.sliding=0, this.pause(), i=i.length?i:this.$element.find(".item")[(u)], e.Event("slide", {i.hasClass("active")})>this.$indicators.length&(this.$indicators.find(".active").remove("slide", function(){var t=e(a.$indicators.children())&a.getActiveIndex()); a.removeClass("active"), this.$element.hasClass("slide")>(this.$element.trigger(f); if(f.isDefaultPrevented()) return; i.addClass(o), this.$element.one(e.support.transition.end, function(){i.removeClass([t, o]), o.removeClass("active", o).join(" ")), a.sliding=1, setTimeout(function(){a.$element.trigger(f); if(f.isDefaultPrevented()) return; r.removeClass("active"), i.addClass("active"), this.$sliding=0, this.$element.trigger(f); var n=e.fn.carousel; e.fn.carousel=function(n){return this.each(function(){var s=e.extend({}, e.fn.carousel.defaults, e.extend({}, e.fn.carousel.defaults, {typeof n=="object" ? n : typeof n=="string" ? (this, s), typeof n=="number" ? i.to(n) : i[o](), s.interval&i.pause(), cycle()})), e.fn.carousel.pause="# hover", e.fn.carousel.Constructor=t, e.fn.carousel.noConflict=function(){return e.fn.carousel.data-api="data-slide-to", function(t){var n=e(this), r=i.efn.attr("replace", /<#?=(^|s)+$)/, s=e.extend({}, i.data(), n.data()), o=i.carousel(s), o.n.attr("o.pause().to(o).cycle(), t.preventDefault()); (window.jQuery), t.prototype={constructor:t, dimension:function(){var e=this.$options.e.extend({}, e.fn.collapse.defaults, n), this.$options.parent&(this.$parent=e.this.opt.toggle()); t.prototype=constructor, t.dimension=function(){var e=this.$element.hasClass("wid show":function(){var t, n, r, i; if(this.transitioning){this.$element.hasClass("in")>return t=t.join(" "), r=this.$parent&this.$parent.find(" .accordion-group > .in"); if(r&r.length)&transitioning>return r.collapse("hide"), i=r.data("collapse", null), this.$element[t](0), this.$element["show"], e.support.transition&&this.$element[t](this.$element[0][n]), hide: function(){var t; if(t.hasClass("in")) return t=this.dimension(), this.reset(this.$element[t]()), this.transition("re this.$element[t](0), reset: function(e){var t=this.dimension(); return this.$element.removeClass("offsetWidth, this.$element[e=null?" addClass" :" removeClass"]("collapse", this), transition: function(n, type=" show" && i.reset(), i.transitioning=0, i.$element.trigger(r); this.$element.trigger(n)
```



How = Usage of data

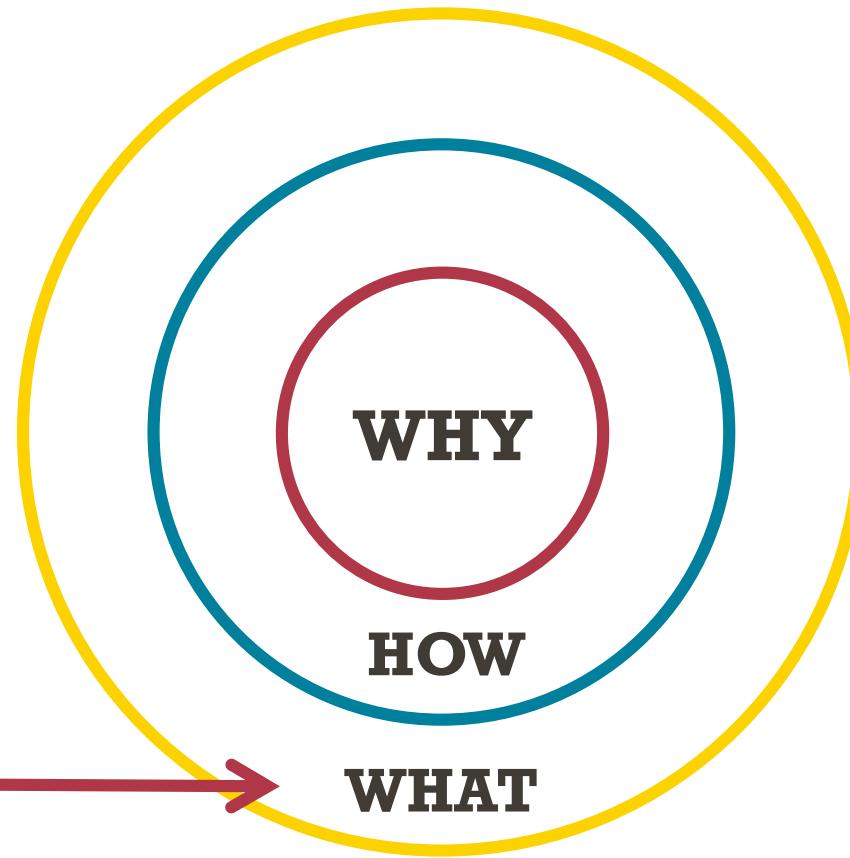
Why = Business understanding

# What as a starting-point

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We are good at:

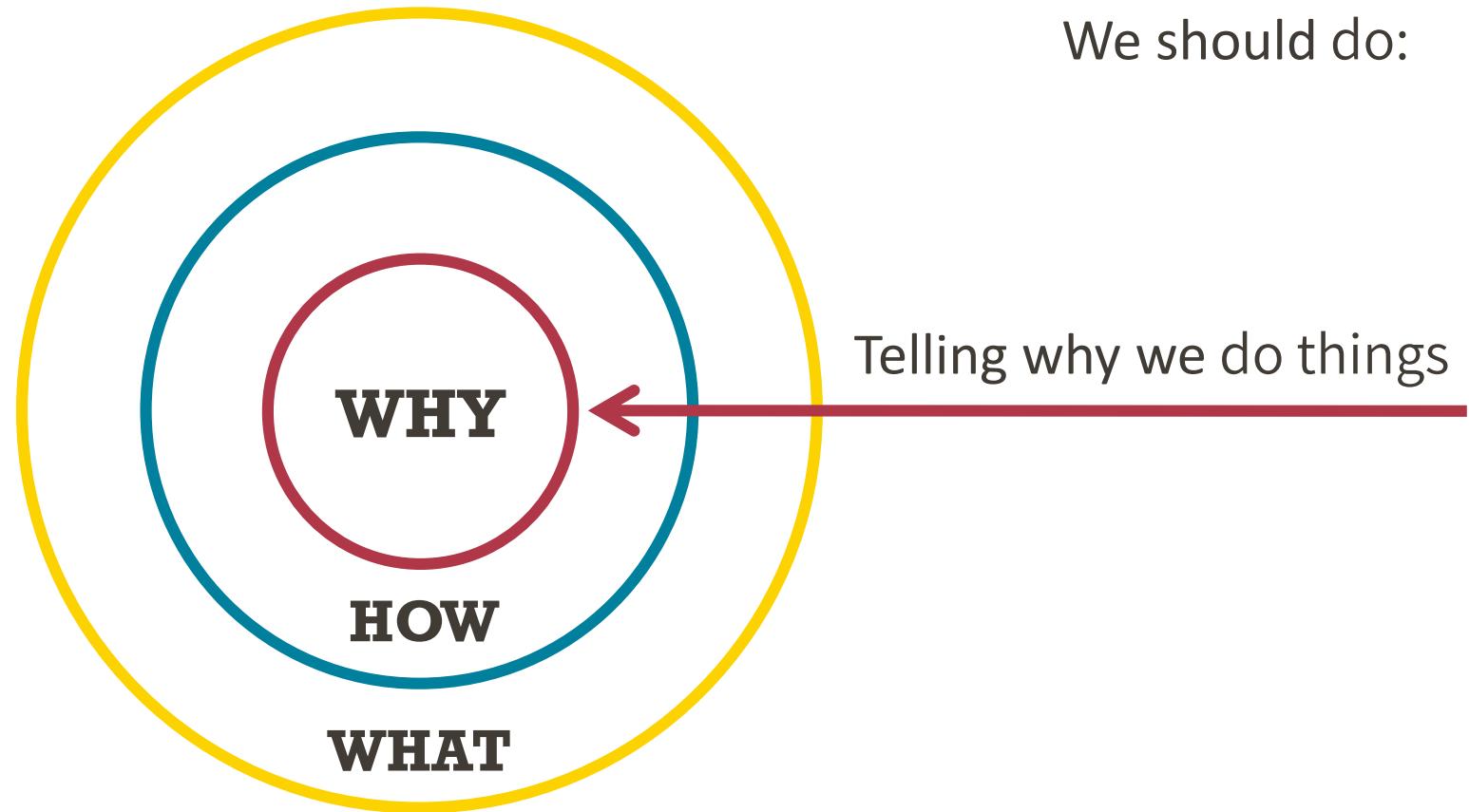
We should do:



# Why as a starting-point

---

We are good at:

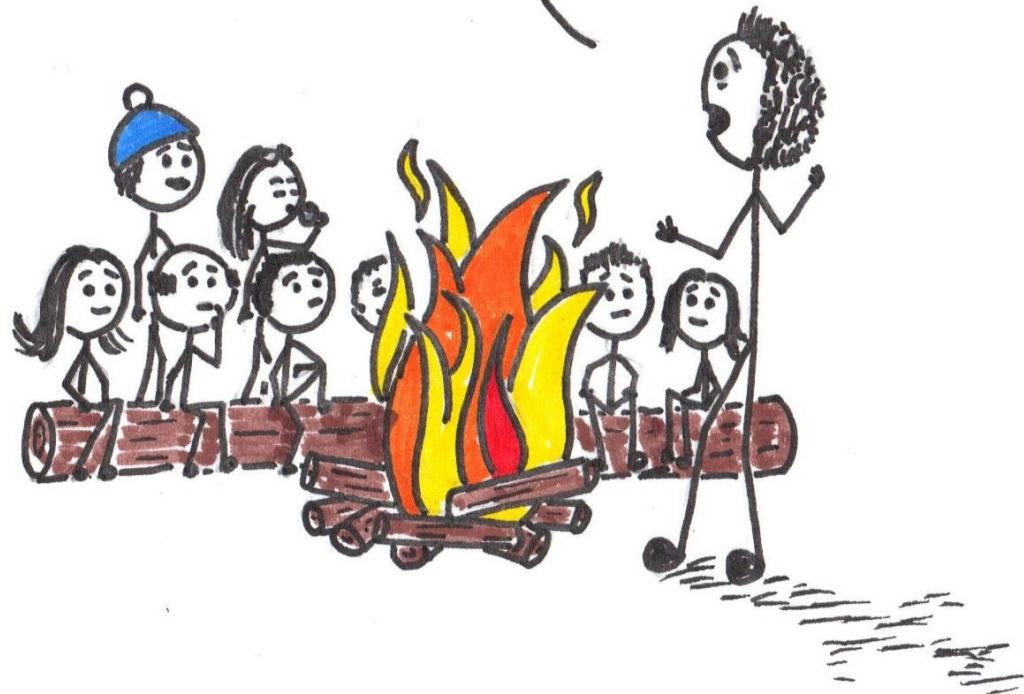


# The definition of storytelling

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Data storytelling is the process of translating data analyses into layman's terms in order to influence a **business decision** or **action**.

Once upon a time ... <sob>



# Goals of storytelling

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- Transfer of information which is interpreted correctly
- The origin of the question
- Possibility to answer the next question
- Motivation for data-driven decisions
- Connected to business processes



# Practical use & some additional features

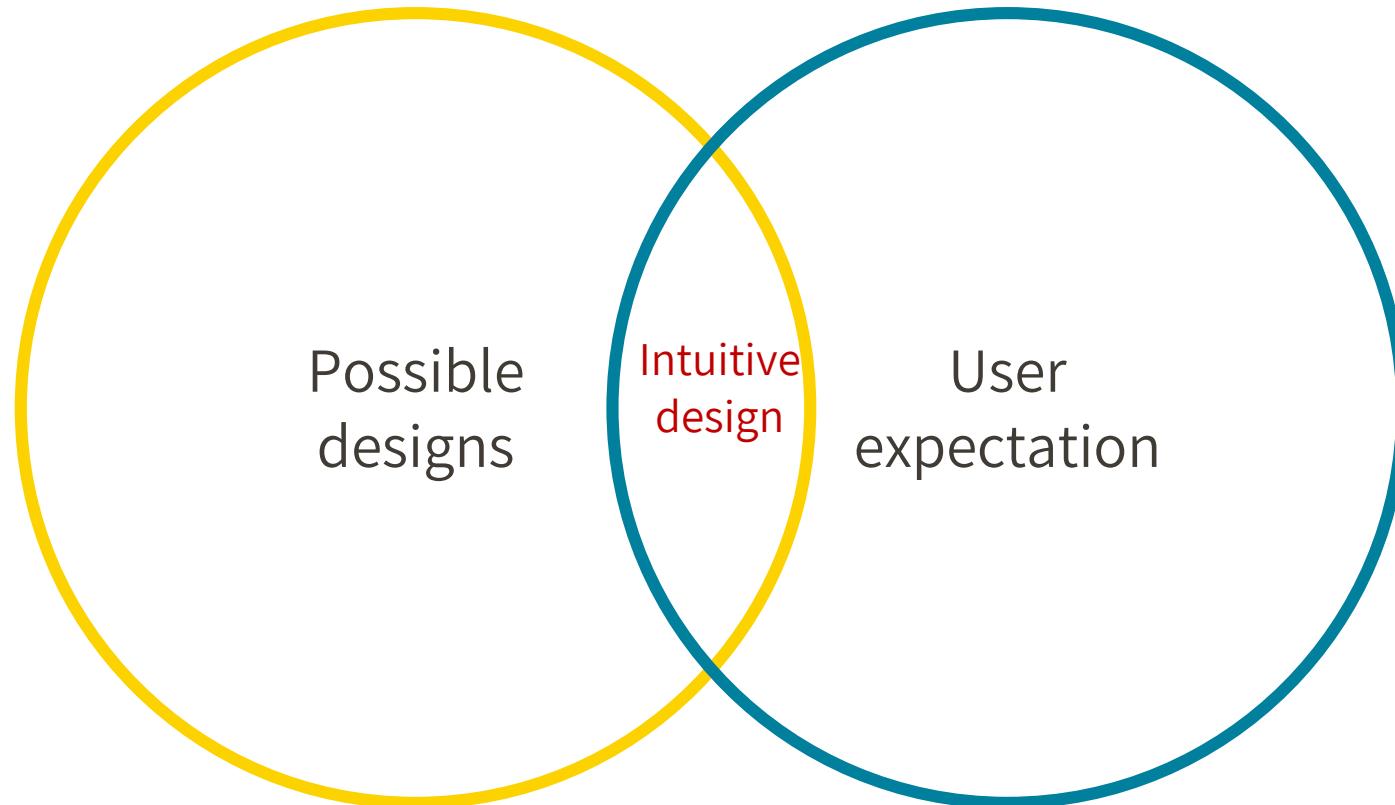
# Add context

---



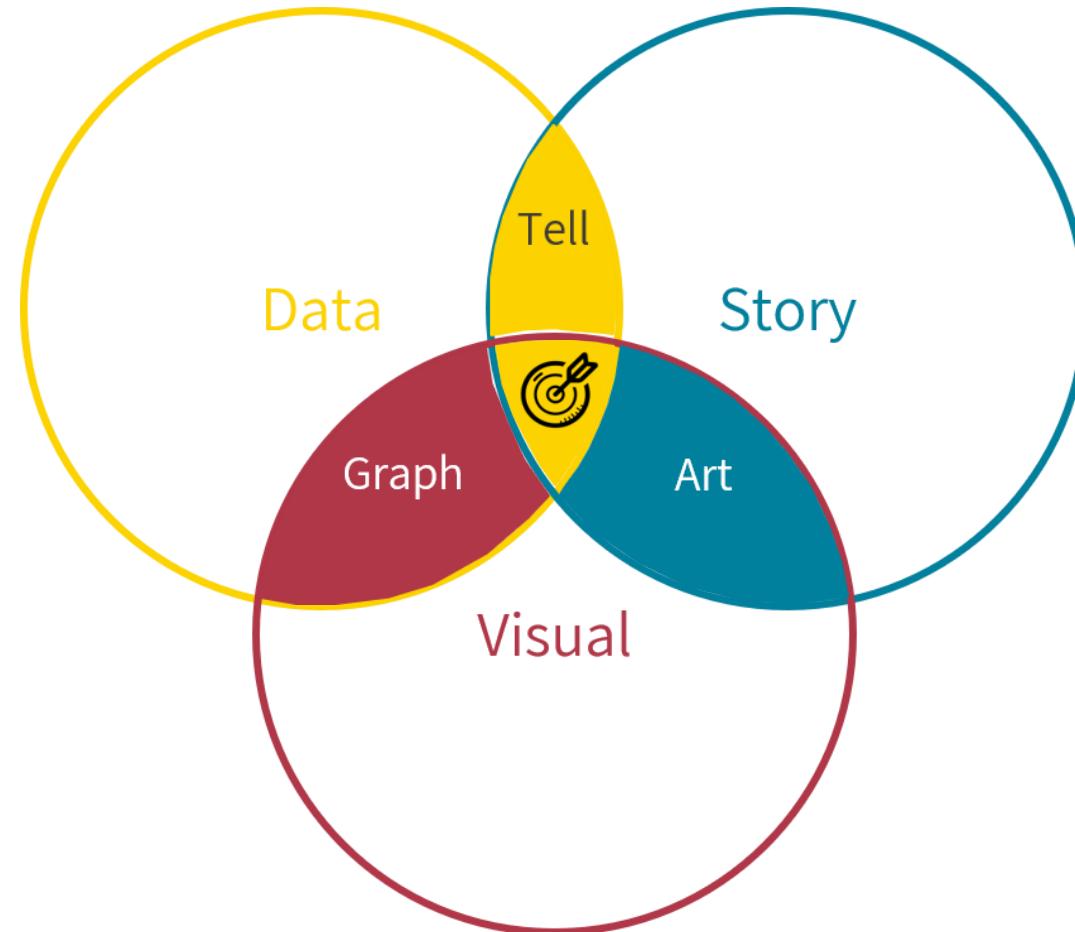
# Make it intuitive

---



# Find the right balance

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# Define your type of storytelling

---



Describe



Declare



Explore

# Define your route (click-path)

---



# Think about your start & end-point

---

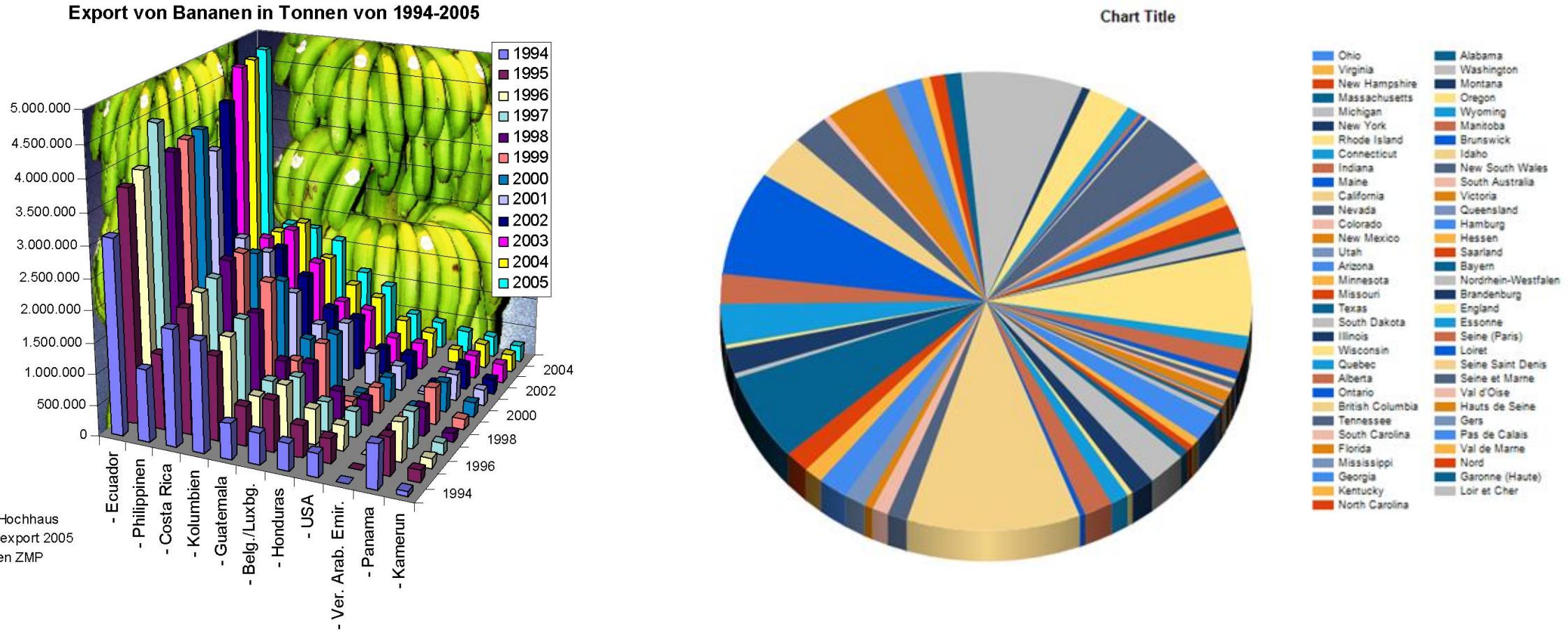


# Remove all bullshit!

---

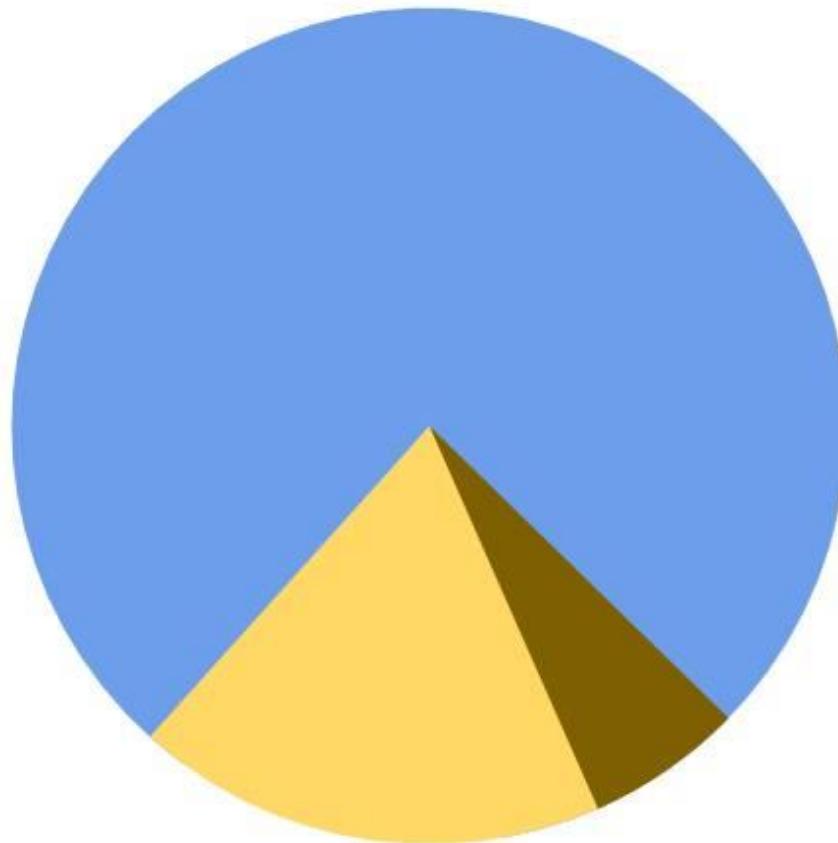


# Visualization



# Visualization

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Sky



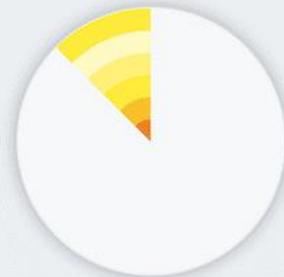
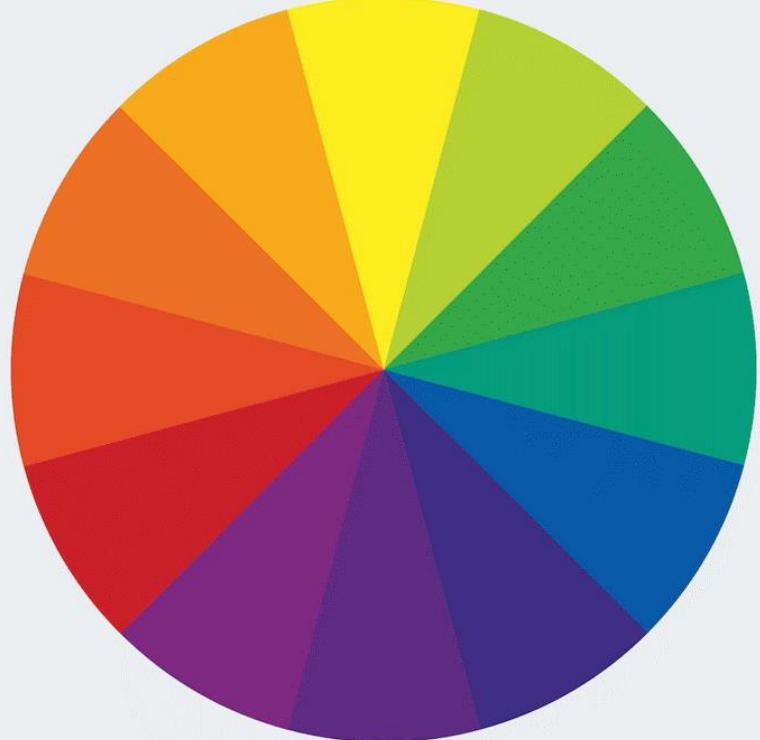
Sunny side of pyramid



Shady side of pyramid

# Color usage

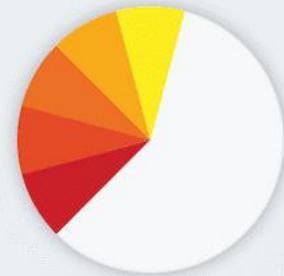
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MONOCHROMATIC



COMPLEMENTARY



ANALOGOUS



TRIADIC



MARIOKART

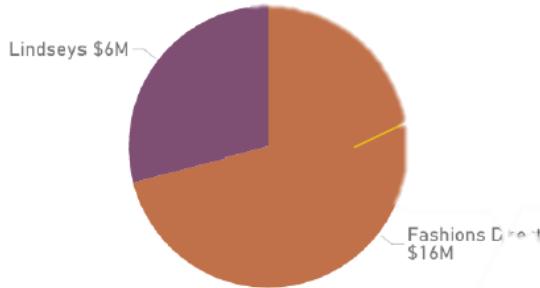
DELUXE

8™

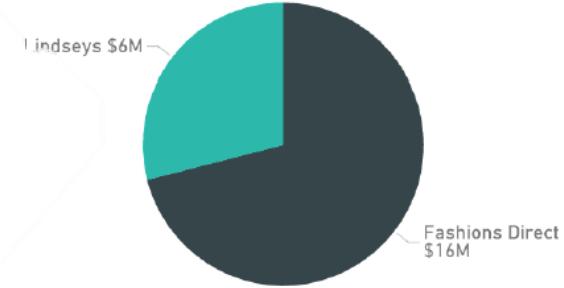
1	King Boo	45
2	Lakitu	32
3	Villager	30
4	Shy Guy	27
5	Iggy	23
6	Ludwig	21
7	Roy	16
8	Peach	15
9	Cat Peach	14
10	Villager	10
11	Luigi	7
12	Mario	6

# Consistency

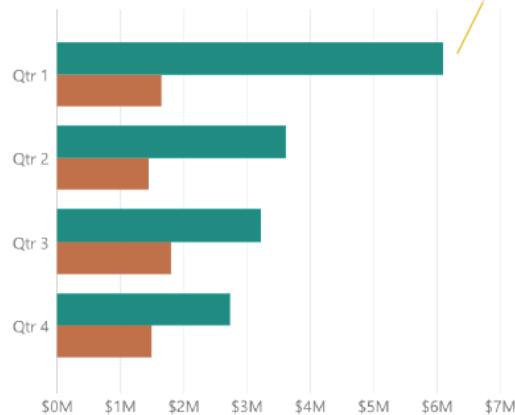
This Year Sales by Chain



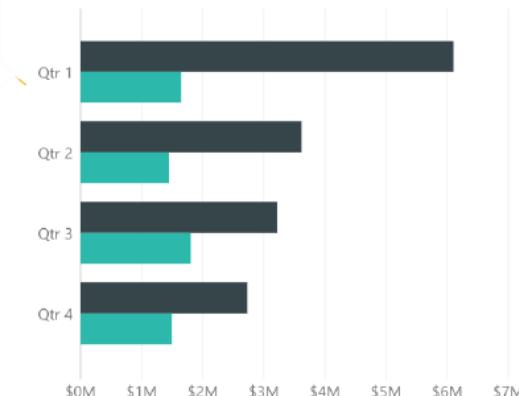
This Year Sales by Chain



This Year Sales by Quarter and Chain



This Year Sales by Quarter and Chain



Total Volume  
IN 2014

50K

Market Share  
LAST 12 MONTHS

32.86%

Our Total Volume  
IN 2014

16K

Sentiment

68

Sentiment Gap

### % Units Market Share vs. % Units Market Share Rolling 12 Months BY MONTH

● Units Market Share ● Units Market Share Rolling 12 Months



### Total Units Overall BY SEGMENT



### Total Units YTD Variance % BY MONTH, MANUFACTURER

Manufacturer: ● Alqui ● Quibus ● Natura ● Fama ● Barba ● Leo ● Salvus



### Total Units YTD BY MANUFACTURER, REGION



### Total Units for 2014 BY MONTH, MANUFACTURER

Manufacturer: ● Alqui ● Natura ● Fama ● Barba ● Leo ● Salvus

Region: ● Central ● East ● West

### Industry % Market Share YOY Change BY ROLLING PERIOD, REGION

Region: ● Central ● East ● West

1/2/2015

6/30/2015

Consumer

Corporate

Home Office

Small Business

Furniture

Office Supplies

Technol...

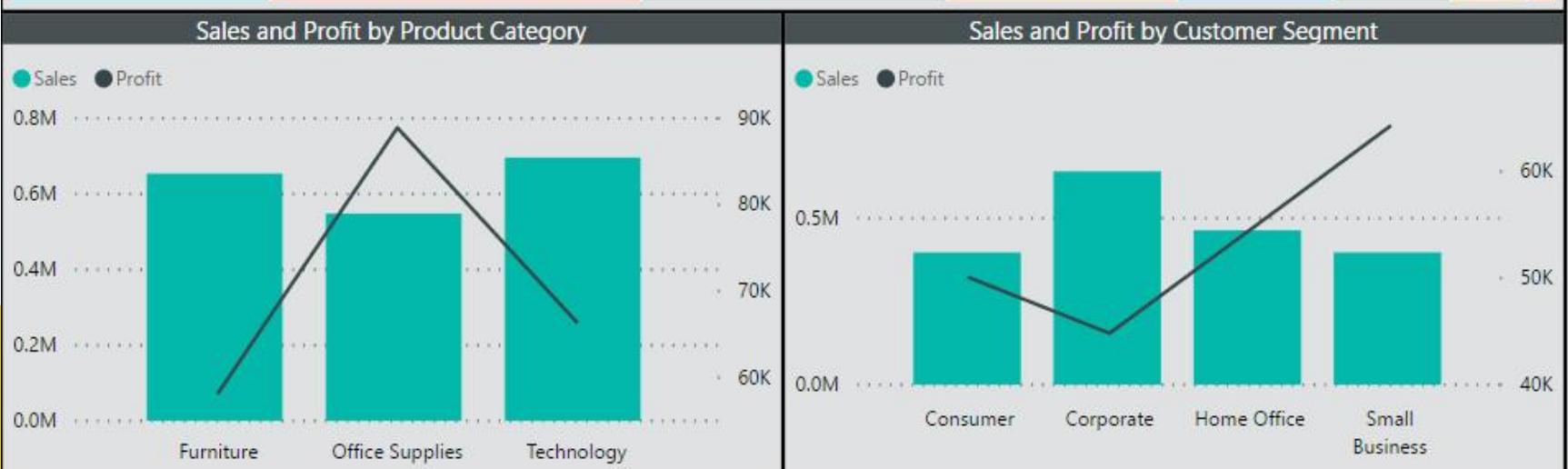
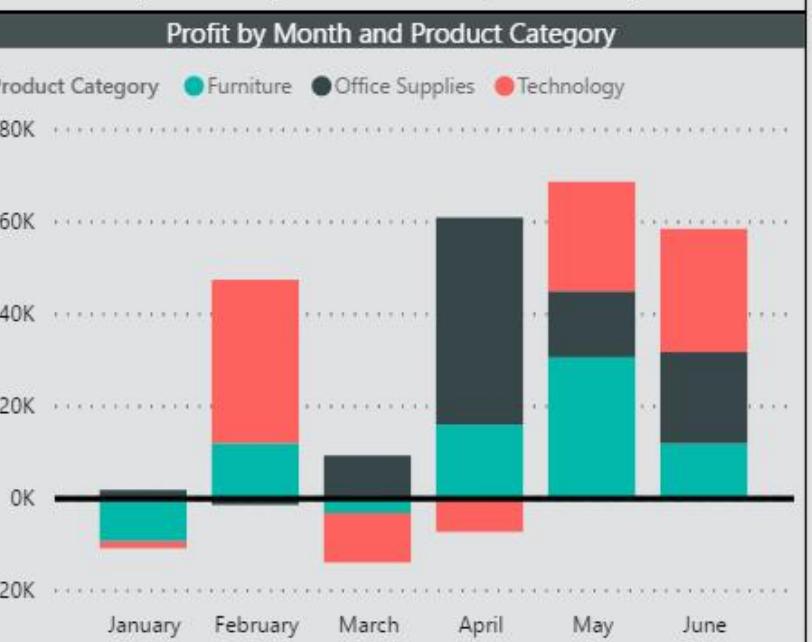
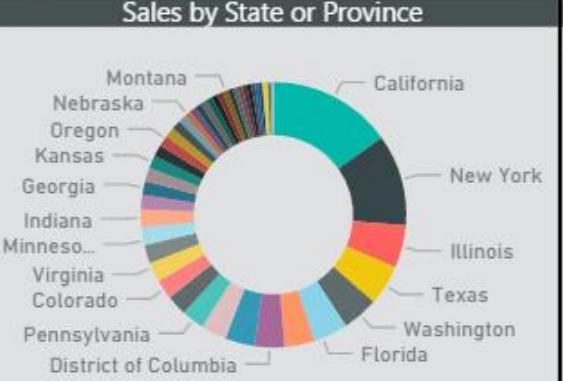
Central

East

South

West

1,898,401  
Sales  
213,611  
Profit  
24,879  
Quantity ordered new



A photograph of a mountain biker from behind, standing on a rocky outcrop. He is wearing a white helmet, a dark blue jacket, black shorts, and a black backpack. A white mountain bike with red accents is leaning against a rock to his left. The background features a majestic, snow-capped mountain range under a clear, bright blue sky.

Send your users  
on an adventure!

# Storytelling features

# Provide easy navigation



## Published Date

Last ▾ 1 Years ▾

4/18/2017 - 4/17/2018

## Source



## Reimbursements by Product

● Medicaid Amount Reimbursed ● Non Medicaid Amount Reimbursed



Labeler Name	Medicaid Amount Reimbursed
Purdue Pharma	\$65,537,207
Rhodes Pharmaceuticals	\$13,386,981
Alvogen	\$11,685,277
Kvk-Tech	\$10,564,303
Aurobindo Pharma	\$4,453,260
Amneal Pharmaceuticals	\$3,724,979
Ranbaxy Pharmaceuticals	\$3,554,774
Zydus Pharmaceuticals	\$3,484,614
Epic Pharma	\$1,801,086
Sun Pharmaceutical Industries	\$1,630,451
Mayne Pharma	\$1,007,351
Par Pharmaceutical	\$804,096
Lahigh Valley Technologies	\$410,073



An Osteoarthritis Drug May Be the Answer to America's Opioid Crisis futurism.com • Mar. 2, 2018 A drug developed to treat osteoarthritis pain has shown promise as a method of preventing opioid tolerance and physical dependence. With the opioid epidemic still



A telling anecdote about Trump and the opioid abuse crisis www.vox.com • Mar. 2, 2018 originally from prescription opioids but increasingly now from heroin and fentanyl ? have emerged as an increasingly grave social issue, steadily worsening over



White House To Give Status Update On Opioid Emergency wypr.org • Mar. 2, 2018 ET Since President Trump declared the opioid epidemic a national public health

**here&  
Now**

Wyoming Prepares To Grapple With Opioid Crisis www.wbur.org • Mar. 2, 2018 discuss the country's opioid epidemic. Rural coal mining states like West Virginia and



White House to host opioid summit and highlight Trump administration's efforts www.pbs.org • Mar. 2, 2018 The White House is hosting a summit to highlight Trump administration efforts to

WATCH LIVE: White House to highlight administration anti-opioid efforts fox61.com • Mar. 2, 2018

The White House is hosting a summit to highlight Trump administration efforts to combat the opioid crisis. First lady Melania Trump is scheduled to



# Be dynamic

# KPI BREAKDOWN



REGION

All

COUNTRY

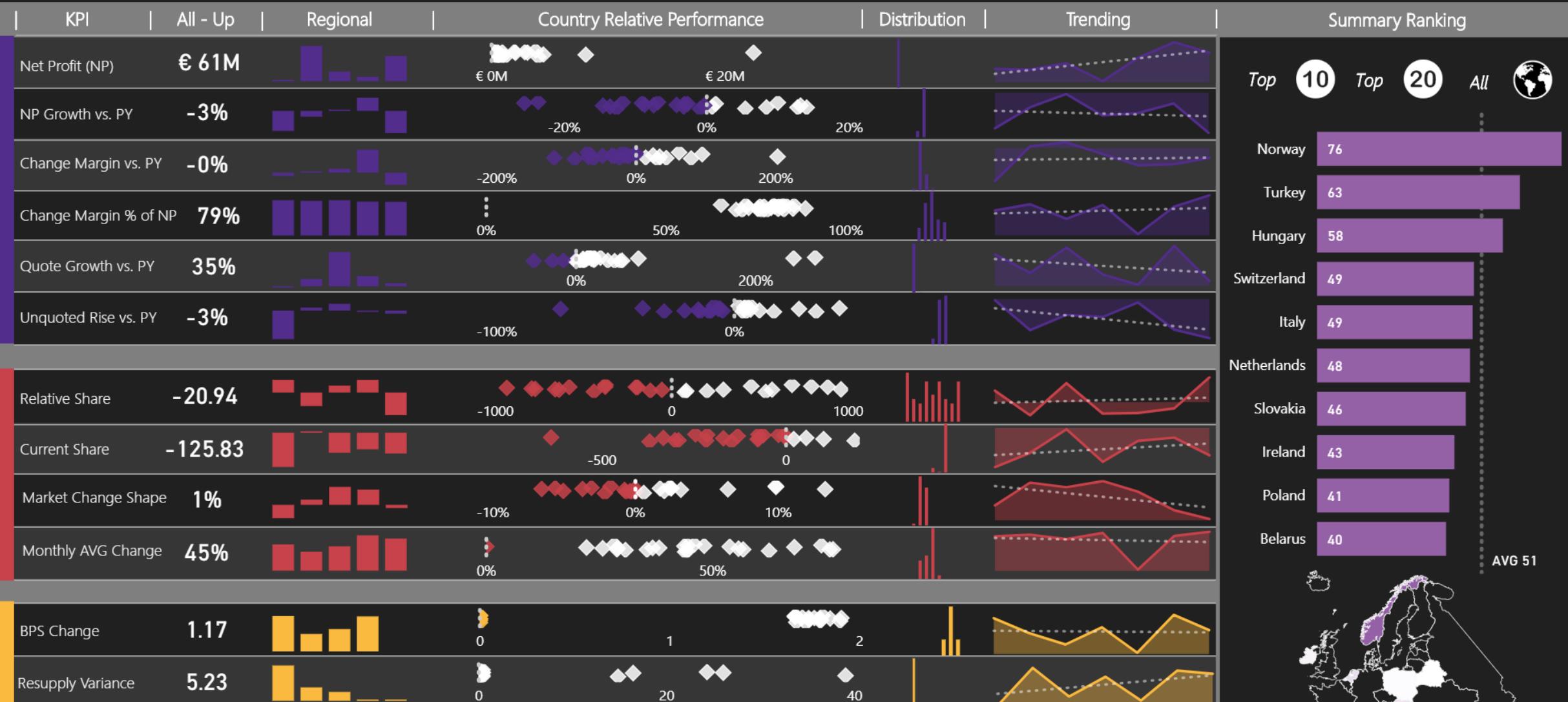
All



Select for FAQ

Decisive Data  
insights for decisions

FINANCIAL



SUPPLY

Filters

Date

6/1/2017

12/1/2017

Summary Ranking

0

91

NP Growth vs PY

-30%

16%

Quote Growth

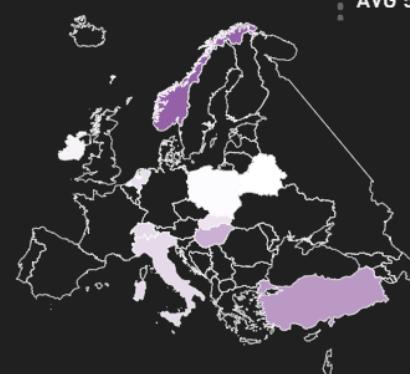
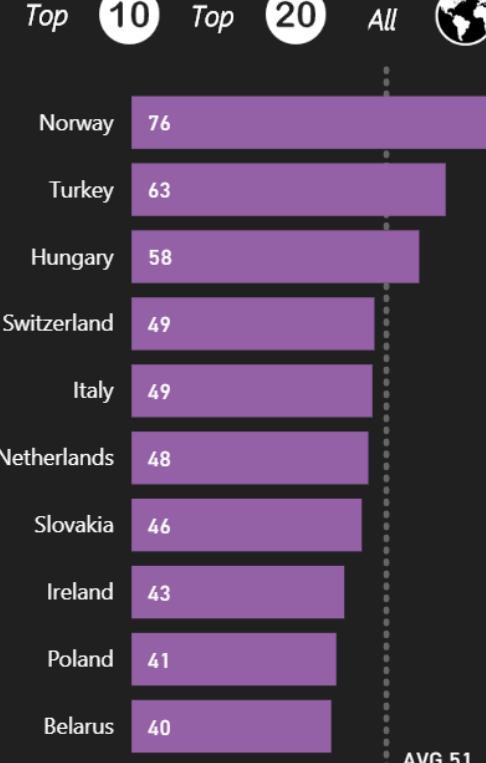
-55%

281%

Market Change Shape

-7%

16%



# Have a guided experience



## REIMBURSEMENTS BY STATE

**CALLOUT**    **PAGES**

Opiod Crisis Investigation

Media Discussion

Reimbursements by State

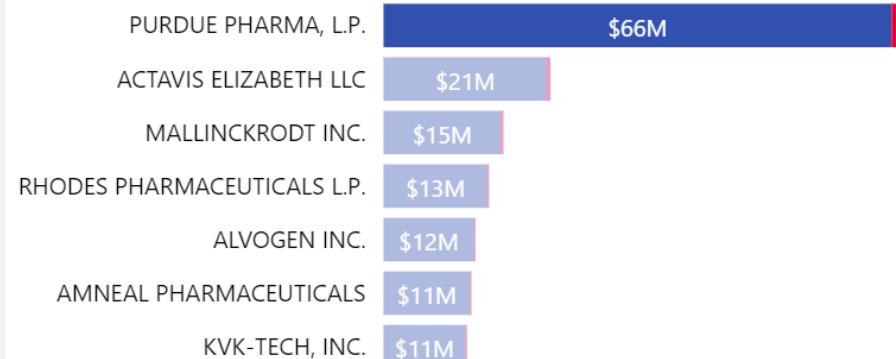
Take Action

Opioid Type

All

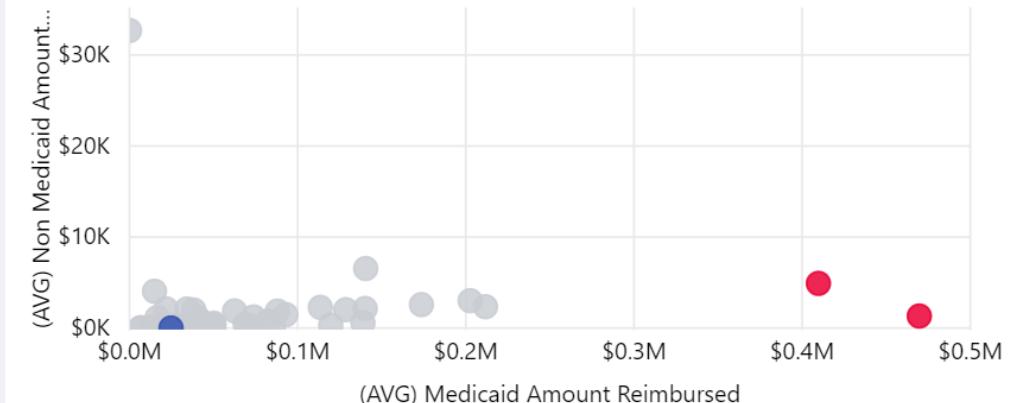
### Medicaid Amount Reimbursed and Non Medicaid Amount Reimbursed by Labeler Name

● Medicaid Amount Reimbursed ● Non Medicaid Amount Reimbursed



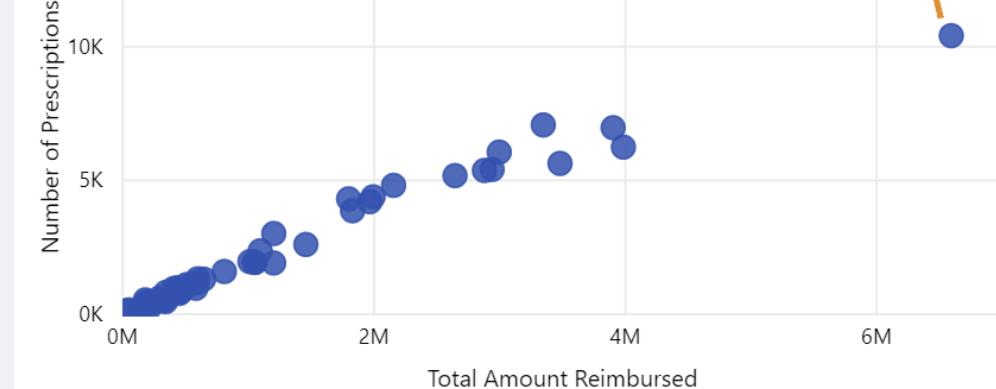
### (AVG) Medicaid Amount Reimbursed and (AVG) Non Medicaid Amount Reimbursed by...

● Missouri & North Carolina ● Other ● South Carolina



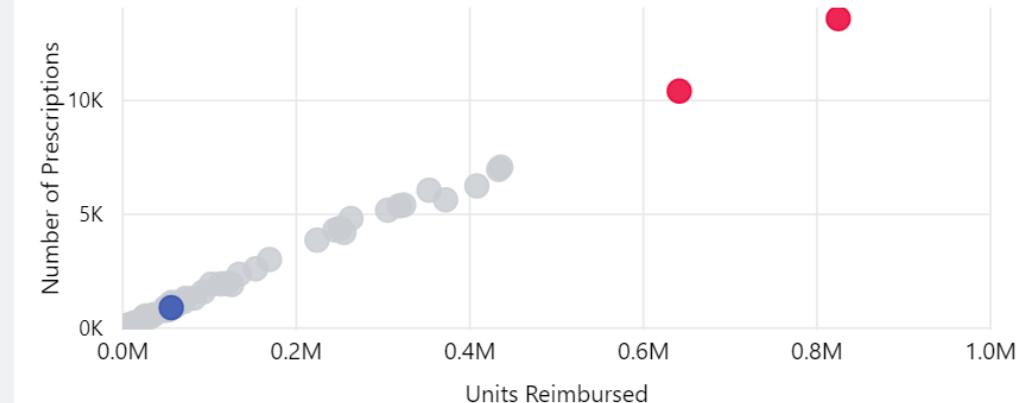
**Missouri and North Carolina** are at the centre of a lawsuit involving mis-marketing of OxyContin. Purdue settled a lawsuit in 2007 with South Carolina.

### Total Amount Reimbursed and Number of Prescriptions by State



### Units Reimbursed and Number of Prescriptions by State and State (groups)

● Missouri & North Carolina ● Other ● South Carolina



# Have an interactive experience



Bar Chart

Item

Slicer 1

- CategoryName
- Beverages
  - Condiments
  - Confections
  - Dairy Products
  - Grains/Cereals
  - Meat/Poultry
  - Produce
  - Seafood

February

March



KPI 1

Slicer 2

- Country
- Argentina
  - Austria
  - Belgium
  - Brazil
  - Canada
  - Denmark
  - Finland
  - France
  - Germany
  - Ireland
  - Italy
  - Mexico
  - Norway
  - Poland
  - Portugal
  - Spain

July

Augus



KPI 2

Slicer 3

- City
- Aachen
  - Albuquerque
  - Anchorage
  - Århus
  - Barcelona
  - Barquisimeto
  - Bergamo
  - Berlin
  - Bern
  - Boise
  - Bräcke
  - Brandenburg
  - Bruxelles
  - Buenos Aires
  - Butte
  - Campinas

December



KPI 3



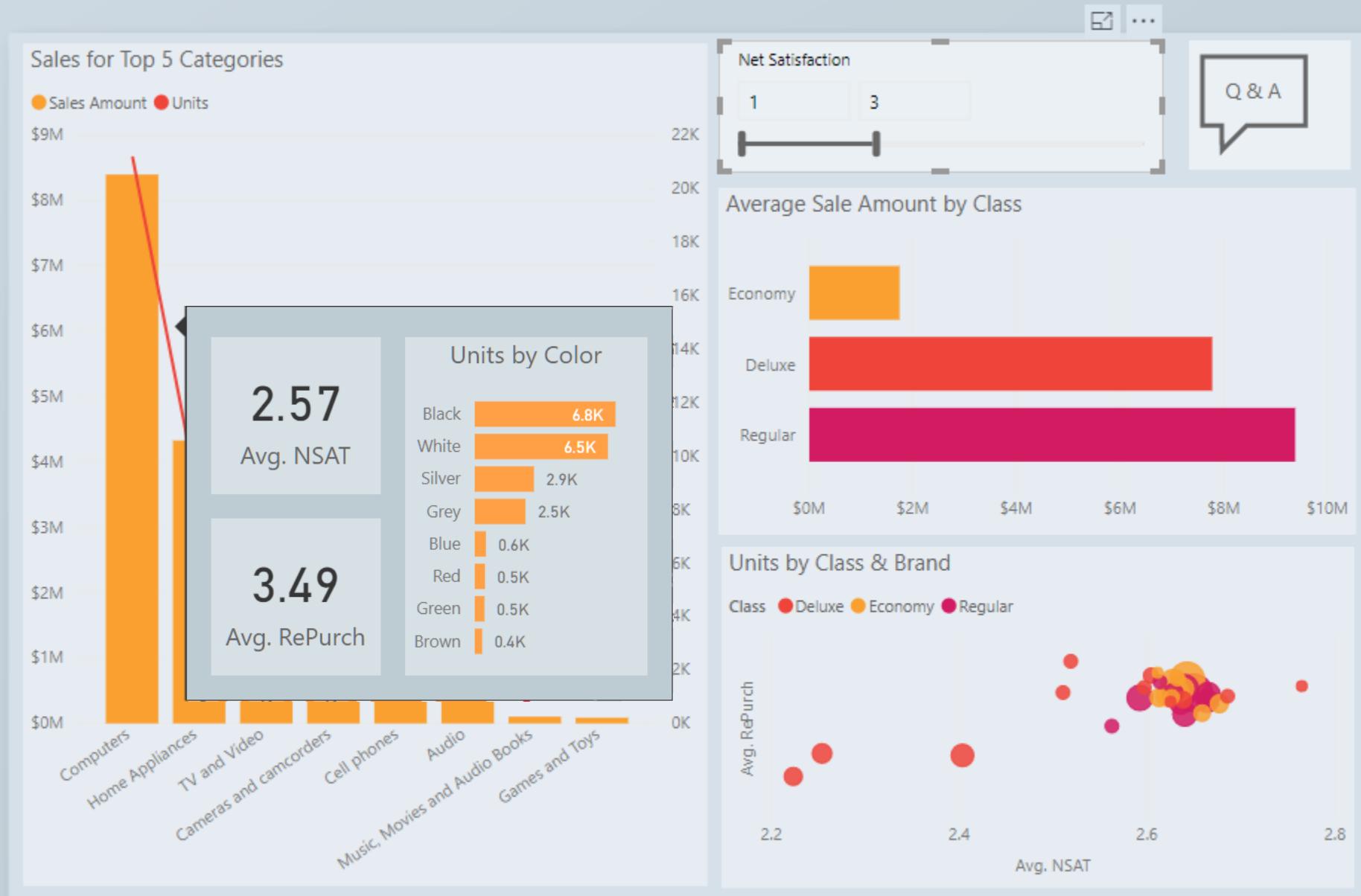
powerbi.tips



# Ensure consistent context



# Progressive disclosure





Let them ask questions

## SUGGESTED QUESTIONS

sales amount for Germany

sales amount for Germany by year

Add

X

SalesAmount by OrderDate

\$16K

\$14K

\$12K

\$10K

\$8K

\$6K

\$4K

\$2K

\$0K

year (Sales &gt; Date Hierarchy &gt; Year)

sale (Sales)

date hierarchy (Sales &gt; Date Hierarchy)

manufacturer (Sales &gt; Manufacturer)

order date (Sales &gt; OrderDate)

sales order ID (Sales &gt; SalesOrderID)

sales channel code (Sales &gt; SalesChannelCode)

prod ID (Sales &gt; ProdID)

style name (Sales &gt; StyleName)

customer account number (Sales &gt; CustomerAccountNumber)

store key (Sales &gt; StoreKey)

year by style name

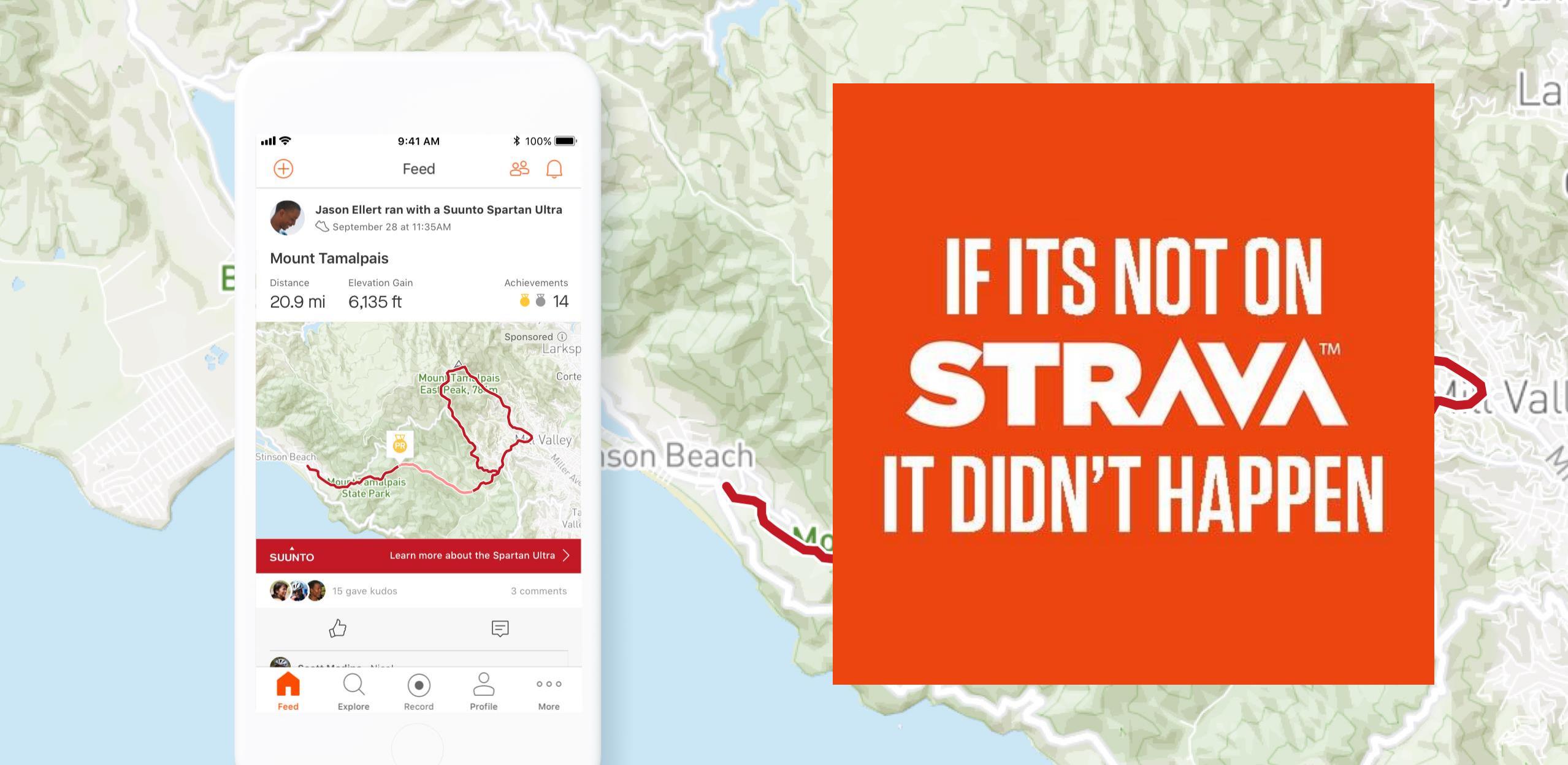
YEAR BY CUSTOMER ACCOUNT NUMBER

Showing sales amount sorted by order date when Germany sales were ordered

Filters (including highlights) from the source page have been applied.

Save and close

Cancel



Power Platform  
World Tour

#PowerplatformWT  
@MarcLelijveld

# Background, theme & wallpaper

# Demo strava data – part 1

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- Choose a lay-out for your report for be consistent in your presentation
- Create background to limit the amount of objects
- Create theme file and apply your corporate identity
- Add a wallpaper for further customizing the lay-out

# Conditional formatting

# Demo strava data – part 2

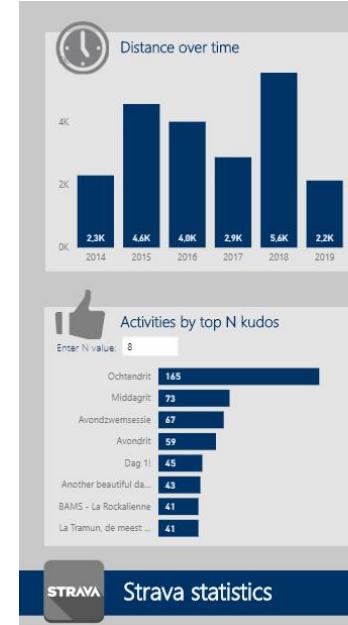
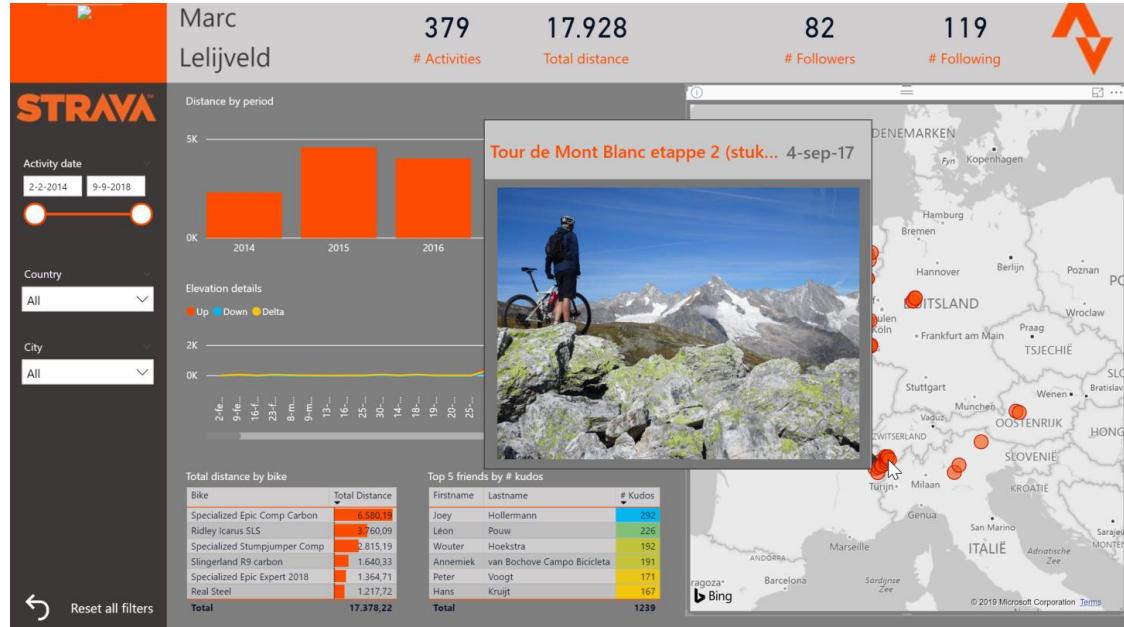
---

- Tables and matrixes look boring and like classic reports!
- Databars, text color and cell color!
- Based on cell value or other measure.

# I'm going to tell you a story



# Demo strava data – part 3 (final)



Marc Lelijveld



459



21.596

Distance (KM)



# Recap

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- Storytelling is not a science; it is an **art!**
- **Understand** your end-user. Facilitate them with data.
- Send your users on an adventure and make them part of **your** story!
- Add your **identity** (corporate or your own) .
- Power BI is full of great features, **make boring data shine!**

# Download for free!

[Https://bit.ly/cheatsheetpbi](https://bit.ly/cheatsheetpbi)



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- 🐦 @MarcLelijveld
- linkedin.com/in/MarcLelijveld
- 🌐 Data-Marc.com



The document is a comprehensive guide for Power BI users, covering various aspects of the tool. It includes:

- Power Query** section with tips like "Give every step an explanatory name and merge steps of the same type, for better M coding experience."
- Data Model** section with tips such as "Always use a separate Date table in your data model. Mark it as a Date Table, improves clarity and manageability of your report as transformations are located where you expect them, it also improves query speed of the model and reduces refresh duration."
- Code examples** for Power Query M, including snippets like `if > 0 then A else B` and `#shared to list all functions and get PQ documentation`.
- Resources** section linking to Power Query M Formula Reference, DAX Studio, and Tabular Editor.
- A footer with the Macaw logo and links to the original GitHub repository and the PDF download.