

Power BI Meets Design

Creating Accessible, Intuitive, and Action-Driven
Reports

**SPENT HOURS
BUILDING AN
AWESOME
REPORT**



**NO ONE
USES IT**



Valerie Junk – PorcuBI

- Data Analytics & Visualization
- Data Storytelling
- Process Improvement
- BI Standardization

Power BI & Design

- **Intuitive & Action-Driven**
 - Simple but informative
 - Action driven
 - End-user oriented
- **Accessible**
 - Keyboard navigation
 - Screen reader
 - Contrast & Colour blindness

Perfect Report

... the audience just doesn't get it!



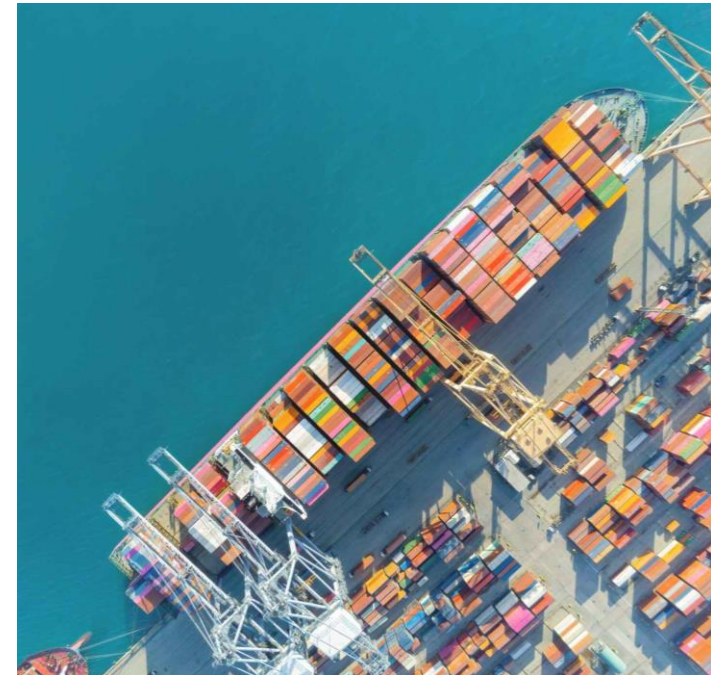
Not designing for the audience

A real example

Vessel tracking

- Loading time
- Start time
- Time of arrival
- Unloading

Need: Efficiency report



Not designing for the audience

A real example

Huge amounts of data

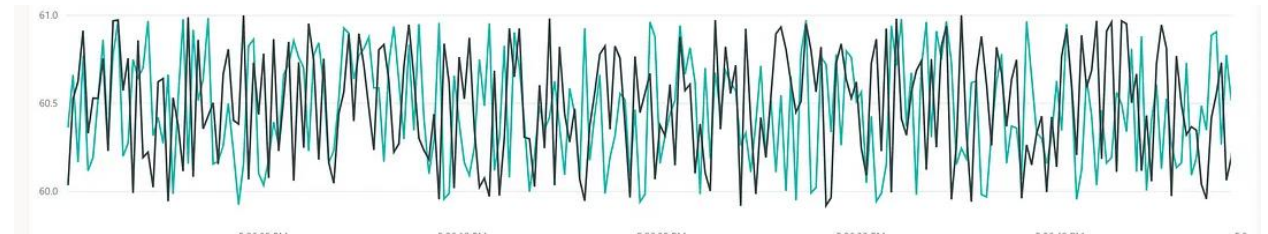
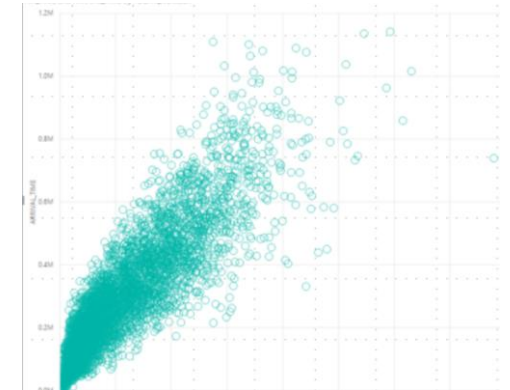
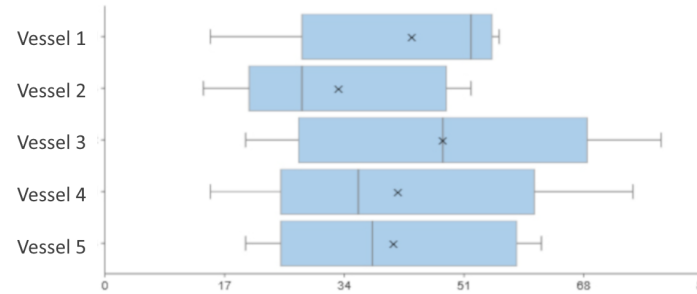
- GPS by second
- Vessel data
- Weather & current data
- Load/Unload data



Data Science to the rescue

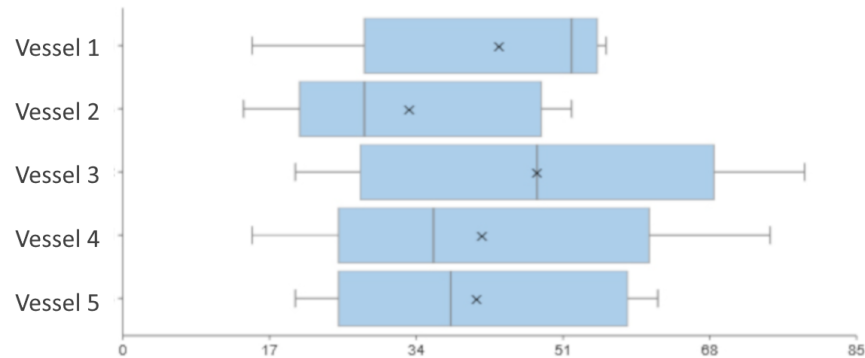
The result

- 25-page report
- No titles and descriptions
- Up to 40 vessels in one visual
- Countless filters

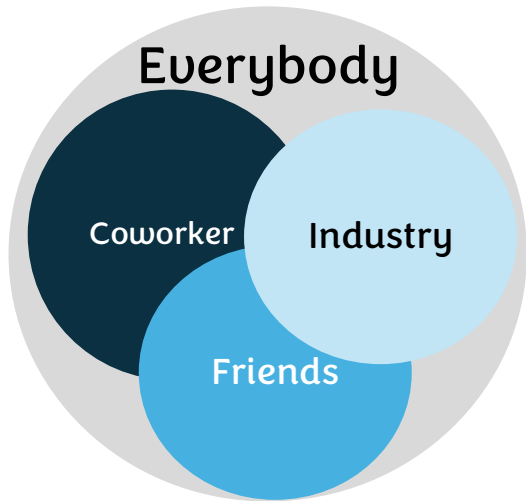


The End user

Vessel 3 won!



Everybody knows fallacy



**Everybody
else**

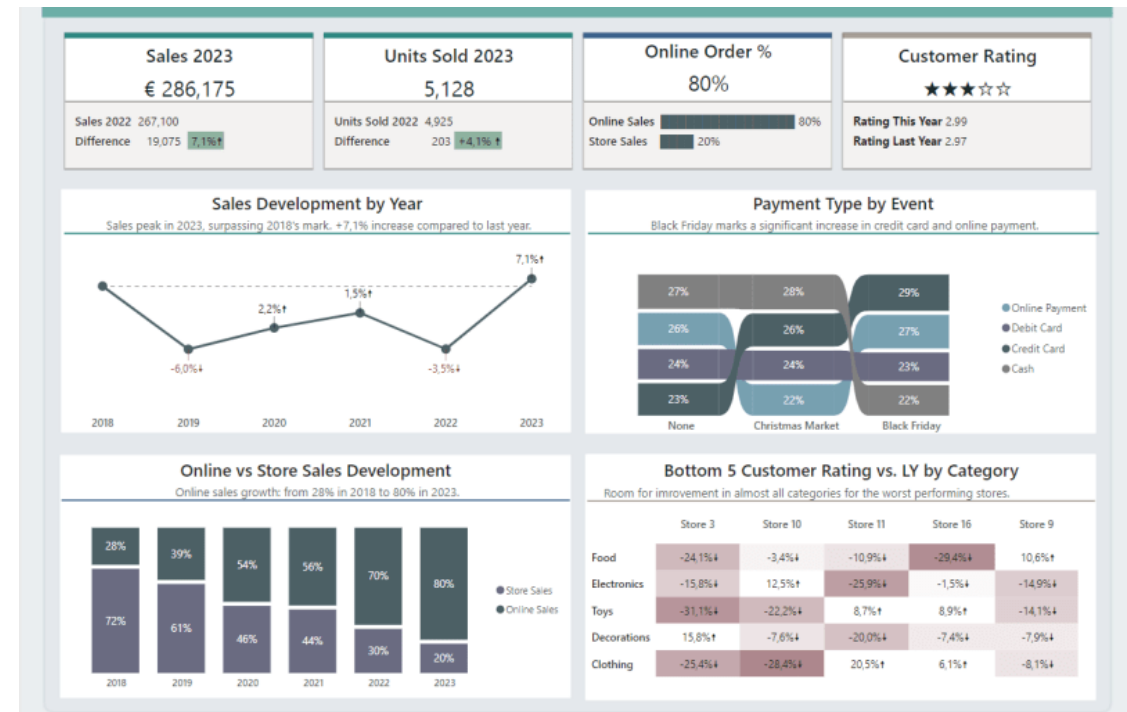
Design for the audience

- Who is the audience?
- What is their level of experience?
- How are they going to **use** the report?
- How much **detail** do they need (and understand)?
- What **actions** do they want to take?



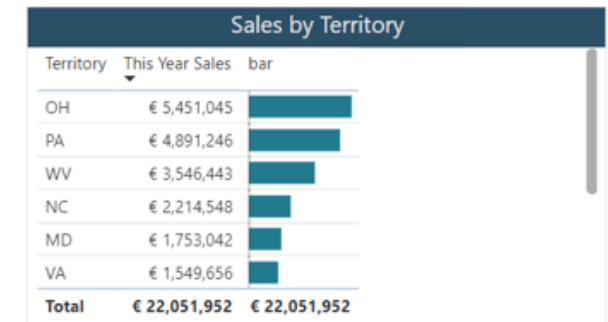
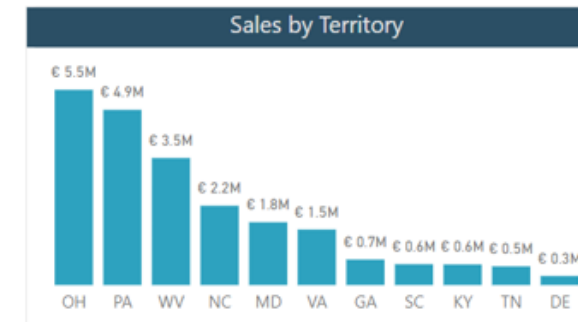
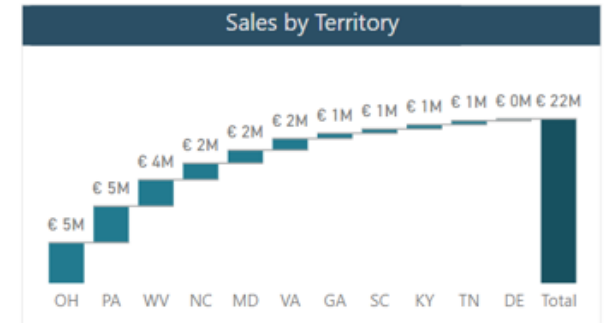
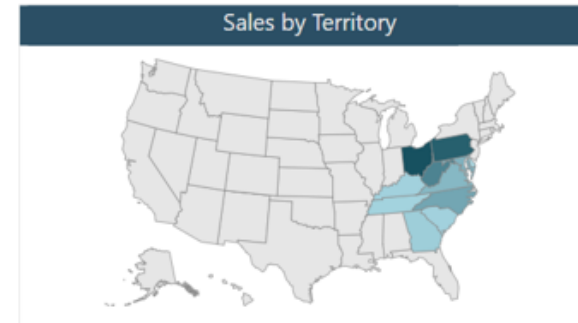
Asking Questions

- No need to reinvent the wheel.
- Ask about prior experience.
- Provide examples.
- Ask what actions they expect to be able to take.



Visual = Goal + end-user

- Goal (actions to take) & end-user determine the visual.
- Same data can be visualized in different ways.



Small changes – huge effect

Sales Difference TY vs LY by Product				
Category	Gross Sales	Difference LY	Units Sold	Difference LY
Office Electronics				
Product 4	€ 15,468,394	-583,396.53	88,790	-31,303.00
Product 6	€ 12,043,158	1,804,151.16	40,983	-15,084.50
Product 5	€ 10,276,638	5,093,043.05	51,091	-2,640.50
Product 1	€ 7,302,443	-502,078.43	47,291	-8,067.50
Product 2	€ 7,082,499	-313,509.85	30,822	-10,722.00
Product 3	€ 5,204,885	-1,438,575.67	33,837	-16,389.00
Headphones				

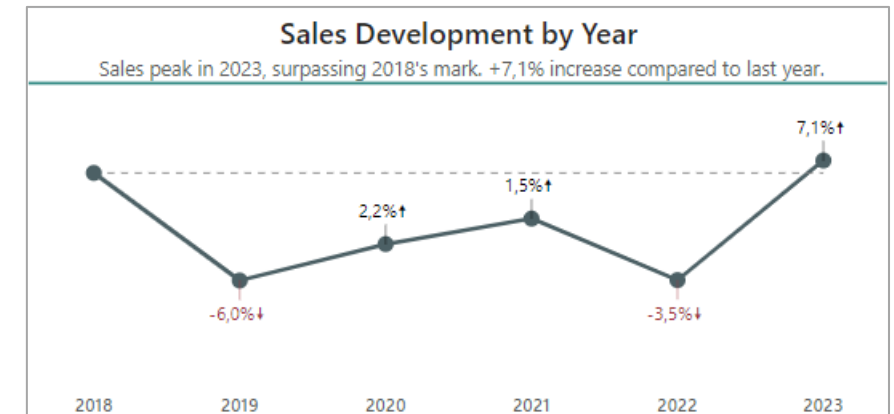
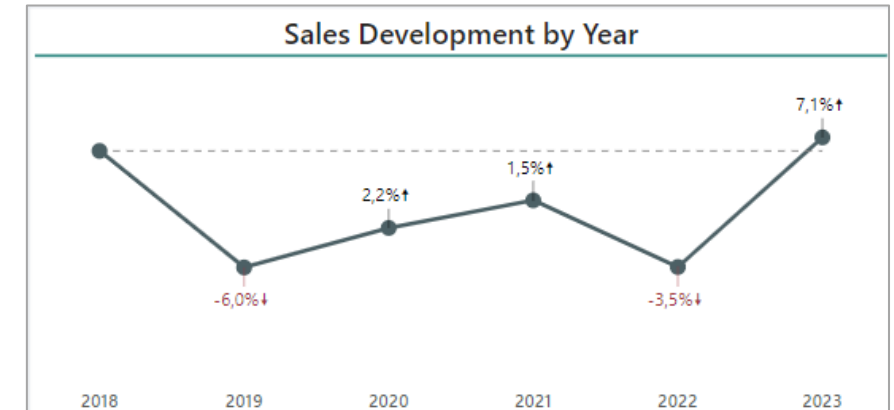
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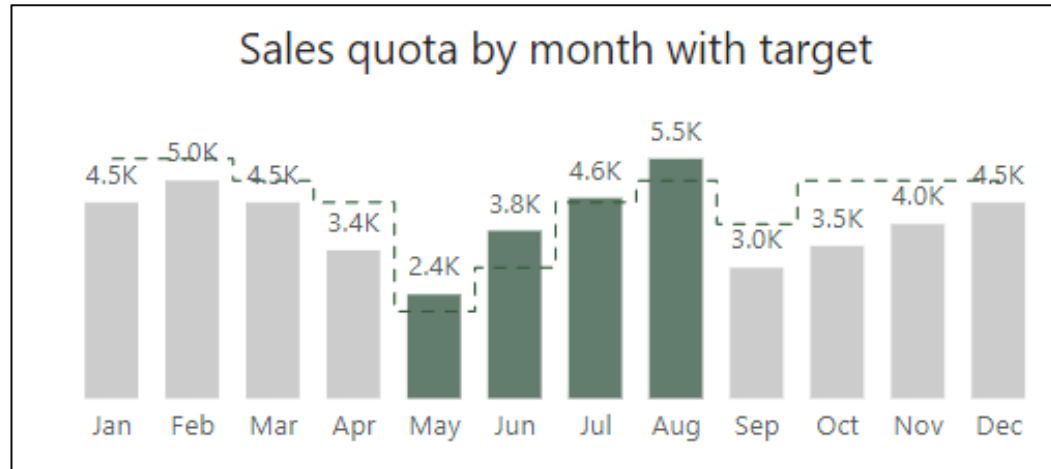
Meaningful (Sub)titles

- Provide context
- Provide first insights
- Guide the end-user
- End-users don't need to analyze data to see results



Adding Context

Legend & Colour coding



Simplify

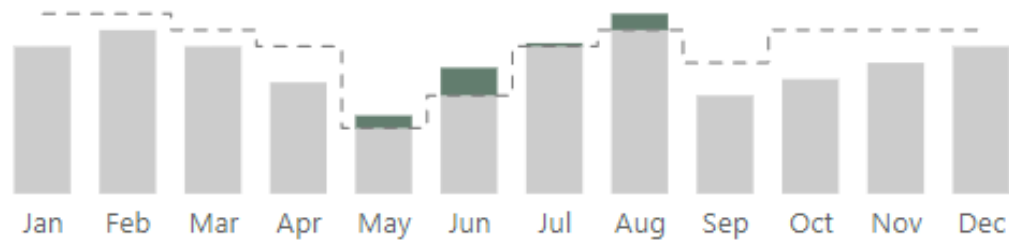


Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

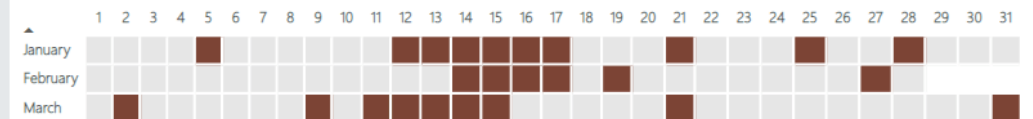


Achieving more than expected in may, june, july and august

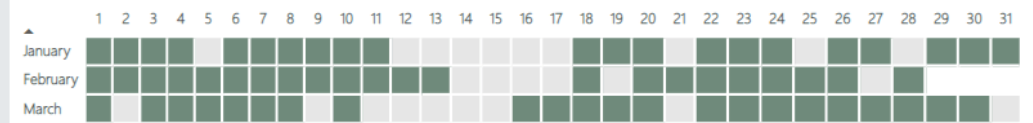
● Below target ● Above target — — — Target



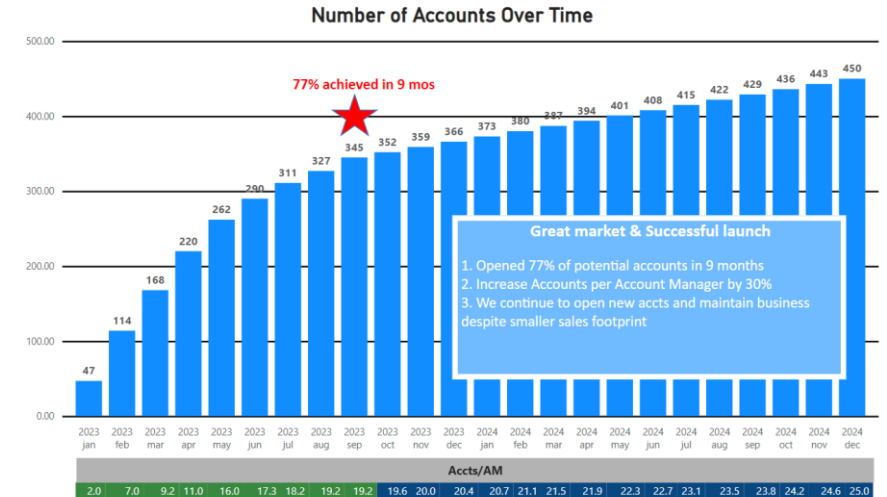
Dark red columns = missed daily target.



Dark green columns = hit daily target.



Don't overestimate the time the users is willing to spend to find information.



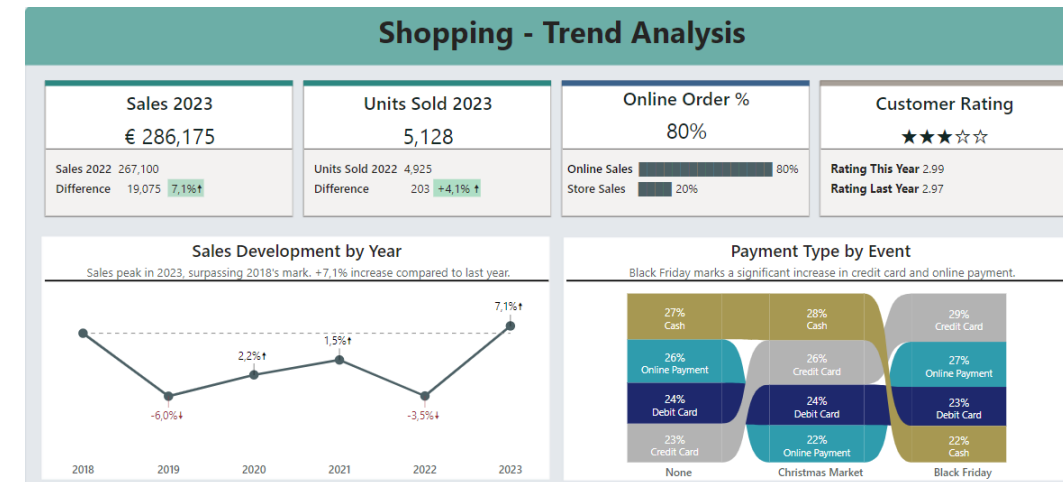
Accessibility

- **Intuitive & Action-Driven**
 - Simple but informative
 - Action driven
 - End-user oriented
- **Accessible**
 - Keyboard navigation
 - Screen reader
 - Contrast & Colour blindness

Keyboard navigation

All elements can be navigated using keyboard shortcuts

- **Shift + ?** = Overview shortcuts
- **Ctrl + F6** = Move between sections
- **Ctrl + Shift + F11** = Show visuals as tables
- **Enter** = Enter/Exit a visual
- **Ctrl + Space** = Multi-select data points



Shopping - Trend Analysis

Sum of TotalPrice	Sum of Quantity	Online Order %	Customer Satisfaction Rating
€ 286,175.16	5,128	79.8%	★★★★☆

Sales Development by Year
Sales peak in 2023, surpassing 2018's mark. +7.1% increase compared to last year.

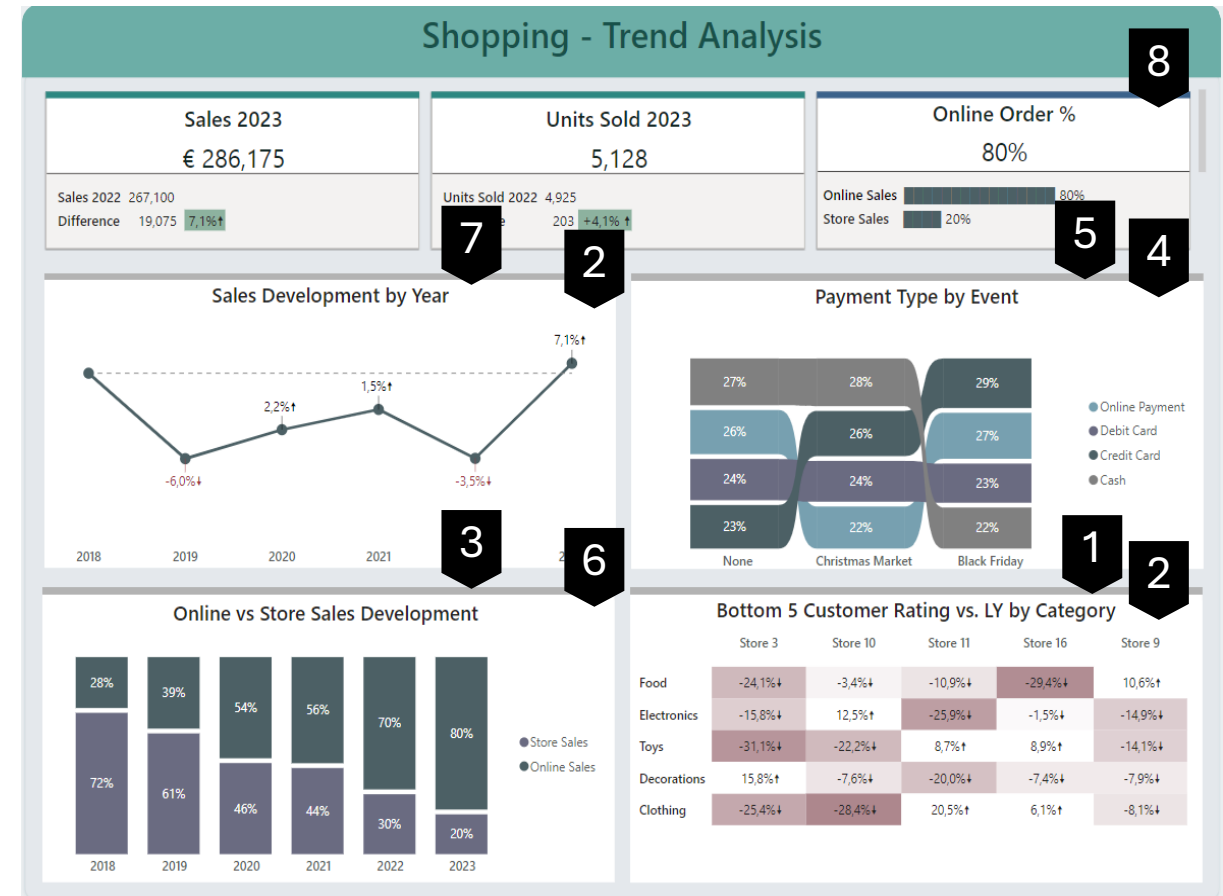
Year	Sum of TotalPrice	Sales 2018
2018	€ 284,186.35	284186
2019	€ 267,035.54	284186
2020	€ 272,851.26	284186
2021	€ 276,911.95	284186
2022	€ 267,099.90	284186
2023	€ 286,175.16	284186

Payment Type by Event
Black Friday marks a significant increase in credit card and online payment.

Event	Online Payment	Debit Card	Credit Card	Cash
None	26%	24%	23%	27%
Christmas Market	22%	24%	26%	28%
Black Friday	27%	23%	29%	22%

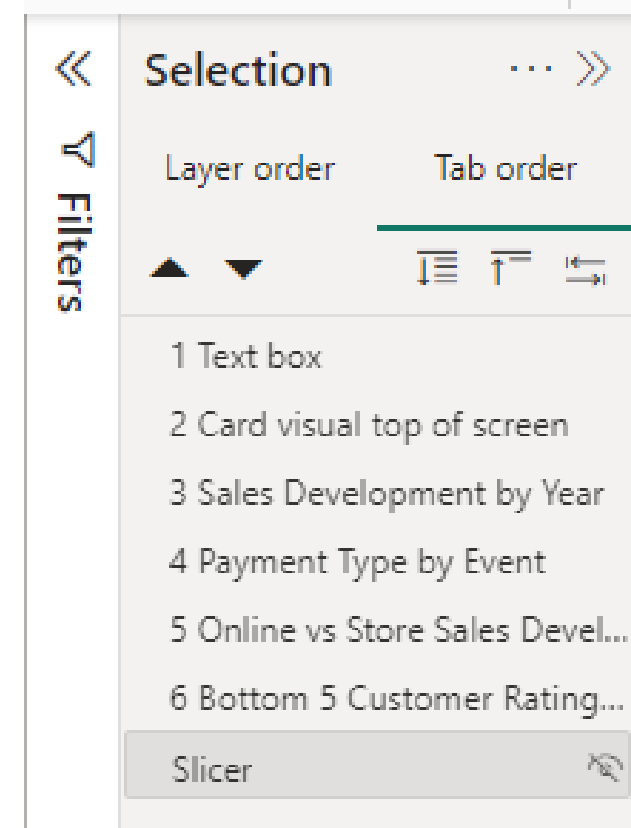
Tab order – First experience

- Random? (No, it isn't)
- Selecting shapes?
- Title inside shape not selected?



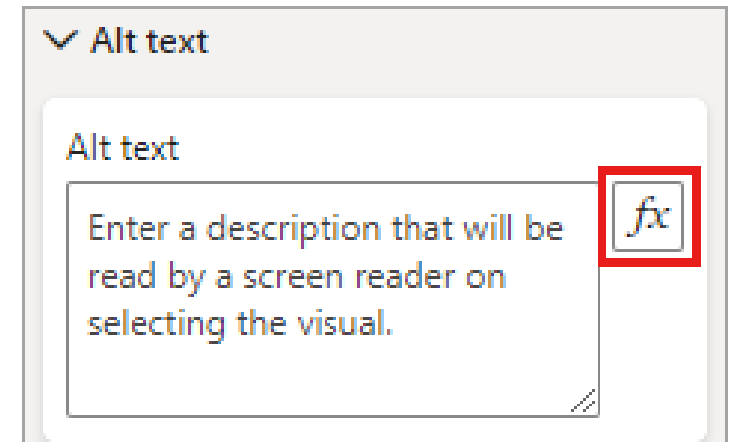
Changing the tab order

- View → Selection → Tab order
- Importance of naming elements.
- Hide everything you don't want to use.

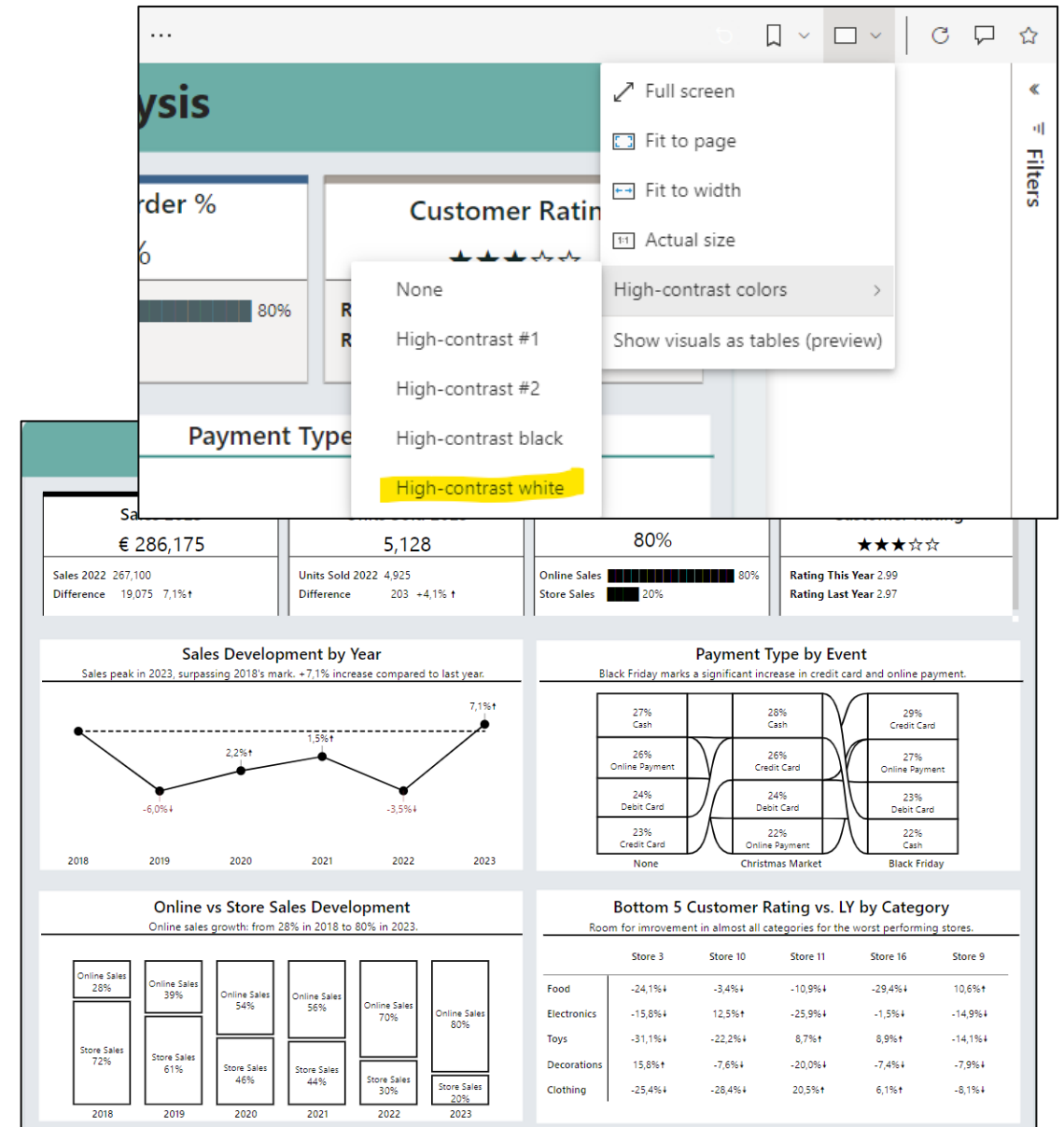


Screen Reader – Alt text

- All elements.
- Read by screen readers.
- Meaningful information about the element.
- Max 250 characters.
- Use DAX to make it dynamic.

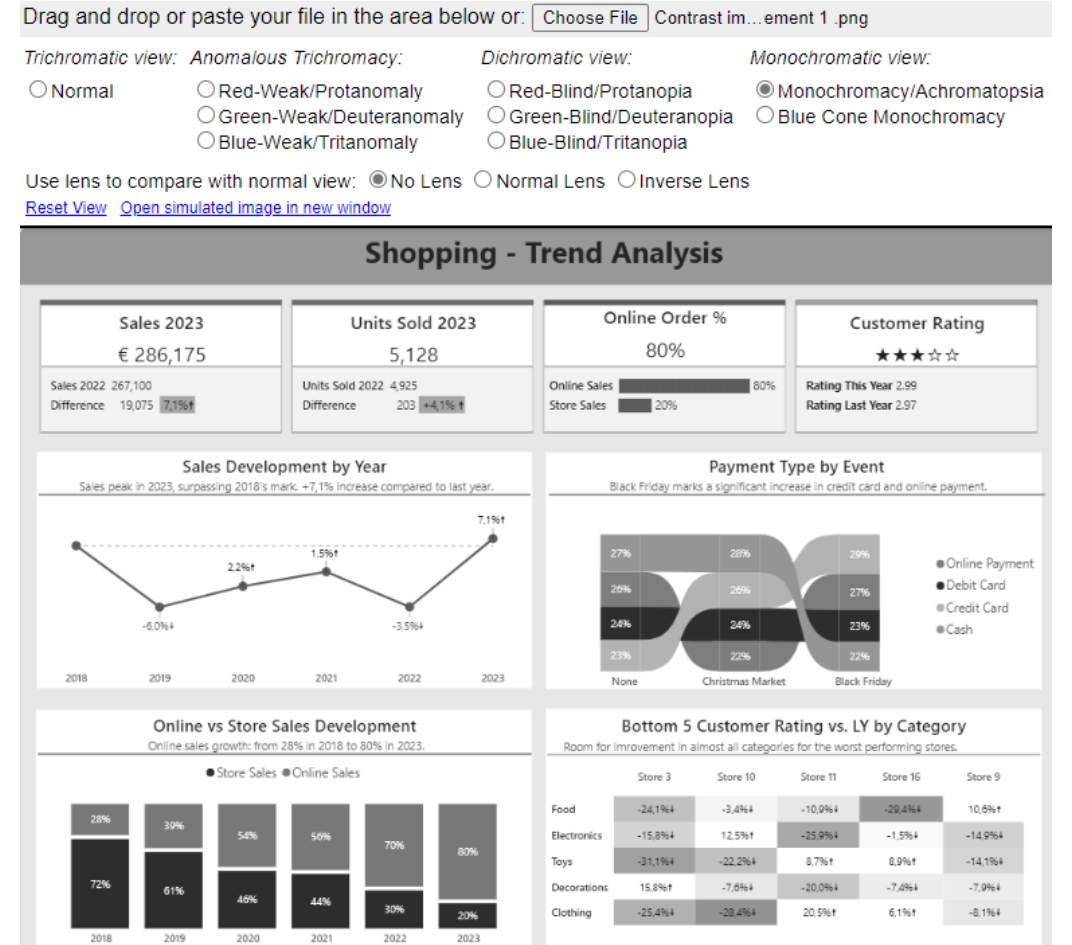


High Contrast



Color check

- www.color-blindness.com
- Squint test
 - Turn down the brightness of screen
 - Do you still see the most important information?
- Check with the end-user



Takeaway

- Design for the audience
- Goal & End-user = Visual
- Provide context & meaning
- Accessibility is not a buzz word
- Keep it simple

Contact



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