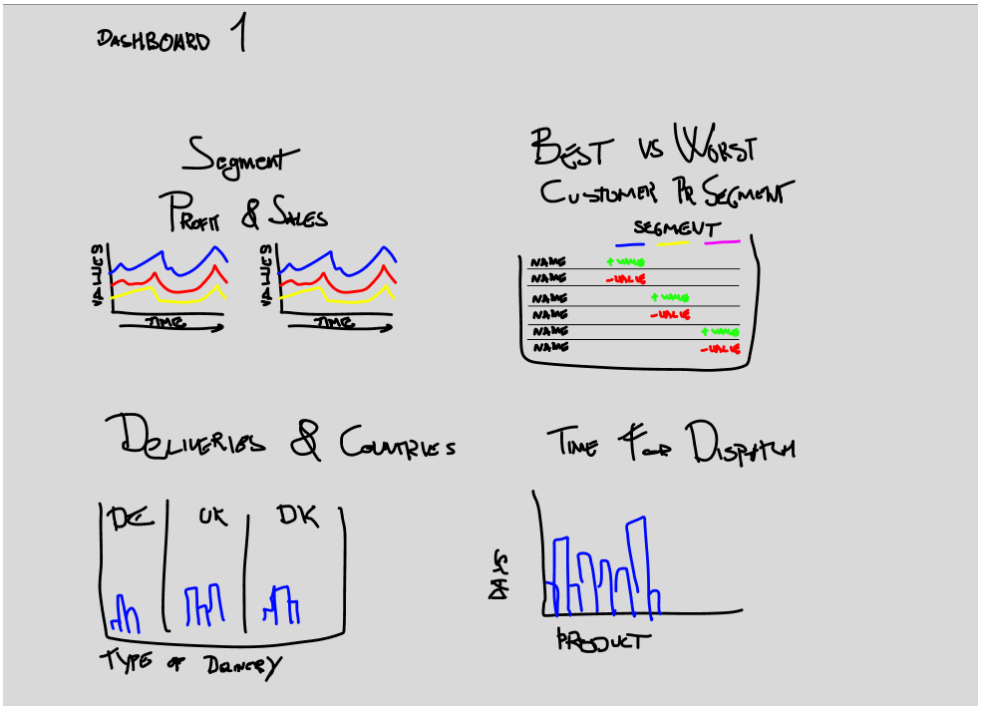
Project report

My goal with these datasets, is to take the data and present them in an understandable and aesthetic way that makes it easier for the user to withdraw the most important information.

Dataset 1:

Draft.

To start off working with the first dataset I began with sketching how I roughly visualized the product in Figma.



I tried to visualize what data would be interesting for a sales manager and give both exact data and an overview of it. I started with a line graph for comparing the profit and the sales of every segment over time. When it came to comparing the best and worst performing segments, I initially thought it would be a good idea to use a table, to give a good amount of data to the user. Lastly, I had the idea that I could use bar graphs to visualize what the different countries or segments preferred in terms of delivery choice and the average time from order until dispatch.

Main

Description

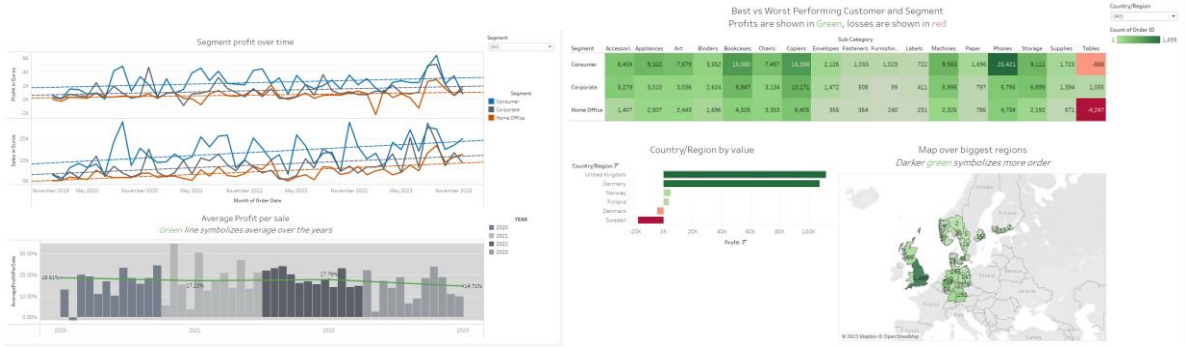
This dataset has the focus of visualizing the performance of the different branches, categories and products of a company. It compares the different regions; sectors of customers and what products perform well.

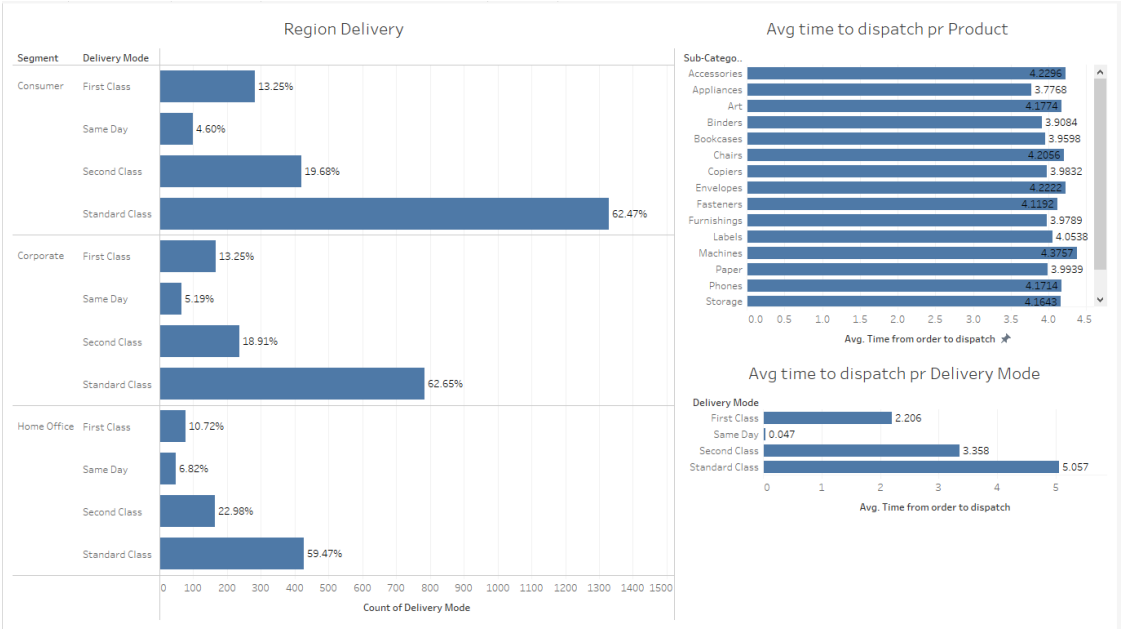
Dashboard

When designing this dashboard, I wanted to give an in-depth look at the data but represented in a pleasant way. I did not want to filter out too much information for the user, but rather give the user the option to filter to select the data they themselves wanted to view. Given that

the user we are designing these visualizations for will be a sales manager for the company, we can assume that they understand analytics and data on a level. Throughout the dashboards I chose to therefore use green and red for profits and losses, and simple colors otherwise to keep the same theme going throughout the visualizations.

Dashboard development





As I started developing the insights for the dashboards they slowly started deviating from the original sketch. While the core of the sketch is still visible as a red line throughout the dashboards, I believe they developed into something more satisfying to the task.

Beginning with the first dashboard, I chose to go forth with the same line graph to show sales and profitability over time for the different segments, using color to distinguish the different segments. I made changes to the presentation, choosing to have them stacked horizontally to easily see the correlation between the sale and profits over time along the same axis. I also implemented the trend line, to more easily show the general increase in both sales and profits, even though the graph gives a volatile impression. I also implemented the possibility to filter between the segment you want to see or exclude. As an addition to this dashboard, giving more insight into the data behind the profit of the company, I chose to include a bar graph showing the monthly profit in percentage relative to the sales. To further help the user visualize the overall profits, and not just look at the specific monthly profit I implemented a

green line graph going across the bar graphs as a trend line. This helps the user see the overall picture, even though there may be outliers in the months where some are negative.

The second dataset underwent quite some dramatic changes. Instead of simply showing a table for the data, it seemed more pleasing and easier to read to use a highlight table for this. I chose this visualization because it easily highlights the performance of the different categories, for easy assessment (Knalfic, 2015, p42). While also giving the opportunity to deep dive into the actual numbers of each sector, given that this is for a sales manager. Using the green color (Knalfic, 2015, p129) for profits and red for losses, the user can easily spot the most interesting data in the different segments and sub-categories, while still retaining the information for the other categories that are not top or bottom performers. I chose to pair the highlight table in the dashboard with a bar graph showing the profits of the overall countries, giving further insight into what areas and countries that seem to not be profitable to focus on for the company. Again, using the same color scheme as before. To further pair this dashboard, I also included an interactive map which shows the profits per region, which you can filter by country to have a deeper inspection of the country's regions and their performance in terms of profits. Here again the same color scheme is used, and when you zoom in the color is relative to the country.

The third dataset gives us further information about the delivery methods the company offers its customers on their orders. Using a bar graph for the delivery for the segments it gives us a clear overview about which methods is the most used. When looking at the statistics for the average time to dispatch a product based on the product and not delivery method, we can tell that regardless of item the average is around 4 days.

Meaningful insights

Volatile Months.

An interesting insight to the first dashboard is that there seems to be clear trends when it comes to the company's months and their profits. The best and worst performing months change from year to year, and drastically so. The biggest catch of the eye here being February. One year it has a negative performance, being the only one over the timespan to do so, yet still performing the best overall the next year.

Profits and Sales go up, profit per sale goes down.

Another interesting pickup is that seeing the trend lines from all the segments over time in both sales and profits going up. This means that both the volume of the revenue of the company and the profits is going up, however, the overall profit per sale is going down. This seems to be a matter of the cost of the sales growing exponentially faster than the profit. From this we can theorize that after a certain point it will not be profitable to expand the company's sales in the current state.

Nordic countries, a losing battle?

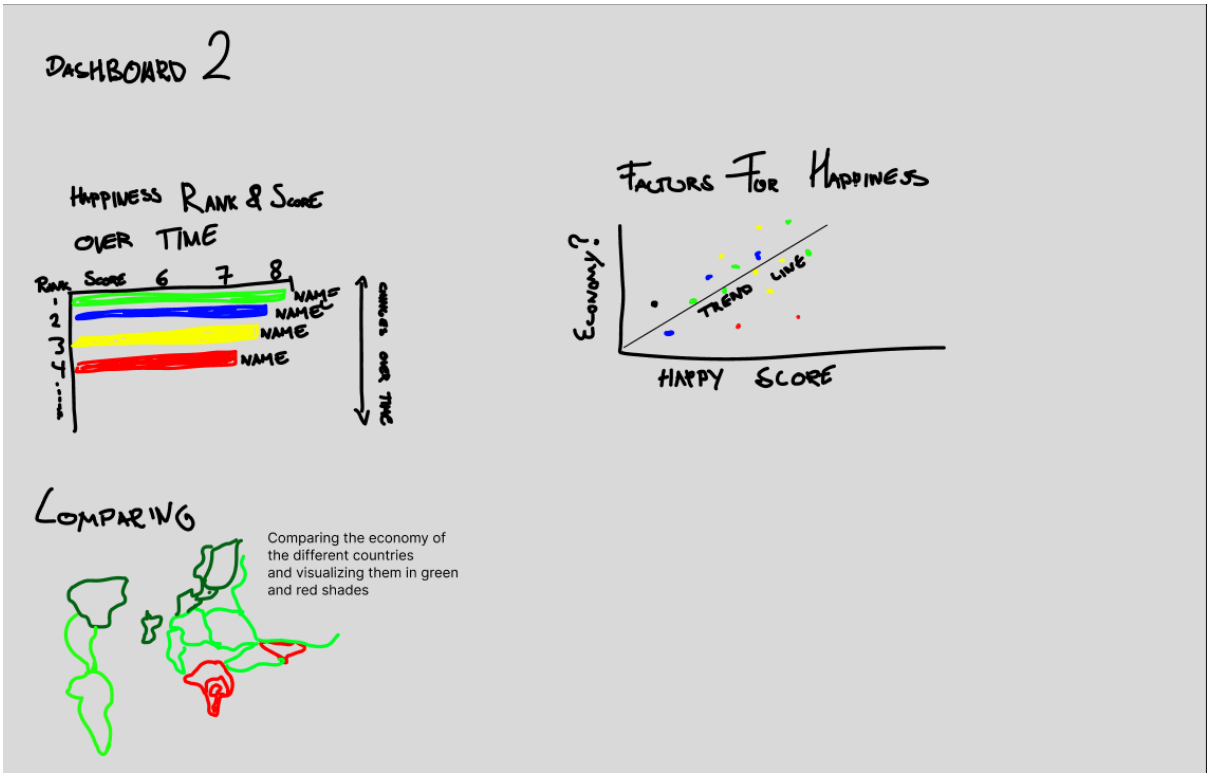
Looking at the overall profitability by country, the Nordic countries seem to not anywhere near as profitable as the UK and Germany, which is the company's biggest clients. From the

bar graph we can see that half of the Nordic countries are responsible for the loss of the company, and the amount far outweighing the profit from the positive countries.

Dataset 2:

Draft.

When it came to the second dataset, I also chose to start by sketching a draft in Figma. The first point I got from reading the worksheet was the importance of being able to compare the data over the time period that was provided. I wanted to emphasize this timeline and therefore wanted to make charts that could be played to display these changes over time.



Roughly sketched, I drew a bar graph that would have a ranking system which shows the rank and score of each country in real time based on the data provided for each year.

The scatterplot was to see the correlation between happiness score and the factors that contribute to a happy population. There could be outliers, but I believed the median would show the trend regardless.

The map would show the countries with a good economy in green and bad economy in red. This would give a good overview of which areas were prosperous and which fell behind. This I think will give us insight into what areas were developed countries and which were not.

Main

Description

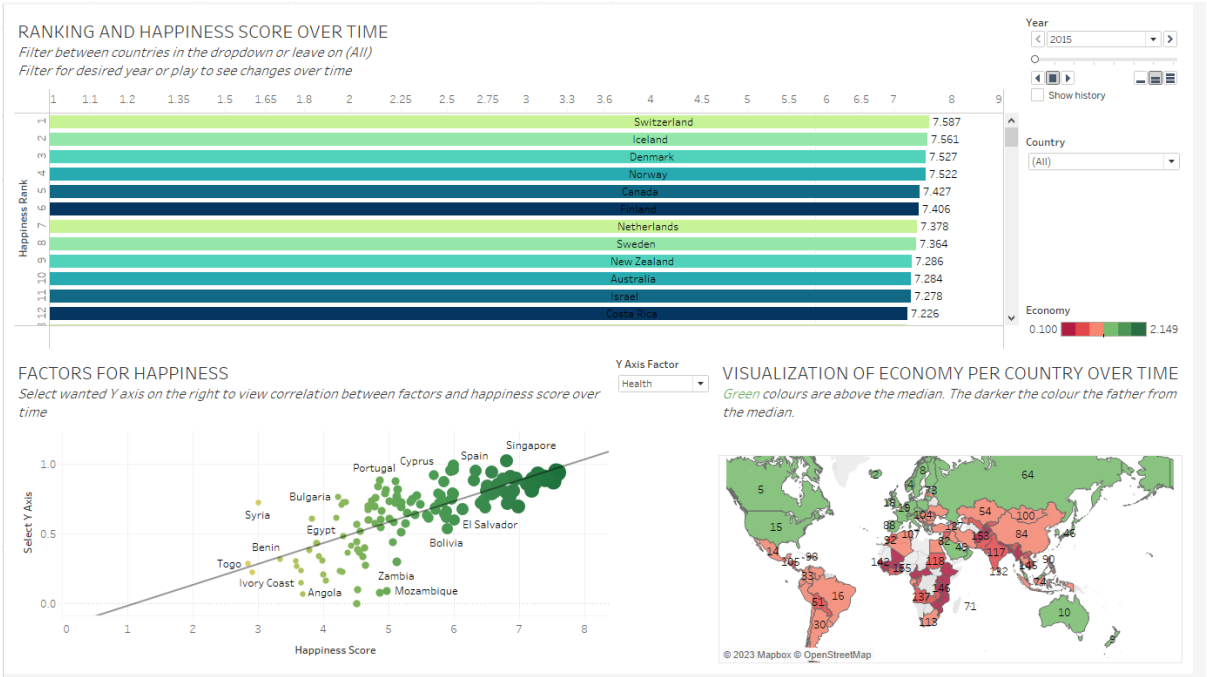
This dataset has a focus on visualizing the overall happiness of a country, how they perform in comparison to other countries and all the factors considered to contribute to the happiness of a population.

Dashboard

When designing the dashboards my goal was to keep the visualizations simple but understandable for the public. Being given a dataset containing over 100 countries I knew that I wanted to keep the visualizations simple and more of an overview as to not overwhelm the user. A key factor I also wanted to incorporate was giving the user the option to single out information that was interesting to them, for example viewing their own country.

Since we do not know the analytical level of the user, I accounted for little to none. Therefore, I chose to not have overwhelming colors and ended up using colors mainly as a tool to easier differentiate between bars. The color I chose to use the most was different shades of green as to not make the dashboard gloomy. It is after all, statistics about happiness. As mentioned in our lectures, green is a color associated with happiness and good. This was therefore a natural color to choose, however for the bar graph ranking the countries it did not work as well. The color variation was too close to make it easy to distinguish between the different bars and I did not find it sufficient. Therefore, for this graph I chose to use different shades of blue and green. This decision is purely to make it easier to separate the bars without having the colors represent the values, but letting the placement of the bars do the representations in that regard. Taking color-blindness into account as well, using these colors provided enough contrast as to not cause any problems for any color blindness.

Dashboard development



As you can see, my dashboard for this dataset, surprisingly didn't undergo any drastic changes and still resembled the mockup very well. The biggest difference I made during the making of the dashboard was to give the user the option to choose what Y-axis they wanted to view when looking at the correlation between factors for happiness and the score. The reason for this change was to allow the user to access all the data that is used to measure the overall score, while not being overwhelmed by all the data at once. By being in control of the axis on their own they can look at the data at their own pace and look more closely at the one they find interesting.

As for the first insight, my reasoning for choosing the vertical bar graph for the rankings over time, is that I found it to provide an easy-to-read representation of the highest ranking of the countries, in a descending matter. As the time passes you can also easily see the movement of the bars.

For the second insight I chose a map for the solution, to easily see the difference between continents and regions. This expanded the previous insight from just a per country view, and you can easily see whole areas as either happy or unhappy.

For the third insight I was a bit torn for choosing a scatterplot or not. Considering this technique is considered complicated to understand but a great way to see if there is a relationship between the data (Knalfic, 2015, p43). I still felt like it gave the best representation of the correlation between the two axes. Therefore, I chose as a compromise to include a trend line, to highlight the correlation between the two.

Meaningful insights

Economy going up, generosity going down.

Looking at the factor for happiness sheet, you can see the economy for most countries volatile from year to year, but with a steady overall increase, followed by a big increase in 2022. What's interesting is that even though the graph has gone up regarding economic growth, the generosity steadily been on the decline, yet still had a positive trend. And when the economic boom happened the generosity became a negative trend.

Fewer outliers the happier the country.

An interesting insight is that there a steady cluster regarding the factors among the happier countries on the graphs. While the less happy countries are more scattered and have more outliers regarding the different statistics.

Generosity not a factor for happiness?

On the scatterplot chart, you can easily see there is a trend between the happiness score and the different Y axis option, which on exception. The generosity statistics does not seem to affect the trend for the happiness score, even being negative at one point even though the overall happiness of countries increasing.

Happiness in the rich west, unhappiness in underdeveloped countries.

Looking at the map of the of the economy per country which also shows the happiness rating of each country you can tell that the red and orange countries (poor countries) also have the highest lowest rating of happiness. These red countries are concentrated around parts of the world which are often considered under-developed countries, such as big parts of Africa, the middle east and South Asia, followed also by South America.

Resources

Knaflic, C.N. (2015). Storytelling with data: A data visualization guide for business professionals. John Wiley & Sons