

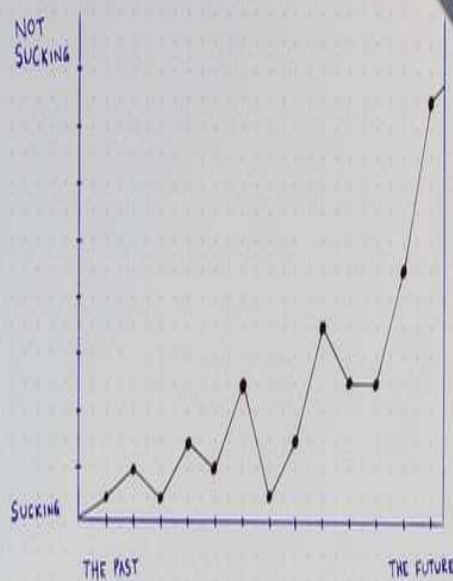
Visualizing and testing COVID data

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Contents

List of tables:	2
Data Display, extrapolation and discussion of the information observed	2
Colours and shades of the infographic, and their meanings.....	2
Mathematical and statistical base knowledge recognized into the infographic.....	2
How understandable and easy to read the infographic is, critics and good features.....	2
Difficulties met	2
Advices to improve the infographic	2
Introduction:	3
Data Display, extrapolation and discussion of the information observed:	4
Colours and shades of the infographic, and their meanings:.....	4
Mathematical and statistical base knowledge recognized into the infographic:.....	5
How understandable and easy to read the infographic is, critics and good features:.....	5
Difficulties met:.....	6
Advices to improve the infographic:	6
Conclusion:.....	6
References.....	7

List of tables:

Table number:	Description of the table:	Page number:
1	Introduction	3
2	Background of the infographic	4
3	Data Display, extrapolation and discussion of the information observed	5
4	Colours and shades of the infographic, and their meanings	5
5	Mathematical and statistical base knowledge recognized into the infographic	5
6	How understandable and easy to read the infographic is, critics and good features	6
7	Difficulties met	6
8	Advices to improve the infographic	7
9	Conclusion	7

Data Analysis and Visualisation: Assignment Component -1

Introduction:

In this assignment I'll analyse, based on the knowledge achieved, what I've understood from a given infographic and the application methods learned. I'll analyse the data, through a visual examination. I will then draw conclusions giving as much information as possible based on it. I'll be resolving two tasks. In the first, I'll be observing and analysing the infographic. Detecting and affirming if and where the contagion due to coronavirus, is more expected to rise or fall; observing where the differences between the countries shows higher or lower infection rates into the graph. While examining the chart, I'll then answer and report any good showcases to be considered from it and/or chances appeared. I will conclude considering if any advices or improvements can be proposed.

Data Display, extrapolation and discussion of the information observed:

The infographic appears well presented and simple to read, despite it represents the examination of one week. The combination of the black background with the different shades of colours that has been used, was made to help the reader, to evaluate the data given in an easier way and distinguish the information, being able to compare them. This background has been the best choice possible. A white background makes it difficult to focus on a point for more than a little time, so the colours become harder to focus on. Black helps our eyes to relax and to focus better on different colours, no matter how thick a line could be.

Colours and shades of the infographic, and their meanings:

We can notice four shades of colour. The blue [1] on the left-hand side. And other three different shadows on the right-hand side, we start from a yellow [2], slowly fading into an orange [3], easy to turn into a bright red [4]. All colours we can associate with what we face in our everyday life in the modern society.

The blue (here replaces the green,) helps us with a sensation of peace and calm, giving us tranquillity like if we are almost safe over there.

The yellow, gives us a warning. It's an alert.

The orange is still a warning, but with a deeper meaning. It symbolises an imperative meaning (like "if you don't pay attention everything may go in the wrong direction") and precedes the red.

The red, as a red sign at the stop light, or a red and white sign into a construction site, indicates danger and warns everyone to don't go further than that. In this case, once the red is passed, it can only lead us to the black [5] [6], which is not a good sign at all.

Mathematical and statistical base knowledge recognized into the infographic:

The table is divided in two by the y axis. The middle of the page is set as the point where everything begins, with starting point “0%”.

We can state that it's divided like this:

- On the **right** side of the y axis, we have all the countries where the spread is raising and the respective percentages of the increasing contagion
- On the **left** side, of the y axis, we can analyse the counties with the decreasing percentage rate of spreading

Along the x axis we can clearly see the percentage which represent the amount of increasing or decreasing of the spreading.

We can hypothesize that the y axis represents the values of the speed of the infection. The length of the line is linked to the visual representation. The higher the line, the faster the increase or decrease is occurring.

How understandable and easy to read the infographic is, critics and good features:

We now must take a deeper look into it; here we face our first obstacle. The intent of the table is to allow us to compare the data between different countries, and see which the differences are, and which direction is the spread taking. It's not easy to identify and generate something able to group so many observed data [7] all together, (which in statistics is represented by N) without occurring into an inevitable overlap in some points.

Because all the lines start at 0, it's difficult to clearly see which lines belongs to each country. Although the colour visualisation, the reader is unable to identify in what point a country's colour changes as they have all merged into one.

Even though the graph shows us the approximative value in percentage of the contagion for each country, it doesn't allow us to define how much is the real difference between the starting point (0) and the achieved point (% of spreading). That gives us an idea, of how much is $\pm$ the value of the spreading but not the real, effective values among the whole population.

Difficulties met:

Luckily, on the decreasing part of the graph we don't seem to encounter difficulties related to overlap of lines.

We should take note of the **dashed lines above**; if we try to follow them to the starting point from the left to the right side of the table, they bring us to the percentual value from where the spreading rate was calculate, and the value reached once decreased. That helps us to understand how much really the decreasing value of the rate is, compared to a starting point. However, it makes all the observation confusing.

On the right side of the x axis, we're facing obstacles since we read the first two/three names.

The change of colours in the close part to the y axis, and the inevitable intersect of lines makes it hard to follow the lines from the source till their end. That makes it complicated to follow them from high up till down below to the x axis line to establish the value of their percentage rate of infection.

Advices to improve the infographic:

It would have been easier if onto the y axis we have had the real values of the infection rates, and a small legenda in a corner to indicate a few features meaning (as the dashed lines that runs among the whole graph). It would had been helpful having the data set used to create the chart in a corner, available to be consulted in a moment of need. Creating more than one table with maximum ten values would have made all easier to read and compare.

Conclusion:

I can finally say that despite the difficulties faced, that's a good graphic to be analysed but it needs some changes in order to be easily readable and understandable for everyone.

References

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