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BSc Cloud Computing (Term1)

Data Analysis and Visualization /ACCA4002/

Assessment 1 – Task 1

/"Where is Coronavirus Rising & Falling?" – Infographic Report/

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~Table of contents~

<i>Page Heading</i>	<i>#</i>
1. Introduction – “<i>What is an infographic?</i>”	2
2. Message – “<i>What is the infographic showing?</i>”	2
2.1. Introduction	2
2.2 Key Message	2
2.3 Conclusion	3
3. Design	3
3.1. Color – “<i>This is colorful!</i>”	3
3.2. Font/Text – “<i>Can you read this?</i>”	3
3.3. Graphs and graphics – “<i>Strengths vs. Flaws</i>”	3
4. Cognition	4
5. Improvement	4
6. References	5

1. Introduction – “What is an infographic?”

Today, the world is becoming more and more saturated with information. There is a need for mechanisms to help us handle this vast amount of information more easily. Infographics can play an important role in simplifying this information and in improving data processing so that it becomes much easier and faster.

An information image (infographic) is a visual representation of information, data or knowledge. It differs from ordinary images and photos, as it provides information in a specific and practical way. It can be used for signs, maps, and technical documents that require a quick and clear explanation of complex information. Infographics include elements such as charts, maps, logos, calendars, illustrations, and graphics. [1]

2. Message – “What is the infographic showing?”

We can say, that a good infographic design is a combination of data visualization design and graphic design. Many of the good infographics follow a simple three-part story format:

2.1. Introduction

The infographic’s introduction contains the title, shown in a bigger font size – “Where is coronavirus rising & falling?”, a subtitle describing what data is shown – the “average percent change in weekly cases”, and in the top right corner – the date the infographic has been updated). The introduction, overall, is accurate, as it introduces the reader with the topic and has laid the foundation of the information perfectly.

2.2. Key Message

The key message can be easily understood, due to the colorful design of the graphic. On the left side, in light blue is shown the “good” side of the data where countries show decreased coronavirus infections. Light blue colors are often perceived as relaxed and calming [2]. As on the right side – we can see colors like red and orange, which are perceived as more aggressive and dangerous colors, showing the increase of coronavirus infections in the shown countries.

Although, colors are not the thing that the viewer is interested in, by looking at the infographic, the viewer can easily spot missing country names. Too many lines and not enough space for the country names leads to a bad design of the infographic. It's a bad practice to point out data, and not label it.

2.3. Conclusion

Typically, infographic designers need to include some final words at the bottom in order to wrap up the message for the reader - just like ending a good presentation.

In this case, the designer did not include a conclusion. Also, we can also see that there is no source link on the infographic itself, which means that the data could be fabricated in favor of somebody.

3. Design – “Does it look aesthetically pleasing?”

3.1. Color – “This is colorful!”

The colors that were chosen have made reading online easy and not eye-straining and are relevant to the data - as mentioned before – red and orange, indicating danger and threat, and light blue – indicating a more relaxed and calming data.

3.2. Font/Text – “Can you read this?”

The font of the text is readable and in a proper size. The simplistic font will match the simplistic nature of the context — thus increasing fluency [3]. If your message is direct and straightforward, use a rigid typeface without any ornaments.

3.3. Graphs and graphics – “Strengths vs. Flaws”

Dr. Edward R. Tufte - one of the pioneers of modern data visualization and professor emeritus of political science, statistics, and computer science from Yale University – once said: *“Of all methods for analyzing and communicating statistical information, well-designed data graphics are usually the simplest and at the same time the most powerful.”* [4].

On one hand, the graph shows both positive and negative average percentage simultaneously, giving a broader view to the reader/viewer of how the percentage

is varying in different countries. The x-axis, indicating both the decreasing side (on the left in light blue), and the increasing side (on the right in red) makes the graph easy to read and suitable for this type of data.

On the other hand, the Y-Axis is barely used as there are no values indicating the percentage and each time a person wants to see the percentage of a given country, they have to trace it down to the x-axis, and if it's not exactly on a dashed line, the person can easily be confused. What's more is that the way the graph is constructed, the viewer cannot make an exact decision on what the percentage is – they would have to make an estimation between two values.

Apart from all that, the country names are labeled inconsistently (not placed only on the left or right side, top or bottom) and cannot be used to decide for which country the graph is showing the certain data. There are also graphics that don't have country labels which is adding up to a bad graphic choice.

The last flaw I see is some data going out of the graph's range, with a missing label which cannot be precisely determined.

The graph doesn't raise any ethical issues.

4. Cognition

The first thing I notice when I look at the infographic is that there are more lines and countries on the right side. This gives me the idea that there is an increase in Covid-19 weekly cases. Other than that, the right hand-side has another color (orange) which attracts the viewer's eye more than the dark blue color on the right side.

5. Improvement

I suggest that the same data can be shown better on a different chart – a bar chart or a scatter chart with negative x-axis values included.

If I were to improve this graph, I would suggest firstly to experiment with different colors (background color change included). I would also suggest to use the Y-axis and add indications to it. I would also narrow the graph by using one line ending with multiple countries, or by marking the merged data with different colors and making a "legend" with different colors of the countries.

6. References:

[1] I. Damyanov, N. Tsankov, (November 2017), The Role of Infographics for the Development of Skills for Cognitive Modeling in Education *International Journal of Emerging Technology in Learning*, Vol. 13, Num. 1, 11. Available: <https://www.bath.ac.uk/publications/library-guides-to-citing-referencing/attachments/ieee-style-guide>;

[2] C. Chapman, (2010 January 28), *Color Theory for Designers, Part 1: The Meaning of Color* [Online], Available: <https://www.smashingmagazine.com/2010/01/color-theory-for-designers-part-1-the-meaning-of-color/>;

[3] Y. Li, Typeface personality traits and their design characteristics, Degree of Master of Computer Science, Partial Fulfillment of the Requirements, Concordia University Montreal, Quebec, Canada November 2009, Available: <https://spectrum.library.concordia.ca/976758/1/MR71016.pdf>;

[4] E. R. Tufte, *The visual display of quantitative information*, 2nd ed. Cheshire, Conn.: Graphics Press, 2001;