VISUALIZATION CHECKLIST

- ✓ **C**reate statistical graphics, plots & info graphics.
- ✓ **C**ommunicate Information clearly & efficiently.
- ✓ **P**ractice & experiment with plot types & options.
- ✓ **E**valuate & Incorporate feedback.

As per Alberto Cairo >> Visualization must be Truthful, Functional, Insightful, Beautiful & Enlightening. Remember to make it Clear, Accessible & Engaging for the user.[1]

Did you ensure the following:	Yes		No	
	Done	Partial	To-do	Ignore
Initial task >> Before the Visualization				
Did you perform EDA[2] and clean the datasets?	☐	☐	☐	☐
Are the datasets complete and factually accurate?	☐	☐	☐	☐
Did you identify the scenario, assumptions and challenges?	☐	☐	☐	☐
Did you identify the message (aka Problem statement)?	☐	☐	☐	☐
Did you think and look for more sources and confirmation?	☐	☐	☐	☐
Intermediate task >> Select the Visualization				
Is the Visualization relevant and insightful?	☐	☐	☐	☐
Did you decide whether the visualization should provide 'spontaneous insights' or 'knowledge building insights'?	☐	☐	☐	☐
Does the visualization digress from the main message?	☐	☐	☐	☐
Did you choose the right category of plot?	☐	☐	☐	☐
Did you choose easier to read chart formats, such as boxplots, bar charts?	☐	☐	☐	☐
Will the target audience understand the plot?	☐	☐	☐	☐
Did you decide on how to measure the variables?	☐	☐	☐	☐
Do you plan to experiment with packages and plot types?	☐	☐	☐	☐
Did you consider human psychology when choosing the graphs, such as avoid area-based pie charts?	☐	☐	☐	☐
Intermediate task >> During the Visualization				
Is the Title appropriate, and emphasize relevant information?	☐	☐	☐	☐
Does the Title show specifics, such as the timeline of study?	☐	☐	☐	☐
Is the font, color and size of the Title eye-catching?	☐	☐	☐	☐
Are Gridlines present when necessary?	☐	☐	☐	☐
Are the Axes labels clear and legible?	☐	☐	☐	☐
Are the Axes intervals uniform? Do they start at zero?	☐	☐	☐	☐
Are the Axes measurements easy to comprehend (eg: %)?	☐	☐	☐	☐
Is the chosen scale of appropriate precision?	☐	☐	☐	☐
Is there sufficient spacing between the elements?	☐	☐	☐	☐
Did you include legible and informative legend(s)?	☐	☐	☐	☐
Are appropriate labels/annotations provided?	☐	☐	☐	☐
Is the chart text readable, clear and concise?	☐	☐	☐	☐
Is the text relevant and hierarchical?	☐	☐	☐	☐
Did you use distinct markers to cleverly represent data?	☐	☐	☐	☐
Are the markers, symbols and annotations appropriate?	☐	☐	☐	☐
Is the color schema appropriate?	☐	☐	☐	☐
Did you choose mild/muted colors, avoiding bright colors?	☐	☐	☐	☐
Did you choose distinct colors to represent distinct data?	☐	☐	☐	☐

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Did you ensure the following:	Yes		No	
	Done	Partial	To-do	Done
Is the color palette suitable for the color-blind (such as avoid red-green schema)?	☐	☐	☐	☐
Did you avoid unwanted usage of color, graphics and chartjunk?	☐	☐	☐	☐
Did you maintain good Data-to-ink ratio?	☐	☐	☐	☐
Are missing datapoints/Intervals clearly represented?	☐	☐	☐	☐
Will interactive features enhance the user understanding?	☐	☐	☐	☐
Do the annotations/markers emphasize the key elements?	☐	☐	☐	☐
Are comparable visualizations placed side-by-side with clear demarcations?	☐	☐	☐	☐
Is an appropriate common axis used for subplots?	☐	☐	☐	☐
Final task >> After the Visualization				
Overall, is the chart simple and aesthetically pleasing?	☐	☐	☐	☐
Is it too complex/technical for the target audience (recheck!)?	☐	☐	☐	☐
Can the user easily decipher the message from the plot?	☐	☐	☐	☐
Are the key takeaways highlighted?	☐	☐	☐	☐
Is the plot appropriate, Insightful and relevant (recheck!)?	☐	☐	☐	☐
Does the plot need future improvements (for example: with more data)?	☐	☐	☐	☐
Is the Insight or conclusion convincing enough?	☐	☐	☐	☐

Note: Plot types and options are explained in the accompanying coding cheat sheet.

Reference:

- [1] https://www.datarevelations.com/truthful-art.html;
- The Truthful Art by Alberto Cairo;
- https://news.nationalgeographic.com/2015/10/151016-data-points-alberto-cairo-interview/

Abbreviation:

- [2] EDA stands for Exploratory Data Analysis