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Data Visualization Effectiveness Profile

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Data Visualization Effectiveness Profile

Reference

Few, Stephen. "Data Visualization Effectiveness Profile," 2017, 11.

http://www.perceptualedge.com/articles/visual_business_intelligence/data_visualization_effectiveness_profile.pdf

Email *

sanjaydr@andrew.cmu.edu

Your name *

Sanjay Rajpal

What visualization are you ranking? Provide the title and web-accessible URL. *

Working age population total, % of population, 1970 – 2021

<https://data.oecd.org/chart/6OzK>

Usefulness. Is it useful for the intended audience? Does it communicate valuable information?



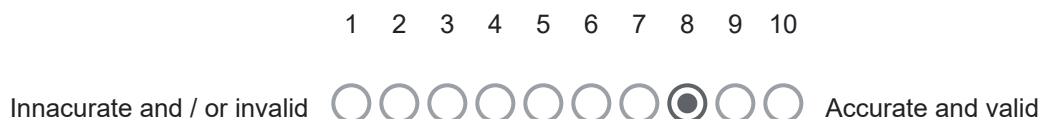
Completeness. Does the visualization have everything necessary to make it understandable?



Perceptibility. Can the reader understand the information with minimal effort? Is the visualization type appropriate? Does it use illogical comparisons?



Truthfulness. Is the visualization accurate, reliable and valid? Is it representing what it says it is, and in the most complete and truthful manner? Does it misrepresent the data or make comparisons that aren't correct?



Intuitiveness. Is it easy to understand and clearly communicates the information? If unfamiliar, does it include easy to understand instructions on how to interpret it?

Unfamiliar, difficult to
understand



Familiar, easy to
understand

Aesthetics. It is interesting / enjoyable to look at? Is it a good example of what a beautiful data visualization might look like? Is it somewhere in the middle - pleasing but otherwise not distracting to look at?

Ugly



Beautiful

Engagement. Does it lead the audience to learn more about the topic? Does it inspire the audience to talk about the data or share it with others?

Distracts from data



Draws one into the data

Describe your overall observations about the data visualization here. What stood out to you? What did you find worked really well? What didn't? What, if anything, would you do differently? *

What stood out –

When I first saw the visual, the first thing that stood out to me was the aesthetics of the graph. It was bad looking and had very messy lines that were so entangled at various points that it was very tough to distinguish the various lines in the graph. My first idea was to use this graph since I saw that the information being conveyed was very important to understand a country's capacity to develop and grow which could be correlated to the % of people of the working age.

What worked well –

1. Title explains the chart well, the additional subtitle explains it further and makes it clear.
2. The years are arranged from left to right which helps understand the trend as time progresses and makes it easy for anyone to interpret the data.
3. The use of faint guidelines helps with the comparative analysis of the different countries with their corresponding approximate working population percentages.

What didn't work well –

1. All the lines in the graph were the same color and did not have labels so could not understand the country without hovering over the graph. I would use different colors for different lines.
2. There are way too many lines/countries hence, it is difficult to understand the lines and at certain points, many lines intersect causing confusion. I would limit the number of countries to achieve this.
3. The background was colored and was distracting from the actual lines which are supposed to be the focus. I would leave the background white.

What, if anything, would you do differently?

If I had to do something differently firstly, I would only pick specific countries to show the comparative analysis instead of representing lines for all the countries causing a chaotic messy line chart. Secondly, I would use different colors to represent the countries and add labels/legends to understand which color represents which country. I would also remove the blue background and make the background white and add x-axis and y-axis lines to help the audience reference the axes. Next, I would add y-axis labels beyond 70 at least up to 75 to show the scale that accounts for all countries. In the given visualization the line for Korea has the highest value of 73.4%. In the given line graph we can see that Korea has values greater than 70% in 1992 but we cannot understand how much increase is there without hovering over the line for information on whether it is less than 75% or less than 80% or even more. Lastly, I would add x and y-axis labels as years and % of working population respectively.

Who is the primary audience for this tool? Do you think this visualization is effective for reaching that audience? Why or why not? *

I think the primary audience for this tool are students, economists, and any individual who is interested in understanding the comparative trend of the Working population in different countries. I feel this visualization is a great way of representing the required data but we need to address a few issues before it becomes the absolutely perfect way to represent the data. The aesthetics, clarity, and usefulness of the visualization are compromised by the different aspects mentioned in the previous answer.

Final thoughts: how successful was this method at evaluating the data visualization you selected? Are there measures you feel are missing or not being captured here? What would you change? Provide 1-2 recommendations (color, type of visualization, layout, etc.) *

I think it is a great method to rate the different aspects of the visualization. The methodology covers various parameters of visualization from aesthetics, and completeness to usefulness in the form of ratings. However, the methodology does not allow for much descriptive analysis. The previous methodology that we used for the first assignment helped us describe the aspects in detail which I feel helped with an overall better critique. According to me, visualizations need to be critiqued in as descriptive and verbose way as possible to help the creator understand the good and bad in detail so that they can improve on the bad part and

keep the good part so that the visualization is interpreted in the way it was intended to be by everyone. Adding to that, I think using Stephen Few's methodology in conjunction with the previous one would be the most effective way of critiquing.

Recommendations –

1. I would pick only USA, UK, India, Korea, and Japan to show the trends for 5 specific countries with different colors representing each country using line graph. The trend comparative analysis would become much easier to interpret with limited parameters.
2. I would also add labels/legend, axes labels, and faint gridlines to make sure that all the data can be interpreted easily without requiring

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