C2Assignment1-Misleading Visual Study

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Applied plotting, Charting & Data Representation in Python,

Week1 - Assignment

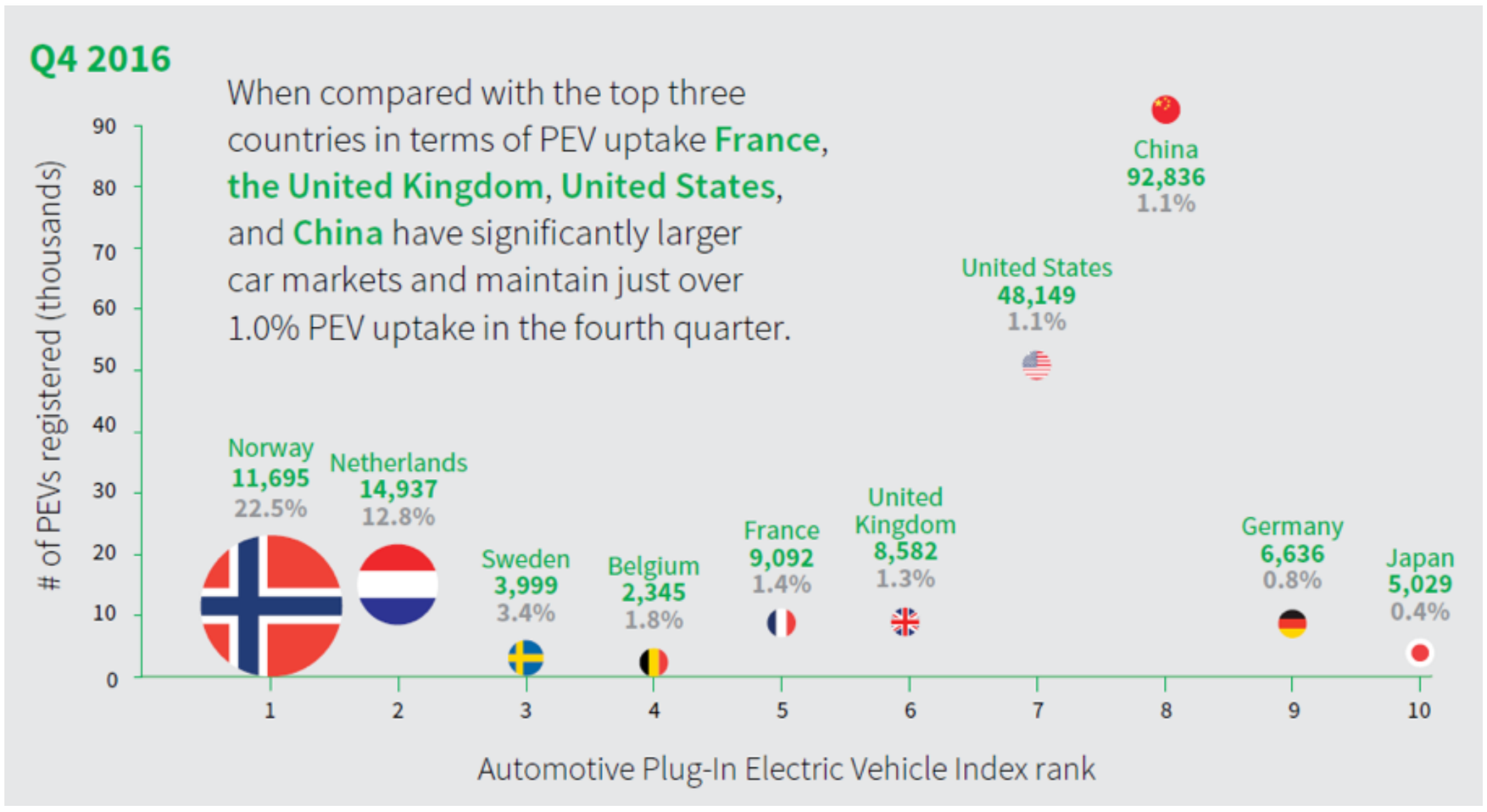
This is the First assignment of the Second Course of Specialiazation of applied Data Science in Python on Coursera.

This Study of the misleading example of visualization is just used for my own study and research purpose, without any ironic intents to the author of the chart. Please do understand it! Thank you.

Read Alberto Cairo's work, Graphics Lies, Misleading Visuals

Locate an example of a misleading visual that uses one or more of the mechanisms for misleading that Cairo outlines in his book chapter: (1) Hiding relevant data; (2) Displaying too much data and obscuring reality; (3) Distorting data through visual forms.

Please upload an image of this visual using a widely accessible graphic format (e.g., PDF, .jpg, .png)



Misleading Example

Briefly describe the context for the visual by addressing the following questions:

1.What is the source of the visual? (e.g., URL or bibliographic citation)

2.Who is the intended audience (i.e., decoders)? How do you know this?

Answer1:

1. https://viz.wtf/post/182740583010/balls-surface-area-related-to-number A misleading visual posted Feb 11th, 2019 on WTF Visualizations website(refered by Alberto Cairo's work, Graphics Lies, Misleading Visuals)
2. This chart is assumed to be owned by a data illustrator or analyst from a consulting team or research department, or even a project from a student.(Based on my own consulting experience, it is most likely to come from a consulting team) The intended audience are possibly from clients of that consulting team, crowd who are interested by PEV and intend to read it, or professors/ classmates who present a presentation.

Descriptions of the assignment part2:

1.Identify the specific component(s) of the visual that is/are misleading

2.For each part(s) of the visualization that is/are misleading, identify the mechanism that is used: hiding relevant data to highlight what benefits us; displaying too much data to obscure reality; using graphic forms in inappropriate ways (distorting the data)

3.Explain how the mechanisms are used to mislead

Answer2:

1. Actually, this chart contains all the three misleading characteristics, hiding relevant data, displaying too much data and obscuring reality and distorting data through visual forms.
2. For the 1st part of the misleading visualization, the author had hiden the relevant data of PVE registry and their time intervals. Combined by the 2nd part of the misleading visualization, the author had chosen too much useless data to obscure the views demonstrated by his real wishes. After all, the authur had used graphic forms in inapproriate ways to distort the data.
3. To start with, the author had only represented the data with the fourth quarter of 2016 without any comparison to other time intervals of the study, a biased view. He had also ignored some data of PVEs registry of the leading countries, since the sample was random and France did not even own a huge car market at all, compared to others. Those hiden data cause a lot of misleadings. Secondly, the author had chosen too much data which are useless, such as France and UK, contained both the average level of parameters in x, y zones and repeated without any contributions to the conclusion. Finally, the author had distorted a lot of data. His PVEs registered amounts of countries are not ordered in y-axis, such as Norway to Netherlands and France to UK, which leads to an misleading. Furthermore, the area of the circles, were not related to any plausible amounts of data. The relationship of his index rank to the leading countries are preposterous, which made no sense to any conclusion. If you straightly take a look to his arrangements, you would probably feel this chart is shipshaped at the first glance. However, this charts is filled of misleading visualizations.

Optional: Describe any additional issues you found with visual that did not fall under Cairo's three misleading mechanisms.

This chart has a bad logical representations to mislead us, the areas of countries are not related to any data shown. The leading countries mentioned in the text is trying to take us to the countries with the highest PEVs registry, however, those countries are not even correct in both levels of the parameters. What is more, the sample countries chosen here are not trying to represent any useful conclusion. Hence, my conclusion is that the logic error is another mechanism of the misleadings.