

Graph Analysis

by Jamie Gau

FILE	14940_JAMIE_GAU_GRAPH_ANALYSIS_192215_538289343.DOCX (706.64K)		
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Data Analysis and Visualisation

Analysing how Effective a Graph is at Presenting its Information

ACBA4002

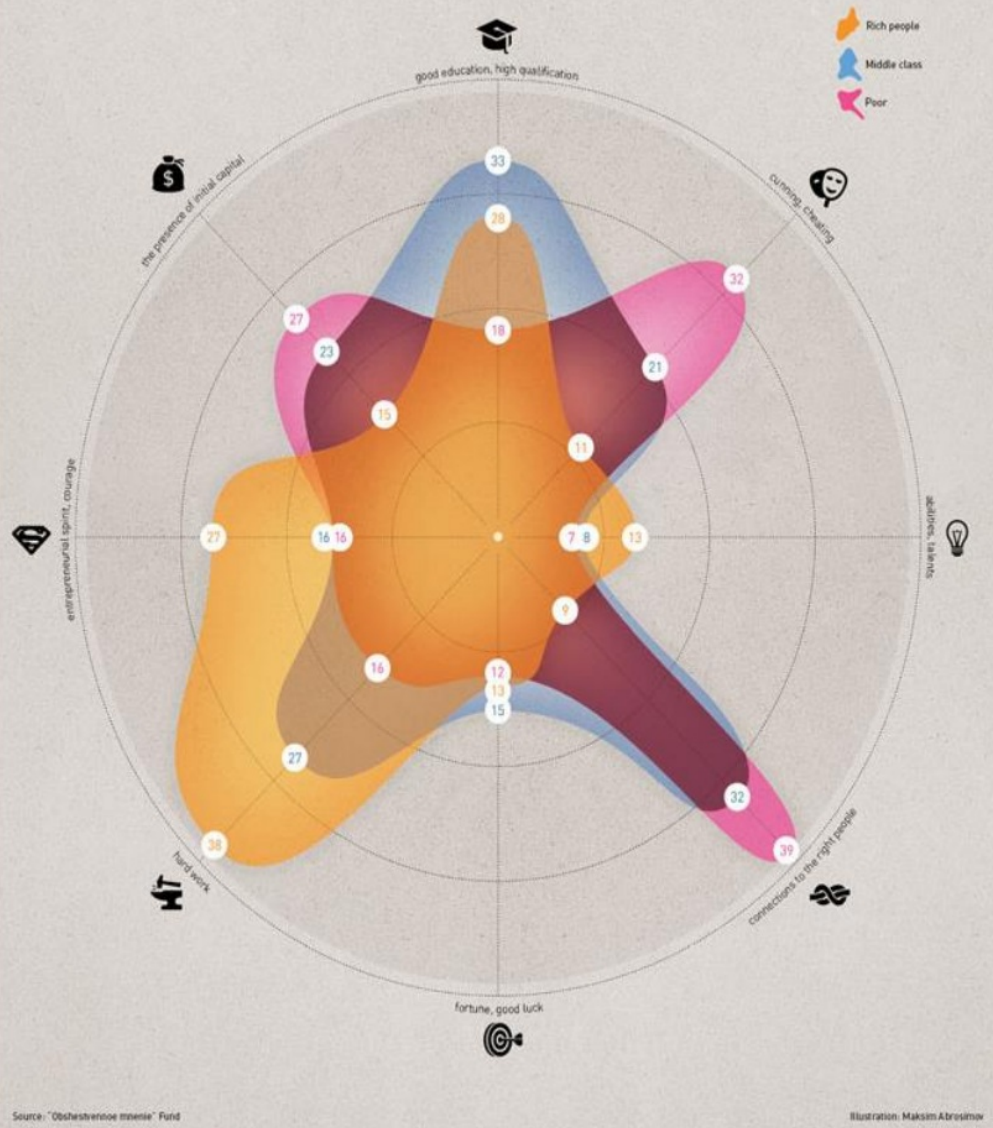
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THE SECRET OF SUCCESS

Representatives of different social strata were asked the same question: "What are the main reasons for success?"
 Poor need to change their life approach primarily, as it is evident from their responses.



Introduction

Graphs are an extremely popular way to visualise data. They can convey a lot of information with just one simple image. They can summarise an entire demographic into one small picture, prove a point through persuasive means, or bring awareness to a topic without the use of words. Therefore, when designing a graph, you must keep many things in mind, the most important being how your audience will perceive the data. You must make sure that it is readable, visually aesthetic and that it presents its information well. In this written discussion, I will analyse how effective a specific graph (see previous page) is at presenting its own information and the improvements that I would personally make to it.

The Graph in Question/The Message

The graph in question is known as a radar chart. It can also be referred to as a spider chart or web chart. The title of the graph is 'The Secret to Success'. It is displaying the answers of different social strata when they were asked the question: 'what are the main reasons for success?' The answers can be interpreted clearly. For example, you can see that the 'poor' demographic put that connections to the right people was the main reason for success, and that the 'rich' demographic put hard work as the main reason. So, the message can be interpreted clearly, though not necessarily easily.

Colour

First of all, the colours used on the graph need to be addressed. The use of shading in this graph when the shapes overlap can be seen as problematic, because many colour-blind people, especially ones with deuteranopia (red-green colour-blind) or protanopia (red colour-blind). According to colourblindawareness.orgⁱ, people with either of these conditions struggle to see shades of red. There are even people with total colour-blindness (achromatopsia) who can only see in black and white. These people would not be able to see the differing shades and therefore may not be able to get the full message.

Text

The text can be seen as another problem with the graph. A lot of the text is small and hard to read, so visually impaired people will struggle to see the different points. They have tried to remedy this by including a small graphic to go with each point, however I personally think that the text would benefit from being a bit bigger. Related to colour, some of the text can be hard to see against the sandy colour of the background. Other than that, the text style/font is fine; a standard sans-serif font. Sans-serif is seen as good for when you want the letters to stand out, rather than to read wellⁱⁱ, which is what you want in a poster.

Graphs

As mentioned earlier, the graph in question is known as a radar chart. According to an official definition from data-to-vis.comⁱⁱⁱ, a radar chart is a two-dimensional chart type designed to plot one or more series of values over multiple quantitative variables. This makes it a good chart choice for the data set, despite the fact that I would personally choose a different graph type (see improvements). Therefore, the problem is not with the choice of graph itself, but more the way that the graph is presented.

Graphics

As far as graphics go, there is not a lot that can be improved on without getting too nit-picky. The graph doesn't provide too much information. For example, it would be nicer to know more about the demographic that they were basing these answers on. We are just led to believe that these answers are from people of various wealth, but it would at least be nice to know how they class each group. The overall design of the poster is good. It's big, bold and not too bright or in-your-face. The only thing I personally dislike is the curved edges of the shapes. I think the graph would greatly benefit from having flat edges so you can better see the spread of information. It shouldn't raise any ethical issues. The only issue that might be raised is the fact that this poster might be portraying people of lower wealth or the 'poor' demographic to be a bit jealous or spiteful, as a lot of them claim that initial wealth, good connection and cheating/cunning tactics are the main reasons for success, not hard work at all.

Cognition

Finally, there are really any outstanding issues for when it comes to cognition. The only thing that I can spot is the fact that the numbers in the small circles that display how many people thought that each of the reasons was the reason for success overlap a little and can be hard to read. Other than that, I see nothing wrong cognitive-wise.

Improvements

In conclusion, I don't think this graph is necessarily bad, but it could definitely be better. For this type of information, I would have personally chosen to do a bar graph with multiple bars per reason, 6 reasons at the bottom, each containing 3 bars to represent the poor, middle and rich. However, for arguments sake, I will talk about what I can do to improve the current graph, rather than changing it entirely. Here are a few things I would do to improve it:

Colour – I would choose more colour-blind friendly colours. These include yellows, browns, greens, light blues. All of these both stand out against each other and can be easily seen by colour-blind people. I would also change the background colour to make the text stand out more.

Text – I like the use of sans-serif fonts, it is a good choice that I would keep. I would, however, change the font colour to black and make it bigger.

Graphics – As mentioned earlier, I would change the shape edges to be flat in order to make the shapes stand out and present the information better. I would also put a little note on the key to say how I determined each social stratum.

Appendix

ⁱ ColourBlindAwareness (2019). "Types of Colour Blindness" [Online] Available at: <http://www.colourblindawareness.org/colour-blindness/types-of-colour-blindness/> [Accessed: 15th March 2020]

ⁱⁱ S. Coles (2012). "The Anatomy of Type" [Book] Publisher: Harper Designs. [Accessed: 15th March 2020]

ⁱⁱⁱ Data-To-Vis (2018). "The Radar Chart and its Caveats" [Online] Available at: <https://www.data-to-viz.com/caveat/spider.html#> [Accessed: 15th March 2020]

Graph Analysis

GRADEMARK REPORT

FINAL GRADE

67/0

GENERAL COMMENTS

Instructor

Student FEEDBACK FORM

This section details the *extent* to which the assessment criteria are demonstrated by you, which in turn determines your mark. The marks available for each category of skill are shown. Lecturers will use the space provided to comment on the achievement of the task(s), including those areas in which you have performed well and areas that would benefit from development/improvement.

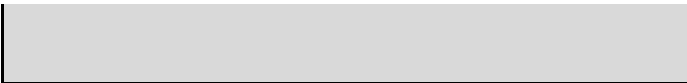
Generic Assessment Criteria	Marks available	Marks awarded
1. Engagement with Literature Skills		
Links to literature.		
· Some references used, purely online sources.	10	5
· No evidence given of wider reading		
2. Knowledge and Understanding Skills		

Description of what is wrong with the original poster. - You have discussed all of the relevant areas of visualisation. You needed to related some of this back to the cognitive process. Cognition is concerned with memory, perception and mental modelling. You make some statements, but don't follow them up with an evaluation (why you have said something is good or not) - Some points are supported by relevant literature; however, you could have supported more of your points.	20	12
3. Cognitive and Intellectual Skills		

Suggestion of improvements to the visualisation · Message Identified. · It is important to remember that the poster conveys information, but you also want the viewer to remember it and understand its message. (Cognition) · Some points supported by relevant literature. Choice of appropriate methods to present data clearly and answer the questions asked of the data in the poster. · Generally, the questions are well presented, although is the legend correct on the three 'time it took' graphs? · Your infographic has attempted to answer all questions asked in the assignment.	15 20	9 16
4. Practical Application Skills		

Presentation of data with appropriate use of colour, shape, text and other creative elements. · A limited pallet used, keeps the infographic from being too busy and distracting from the key message. Although do you think the green background is suitable compared with the image you have used · A good idea to include the NHS graphic. The title could be more dynamic; however, it is the question being asked. I like the use of waiting room chairs. · Your final infographic contains some good design elements.	25	17
5. Transferable Skills for Life and Professional Practice		
Document presentation, referencing. · Very good document presentation. Well structured, easy to read and with no spelling or grammatical issues. · Within the wordcount	10	8

Assessment Mark (Assessment marks are subject to ratification at the Exam Board. These comments and marks are to give feedback on module work and are for guidance only until they are confirmed.)



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