



Week 4 Assignment: Line Chart

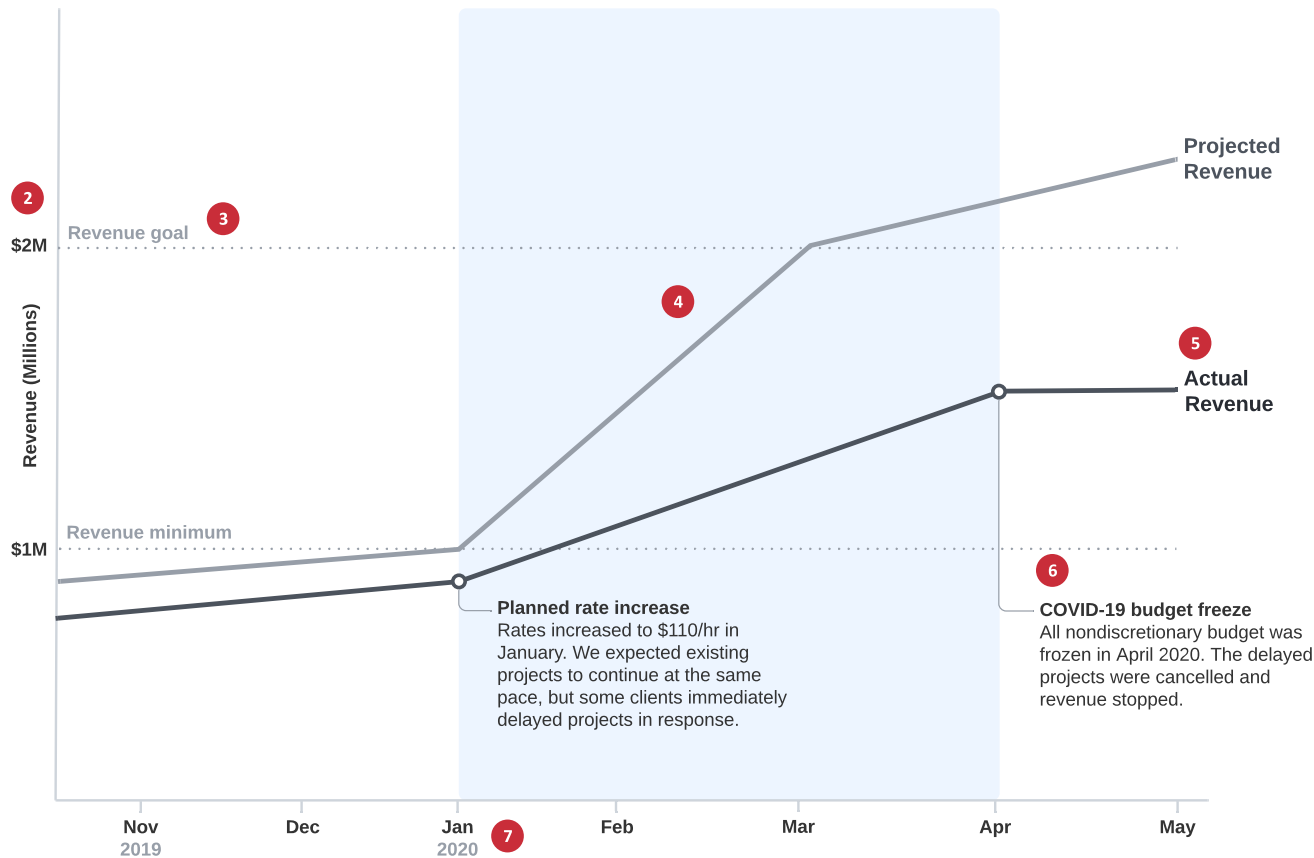
Information Visualization Theory and Techniques (2022)

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1 Factors in revenue shortfall for Interactive Design

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Context

Over the past several years, leaders in my department had to justify budget shortfalls and request funding from our university president. The end result of this story was a change to our business model. In this line graph, I imagined my boss asked me to help the president understand why an increase in our billable rate did not close the gap in the budget as expected, which was one of the first steps in this process.

I used two trend lines to make this justification, showing the projected impact of the rate increase, and the actual impact of the rate increase on revenue. I highlighted two key points in time to tell the story: the rate increase, and a freeze to the university budget in COVID-19, in the context of revenue goals and minimum.

Note: this graph contains fictional data and is only intended to demonstrate what I've learned in this class.

Techniques Used

- 1 The minimum amount of text required to clearly state the purpose of the chart is included in the title (Inforgram, 2018).
- 2 The y-axis scale is set to create fewer lines which represent two thirds of the chart area, and uses natural increments of 1 million (Wong, 2013).
- 3 Axis lines and ancillary data, such as the Revenue goal line, are given a gray color so as not to compete with actual revenue data (Knaflic, 2015).
- 4 Blue shading draws attention to the key timeframe where the factors affecting revenue shortfall happened (Knaflic, 2015).
- 5 Data markers are removed on lines to keep emphasis on overall trend except where an important event happens, and lines are clearly labeled with consistent color (Knaflic, 2015).
- 6 Individual annotations of the two key times which affected shortfall are added to create context and tell the story of why the shortfall happened (Knaflic, 2015).
- 7 The x-axis scale includes the year and date only when the date begins a new year in the chart to reduce labeling clutter (pasipasi, 2018). The scale label is removed on this axis as the presence of months in labels implies time, reducing overall data-to-ink ratio (Tufte, 2001).

References

Infogram. (2018, August 27). The Dos and Don'ts of Line Charts. *Medium*.

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Knafllic, C. N. (2015). *Storytelling with data: a data visualization guide for business professionals*. Wiley.

pasipasi. (2018, May 1). *r - Axis labels on two lines with nested x variables (year below months)*. Stack Overflow.

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Tufte, E. R. (2001). *The visual display of quantitative information* (2nd ed). Graphics Press.

Wong, D. M. (2013). Chapter 2: Chart Smart. In *The Wall Street journal guide to information graphics: the dos and don'ts of presenting data, facts, and figures*. Norton.