



INTELLIGENT LEARNING SERIES: DATA VISUALIZATION PART 1

VIDEO TRANSCRIPT

Hi! My name is Claire. I'm one of the Analytics Advisory Specialists for Accenture in the Philippines' Insights and Intelligence Team. I'm here to quickly discuss the basics of data visualization, along with the tools, techniques, and insights generation processes that we do for our clients. Hopefully, in this video, we will give you a quick glance at all the cool things that our team does. Since Data Visualization is an up-and-coming skill that every professional should know.

First thing's first, we should all remember this mantra. "Your data is only as good as your ability to understand and communicate it." Because of this, the best way to communicate data is to choose the right visualization. It is essential that the visuals you present tell a story that will inspire action. Now with that mantra briefly explained, let me walk you through a 4-step process that I, along with my teammates, practice in our day-to-day tasks when we visualize various types of data.

Step 1 – Understand

Basically, this is all about knowing what the data is for, what it contains, and what it is trying to tell us.

Step 2 – Spot

This means, we should investigate if there are trends, patterns, and relationships that we can see. By making keen observations, actionable insights can be potentially derived.

Step 3 – Validate

Once you've noticed something interesting that may or may not be a game changer, you have to make sure that your results are sound. Check for outliers, data inaccuracies, and missing data points that may skew results. Remember, top-notch insights come from the right data.

Step 4 – Showcase

This is the fun part. This is where you present your data and results in a visually engaging way. Tell a story that inspires action. Let your data shine, and it will tell you what your business' next course of action, should be. Now, we're moving on to how we visualize data in Accenture.

Just a quick recap, Data Visualization is the skill of representing data or information through various forms of visual elements. They could be charts, graphs, maps, and diagrams. In Accenture, we practice 2 techniques in Data Visualization. The first is Visual Reporting. Visual Reporting is the traditional form of data visualization. It makes use of charts and graphics to report business performance using Key Performance Indicators in specific periods. This is where your daily, weekly, monthly, and annual reports fall in.

To show you an example, I have here a Power BI demo.

< DEMO 1 >

We have here a dashboard on Socio-economic Indicators in the Philippines, specifically Economic Growth, Population, and Unemployment Rate. 3 chart types are visible: the vertical bar chart, line chart, and the bubble chart. The data is sourced from the Worldbank's website covering the period of 1970 to 2016. First up, economic growth.

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The bar chart shows changes of economic performance across years, the data is volatile, with increasing and decreasing trends, with its lowest points on the years 1984 – 1985. Second, the line chart for total population. The thick purple line shows actual data, meanwhile the thin blue lines for 2017 to 2027 are predicted values based on historical data. You can also use the scroll bar below to zoom into a particular year.

Lastly, the bubble chart for unemployment rate. The red bubbles mean high levels of unemployment, the green for low levels of unemployment, and values in yellow are at median point. The year 2002 has the highest unemployment rate at 11.51%

Annual reports are very popular among organizations so they can track business performance across years to be able to plan ahead and to create sound strategies.

The second is Visual Analysis. Visual Analysis is the next generation form of data visualization. Some call it Self-Service Analytics. It empowers end users by enabling them to visually explore data and discover new insights on their own through self-service platforms and business intelligence tools. As for a use case on Visual Analysis, I will briefly showcase an automated dashboard linked to a cloud platform that showcases metrics for the Google Search Console using the viz tool, DataStudio.

<DEMO 2>

We have here a Google DataStudio dashboard for key worldwide metrics on the Google Search Console such as impressions and clicks. There are many chart types that you can see here such as bar, line, pie, bubble, and the heat map.

There's also a summary table below. Since this dashboard allows users to generate insights by exploring on the filters, you can select a country, device, and even adjust the start and end dates for your analysis.

What's great about this dashboard is that you can easily share it to anyone with a Gmail account and then, you can customize settings and grant them editor or just viewer rights.

Dashboards such as these that are hosted in cloud platforms are easy to maintain, easy to share, and most importantly, they empower anyone to be more analytical since by just a point and click, they can spot the insights for themselves. Of course, these two techniques will not be possible without the right tools. In Accenture, as we service various Fortune 500 clients across multiple industries, members of the Insights and Intelligence team get the chance to play and learn different tools in our work.

These are just some of the following: Power BI – which I used in my previous projects.

Tableau – one of the viz tools I am exposed to in my current role, along with Google DataStudio.

I also created Spotfire Dashboards in my first project here. Aside from that, since we have clients that make use of SAS and Qlik in their operations, we get the chance to dabble into the BI tools, SAS Visual Analytics, and QlikView as well.

Lastly, we do not only play with the licensed tools, but we also explore Open Source solutions as well, such as the popular ggplot2 library in R and also the matplotlib package in Python. Since we already covered the two techniques and named common data visualization tools, let's now discuss best practices for Data Storytelling.

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