Consider assumptions, data limitations and presentations

In an earlier reading, you explored communication skills for data professionals. Beyond those practices, there are additional considerations that can strengthen communication and maximize your effectiveness to process and relay information. In this reading, you'll learn about assumptions and limitations when working with data, and how they can impact the analytical process.

Identify Assumptions and Limitations

The backgrounds, experiences, beliefs, and worldviews of people can influence the information contained within data. In your role as a data analytics professional, you will want to consider ways that these various factors can introduce bias.

Additionally, data professionals need to identify their own assumptions, which are things people believe to be true without examining them. If they are not recognized, assumptions can have a powerful effect on outcomes. As you progress through this program, you'll experience more opportunities to explore this topic in greater detail. Here are a few questions that guide you in identifying assumptions:

How can I identify assumptions?

- Is there something I am taking for granted?
- Am I assuming something here that I shouldn't?
- Can I determine if the assumption is correct?

These questions about assumptions can easily be applied to communication. Without information, there is often a tendency to fill in the gaps in understanding with assumptions. The most effective methods to reduce the impact of assumptions are practicing active listening and effectively asking questions.

Awareness of Data Limitations

As a data professional, you will encounter limitations within data that can impede your analysis. These limitations will need to be addressed before you can proceed. You will learn methods of addressing data limitations while gaining hands-on experience in these techniques throughout this program. To assist you in identifying data limitations, ask the following questions:

- Is the data complete? Are there missing values or sections?
- Are the datasets formatted correctly?
- Is this a sufficient sample size to conduct analysis of an entire population or group?
- What are the biases present in the data set?
- Does this data contain personally identifiable information? What steps will I take to protect this information?

Organizations also share in the responsibility of managing and overseeing data assets throughout the company. Commonly, these responsibilities are a part of data stewardship. As a data analytics professional, you will be accountable for data and data resources, but this is a shared responsibility. Most organizations appoint a high-level manager or executive to oversee these responsibilities across an organization.

Sharing Findings

Sharing the findings of your data analysis is translating the results, concepts, and terms for wider audiences. When it comes to sharing the results of your analysis with stakeholders, there are some best practices that can help keep you on track:

- Craft results to the needs of your stakeholders. Communicate why this data will help them achieve their goals.
- Determine the visualizations and/or dashboards that are the most effective. What data will you need to show and how do you want stakeholders to interact with it?
- Think about the design carefully. A simple yet visually appealing approach to visualizations is always the best.
- Use a hierarchy of data in your visualizations/dashboards. Information that is most important should be easily accessible, but you should provide a path for more details.

What should I keep in mind when I share results?

- What information is the most important to my audience?
- What is the most efficient way to share with the tools available and the time I'm allotted?
- What can I do to make the key points effectively?

Presentations

Presenting information clearly and effectively is key to a data scientist's workflow. Communication skills that pertain to presentations include but are not limited to: the structure of your presentation, slide design, the tone of your voice and the body language you convey, and more. It is also important to consider accessibility as you are creating any assets. Check with your organization about accessibility guidelines. You may also refer to online resources like U.S. accessibility guidelines or The World Wide Web Consortium's (W3C) web accessibility initiative.

Tips for presentations

- Structure your presentation. Be sure there is a logical structure: a beginning, middle, and end.
- Presentation slides are not scripts. Don't read or put complete paragraphs on presentation slides.
- Make sure your data can be understood visually and with the potential accessibility challenges of the audience taken into account.
- Focus most on the points your data illustrates.
- Share one—and only one—major point from each chart.
- Label chart components clearly.
- Visually highlight "Aha!" zones.
- Write a slide title that reinforces the data's point.

A solid presentation can help others understand the findings of your data analysis and ensure that you are effectively communicating.

Key takeaways

The processes of data analysis can be affected by assumptions introduced through the worldview of the data professionals involved. Equally important for any project is to identify and process any limitation within the available datasets. When sharing the results of your data analysis, make your presentations clear, focused and accessible.

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