

Introduction to Communicating with Data

In the previous lesson, you learned how to create a broader range of graphs and more advanced visualizations for exploratory data analysis, or EDA.

With EDA, your goal is data discovery, where you get to know your data and understand what you might be able to learn from it.

Remember that, with EDA, you can find anomalies in your data, such as outliers or unusual observations, see patterns in your data, like clusters or groupings of points, identify potential relationships between variables, and generate interesting questions or hypotheses.

EDA also helps you understand whether you have the right data to address your problem or answer your research question, and understand what you need to do to prepare your data for analysis.

In this lesson, you learn how to use graphical displays and interactive visualizations for data presentation, where your goal is to effectively communicate what you have learned from your data.

You learn how to evaluate the effectiveness of your visualization, define your target audience, and customize your graphs to make them more effective.

Note that the ability to communicate with data extends beyond the descriptive and graphical methods introduced in this lesson.

In future modules, you learn about more formal statistical methods, such as confidence intervals, hypothesis testing, and regression analysis. These methods are used for confirmatory data analysis, or CDA.

Although the focus of this lesson is data presentation, the ability to effectively communicate is vital for anyone using data to make decisions and drive improvement.

Before we move on, let's talk for a moment about communication in general. Communication can make or break your opportunities for success.

If you are a member of a formal problem-solving or improvement team, you'll want to communicate with your stakeholders throughout the life of your project.

You might want to have regularly scheduled meetings with your stakeholders (weekly, monthly, or quarterly) to provide periodic updates, evaluate progress toward your goals, present preliminary findings, and discuss challenges and potential issues or obstacles.

You might also want to meet with your stakeholders as you move through different phases of the project. This is particularly important if you need additional project resources, if you need to revise the project timeline or objectives, or if you need to generate buy-in or seek approval to move forward.

The success of your project will depend largely on how well you communicate, not only with your team members and stakeholders, but with anyone else who might be affected by your team's work.

Whether you are working individually or as part of a team, consider who else might be interested in your project, who might be able to help, and who should be informed or involved.

For additional information about effective team communications, see the Read About It for this module.

Statistical Thinking for Industrial Problem Solving

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