Data Analysis and Visualization:

Taking your scouting data to the next level

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What we will cover today

- The What/Why/How of data analysis
- Data Visualization
- Demos:
  - Working with raw match scouting data
  - Working with all scouting data in Tableau
- Open discussion/questions/sharing past experiences (both what worked and what didn’t)

What is Data Analysis?

- It is a process of inspecting cleaning, transforming and modeling data with the goal of discovering useful information, informing conclusion and supporting decision-making
- Basically, it’s a process for obtaining raw data and converting it into information useful for decision-making by users.

How is Data Analysis Performed?

- Defining Objectives/Posing Questions
- Data Collection
  - Relevant data must be collected
- Data Wrangling
  - Raw data can come from several sources
  - Also includes data scrubbing
- Data Analysis
  - Cleaned data is imported into analysis tools. These tools allow you to explore the data, find patterns and help answer what-if question
- Drawing Conclusions and Making Predictions
  - After sufficient analysis, conclusions can be drawn from the data. This is the step where information is summarized in a report for end-users

Why do Data Analysis?

- Data analysis is more than merely presenting numbers and figures. It requires a much more in-depth approach to recording, analyzing and dissecting data, and presenting the findings in an easy-to-interpret format.
- Key areas:
  - Predict trends and behaviors
  - Analyze, interpret and deliver data in meaningful ways
  - Increase productivity
  - Drive effective decision-making

What is Data Visualization?

- Data visualization is the graphical representation of information and data. By using visual elements like charts, graphs, and maps, data visualization tools provide an accessible way to see and understand trends, outliers, and patterns in data.
- Data visualization is another form of visual art that grabs our interest and keeps our eyes on the message. When we see a chart, we quickly see trends and outliers. If we can see something, we internalize it quickly. If you've ever stared at a massive spreadsheet of data and couldn't see a trend, you know how much more effective a visualization can be.
- **In a nutshell, data visualization is having the data tell its story by way of an easily-digested picture.**