

Session 1 – Fundamentals of Data Visualization

Case study one: Sales performance analysis

Dataset (press CTRL+ CLICK to open the link) : [Download](#)

Data Set summary (Source: Superdatascience): Office Supplies sales data by sales persons in three different geographical regions in the United States

Before even starting, install Tableau public software and create your Tableau Public profile and save your workbooks on that platform. This is the first step to project your Tableau skills in the public domain!

<https://public.tableau.com/s/>

<https://public.tableau.com/en-us/s/gallery>

Objective: Take first steps to understand data visualization

- Tasks are to find out which salesperson(s) gets the performance-based increment?
- Which factors need to be considered for performance increment?
- Which sales person(s) need to improve their performance?
- When would you plan the marketing campaign?

Steps to achieve Business Objectives

1. Identify the types of variables present? (5 min)

Quantitative	Qualitative	Other

2. Prepare your first bar graph. Which two variables would you use? (5 min)
3. Visualize total number of units sold by each sales person? (5 min)
4. Identify product volumes sold by each sales person in different regions? **Hint:** You can use multiple bar graphs (5 min)

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5. Create a **calculated field** to yield Total Revenue (**formula**: Total Revenue = Total number of units sold multiplied by selling price of a unit). **(5 min)**
6. Prepare a **bar graph** and a **data table** to describe revenue generated per item (i.e. product) in each geographic region **(5 min)**
7. Prepare a bar graph to describe revenues contributed by each salesperson for each item (i.e. product) category from different geographical regions **(10 min)**
8. So which sales representative has performed the best in terms of number of units sold and total revenue contributed. **(10 min)**

Fill in your calculations in the table

Highest number of items sold by each salesperson

Name	highest number of items sold	Max. Revenue contribution

Maximum revenue contributed by each sales person

Name	highest number of items sold	Max. Revenue contribution

9. Visualize quarterly revenue trends from office supplies data set with help of a line graph. Briefly summarize your key observations. **(5 min)**
10. When would you plan your next annual marketing campaigns, taking revenue trends data of last fiscal year(s) into account? **(10 min)**

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Case study two: Hollywood's most profitable movies

Dataset (press CTRL+ CLICK to open the link): [Download](#)

Data Set summary (Source: Tableau): Most profitable movies in Hollywood

Note: It's a CSV file format

Objective: Take first steps to perform exploratory data analysis

1. Identify the types of variables present **(1 min)**

Quantitative	Qualitative	Other

2. Prepare a bar graph and identify highest revenue generating genre **(2 min)**
3. From analysis in second question Identify total number of movies in animation genre **(1 min)**
4. Which variable has null values? How many null values does Tableau identify in this complete dataset? **(3 min)** **Hint.** You can use MS Excel to analyze this data first
5. Plot a line graph with earnings trends of moving genres from year 2007 to 2011 **(2 min)**

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6. In which year does “comedy” genre have highest earnings? **(1 min)**
7. Which movie is highest grosser in “action” genre? **(1 min)**
8. What are average & median gross revenues of movies in “comedy” and “action” genres?
9. Which movie genre had an increasing revenue from year 2008 - 2011? **(1 min)**
10. Using profitability ratio of all movies, calculate net income and overall budget for all movies? **(Hint:** To calculate these values Research using Google)
11. **A slightly tricky problem.** Identify if there is any relation between movie reviews from rotten tomatoes and their profit ratios or gross revenues. Is it positive or negative? What do we infer? Which visualization would you use?