Visual Analytics

How to be an Effective Analyst Using Tableau

Course Duration: 2 Days

Audience: You recognize the value of visual analytics; you have the software, and you know how to use it well. What a lot of people lack is an understanding of how to approach visual analysis. Analytical thinking is one of the most important skills you need to get the most out of Tableau. And even the most seasoned Tableau user can create an ineffective visualization if they don't understand the problem at hand or the perceptual basis for visualization best practices. This course was designed to fill those gaps.

How does this course fit in with the rest of the curriculum offered at Tableau? Tableau Fundamentals and Advanced focus on Tableau Desktop; we teach you how to use the product, concentrating on features and functionality. This course is focused on visual analysis - a topic that isn't necessarily tool specific; however, everything we teach has a direct application to the way you use Tableau.

Prerequisites: You should already know how to use Tableau well. Ideally, you will have taken Fundamentals and Advanced courses, but this is not an official prerequisite. Be aware that we won't introduce you to product features or walk you through step by step instructions.

What to Bring: Please bring 3 examples of visualizations you've created in the past. These examples don't have to be complex, just something you've actually used or presented. Any format is fine (e.g., .twbx, .twb, image file).

Course Aims and Objectives

Aims: The aim of this course is to add to your visual analysis toolbox. You will strengthen your analytical skills and gain an understanding of visualization best practices. You will become a better analyst, designer, and communicator.

What you'll be able to do after this course:

- Describe the history, theory, and science behind data visualization, and how all this is built into Tableau's DNA. You will be able to evaluate Tableau's default actions and know when and why you might modify them to suit your analysis goals.
- Feel confident approaching data analysis. You will collect a set of techniques to guide your process, from planning your line of questioning to reviewing and communicating your findings.

- Demonstrate some basic principles of human visual perception and cognition and how they apply to chart design- the basis for Tableau's visual best practices. You will move beyond 'show me' to designing customized effective, meaningful visualizations.

- Intelligently critique charts and dashboards, and offer suggestions for improvement.

- Use multiple effective techniques for approaching different types of real-world analysis questions. You will leave with a toolkit that leads you to the appropriate visualizations for your question and data types.

- Return to work able to apply your new knowledge immediately. At the end of the course, you will synthesize and apply everything you learned in a realistic final project, allowing you to test yourself and seek additional help if needed.

Formats and Procedures: We will use a combination of traditional teaching methods (lecture, class discussion) and in-class activities.

Our Assumptions: This may not be a course about how to use Tableau, but it's still a Tableau course. We tried to ensure that all of the material is both applicable to Tableau, and of value to our customers. There are some topics that are relevant to visual analysis that we won't address in this course, simply because they don't apply to Tableau users (e.g., 3D charts). Other topics were omitted because you were more academic or technical than the scope of this applied course allows. If you want to learn more about visual analysis, there are several resources listed at the end of this document.

Course Topics

Overview

- What is visual analysis?
- Strengths/weakness of the visual system.

Laying the Groundwork for Visual Analysis

- Analytical Process
- Preparing for analysis

Getting, Cleaning and Classifying Your Data

- Cleaning, formatting and reshaping.
- Using additional data to support your analysis.
- Data classification

Visual Mapping Techniques

- Visual Variables : Basic Units of Data Visualization
- Working with Color
- Marks in action: Common chart types

Solving Real-World Problems with Visual Analysis

- Getting a Feel for the Data- Exploratory Analysis.
- Making comparisons
- Looking at (co-)Relationships.
- Checking progress.
- Spatial Relationships.
- Try, try again.

Communicating Your Findings

- Fine-tuning for more effective visualization
- Storytelling and guided analytics
- Dashboards

Putting It All Together and "Over to You"

- A review of major themes and learning objectives from the course. Checklist 'takeaway' for reviewing visualizations.
- The delegates have a two or three hour project to analyze some data. There will be advice from the instructor. Results will be reviewed and critiqued with the class.