

2022 MOBTS – PDW Proposal

Integrating Analytics into Management Courses: A Hands-on Introduction to Tableau

This professional development workshop addresses an increasingly important skill set in business education - analytics and provides a hands-on, user-friendly introduction to one of the most popular analytics tools, Tableau. The workshop facilitators will demonstrate how participants can easily integrate analytics into their management courses. Using Tableau Public, a free software, participants will have the opportunity to create basic visualizations as the facilitators demonstrate class activities in two topics: EEO/hiring decisions and Big-Five Personality Factors. It is crucial to expose students to analytics in subject areas, and this workshop will help participants make analytics one of their experiential learning tools.

Keywords: Analytics, Tableau, experiential learning

1. Introduction

This workshop introduces analytics with easy-to-use examples and demonstrates how Tableau can become a versatile experiential learning tool. This workshop targets business educators who want to expose their students to analytics and incorporate Tableau into their teaching but may not have the time to learn this tool at a level they feel comfortable using in their classes. No previous experience in Tableau is required. Participants must bring their laptops to the PDW.

2. Learning Objectives, Engagement, & Takeaway

The learning objectives are as follows:

1. Define analytics
2. Explain the purpose of visualization tools
3. Identify the basic types of analytics
4. Understand the use of analytics in a particular function (HR)
5. Understand the basic functions of Tableau
6. Create a basic visualization using HR data
7. Interpret the data to support a recommendation about EEO/hiring decision
8. Create a Heat Map using Big Five data for multiple countries.

Engagement: The PDW facilitators will lead a hands-on demonstration of Tableau while participants follow the instructions to create visualizations on their laptops.

Takeaway: The main takeaway is that participants will see how easily they can integrate Tableau into their teaching. They will also see that Tableau provides visualizations that help students improve their analytical skills.

3. PDW Overview

3.1 Importance of a Teaching Workshop on Tableau and Analytics

The concern about the lack of opportunities for students to acquire hands-on skills is not new (Leavitt, 1989, p. 40). As noted by Glen et al. (2014, p. 655), "business schools have been criticized for their overemphasis on lecture and case method at the expense of clinical training or learning by doing." Glen and colleagues address this issue and contrast a traditional, "rational-analytic" teaching approach to an alternative "design-thinking" approach, which emphasizes visual and spatial representations and evokes objective and subjective insights. Case methods and lectures are still important teaching strategies, and the use of Tableau in the classroom allows professors to blend both traditional and alternative approaches to teaching. Tableau is one of the most popular visualization tools in the market (Sherman, 2020). Moreover, Tableau is flexible enough to be used across all modes of instruction: in-person, hybrid, and online.

Incorporating Tableau into teaching can provide students with valuable skills as there is a shortage of professionals with some knowledge of analytics. The U.S. Bureau of Labor Statistics reports that the demand for data science skills will drive a 27.9 percent rise in employment in the

field by 2026 (Goasduff, 2020). This past year, analytics grew in importance because one of the most significant shifts brought on by the Covid-19 pandemic was a rapid acceleration toward *digital-first* lifestyles and ways of doing business (Sharan, 2021).

We will present several examples of the use of analytics in the context of HR. The participants will also see that Tableau is flexible enough to be used in other courses. We hope the hands-on experience provided by this workshop will inspire participants to find ways to incorporate Tableau into their teaching. It is important for students to use analytics in other subject areas, not only in statistics or analytics courses.

3.2 Session Content and Duration

1. Welcome (5 minutes)

We welcome the participants. Depending on the number of participants attending the workshop, we may ask them to introduce themselves (name and courses taught).

2. What is Analytics? (5 minutes)

We briefly present the types of analytics (descriptive analytics, predictive analytics, and prescriptive analytics) and visualization tools. Some participants are familiar with these terms, but others are not, so the idea is to get all participants on the same page.

3. HR Analytics and Examples of data-driven HR decisions (5 minutes)

We present some examples of how analytics can be used in management courses, particularly in HR.

4. Getting started with Tableau: Installation (5 minutes) and Overview (10 minutes)

Participants install Tableau Public and download the Excel data for the activities. Next, we provide an overview of the main Tableau screens and menu options.

5. Class Activity #1 – EEO/Hiring decisions: Creating bar charts to support decision-making (15 minutes)

We walk the participants through the steps to create bar charts. Next, the participants create the charts and start interacting with the charts by adding/removing categories (e.g., job level, gender, race, functional area). Participants then interpret the charts and make hiring recommendations.

INSTRUCTIONS:

This Tableau assignment is a step-by-step case analysis of a hiring decision. I provide some preliminary information, ask a question, then provide more information, and ask more questions.

You are Mrs. Jennifer Caldwell, VP of People at Lightsome Technologies, a start-up company that develops and commercializes apps for different needs. Lightsome Technologies is an EEO/AA employer. As the VP of Human Resources, you constantly monitor the HR metrics of your organization.

1. Create a bar chart showing the number of employees by gender. Should Lightsome seek to increase recruitment of women? What is your recommendation to your CEO?

Mrs. Sterling, CEO of Lightsome Technologies, wants to expand the company's customer base by selling Lightsome apps in foreign markets. Lightsome currently has one VP of Product, and this expansion would require the hire of a second VP of Product to oversee non-U.S. markets.

2. Create a new bar chart with two columns as follows:

- Columns: Job Level, Gender (in this order: Job level first, then gender)
- Rows: Count(HRData)

What does the chart show? What is your recommendation to the CEO regarding the new hire for the VP of Product?

3. To what extent are your recommendations different from those on Question 1?

4. Add more categories and see different views of the data.

5. Discuss what you have learned from this experience with the person next to you.

6. Class Activity #2 – Big-Five Personality Factors across Countries: Creating a Heat Map (10 minutes)

We present the use of Tableau in a OB topic (Big Five Personality Factors) and show the flexibility of the tool. We then introduce a new type of chart, geographic data chart. Next, we walk the participants through the steps to create a heat map using data from multiple countries.

7. Final Remarks (5 minutes)

We provide ideas on how to use Tableau to teach other topics. The facilitators share their contact information and offer to answer any questions the participants may have now or in the future.

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