Create a Dashboard Meeting Business Requirements

You are a data analyst at **Dental Pharma, Inc**., a company that manufactures and markets pharmaceutical products, particularly for dental use.

Dental Pharma, Inc. has a global presence, and the management wants to standardize the monitoring of various projects within the company.

Your company logo!

You've planned a meeting with Sophie, the project manager you'll be working with on this project. The goal is to clarify which data they need to track to make better decisions.

During the meeting, Sophie introduces you to both the company and the issues they are facing. For example, they have a lot of data; however, they don't know how to share it with people who aren't comfortable with data analysis.

Based on your meeting notes, you realize that what Dental Pharma needs is more **data visualizations**. They need to keep track of how projects are doing to measure current and future performance.

Later that day, after reviewing your notes, you meet again with Sophie to discuss how she wants you to structure the dashboard. During the meeting, she shares the following files and documents with you:

- The <u>dataset</u> comprising the countries and their project data.
- The <u>referential table</u> with the correspondence between countries and regions in the dataset.
- A <u>data dictionary</u>. Here, you will also find information related to the countries classification (affiliate or distributor).

Sophie: Good news, I had another analyst review the data, and it is very clean. You should have no trouble reading and using it. We extracted it from our standard project management software. So please take a look at it.

One more thing. An additional requirement has come up to show the range of projects to some of our external stakeholders (mostly suppliers and potential clients). For this, we don't want to show any company-confidential data, but we would like to show which countries we operate in and the duration and phase of those projects. An attractive and interactive chart would be really good here!

And with that, she wishes you luck!

Task 1: Review the Data

You open up the data in a spreadsheet program of your choice (Excel, Google Sheets or Numbers) so that you can get familiar with it and see what data you will be diving into.

The data file has a .csv extension, which suggests it is comma-separated, but in fact, it is semi-colon delimited. This is quite common! You may need to do some additional steps to see the columns clearly. For example, in Excel, you should open the file by starting a new blank worksheet, selecting the **Data** tab, and selecting **From Text/CSV**. You can then specify that the data is semi-colon separated and load it in.

At the end of task 1, you should:

- Be able to view the data in the CSV, in a way such that columns are clearly delineated.
- Be able to describe the contents and types of data in the data set and its overall size.

Task 2: Map Out Your Dashboard

Now that you have a clearer idea of the data, you go back to the meeting notes that recap Sophie's needs and begin creating specifications. Your next step is to get them approved by Sophie to make sure you've understood what she is after.

You decide to create a **dashboard blueprint** following a template a colleague shared with you, and you have already started filling it out.

Review this chapter of the course **Create a Dashboard With Tableau** for information on using the template.

You also decide to mock up the dashboard visually to solidify your thoughts and communicate them more clearly to Sophie. As the saying goes, a picture is worth a thousand words!

You ask your manager for an example of a mockup for a different dashboard, and she sends you this one.

She adds that you may create a few sketches like this to articulate the flow of interactions a user might have with the dashboard.

Designers use a few different techniques to communicate their initial ideas and get a feel for how the final product will look. We've looked at mockups and blueprints. Designers also talk about creating **wireframes** and **prototypes**. Numerous tools are available to help this creative process, some of which even allow user interactions to be prototyped and even prototype the user interface of whole applications. Take a look at this article for some information about wireframes, mockups and prototypes. Also, take a look at some prototyping tools to understand what they can do. Two terms are used to describe this design process: UI (user interface) design and UX (user experience) design. Take a look at this article to understand the difference.

You'll want to practice creating a variety of visualizations and to get a sense of what Sophie finds most readable, so you decide to include different types of visualizations in your dashboard.

For this first dashboard iteration, you decide to include an example of at least one of each of these types of visualizations in the dashboard:

- distribution (e.g. histogram or box plot),
- composition (e.g. pie chart),
- comparison (e.g. bar chart),
- trend over time (e.g. time series),
- relationship (e.g. scatter plot),
- and drill down (e.g. map).

Two examples of projects that include maps with filters are provided here:

- Prosper (the Debt Consolidation and Income tab)
- Coffee Chain

Once you've finished, send your blueprint and mockup to your mentor to get it approved. Don't start creating your dashboard until you get their feedback and approval to move on to the next stage. This can be a big time-saver!

At the end of task 2, you should have:

> Filled out the dashboard blueprint above, produced the mockup, and had them both approved by your mentor.

Task 3: Select Your Tool and Start Creating Your Dashboard

Sophie replies and gives you the green light. You are ready to start on the dashboard!

You were able to work on your own so far, and your manager is pleased with the project's progress! But as you are still new at building visualizations, your manager decides to pair you up with another data analyst from your team who has a lot of experience using Tableau. Her name is Andrea, and your manager sets up a call for you to meet at the end of the day. You breathe a sigh of relief as creating your first dashboard looks like a daunting task to do alone.

Your call with Andrea yesterday evening went well. She is eager to train you and help you become more autonomous in the future, and share the team's workload! At the end of the call, she offered to reuse some of the internal training documentation she'd made in the past for other colleagues and tailor it to be specific to this project for you. She got in early this morning, created some detailed instructions to guide you in the task, and sent them to you, ready to get to work.

Dental Pharma, Inc. uses **Tableau Software** internally, but you may choose any data visualization software that offers the same features as Tableau (Power BI, for example). Alternatively, you can use Excel to create a dashboard, and external resources appear in the resources tab to help you do this but bear in mind that Excel is not purpose-built for dashboarding. However, Tableau and PowerBI are built to make dashboarding easy. Here is <u>an article that explains the differences between Excel, Tableau and Power BI</u>.

If you choose **Tableau**, then you have three options:

- A Tableau licence from your company (if applicable);
- Tableau Public, which you can download from tableau.com/products/public and which gives you access to a free trial version of Tableau;
- Tableau Desktop, which has limited use (14 days), so it is only appropriate for students who know they can complete the project quickly.

Option 2, Tableau Public, is the preferred solution for our students.

If you choose **Power BI**, you have two options:

- Your company's Power BI Pro licence (if applicable),
- The free Power BI Desktop version, which can be downloaded from the <u>Microsoft website</u>. The features of the free version are sufficient for this project.

At the end of task 3, you should have:

> A completed dashboard that:
> - Allows the user to identify themselves
> - Based on that identity, presents the appropriate data and visualizations
> - Shows all of the KPIs in the blueprint:
>   - Actual_Duration vs Planned_Duration
>   - Actual_Cost vs Planned_Cost
>   - Var_Deliverables

Task 4: Report Back on Your Process

You've finished your dashboard and are ready to present your work, but Sophie gets back to you before the meeting with one last challenge. It's her first time working with a data analyst, so she wants to learn from this experience to improve future collaborations and

understand more about your work. She has prepared some questions and asks you to create an extra presentation with two slides on the broader context of the project. The slides should provide information that answers her questions in <u>this email</u>.

At the end of task 4, you should have:

> Created your presentation, which includes one slide for each of the topics in Sophie's email.

Good luck!

Deliverables

1. Your dashboard blueprint.
2. Your mockup of the dashboard.
3. A link to the Tableau Public version of your dashboard, as well as the export of your Tableau in PDF or image format. If you are not using Tableau, provide the PowerBI version of your project (.pbix file) or the Excel document.
4. The slide show which answers her specific questions on the lifecycle and requirements.

To make it easier for your work to be reviewed by the jury, upload all the project deliverables to the platform in a zip folder called 'Project_title_LastName_FirstName'. Use the following naming convention for each of your deliverable: LastName_FirstName_number of deliverable_name of deliverable__your start date of project. This is how it should be named:

- LastName_FirstName_1_dashboard_mmyyyy
- LastName_FirstName_1_mockup_mmyyyy
- etc.

For example, the deliverable here would be named: Smith_Mary_1_dashboard_042022

Project Presentation

During the oral presentation, your assessor will play the role of **Sophie,** who wants to see a dashboard demo before it goes live. The assessor will challenge your decisions, so be prepared to defend your work. The session will last 30 minutes and will be structured as follows:

- **The slide show presenting the answers to Sophie's questions (10 minutes):**
    Walk through the slides you have prepared and explain your answers.
- **Presentation of the dashboard features to Sophie (5 minutes):**
    Explain how each feature meets the needs of the business.
- **Discussion (10 minutes):**
    - Playing the role of Sophie, the assessor will ask you questions about your methodology and your deliverables, for example:

- What other visualizations could you add to this dashboard based on available data?
- Now that you have created your dashboard, is there anything that you would change or improve?
- The security system that Dental Pharma is using was aware of atomic values in the data, which is quite unusual. Can you think of other approaches that would allow the user to identify themselves and only have access to the appropriate data?

- **Debrief (5 minutes):**
  - At the end of the sessions, the assessor will stop playing the role of Sophie so that you can debrief together.

Your presentation should last 15 minutes (+/- 5 minutes). Respecting presentation time requirements is important in professional environments. In consequence, if your presentation is under 10 minutes or over 20 minutes, you may be asked to redo the assessment.

Compétences évaluées

- 🔆
  Describe the data life cycle and the steps involved in carrying out routine tasks

- 🔆
  Undertake customer requirements analysis and implement findings in planning and outputs

- 🔆
  Describe principal approaches to defining customer requirements for data analysis

- 🔆
  Collaborate and communicate internal and external stakeholders appropriately

- 🔆
  Collate and interpret qualitative and quantitative data and convert into visualizations