Activity Overview

You have been learning about the role of a data analyst and how to manage, analyze, and visualize data. Now, you will consider a valuable tool to help you practice structured thinking and avoid mistakes: a scope-of-work (SOW).

In this activity, you'll get practical experience developing an SOW document with the help of a handy template. You will then complete an example SOW for an imaginary project of your choosing and learn how analysts outline the work they are going to perform. By the time you complete this activity, you will be familiar with an essential, industry-standard tool, and gain comfort asking the right questions to develop an SOW.

Before you get started, take a minute to think about the main ideas, goals, and target audiences of SOW documents.

Step 1: Understand what you need to know about an SOW

As a data analyst, it's hard to overstate the importance of an SOW document. A well-defined SOW keeps you, your team, and everyone involved with a project on the same page. It ensures that all contributors, sponsors, and stakeholders share the same understanding of the relevant details.

Why do you need an SOW?

The point of data analysis projects is to complete business tasks that are useful to the stakeholders. Creating an SOW helps to make sure that everyone involved, from analysts and engineers to managers and stakeholders, shares the understanding of what those business goals are, and the plan for accomplishing them.

Clarifying requirements and setting expectations are two of the most important parts of a project. Recall the first phase of the Data Analysis Process—asking questions.

As you ask more and more questions to clarify requirements, goals, data sources, stakeholders, and any other relevant info, an SOW helps you formalize it all by recording all the answers and details. In this context, the word "ask" means two things. Preparing to write an SOW is about asking questions to learn the necessary information about the project, but it's also about clarifying and defining what you're being asked to accomplish, and what the limits or boundaries of the "ask" are. After all, if you can't make a distinction between the business questions you are and aren't responsible for answering, then it's hard to know what success means!

What is a good SOW?

There's no standard format for an SOW. They may differ significantly from one organization to another, or from project to project. However, they all have a few foundational pieces of content in common.

- Deliverables: What work is being done, and what things are being created as a result of this project? When the project is complete, what are you expected to deliver to the stakeholders? Be specific here. Will you collect data for this project? How much, or for how long?

Avoid vague statements. For example, “fixing traffic problems” doesn’t specify the scope. This could mean anything from filling in a few potholes to building a new overpass. Be specific! Use numbers and aim for hard, measurable goals and objectives. For example: “Identify top 10 issues with traffic patterns within the city limits, and identify the top 3 solutions that are most cost-effective for reducing traffic congestion.”

- Milestones: This is closely related to your timeline. What are the major milestones for progress in your project? How do you know when a given part of the project is considered complete?

Milestones can be identified by you, by stakeholders, or by other team members such as the Project Manager. Smaller examples might include incremental steps in a larger project like “Collect and process 50% of required data (100 survey responses)”, but may also be larger examples like ”complete initial data analysis report” or “deliver completed dashboard visualizations and analysis reports to stakeholders”.

- Timeline: Your timeline will be closely tied to the milestones you create for your project. The timeline is a way of mapping expectations for how long each step of the process should take. The timeline should be specific enough to help all involved decide if a project is on schedule. When will the deliverables be completed? How long do you expect the project will take to complete? If all goes as planned, how long do you expect each component of the project will take? When can we expect to reach each milestone?
- Reports: Good SOWs also set boundaries for how and when you’ll give status updates to stakeholders. How will you communicate progress with stakeholders and sponsors, and how often? Will progress be reported weekly? Monthly? When milestones are completed? What information will status reports contain?

At a minimum, any SOW should answer all the relevant questions in the above areas. Note that these areas may differ depending on the project. But at their core, the SOW document should always serve the same purpose by containing information that is specific, relevant, and accurate. If something changes in the project, your SOW should reflect those changes.

What is in and out of scope?

SOWs should also contain information specific to what is and isn’t considered part of the project. The scope of your project is everything that you are expected to complete or accomplish, defined to a level of detail that doesn’t leave any ambiguity or confusion about whether a given task or item is part of the project or not.

Notice how the previous example about studying traffic congestion defined its scope as the area within the city limits. This doesn’t leave any room for confusion — stakeholders need only to refer to a map to tell if a stretch of road or intersection is part of the project or not. Defining requirements can be trickier than it sounds, so it’s important to be as specific as possible in these documents, and to use quantitative statements whenever possible.

For example, assume that you’re assigned to a project that involves studying the environmental effects of climate change on the coastline of a city: How do you define what parts of the coastline you are responsible for studying, and which parts you are not?

In this case, it would be important to define the area you’re expected to study using GPS locations, or landmarks. Using specific, quantifiable statements will help ensure that everyone has a clear understanding of what’s expected.

Step 2: Access the template

Now that you know the basics, you can practice creating your own mock SOW for a project of your choice. To get started, first access the scope-of-work template.

To use the template for this course item, click the link below and select “Use Template.”

Link to template: Data Analysis Project Scope-Of-Work (SOW) Template

OR

If you don’t have a Google account, you can download the template directly from the attachment below.

Scope-Of-Work Template

DOCX File

Step 3: Fill in the template for your imaginary project

Spend a few minutes thinking about a plausible data analysis project. Check out 5 Data Analytics Projects for Beginners

- if you need help coming up with ideas.
- Come up with a problem domain, and then make up the relevant details to help you fill out the template.
- Take some time to fill out the template. Treat this exercise as if you were writing your first SOW in your new career as a data analyst. Try to be thorough, specific, and concise!
- The specifics here aren’t important. The goal is to get comfortable identifying and formalizing requirements and using those requirements in a professional manner by creating SOWs.

Step 4: Compare your work to a strong example

Once you’ve filled out your template, consider the strong example below and compare it to yours.

Reflection

When you created a complete and thorough mock SOW, which foundational pieces of content did you include? Select all that apply.

- Reports
- Budget
- Milestones
- Timeline
- Deliverables

Question 2

Now that you have put your scope-of-work knowledge into practice, take a moment to examine and reflect on your completed mock SOW. Then, review your work next to the strong example linked above. In the text box below, write 2-3 sentences (40-60 words) in response to each of the following questions:

- How did you identify and formalize the project’s requirements?

- What questions did you ask in order to define the foundational boundaries and pieces of your analytical content, which may include descriptions of your deliverables, timelines, milestones, and reports?

Congratulations on completing this hands-on activity! Although SOWs do not have a set format, they do include common foundational pieces of content. A good response would include how this content answers questions, sets expectations, and organizes activities. Beyond that, consider the following:

Usually, projects don't start until an SOW is approved with its key pieces of content: the deliverables, milestones, timeline, and reports. To collect and synthesize this information, analysts identify and formalize quantifiable project requirements. They use structured thinking to ask clarifying questions, define what to accomplish, and specify project boundaries.