

**Microsoft Fabric**



Chat with your Data in a Day

Lab #01

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Contents

[Document Structure 2](#_Toc209693533)

[Scenario / Problem Statement 2](#_Toc209693534)

[Introduction 3](#_Toc209693535)

[Task 1: Assess the AI Readiness of Your Data 3](#_Toc209693536)

[Task 2: Writing a prompt in Power BI Copilot 5](#_Toc209693537)

# Document Structure

The lab includes steps for the user to follow along with associated screenshots that provide visual aid. In each screenshot, sections are highlighted with orange boxes to indicate the area(s) user should focus on.

# Scenario / Problem Statement

Your organization just returned from a Microsoft conference where they heard and saw how the Chat with your Data experience, powered by Copilot can dramatically accelerate time to insights. The demos showcased how natural language queries can unlock powerful analytics, provided the underlying semantic models are well-structured and optimized for AI.

**Current Objective**

You’ve been asked to evaluate an existing semantic model within Power BI Desktop. Your goal is to test how well it performs in the Copilot experience and identify areas for improvement.

Explore the semantic model using PBI Desktop built in Copilot’s interface

Identify friction points where Copilot struggles to interpret intent

Recommend and implement enhancements to improve Copilot’s understanding

Document your findings and prepare the model for broader organizational use

# Introduction

In the instructor demo, you saw how well the Chat with your data experience can perform, in this lab, you will see how necessary it is to prep data models for AI. This lab will show various user requests and how Copilot responds to those requests. You will also see how to validate those responses for accuracy and correctness. In future labs, you will learn how to apply best practices and use prep for your data tooling to enhance and improve the Copilot experience!

## Task 1: Assess the AI Readiness of Your Data

1. Open the file named **CWYDIAD – Lab 01 – Start** from your class files to begin exploring the chat with your data experience.



1. With the starting file open, proceed to the Copilot button and select it to open the Copilot experience.

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1. The new window opens for **Connect to a workspace that supports Copilot.** Click the **Select a Workspace** option.

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1. Click the drop down and select the **Fabrikam workspace.**

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1. If you receive a prompt on the next screen, Click on **Get started**.
2. Welcome to the Copilot experience in Power BI! On this startup screen you will receive some prompt ideas across the top **(1)** and then a section at the bottom where you can write out your request **(2)**.

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## Task 2: Writing a prompt in Power BI Copilot

In this section, you will write various prompts and explore the results returned by the Power BI Copilot experience.

1. Click in the prompt and write out the following: **Show total purchases by employee**. Then click **Enter**.

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**ℹ️ Important**

AI returns non-deterministic results due to many factors. As discussed previously in this class, your results may vary and may not be identical to the labs. Please proceed and explore the capabilities and features being displayed to the best of your ability!

1. A lot of information is now returned. Let’s explore this section in depth.
   1. **(1)** A visualization comparing the Total Purchases and Employees.
   2. **(2)** Areas to **Add to page** or to **pop-out and** **expand** the visual.
   3. **(3)** *HCAAT:* How Copilot arrived at this.
2. Click on the *HCAAT*: How Copilot arrived at this button to see the logic behind the Copilot answer.

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AI-generated content may be incorrect.

1. Hover over the ***FullName***, ***Sales***, and even ***IsSalesperson*** to see both the **Field** and **Home Table** for what Copilot has used in the answering of the question.

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Unfortunately, this is an incorrect result. We asked for Total Purchases and received **Total** **Sales** instead!

There are two main things to think about here when prepping data for Copilot.

First, we can write a better prompt that provides more specificity, this will definitely help. However, many users won’t know how to write effective prompts and they also may not know the data well enough to be specific.

Secondly, as data analysts, we can prepare the data for Copilot and anticipate these types of requests making the Copilot responses more accurate. The object of this class is to teach you all the best practices and tooling available to improve the Chat with your Data experience.

**ℹ️ Important**

Copilot's responses are shaped by how you ask your questions. Clear, specific prompts lead to more accurate insights and faster solutions. When working with your data, try to include context, desired outcomes, and any relevant filters or columns. The better your prompt, the better your response!

1. Let’s try this again, but with a more specific prompt, in the Copilot Prompt type: **Show total purchases from the PO table by employee.**

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1. You will notice that the visual created only has one Employee named “Kayla Woodcock”. This is correct! Kayla is the only employee who makes purchases. So by being more specific we can achieve better responses. In addition, if we had prepped our semantic model with a measure named Total Purchases from the beginning we could have avoided this scenario!

A screenshot of a phone

AI-generated content may be incorrect.

1. It’s very important to always validate the results and how Copilot arrived at the answer. Click on the **HCAAT**, How Copilot arrived at this.

A screenshot of a computer

AI-generated content may be incorrect.

1. We can see Copilot is using the FullName column from our People table and it is also using the Spend measure. The spend measure could probably be named better to improve the Copilot experience.
2. What does Spend mean here in this context? Is it the same thing as Purchases? It’s possible we are still getting the incorrect response from Copilot. Let’s go ahead and ask Copilot to explain to us how Spend is calculated!
3. In your Copilot prompt type: **How is the measure Spend calculated**

A screenshot of a chat

AI-generated content may be incorrect.

1. Copilot does a great job of giving a general explanation of what the calculation is probably doing. But you will see terms in this definition like “Typically” or “Usually” because this is a generalization. You will also notice that Copilot explicitly tells you that it does not have access to the exact formula or calculation logic and therefore cannot give you a specific answer.

**ℹ️ Important**

In a future lab, you will learn how to give Copilot the business context necessary to answer these questions and give the user more confidence in the Copilot response!

1. Now let us expand further and create a visual to demonstrate how Copilot will adjust to changes in the data model and the report.
2. In your Copilot prompt type: **Create a new report page with a visual for sales and product tag**.

A screenshot of a chat

AI-generated content may be incorrect.

1. Notice that the values are all the same at **$105,724,059** this can be shown by hovering over the data bars in the visual that Copilot created. This is a tell-tale sign of incorrect relationships in the semantic model.

A screenshot of a graph

AI-generated content may be incorrect.

1. The response returned by Copilot above was incorrect because of the semantic model design. In a future lab, we will take a look at the tables and relationships and how that can be improved to improve the Copilot experience!
2. The visual makes it very clear there is an issue with the Copilot response. Another way to see this data would be to ask a question of Copilot and view the response. In your Copilot prompt type: **Show total sales by product tag**.

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AI-generated content may be incorrect.

1. Copilot explicitly let’s you know, in the response, that there is **no variation** in sales. Whenever you see this wording in Copilot, it’s an indication that something might not be correct.

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1. Let’s ask another question from Copilot: **Show total sales by State**.

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1. There are multiple responses you might get, *your results will like vary!* One possible response is this:

A screenshot of a computer screen

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1. This response is not correct. Again, a data model error is present? Could it be the data model OR the vagueness of our language. Select *HCAAT*: How Copilot arroved at this and hover over the ***State*** and ***Sales*** Data used. ***Sales*** is accurately being collected via our explicit measure in the Sales table, but our ***State*** field is from the Customer table!

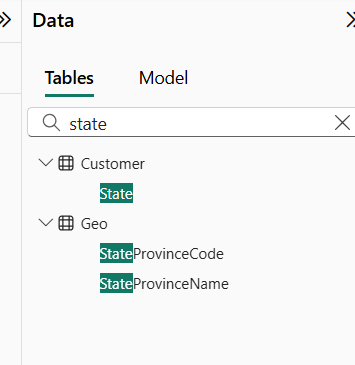
A screenshot of a computer

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1. Head over to the Model View  and review the data model relationships linking Customer to Sales. This perfectly explains our incorrect visualization! Now we can see that our language and the data model must align together.

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In this scenario, we have multiple tables that have a variation of State, we also have multiple sales measures. This can result in inconsistent responses and even misleading results. In later labs, you will learn the different techniques to help Copilot answer these types of user requests!

1. Let’s try a nother prompt: **Sales by State**.

A screenshot of a computer

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1. In the screenshot below, you can see that the state of Texas has the most sales with **$461,457**. This answer was generated by referencing a visual in the report, that visual actually has a filter on it! If your results are the same as the below screenshot, click on the reference, this will take you to the page and visual being referenced.

A screenshot of a chat

AI-generated content may be incorrect.

16. At first glance the answers may appear accurate but take a look at some of the Filters applied to the visualization. If not already, expand your filter pane:

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1. A screenshot of a computer

   AI-generated content may be incorrect.A filter is present on the visual which could be causing a change in Copilot’s responses. Expand the Filter to see that **this visual only shows sales for the best selling product**.

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**ℹ️ Important**

Filters can exist at the visual, page, report, and even slicer levels. Copilot can sometimes generate a response from a visual that has a filter on it, but not notify the end user that there is a filter being applied! Later in this course we will discuss how you can add AI Instructions to help with these types of responses.

1. Remove this filter and notice how the values of the reference visual drastically change.

A screenshot of a computer

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1. Texas now has **$7,256,794**. I wonder what will happen if we ask the same question again? Ask Copilot once more **Sales by State**.

A screenshot of a computer

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1. Without the filter, we have a completely different set of values in the same reference. This is an important aspect to note in the process of preparing your data for AI.

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1. What about a response that returns multiple references? Ask Copilot this new question:  **Show the top selling product**.

A screenshot of a computer

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1. Select the reference and check for any extraneous filters that could be present.

A screenshot of a phone

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1. Add a filter to the page from the Reseller table for **ResellerCompany**.

A screenshot of a computer

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1. Select only TailSpin Toys and observe the values have changed.

A screenshot of a computer

AI-generated content may be incorrect.

1. Now we will ask the question again: **Show the top selling product**.

A screenshot of a computer

AI-generated content may be incorrect.

1. The product may remain the same but our numbers are vastly different, this example shows where unprepped semantic models can provide inconsistent and incorrect results.

A screenshot of a phone

AI-generated content may be incorrect.

1. Another area in which we can enjoy Copilot here and should review is the integration of Data Analysis eXpression (DAX) language. Try by asking a question involving a calculation like the one here: **Calculate the percent of total sales in the Southeast to the United States**.

A screenshot of a computer

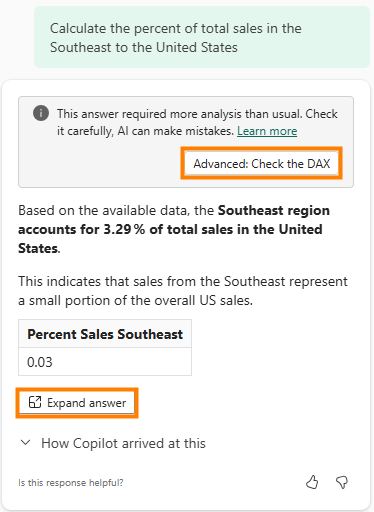
AI-generated content may be incorrect.

1. In our response you will notice that Copilot recognizes the answer will require more analysis than usual. This is great to let us know to further validate the calculation as needed.

A screenshot of a chat

AI-generated content may be incorrect.

1. In our case, this specific calculation required Copilot writing DAX. Here we can check on the DAX used in two ways. First, the **Advanced: Check the DAX** and the **Expand Answer** area .



1. You want to ensure that you are viewing the **DAX Query** tab to view the DAX utilized to craft the answer. The query is listed along with a explanation of the logic to follow. We need to ask two questions. (1) Does the DAX look right here? (2) Was the Southeast region really just **3.29%**?

A screenshot of a computer

AI-generated content may be incorrect.

1. Each time Copilot generates DAX, it will often times be very inconsistent and different. Your DAX may or may not look like the screenshots in this section! In this code, the DAX is pulling the state from the Customer table which is leading to an incorrect response!

A screen shot of a computer code

AI-generated content may be incorrect.

1. Now in what ways can we solve this problem? The best method we will utilize later in our labs when we **Prep the Data for AI**. For now, one way we can guarantee a better response is by writing a better prompt.
2. Ask the question again using this prompt: **Calculate the percent of total sales in the Southeast to the United States from the Geo table**.

A screenshot of a computer

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1. The results this time are far different. We also can check the DAX associated with the response.

A screenshot of a chat

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A screenshot of a computer code

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1. Perfect! With thoughtful prompting, lapses in the model can be adjusted. But for our end users we want to craft an experience that can allow for more general prompting.

Here are a few more resources that will help you with your next steps with Microsoft Fabric.

* Access all the information in the main [Microsoft Fabric Documentation](https://learn.microsoft.com/en-us/fabric/)
* Explore Fabric through the [Guided Tour](https://aka.ms/Fabric-GuidedTour)
* Sign up for the [Microsoft Fabric free trial](https://aka.ms/try-fabric)
* Visit the [Microsoft Fabric website](https://aka.ms/microsoft-fabric)
* Learn new skills by exploring the [Fabric Learning modules](https://aka.ms/learn-fabric)
* Read the [free e-book on getting started with Fabric](https://aka.ms/fabric-get-started-ebook)
* Join the [Fabric community](https://aka.ms/fabric-community) to post your questions, share your feedback, and learn from others

Read the more in-depth Copilot-relevant technical documentation:

* [Copilot for Power BI Overview - Power BI | Microsoft Learn](https://learn.microsoft.com/en-us/power-bi/create-reports/copilot-introduction)
* [Standalone Copilot Experience in Power BI (Preview) – Power BI | Microsoft Learn](https://learn.microsoft.com/en-us/power-bi/create-reports/copilot-chat-with-data-standalone)
* [Microsoft Fabric Copilot admin settings | Microsoft Learn](https://learn.microsoft.com/en-us/fabric/admin/service-admin-portal-copilot)
* [Fabric data agent creation (preview) - Learn how to create a Fabric data agent | Microsoft Learn](https://learn.microsoft.com/en-us/fabric/data-science/concept-data-agent)
* [Best practices for configuring your data agent - Microsoft Fabric | Microsoft Learn](https://learn.microsoft.com/en-us/fabric/data-science/data-agent-configuration-best-practices)
* [Copilot for Microsoft Fabric and Power BI: FAQ - Microsoft Fabric | Microsoft Learn](https://learn.microsoft.com/en-us/fabric/fundamentals/copilot-faq-fabric)

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