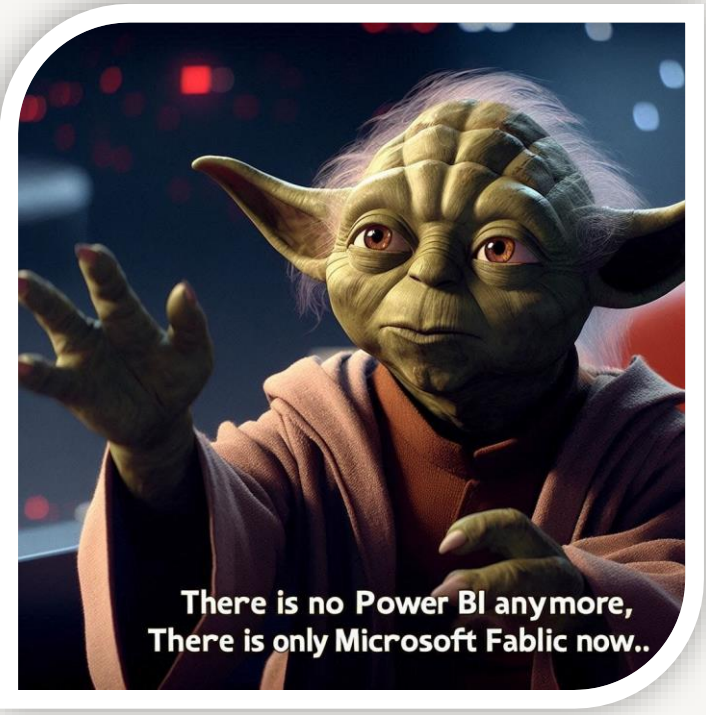
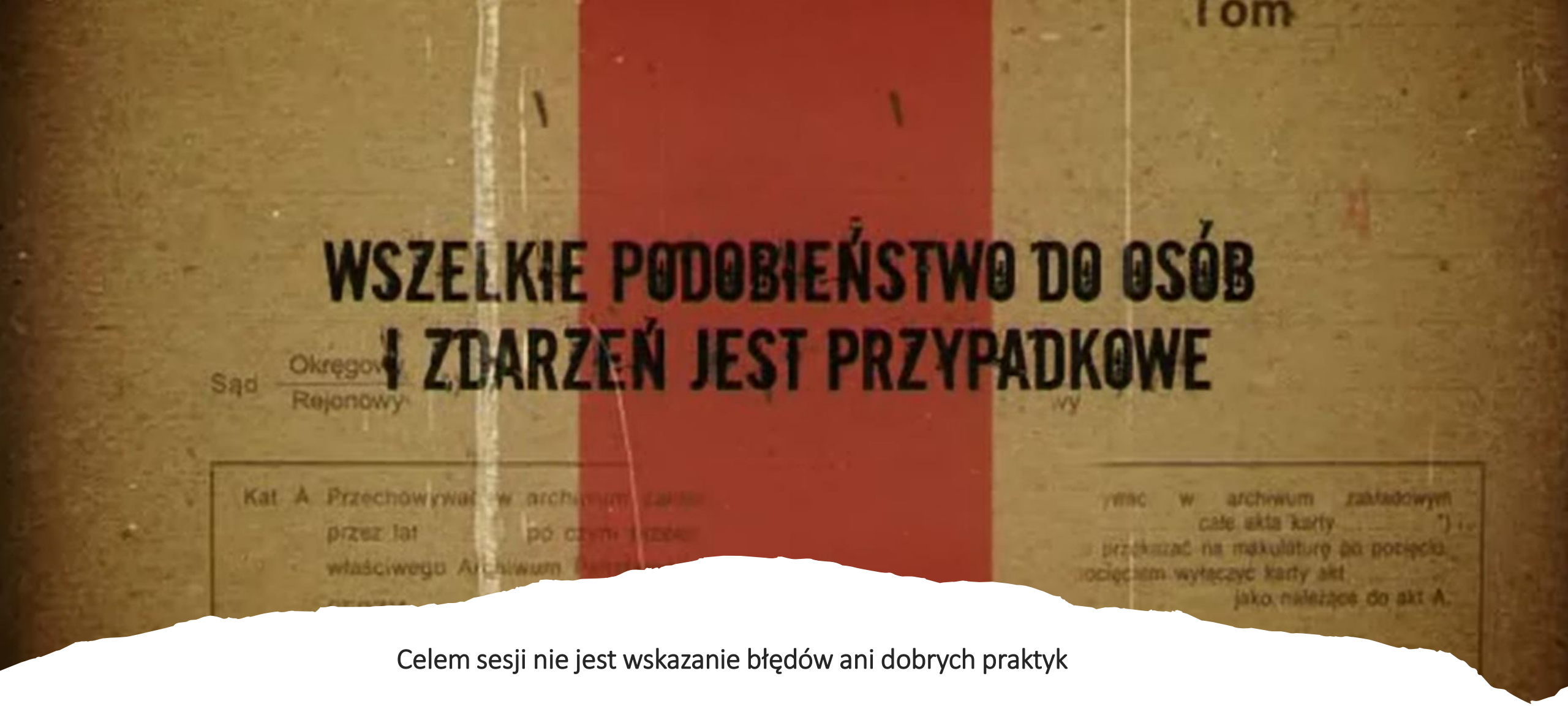
BLASKI I CIENIE MICROSOFT POWER BI



BLASKI I CIENIE MICROSOFT ~~POWER BI~~ FABRIC



Celem sesji nie jest wskazanie błędów ani dobrych praktyk

Prezentowane informacje mają charakter wyłącznie informacyjny i są wynikiem obserwacji prowadzącego

Wszelkie stwierdzenia i komentarze są subiektywną oceną prowadzącego i można (a nawet należy się z nimi nie zgadzać)

Bartłomiej Graczyk

Pełnoletni praktyk:

- ponad 18 lat doświadczeń
- od Polski, przez Europę, po Bliski Wschód, Azję i Stany Zjednoczone

Rożne perspektywy:

- Admin | Dev | Analyst | Consultant | Technical Lead | Architect | C-level Advisor
- Startups | Small & Medium | Enterprise Business

Yin i yang:

- Od głębokiej teorii po praktykę i pragmatyzm

- linkedin.com/in/bartlomiejgraczyk/
- Tales from the Data & Analytics Crypt

Microsoft Fabric

From		To
Multiple analytics services	»	Unified stack
Disconnected data sources	»	All the data in one place
Isolated application	»	Entire estate
Gen AI bolt on	»	Gen AI built in

MICROSOFT FABRIC

Data Factory

Data Engineering

Data Warehouse

Data Science

Real-Time Intelligence

Power BI

Partner & Industry workloads

Copilot in Fabric

OneLake

Microsoft Purview

Fabric addresses the top pain points of data professionals

Data Engineers

- **Execute faster** with the ability to spin up a Spark VM cluster in seconds, or configure with familiar experiences like Git DevOps pipelines for data engineering artifacts
- **Streamline your work** with a single platform to build and operate real-time analytics pipelines, data lakes, lake houses, warehouses, marts, and cubes using your preferred IDE, plug-ins, and tools
- **Reduce costly data replication** and movement with the ability to produce base datasets that can serve data analysts and data scientists without needing to build pipelines

Supporting experiences

Data Factory · Data Warehouse · Data Engineering · Real-Time Intelligence

Serve data via warehouse or lakehouse →

Data Scientists

- **Quickly tune a custom model** by integrating a model built and trained in Azure ML in a Spark notebook
- **Work faster** with the ability to user your preferred data science frameworks, languages, and tools
- **Bypass engineering dependencies** with the ability to use your preferred no-code ML Ops to deploy and operate models in production
- **Tap into proven-at-scale models and services** to accelerate your AI differentiation (AOAI, Cognitive Services, ONNX integration, etc.)

Supporting experiences

Data Science · Azure ML

Serve transformed data →

Analysts

- **Avoid slow, progress-stagnating data wrangling** by seamlessly triggering a workflow that can unlock data engineering tools and capabilities quickly
- **Accelerate your work** with visual and SQL based tools for self-serve data transformations and modeling as well as self-serve tools for reporting, dashboards, and data visualizations
- **Turn data into impact with industry-leading BI tools and integration with the apps your people use everyday like Microsoft 365**

Supporting experiences

Data Warehouse · Real-Time Intelligence · Power BI

Serve insights via embedding →

Data Citizens

- **Make more data-driven decisions** with actionable insights and intelligence in your preferred applications
- **Maintain access to all the data you need,** without being overwhelmed by data ancillary to your role thanks to fine grain data access management controls
- **Act on data, at scale and in a timely manner** by describing business conditions in a no-code experience to launch actions such as Email, Teams notifications, Power Automate flows and call into third party action systems

Supporting experiences

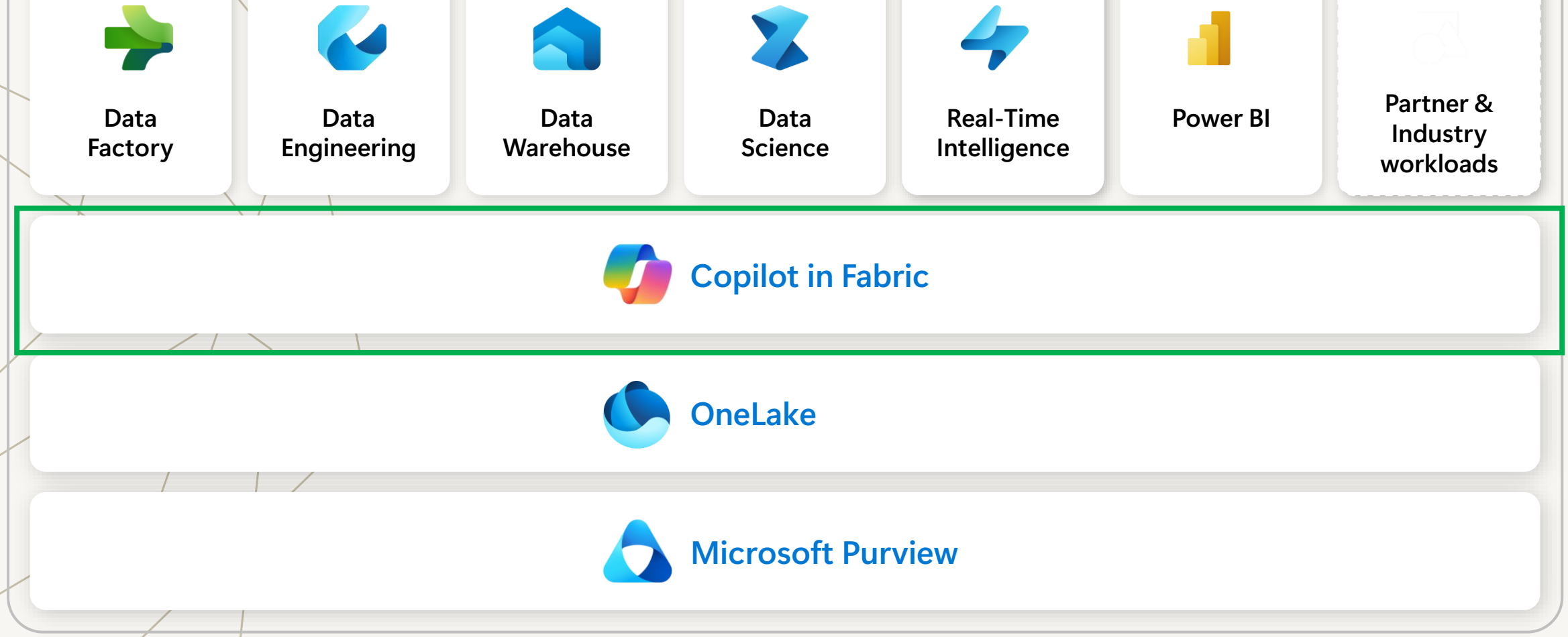
Power BI · Microsoft 365

Serve data via warehouse or Lakehouse

Data Stewards

- **Maintain visibility and control of costs** with a unified consumption and cost model that provides evergreen spend optics on your end-to-end data estate
- **Gain full visibility and governance** over your entire analytics estate from data sources and connections to your data lake, to users and their insights

MICROSOFT FABRIC



Data Factory

Get intelligent code generation to transform data with ease and code explanations to help you better understand complex tasks

Data Warehouse

Write and explain T-SQL queries, or even make intelligent suggestions and fixes while you are coding

Real-Time Intelligence

Translate questions into KQL queries that you can execute.

Power BI

Quickly create report pages, natural language summaries, and generate synonyms.

Data Engineering and Data Science

Quickly generate code in Notebooks to help work with Lakehouse data and get insights.

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Public preview

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Last updated: May 2024

Copilot in Fabric | Power BI

Power BI

Power BI (aka Fabric) Administrator

Power BI Developer / Power BI Desktop User

Report creator

Power BI User

Copilot in Fabric | Power BI

Power BI

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Power BI Developer / Power BI Desktop User

Report creator

Power BI User

Copilot in Fabric | Power BI | Security

Power BI

1. The data processed for Copilot interactions can include user prompts, meta prompts, structure of data (schema) and conversation history.

2. No data, such as content in tables is sent to Azure OpenAI for processing unless it is included in the user prompts.

3. To answer data questions from the semantic model, Copilot requires that Q&A be enabled in the semantic model's dataset settings.

4. Copilot for Microsoft Fabric **is enabled in tenant** settings and you have member or **contributor access** to at least one workspace assigned to use copilot in Power BI Desktop

Copilot in Fabric | Power BI | Limitations

Power BI

1. Generated content can have mistakes. Make sure it's accurate and appropriate before using it. Reviews of outputs should be done by people who are able to meaningfully evaluate the content's accuracy and appropriateness.

2. Unlike the Data pane or Visualization pane, you can't resize the Copilot pane at this time.

3. If you have limited GPU capacity, Copilot may be throttled.

4. Copilot can't modify the visuals after it has generated them

Overview of Copilot for Power BI - Power BI | Microsoft Learn

Copilot in Fabric | Power BI | Limitations

Power BI

5. Copilot can't add filters or set slicers if you specify them in the prompts. For example, if you say: "Create a sales report for the last 30 days." Copilot can't interpret 30 days as a date filter.

6. Copilot can't make layout changes. For example, if you tell Copilot to resize the visuals, or to align all the visuals perfectly, it won't work.

7. Copilot can't understand complex intent. For example, suppose you frame a prompt like: "Generate a report to show incidents by team, incident type, owner of the incident, and do this for only 30 days."

8. Copilot doesn't produce a message for the skills that it doesn't support. For example, if you ask Copilot to edit or add a slicer, it doesn't complete the instruction successfully, as mentioned above. Unfortunately, it *doesn't* give an error message either

Overview of Copilot for Power BI - Power BI | Microsoft Learn

Copilot in Fabric | Power BI | How to start

Power BI

1. Administrator needs to enable the tenant switch before you can start using Copilot.

   Administrators can read the article Copilot tenant settings for details.

2. Your F64 or P1 capacity needs to be in one of the regions listed in Fabric region availability.

   If your tenant or capacity is outside the US or France,

3. Copilot is disabled by default unless your Fabric tenant admin enables the Data sent to Azure OpenAI can be processed outside your tenant's geographic region, compliance boundary, or national cloud instance tenant setting in the Fabric Admin portal.

4. Copilot in Microsoft Fabric **isn't supported on trial SKUs**. Only paid SKUs (F64 or higher, or P1 or higher) are supported.

Copilot in Fabric | Power BI | How to start

Power BI

Element	Consideration	Description	Example
Table Linking	Define Clear Relationships	Ensure that all relationships between tables are clearly defined and logical, indicating which are one-to-many, many-to-one, or many-to-many.	"Sales" table connected to "Date" table by "DateID" field.
Measures	Standardized Calculation Logic	Measures should have standardized, clear calculation logic that is easy to explain and understand.	"Total Sales" calculated as the sum of "SaleAmount" from the "Sales" table.
Measures	Naming Conventions	Names for measures should clearly reflect their calculation and purpose.	Use "Average_Customer_Rating" instead of "AvgRating".
Measures	Predefined Measures	Include a set of predefined measures that users are most likely to request in reports.	"Year_To_Date_Sales", "Month_Over_Month_Growth", etc.
Fact Tables	Clear Delineation	Clearly delineate fact tables, which hold the measurable, quantitative data for analysis.	"Transactions", "Sales", "Visits".
Dimension Tables	Supportive Descriptive Data	Create dimension tables that contain the descriptive attributes related to the quantitative measures in fact tables.	"Product_Details", "Customer_Information".
Hierarchies	Logical Groupings	Establish clear hierarchies within the data, especially for dimension tables that could be used to drill down in reports.	A "Time" hierarchy that breaks down from "Year" to "Quarter" to "Month" to "Day".
Column Names	Unambiguous Labels	Column names should be unambiguous and self-explanatory, avoiding the use of IDs or codes that require further lookup without context.	Use "Product_Name" instead of "ProdID".
Column Data Types	Correct and Consistent	Apply correct and consistent data types for columns across all tables to ensure that measures calculate correctly and to enable proper sorting and filtering.	Ensure numeric columns used in calculations are not set as text data types.
Relationship Types	Clearly Specified	To ensure accurate report generation, clearly specify the nature of relationships (active or inactive) and their cardinality.	Mark whether a relationship is "One-to-One", "One-to-Many", or "Many-to-Many".
Data Consistency	Standardized Values	Maintain standardized values within columns to ensure consistency in filters and reporting.	If you have a "Status" column, consistently use "Open", "Closed",

Update your data model to work well with Copilot for Power BI - Power BI | Microsoft Lea

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Copilot in Fabric | Data Factory

Data Factory

Easily integrate generative AI into your dataflows and pipelines using Copilot

Chat with Copilot to describe data transformations in natural language

Tap into generative AI capabilities from Azure Open AI as data transformation steps

Use Copilot to schedule and run and manage dataflows

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Last updated: May 2024

Copilot in Fabric | Data Warehouse

Data Warehouse

Use Copilot to help write SQL queries, create tables, and even get data

Instantly explain queries with detailed comments next to the code

Quickly write new SQL queries and even get code suggestions as you write

Fix queries with a single click

Data Factory

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Last updated: May 2024

Copilot in Fabric | Data Engineering and Data Science

Data Science

Data Engineering

Work with Copilot to understand how best to analyze your data

Chat with Copilot to create and configure ML models

Write code faster with inline code suggestions from Copilot

Use Copilot to summarize and explain code to understand how it works

Use Copilot to enrich, model, analyze and explore your data in notebooks

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Last updated: May 2024

Copilot in Fabric | Real-Time Intelligence

Real-Time Intelligence

Explore and analyze your real-time data with ease in Copilot

Ask questions about your real-time data in conversational language

Automatically translate it to a KQL query you can execute

Get the most from your time-series data stored in Eventhouse even if you're less familiar with KQL queries

Copilot in Fabric pricing

Copilot in Fabric is limited to customers who have purchased Fabric capacity (F64 or higher) or Power BI Premium capacity (P1 and above) and is not included in the Fabric free account or trial or Power BI per user licenses

You can simply count Copilot usage against your existing Fabric or Power BI Premium capacity

Copilot usage is measured by the number of tokens processed. Tokens can be thought of as pieces of words. Approximately 1,000 tokens are about 750 words. Prices are calculated per 1,000 tokens, and input and output tokens are consumed at different rates

Operation in Metrics App	Description	Operation Unit of Measure	Consumption rate
Copilot in Fabric	The input prompt	Per 1,000 Tokens	400 CU seconds
Copilot in Fabric	The output completion	Per 1,000 Tokens	1,200 CU seconds

See full details here: https://aka.ms/Copilot-Billing-Docs