

Introducing Dynamics 365 ERP Analytics MCP

Presenter(s):

Wei Zhu – Senior Product Manager

Severin Bock – Senior Solution Architect

Co-Presenter(s)/Q&A:

Shivam Pandey – Principal Product Manager

Harsh Birla – Principal Solution Architect

Saurabh Kuchhal – Principal Solution Architect



Agenda

- BPA Overview
- Introduce ERP Analytics MCP
- Demo
- Configuration
- Considerations & Troubleshooting
- Roadmap & Resources
- Q&A

Business Performance Analytics Overview

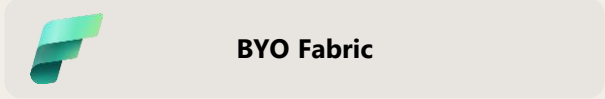
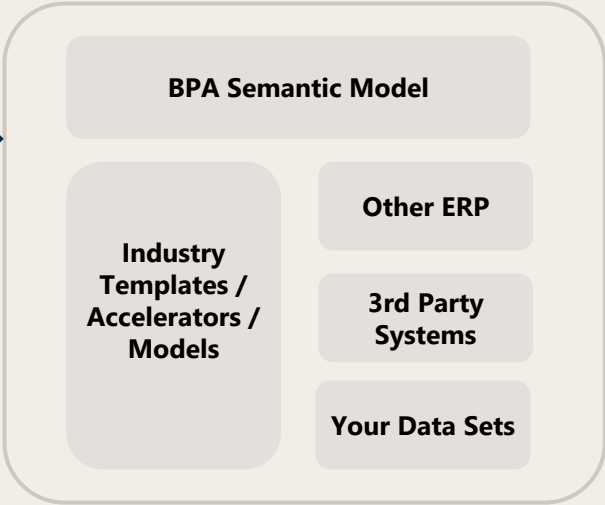


Business Performance Analytics (BPA)

Turn data into action to improve business performance



Governed & Secured Data access



Business Performance Analytics



Introduce Dynamics 365 ERP Analytics MCP

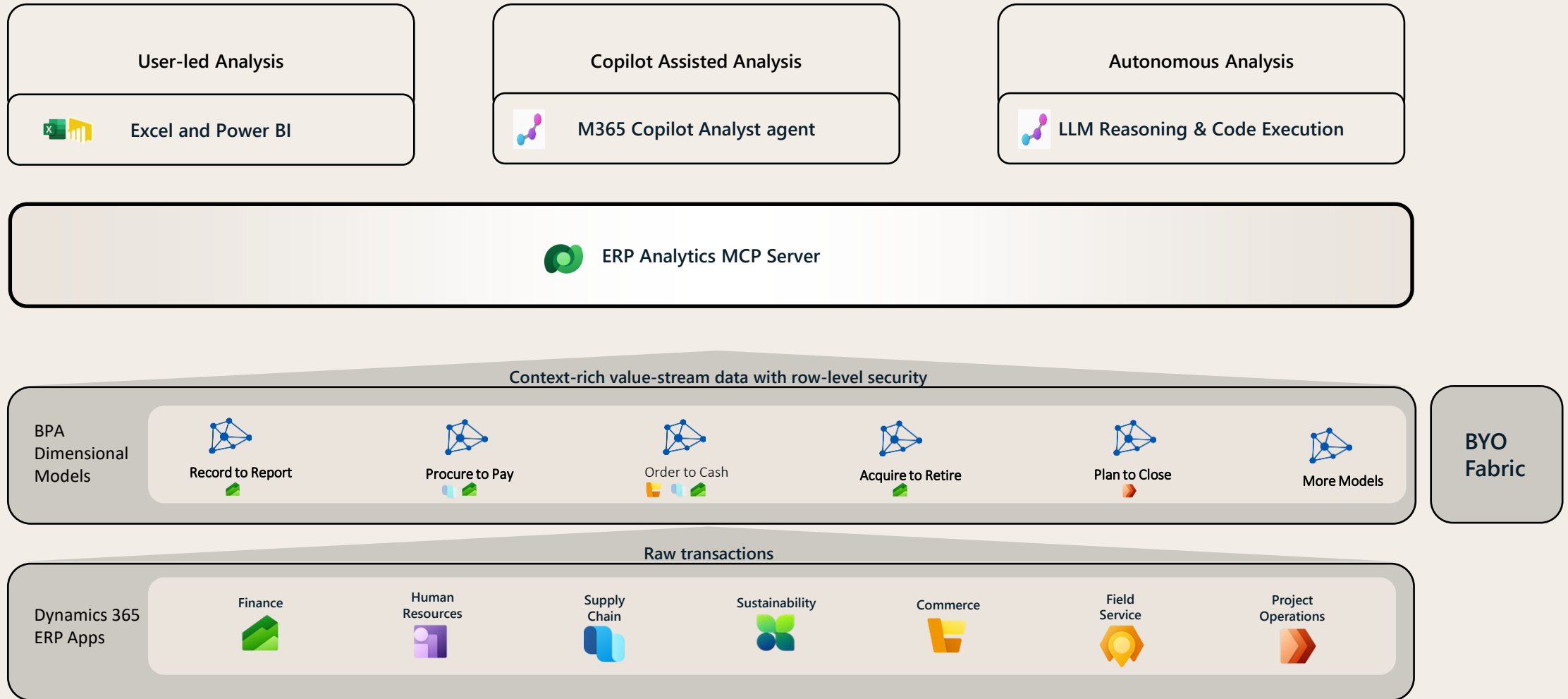


Model Context Protocol

An open protocol that standardizes how applications provide context to LLMs

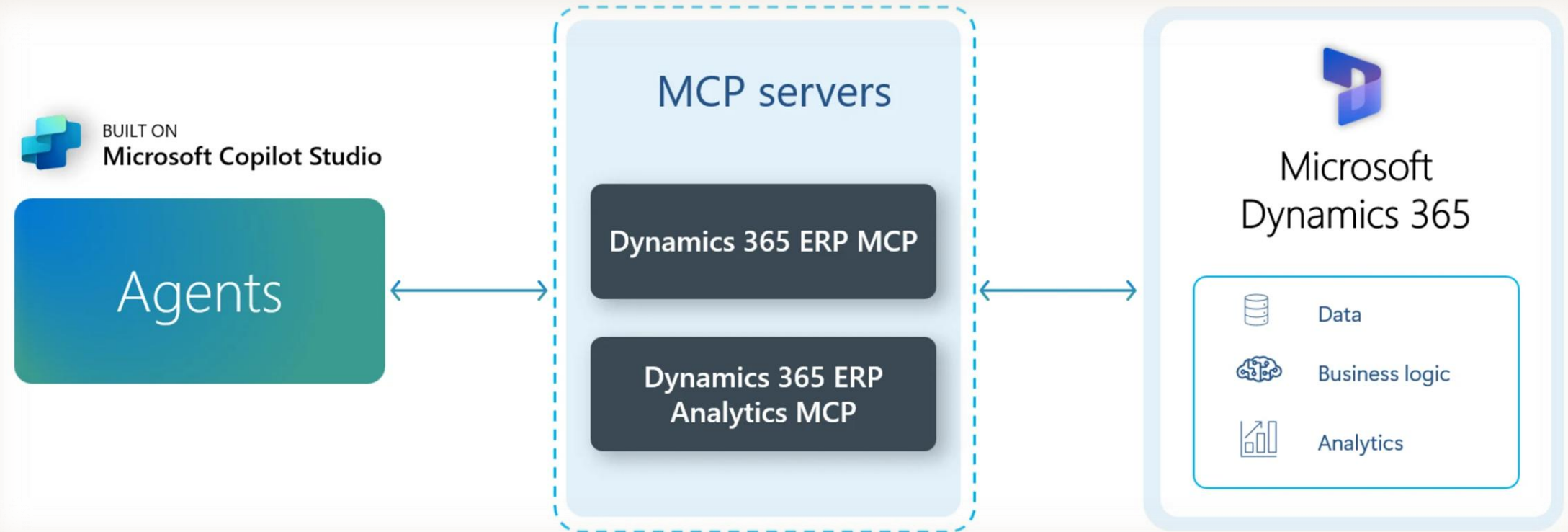
<https://www.anthropic.com/news/model-context-protocol>

Enabling Agentic Intelligence with BPA



People + Copilot + Agents

Dynamics 365 ERP MCP Servers



D365 ERP MCP: Act through the UI to trigger business logic and follow standardized processes

ERP Analytics MCP: Tap into pre-structured analytical data to uncover insights and measure performance trends

Unlocking Insights with ERP Analytics MCP

ERP Analytics MCP

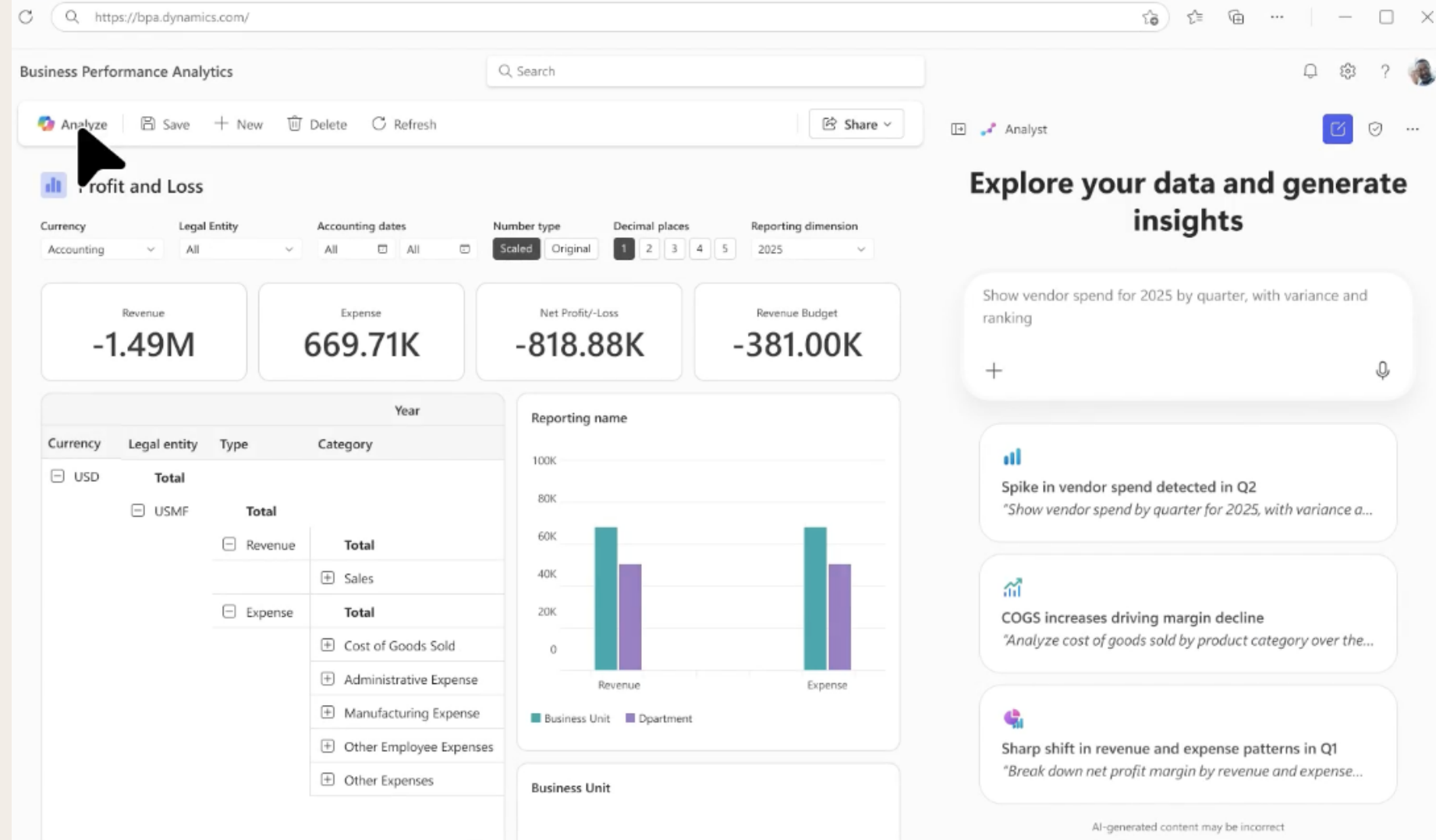
M365 Agents

Copilot Studio

Microsoft
Foundry

Visual Studio
Code

...



Analytics MCP - Available Tools Today

<i>Tool</i>	<i>What it does</i>
get_bpa_dataset-schema	Retrieves the schema of dimensional models, including tables, columns, measures, and relationships from your BPA environment
execute_dax_query	Executes DAX (Data Analysis Expressions) queries against your BPA data with automatic row-level security enforcement

Demo

Copilot Studio with ERP Analytics MCP

Details Edit

Name Agent 20

Description Describe your agent. 20/1024

Select your agent's model
Your agent will primarily use the model for reasoning and responding. Experimental models are subject to preview terms. Learn more
GPT-5 Chat

Triggers
Set up your agent to activate when certain events happen. Learn more
Add trigger

Instructions
Describe what you want this agent to do, its tone, and rules.
Edit

Knowledge
Add data, files, and other resources to inform and improve AI-generated responses.
Add knowledge

Web Search
Enable your agent to search all public websites. Learn more
Enabled

Tools
Add tools to empower the AI to complete specific tasks for improved engagement. Learn more
Add tool

Demo

Open vendor invoices with ERP Analytics MCP

Details Edit

Name
D365ERPAnalyticsAgent

Description 377/1024
You are a Business Analyst assistant for Dynamics 365 that provides data-driven insights using Business Performance Analytics (BPA) data from Dynamics 365 ERP. You support finance and operations teams by analyzing performance metrics, identifying trends and exceptions, and delivering actionable insights to inform business decisions across financial and operational processes.

Select your agent's model
Your agent will primarily use the model for reasoning and responding. Experimental models are subject to [preview terms](#). [Learn more](#)

Claude Sonnet 4.5 (Experimental) ▼

Triggers + Add trigger

Set up your agent to activate when certain events happen. [Learn more](#)

+ Add trigger

Instructions Edit

Role
Act as a business analyst assistant that provides data-driven insights from Business Performance Analytics (BPA) data. **# Objective**

Your objective is to answer analytical questions about ERP data using natural language. Use the ERP Analytics MCP tools to retrieve and analyze data from the BPA environment.

Available Tools
You have access to two analytical tools:
- get-bpa-dataset-schema: Retrieves the schema of analytical data models, including tables, columns, measures, and relationships
- execute-dax-query: Executes DAX queries against BPA data with automatic security enforcement

Tool Usage Instructions
- Always start by using get-bpa-dataset-schema to understand the available data model before answering analytical questions
- Generate appropriate DAX queries based on the user's question and the data model schema
- Use the execute-dax-query tool to retrieve data and calculate insights
- Present results in a clear, business-friendly format

Query Best Practices
- For time-based analysis, use explicit data ranges rather than relative terms

Knowledge + Add knowledge

Add data, files, and other resources to inform and improve AI-generated responses.

Test your agent + ↻ ... ⌂ ×

Hello, I'm D365ERPAnalyticsAgent. How can I help?

Just now

Ask a question or describe what you need 0/2000 ↻ ▶

You're testing your agent's real responses and capabilities. [Find troubleshooting help here](#). Make sure AI-generated content is accurate and appropriate before using. [See terms](#)

Demo

Vendor risk analyze with ERP Analytics MCP

New chat

Search

Library

Create

Agents

D365 ERP Analytics Agent

Vendor Risk Guard

New agent

All agents

Chats



What are my vendors at risk? Use p...

What are my vendors at risk? Visual...

What are my vendors at risk?

Check vendor Acme Office Supplies

Check vendor Acme Office Supplies

Check vendor Acme Office Supplies

Check vendor Acme Office Supplies

What are my open vendor invoices ...

Check vendor Acme Office Supplies

Find anomalies in my sales invoices...

What is my balance for main accou...

What is my balance for main accou...

What is my balance for main accou...

What is my balance for main accou...

How many products has been sold ...

How many products has been sold ...

How many products has been sol...

How many products has been sold ...

All chats

Apps

sebock@axsolutio...

Copilot Chat

D365 ERP Analytics Agent

Created by Your developer name

Message Copilot

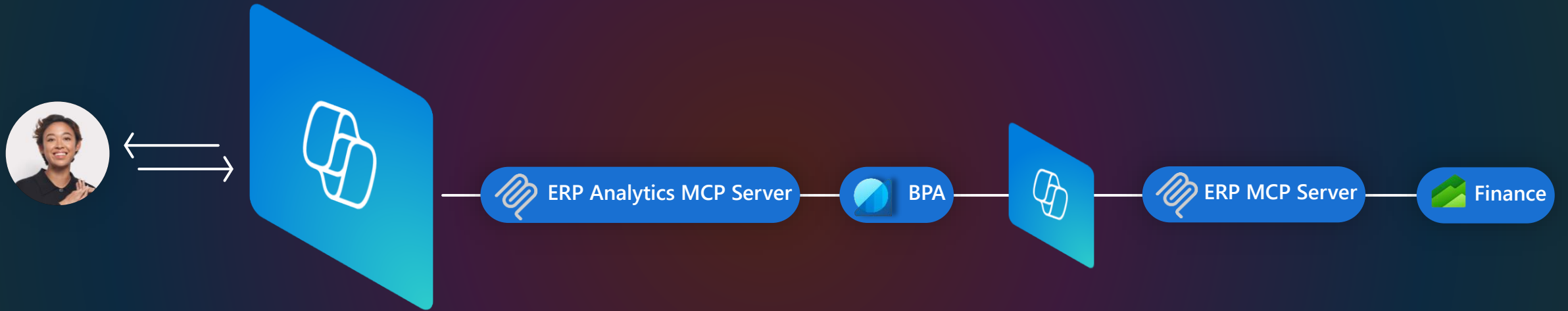


Combining with Dynamics 365 ERP MCP

Dynamics 365 ERP Analytics MCP works alongside the [Dynamics 365 ERP MCP](#) to enable powerful agent workflows that combine analytical insights with transactional actions:

- **Insights to Action:** Explore ERP Analytics MCP (BPA data) to identify issues, then trigger Finance & Operations actions through the ERP MCP
- **Action Informed by Insights:** Start with a task in Finance & Operations, then use ERP Analytics MCP (BPA data) to optimize decisions (for example, requisition management with vendor performance analysis)

Scenario: Insights to Action

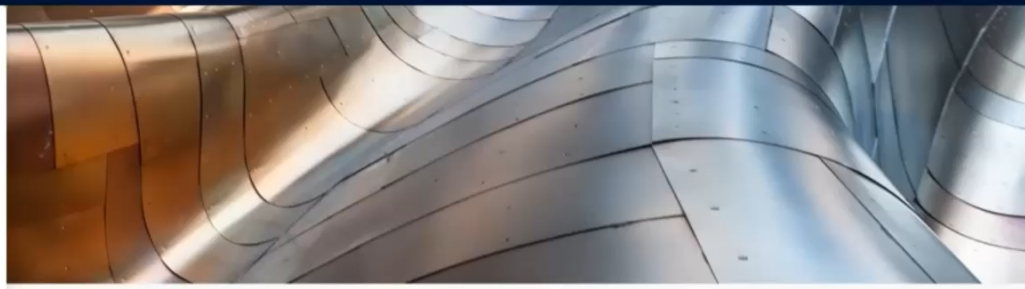


Demo

Analyze vendor and update on hold status

- Home
- Favorites
- Recent
- Workspaces
- Modules
- Accounts payable**
- Accounts receivable
- Agents
- Asset leasing
- Asset management
- Audit workbench
- Benefits management
- Budgeting
- Cash and bank management
- Common
- Consolidations
- Cost accounting
- Cost management
- Credit and collections
- Engineering change management
- Expense management
- Fixed assets
- General ledger
- Global inventory accounting
- Human resources
- Inventory management
- Landed cost
- Leave and absence
- Master planning
- Organization administration

- Expand all Collapse all
- Workspaces**
- Vendor invoice entry
 - Vendor invoice automation
 - Vendor payments
 - Vendor invoice center
- Vendors**
- All vendors
 - Vendors on hold
 - Vendors past due
 - Vendors who are diverse
 - Vendor exception groups
 - Vendor groups
 - Vendor price tolerance groups
- Purchase orders**
- All purchase orders
 - Purchase orders assigned to me
 - Purchase orders received but not invoiced
 - Purchase agreements
 - Open prepayments
- Invoices**
- Payments**
- Broker and royalties**
- Inquiries and reports**
- Product receipt
 - Vendor aging report
 - Vendor aging data storage
 - Vendor open transactions report
 - Vendor transactions report
 - History by transaction report
 - Broker open AR invoices report
 - Vendor reports
 - Purchase order reports
- Invoice**
- Approval journal history and matching details
 - Invoice history and matching details
 - Invoice journal
 - Accrued purchases excluding sales tax report
 - Invoices not approved report
 - Invoice specification report
 - Vendor invoice journal report
 - Vendor invoice transactions report
- Payment**
- Periodic tasks**
- Foreign currency revaluation
 - Foreign currency revaluation automation
 - Vendor to ledger reconciliation report
 - Import one-time vendors and invoices
 - Process one-time vendors and invoices
 - Create prenotes
 - Submit proposed vendor changes
 - Tax 1099
 - Import vendor invoices
 - Vendor marked transaction details
 - All marked transaction details
 - Automatic netting
 - Setup
 - Policy setup
 - Invoice matching setup
 - Charges setup
 - Payment setup



Click to your previous Initial page at any time in User preferences. Try it out X

Demand planning	Finance agents (Preview)	Human Resources	Inventory Visibility	Invoice capture
				Recruiting add-on
				Traceability
Customer invoicing	Financial analysis - current company	Master planning	Production floor management	Store financials
Customer payments	Financial period close	My business processes	Project management	Store management
Data management	Fixed asset management	Optimization advisor	Purchase order confirmation	Subscription billing
Data validation checklist	General journal processing	Outbound work monitoring	Purchase order preparation	Supply risk assessment
Distributed order management	Globalization studio	Outbound work planning	Purchase order receipt and follow-up	System administration



Security

MCP supports enterprise-grade authentication and authorization

All tools/operations secured by BPA security configuration

Prompts for Analytical Operations

- **Aggregations and summaries:** "What were total sales by region last quarter?"
- **Trend analysis:** "Show me revenue trends over the past 12 months"
- **Comparative analysis:** "Compare vendor performance between Q1 and Q2"
- **Top/bottom performers:** "Who are my top 10 customers by revenue?"
- **Anomaly detection:** "Identify purchase invoices that deviate from normal patterns"
- **Complex calculations:** "Calculate inventory turnover ratios by product category"

The agent will use the schema tool to understand your data model, then generate appropriate DAX queries to answer your questions. Results are returned as structured data that agents can analyze and present.

Prompts for Analytical Operations

- **Financial Analysis**
 - “What is our profit and loss trend over the last 12 months?”
 - “Show me our budget variance for this fiscal year”
 - “What are our top expense categories this quarter?”
- **Vendor Analysis**
 - “Which vendors have the best on-time delivery performance?”
 - “Calculate average payment cycle time by vendor”
 - “Identify vendors with the highest return rates”
- **Customer Analysis**
 - “Who are our top 10 customers by revenue?”
 - “Show me customer concentration risk analysis”
 - “Calculate average days sales outstanding”
- **Product Analysis**
 - “What are our most profitable product lines?”
 - “Identify products with declining sales trends”
 - “Calculate inventory turnover by product category”

Configuration



Prerequisites

1. Dynamics 365 Finance & Operations environment
 - Version 10.0.38 or higher required
2. Business Performance Analytics (BPA) installed
 - Version 2.5 required which includes MCP server by default
 - You can self-serve BPA installation following the [BPA installation guide](#)
3. User roles and permissions
 - Basic User role in Dynamics 365 Finance & Operations environment
 - BPA user role for accessing analytical data

Visual Studio Code: ERP Analytics MCP

1. Apply the latest updates for Visual Studio Code.
2. In Visual Studio Code, run command (Ctrl + Shift + P), and select **MCP: Add Server...**
3. Select **HTTP** to connect to a remote HTTP server
4. In the **URL of the MCP server**, enter your MCP endpoint URL in the following format:
https://agent365.svc.cloud.microsoft/mcp/environments/<ENVIRONMENT_ID>/servers/msdyn_ERPAnalyticsMCPServer
(Replace <ENVIRONMENT_ID>with your F&O environment ID)
5. Select the destination where the MCP server is available in:
 - Workspace: Available in this workspace only (recommended for isolating configurations)
 - Global: Available in all workspaces
6. Provide a **Server ID** value (eg. "D365 Analytics MCP") or accept the default.
7. Once the Server ID is entered, the **mcp.json** file is created with the server configuration.
8. When the server is started, you will need to **authenticate** to the server using the credentials for your F&O environment.

Copilot Studio: ERP Analytics MCP

1. Go to [Microsoft Copilot Studio](#) and create a new agent or open an existing agent.
2. On the **Tools** tab of the agent, select **Add a tool**.
3. Select the **Model Context Protocol** filter.
4. Search for and select the **Dynamics 365 ERP Analytics MCP** server.
5. Create a connection to the server using your Power Platform environment credentials.
6. Select **Add to agent**.

After you add the Dynamics 365 ERP Analytics MCP server, the agent can access the analytical tools on the server and use them to answer data questions and generate insights from your BPA data.

Considerations & Troubleshooting



Considerations

Subject	Description
BPA dependency	<ul style="list-style-type: none">• Data refresh frequency• Available data scope, Security configuration
Model	<ul style="list-style-type: none">• Claude Sonnet/Opus 4.5, GPT-5
Agent instructions	<ul style="list-style-type: none">• What to do and how to do it• in natural language statements
Performance limitations	<ul style="list-style-type: none">• 120s maximum execution time• Approximately 10 MB data return limit per query
Prompt Design	<ul style="list-style-type: none">• Be specific about time periods• Specify granularity when needed• Use structured prompts for complex analysis• Iterate based on results
Performance	<ul style="list-style-type: none">• Limit data return sizes with aggregations and summaries• Break complex analyses into steps• Use appropriate time windows
Security	<ul style="list-style-type: none">• Verify user permissions• Test with role-based access

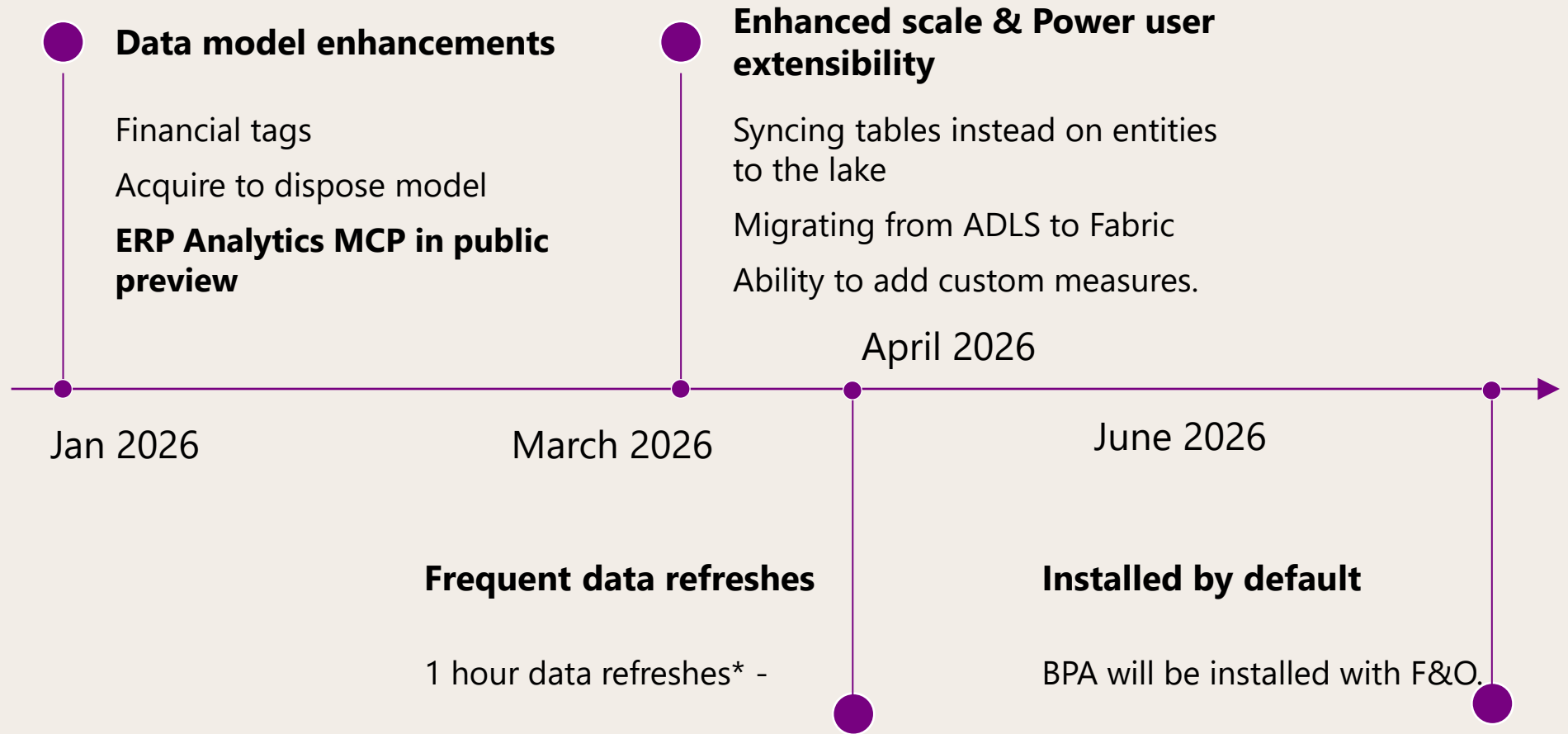
Troubleshooting

Issues	Investigation
Server connection issues	<ul style="list-style-type: none">• Verify your environment ID is correct• Ensure you're authenticated to your Power Platform environment• Check that BPA v2.5 or higher is installed• Restart the MCP server connection from the mcp.json file
Authentication problems	<ul style="list-style-type: none">• Ensure you have the Basic User role in Finance & Operations• Verify you have BPA user role permissions
No tools appearing	<ul style="list-style-type: none">• Verify BPA v2.5+ is properly installed and configured• Check that the MCP server feature is enabled in your environment• Contact your administrator to verify environment configuration
No MCP server	<ul style="list-style-type: none">• Verify BPA v2.5+ or higher is installed• Ensure you have appropriate permissions in your Power Platform environment• Check that the ERP Analytics MCP server is enabled
Poor query results	<ul style="list-style-type: none">• Review your agent instructions for clarity• Ensure you're using Claude Sonnet/Opus 4.5, GPT-5, or future models• Add more specific guidance about your BPA data model in instructions

Roadmap & Resources



BPA Roadmap



ERP Analytics MCP Roadmap

Public Preview

MCP Tools

- ✓ Get ERP Analytical Schema
- ✓ Execute Query

Integrations

- ✓ Copilot Studio
- ✓ Visual Studio

Upcoming

MCP Tools

- **Granular schema retrieval** for better context management
- **Create/update dashboards** from natural language descriptions
- **Create/update measures** on the fly and save for future use

Integrations

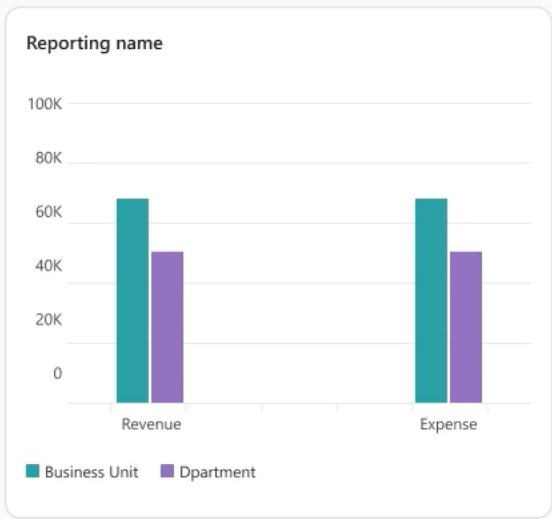
- M365 Copilot and agents
- Native integration in BPA

Profit and Loss

Currency: Accounting | Legal Entity: All | Accounting dates: All | Number type: Scaled | Decimal places: 1 | Reporting dimension: 2025

Revenue -1.49M	Expense 669.71K	Net Profit/-Loss -818.88K	Revenue Budget -381.00K
--------------------------	---------------------------	-------------------------------------	-----------------------------------

				Year 2025		
Currency	Legal entity	Type	Category	Quarter 1	Quarter 2	Quarter 3
USD		Total		\$419,217.40	-\$1,231,458.28	\$898.09
	USMF	Total		\$419,217.40	-\$1,231,458.28	\$898.09
		Revenue	Total	-\$181,100.00	-\$1,296,528.67	
			Sales	-\$181,100.00	-\$1,296,528.67	
		Expense	Total	\$600,317.40	\$65,070.39	\$898.09
			Cost of Goods Sold	\$4,473.60	\$19,638.83	
			Administrative Expense	\$550,000.00		\$942.12
			Manufacturing Expense			-\$0.58
			Other Employee Expenses	\$53,333.80	\$45,386.56	
			Other Expenses	-\$7,490.00		-\$43.45



Business Unit

Additional resources

- [What is Business performance analytics?](#)
- [Dynamics 365 ERP Analytics MCP](#)

- Join the Viva engage <https://aka.ms/finopsvivasignup>
- [Viva Engage - Business performance analytics](#)
- [Viva Engage - Dynamics 365 ERP Analytics MCP](#)

- [Dynamics 365 ERP MCP Server: Adaptive & Analytics-Ready](#)
- [Use Model Context Protocol for finance and operations apps](#)
- [Build an agent with Dynamics 365 ERP MCP \(preview\)](#)

- D365 ERP MCP TechTalk [Accelerating AI Agent Development for Dynamics 365 ERP](#)

Let's stay connected!

- FastTrack LinkedIn
 - <https://www.linkedin.com/company/fasttrackdynamics365/>
- Dynamics 365 Community YouTube page
 - <https://www.youtube.com/@MSD365Community/>
- Subscribe for upcoming TechTalk notification
 - <https://aka.ms/D365TechTalksSubscribe>



QUESTIONS

Dankie Faleminderit **Shukran** Chnorakaloutioun Hvala Blagodaria
Děkuji **Tak** Dank u **Tānan** Kiitos **Merci** Danke Ευχαριστώ A dank
Mahalo הודות. **Dhanyavād** Köszönöm Takk Terima kasih **Grazie** Grazzi

Thank you!

감사합니다 Paldies Choukrane Aċiū Благодарам ありがとうございます
谢谢 Баярлалаа **Dziękuję** Obrigado Mulțumesc **Спасибо** Ngiyabonga
Ďakujem **Tack** Nandri Kop khun Teşekkür ederim Дякую Хвала Diolch

Appendix



Considerations

- BPA foundation dependency
 - Data refresh frequency
 - Available data scope
 - Security-based limitations on data access
- Selecting a model
 - Use Claude Sonnet 4.5 model for optimal DAX query generation and reasoning.
 - Use GPT-5 (Chat) as an alternative. May require more iterations for complex analytical queries.
- Agent instructions
 - Instructions the core directives or guidance on how the agent should function
 - What to do and how to do it, in natural language statements
 - Important context for improving the agent's orchestration in selecting the right tool, interpreting analytical requests, and generating responses.
- Performance limitations
 - Query timeout: 120 seconds maximum execution time
 - Data return limit: Approximately 10MB per query

Considerations - Prompt Design

- **Be specific about time periods:** "last quarter" vs "Q4 2024" vs "October through December 2024"
- **Specify granularity when needed:** "Show daily trends" vs "monthly aggregates"
- **Use structured prompts for complex analysis:** For multi-metric analyses, provide a structured format with clear sections for metrics, grouping, filtering, and sorting
- **Iterate based on results:** Start with broad questions, then refine based on initial insights
- **Request specific visualizations:** "Create a bar chart showing..." or "Generate a trend line for..."

Considerations - Performance

- **Limit data return sizes:** When possible, use aggregations and summaries rather than requesting detailed transaction-level data
- **Break complex analyses into steps:** For multi-part analyses, structure your prompts to build up insights incrementally
- **Use appropriate time windows:** Balance data freshness needs with query performance by selecting appropriate time ranges

Considerations - Security

- **Verify user permissions:** Before onboarding users, ensure they have appropriate BPA roles and Finance & Operations permissions
- **Test with role-based access:** Validate that row-level security is working as expected for different user roles
- **Monitor data access patterns:** Track which data sources and measures are being accessed through the MCP server

Troubleshooting (VS Code)

- **Server connection issues**
 - Verify your environment ID is correct
 - Ensure you're authenticated to your Power Platform environment
 - Check that BPA v2.4.3224 or higher is installed
 - Restart the MCP server connection from the mcp.json file
- **Authentication problems**
 - Ensure you have the Basic User role in Finance & Operations
 - Verify you have BPA user role permissions
 - Try re-authenticating through the authentication prompt
- **No tools appearing**
 - Verify BPA is properly installed and configured
 - Check that the MCP server feature is enabled in your environment
 - Contact your administrator to verify environment configuration
- **Query timeouts**
 - Reduce the time range in your query
 - Request aggregated data rather than detailed transactions
 - Break complex analyses into multiple simpler queries
 - Consider whether your data volume requires optimization

Troubleshooting (Copilot studio)

- Agent not finding the MCP server
 - Verify BPA v2.4.3224 or higher is installed
 - Ensure you have appropriate permissions in your Power Platform environment
 - Check that the ERP Analytics MCP server is enabled
- Poor query results
 - Review your agent instructions for clarity
 - Ensure you're using Claude Sonnet 4.5 or GPT-5 (Chat)
 - Add more specific guidance about your BPA data model in instructions
- Timeout issues
 - Add instructions to focus queries on aggregated data
 - Guide the agent to limit time ranges for large datasets
 - Instruct the agent to break complex analyses into multiple steps