



# Power BI & Fabric: The Magic of Data Analysis







### Enchant Your Data with Power BI

- Power BI is a revolutionary reporting tool that allows you to turn raw data into actionable insights
- Responsive visuals allow you to interact with data and uncover trends like never before



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#### Power BI: The Crux

Creating effective Power BI Reports requires basic understanding of data modeling and visualization best practices.

A well-designed data model allows visuals to respond and be filtered correctly.





### The Dangers of Improper Report Creation

- Incorrect measure calculations
- Confusing visual interactions
- Misinformed conclusions from the audience





### Wouldn't it be nice if you could wave a magic wand and turn data into insights?







## Introducing Generative Al



### Generative Al

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Come Come My Coment	Strengths • Offers sustainable building materials, a growing market • Good reputation for quality products • Strong gross profit margin in Q1 2023	Production and supply chain     Inefficient cost management     Quality control problems	
DP	Opportunities	Threats	
Tand Appr	Growing demand for sustainable materials     Expansion of product line     Investment in supply chain efficiency	Fluctuations in raw material prices     Changes in government policies or     regulations     Price sensitivity in a sagging market	
	+ Add a row		
	Copy Open in Word V	As gamentated content may be increased.	
	What are some addition	al threats? What were our gross profits in Q1?	
	Ask a work question or make a request		

- Generative AI allows you to create content by entering a simple natural language prompt.
- Generative AI tools automatically generate content for you based on your commands.
  - Add more details to your prompts to customize results.
  - At any time, you can **modify** or **remove** content created using natural language prompts.

### Generative AI: Is it Magic?

Sadly, no.

- Generative AI draws upon existing data in Large Language Models (LLMs) hosted in the Microsoft Cloud
- Tools like Copilot, Chat GPT, and OpenAl analyze existing data and use historical trends to generate content.







### Should I Trust Generative AI?



### You Remain in Control

*Security is of utmost importance to Microsoft.* 

At the end of each chat session, data is discarded and is not shared with other organizations. Copilot inherits your organization's Microsoft 365 Privacy Standards:

- Two-Factor authentication
- Compliance standards
- Privacy protection standards
- Responsible Al statements





## Combine the Forces of Generative AI & Power BI





### "You're a Wizard, Satya"

- "Today marks the next major step in the evolution of how we interact with computing, which will **fundamentally change** the way we work and unlock a *new wave of productivity* growth," said Satya Nadella.
- "With our new copilot for work, we're giving people more agency and making technology more accessible through the most universal interface — natural language."





### Copilot: Your Assistant for Work

- Ask questions or enter commands, and Copilot automatically generates content.
- You can choose **to keep, to discard, or to modify** any content generated by Copilot.
- Will be built into all tools in the M365 stack Word, Excel, Outlook, Teams, Power BI.





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### Automate Report Creation

- Use Copilot to create new Power BI reports and visualizations.
- Enter a brief description of what you want to analyze and how you want to visualize the data.
- Copilot generates the report automatically!

Create a report with Copilot Describe the report you want, in your own	Help me build a sales report summarizing our key metrics and trends
words, and Copilot will create it quickly.	000 Sales overview page added
	What are the biggest drivers for close %?
	Analyzing your data
	Cancel



### Demystify DAX with Copilot

Data Analysis Expression (DAX) is the formula language in Power BI that allows you to analyze data with custom filter contexts and to create unique insights.

- Use Copilot to quickly enter text prompts and generate **complex** calculations:
  - "Show Net Revenue for the last 12 rolling months."
- **Optimize** and **refine** existing DAX calculations







**Private Preview** 





### Private Preview Status

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- Copilot was announced at **Microsoft Inspire** on July 18, 2023.
- Microsoft is currently testing the functionality with a small group of customers and will release the functionality for public preview after testing.
  - Still on upcoming release roadmap.
- Microsoft has **not** released pricing, licensing, or availability information.





### Existing AI Power BI Visuals



### Q & A Visualization

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- Ask questions about your data and automatically generate Power BI visualizations.
- Add more details to customize results.
- Add visuals to existing **reports** & **dashboards**.



#### Smart Narratives

- Power BI visualization that automatically generates **text** summaries to supplement Power BI reports.
- Makes content more **accessible** for non-technical audiences.
- The visualization **automatically updates based on userinteractions** in slicers and in other visuals.

#### Sales Analysis

#### Sales across time



#### Monthly Update

Across Product, <u>Outdoor</u> had the most interesting recent trend with a <u>57.83%</u> decrease in the last <u>1 guarter</u> on record.



### Decomposition Trees

- Explore reasons for increases and decreases in business metrics.
- Analyze **impact** of different fields from the data to track and understand metrics.
- Create new perspectives on data and drive outcomes.





### Key Influencers

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**Automatically highlight** the most statistically significant contributors to business metrics.

- Overcome human bias.
- Automatically updates based on interactions with other visuals on the page.



# Pack Your Bags





### Unlock Your Potential

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- Saving time in development allows you to *focus on analyzing* the data.
- Spend less time creating content and **more time sparking change** in your organization.
- Maximize your return on investments in Power Bl.
  - Reserve investments for sophisticated engineers such as 3Cloud.

#### Increase Productivity

- Save time requesting content from IT.
- Create reports in a fraction of the time required before.
  - Replace outdated manual report generation processes.
- Spend less time on manual report creation and focus efforts on **complex analysis** of trends instead.





### Bewitch Your Audiences



- Use natural language prompts to create **visually consistent** reports with ease.
  - Adhere to **organizational design standards** to create sleek, elegant reports.
- Free your brain from manual content creation.
  - Allow yourself to dream of more meaningful report design capabilities.



#### **Overcome Bias**

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6K	0 (Blank) NumUnderInternal NumUnderExternal
2K OK OK 2K 4K 6K 8K	7 3 NumOverInternal NumOverExternal
1.68K 1.48K 1.59K Internal Average External Average of Internal St.Dev	1496 External St.Dev

- Allow **impartial** AI algorithms to analyze data *without preconceived notions or leading assumptions*.
- Create new perspectives and drive new business decisions based on trusted data insights.
- Computers see more than the human eye and can **identify outliers** more efficiently.



### Democratize Development

If you can read this slide, you can create a **complex**, **interactive** Power BI Report.

- Elevate reporting standards by empowering everyone to leverage Power BI.
- You're only as strong as your weakest link.





### Cui Bono? Everyone.

#### • Executives

• "Give me the highlights."

#### • Business Users & Analysts

- "Power BI is not the focus of my job, but I need to analyze data in a more sophisticated way than in Excel."
- "I need an executive summary for my upcoming presentation."

#### Field Sales Representatives

• "I'm on the road, and I need reports as soon as possible."

#### Developers

 "I want to devote more of my time to creating complex calculations and configuring custom report designs."





# Industry Examples





### AI For All

### **Supply Chain**

 "Build a report that allows me to select dates and analyze worker productivity trends by departments."

#### **Healthcare**

• "Show me a report that dynamically identifies medical outliers between patient classes and color-codes the results."





### Al for All

#### **Finance**

• "Generate a dashboard that *compares market trends year over-year* and automatically updates based on what **industry** 

I select."



### **Education**

 "Create a report that analyzes student performance across courses for the last rolling twelve months."







### Partner with 3Cloud





### Pop Quiz: What Do These Wizards Have in Common?











### Don't Travel Alone



**CONTINUATION** 

**Answer:** Each wizard travels with a group of **trusted advisors** and **partners**.

- No successful wizard learns the ropes on his or her own.
- The most powerful among us learn from others through **expert advice**, guidance, and collaboration.

# Embark on a Journey with 3Cloud





- Transcend content created with AI with more creative solutions based on your company's unique needs.
- Validation of Al-generated content for accuracy and for relevance.



### 3Cloud: Engagement Options

#### **Professional Services Engagements:**

- Receive dedicated support to implement solutions in a *fixed timeline*.
- Develop Al-infused solutions in a short time frame.

#### Managed Data Engagements:

- Receive dedicated support *over a span of months.*
- Flexible engagement options for **both solution implementation** and **strategic training** on best practices for AI implementation in Power BI.





# Enter the World of **Pure Imagination** with Generative Al



### The Next Stops on Your Journey

#### Sept 14: 1-2 PM EDT

#### Your Toolbelt Arsenal for Revamping Inherited Power BI Reports

• *"Get ready for an exhilarating journey of report revamping!"* 



Krystina Hughes 3Cloud Senior Data & Analytics Consultant

#### Sept 14: 4-5 PM EDT

Microsoft Fabric | The Magic of a Unified Analytic Reporting Platform

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 "Get ready to be blown away by Microsoft's sensational lake house architecture, powered up with the incredible capabilities of Power BI!"



Paul Turley

Director, Data & Analytics // 3Cloud

