

Microsoft Copilot Super Usage, Copilot Assisted Value Measures and Formulas

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OVERVIEW

This document provides a comprehensive explanation of all measures, formulas, and calculations used in the Microsoft Copilot Super Usage Analysis Power BI report. The report is designed to analyze and visualize the business value generated by Microsoft Copilot across different user segments, providing insights into productivity gains, return on investment, and usage patterns. Each measure serves a specific purpose in building a complete picture of Copilot adoption and value creation within an organization.

CORE DATA FOUNDATION

The analysis is built upon a fundamental data structure where PersonID represents unique individuals within the organization. Each PersonID can appear multiple times in the dataset, corresponding to different time periods or activities. This allows for tracking individual user behavior over time and calculating both aggregate and per-user metrics across various reporting periods.

Data is gathered from Viva Insights Custom Queries and injected into Power BI Dashboard.

USER SEGMENTATION AND PRODUCTIVITY MEASURES

Adjusted Copilot Assisted Hours (Adjustable)

Formula:

Adjusted Copilot Assisted Hours (Adjustable) =

'Table'[Adjusted Copilot Assisted Hours (Total)] * [Penalty Factor Value]

Usage Location: This measure is utilized in the main summary table on the left side of the report, specifically in the "Copilot Assisted Hours" column. It provides the foundation for all productivity calculations by applying a calibration factor to raw productivity estimates.

This measure represents the core productivity metric that quantifies the total time saved across all users through Copilot assistance. The formula takes the base Adjusted Copilot Assisted Hours Total and applies a Penalty Factor Value to create a calibrated estimate. The penalty factor serves as a conservative adjustment mechanism, allowing analysts to apply more realistic estimates rather than accepting raw productivity claims at face value. This calibration is essential because initial productivity estimates from AI tools often require adjustment to reflect real-world conditions and organizational contexts.

The formula multiplies the total assisted hours by the penalty factor, effectively reducing the claimed productivity gains by a specified percentage. This approach acknowledges that while Copilot provides genuine assistance, the actual time savings may be less than initially calculated due to factors such as learning curves, workflow integration challenges, or varying user proficiency levels.

Adjusted Copilot Assisted Hours per User (Adjustable)

Formula:

Adjusted Copilot Assisted Hours per User (Adjustable) =

```
DIVIDE(  
    [Adjusted Copilot Assisted Hours (Adjustable)],  
    DISTINCTCOUNT('Table'[PersonID])  
)
```

Usage Location: This measure appears in the "Copilot Assisted Hours per User" column of the left-side summary table, showing the average monthly productivity gain per individual user across different usage segments.

Building upon the total adjusted hours, this measure calculates the average productivity gain per individual user. The formula divides the total adjusted assisted hours by the distinct count of PersonIDs, providing an average that helps organizations understand typical user-level benefits. This per-user metric is crucial for benchmarking purposes and helps identify whether productivity gains are concentrated among a few power users or distributed more evenly across the user base.

The DIVIDE function in Power BI ensures that the calculation handles scenarios where there might be zero users, preventing division by zero errors. This measure enables organizations to set realistic expectations for new users and identify opportunities for improving adoption among underperforming segments.

VALUE CALCULATION MEASURES

Copilot Assisted Value (Adjustable)

Formula:

Copilot Assisted Value (Adjustable) =

```
SUMX(  
    'Table',
```

'Table'[Adjusted Copilot Assisted Hours (Adjustable)] * 'Hourly Value'[Hourly Value Value]
)

Usage Location: This measure is used in multiple locations - in the "Copilot Assisted Value" column of the left-side summary table, as the main card display showing total value at the top of the report, and as the blue trend line in the line chart showing monthly value progression over time.

This measure converts time savings into business value by multiplying the adjusted assisted hours by an hourly rate. The SUMX function iterates through each row in the data table, calculating the value for each individual record and then summing all values. This row-by-row calculation is important because it maintains the granularity of the data while providing an aggregate financial impact.

The measure multiplies the adjusted assisted hours for each user by the selected hourly value, creating a comprehensive business valuation of Copilot's productivity benefits. This financial translation is essential for executive reporting and ROI calculations, as it converts abstract time savings into concrete business value that stakeholders can easily understand and compare against investment costs.

Copilot Assisted Value per User (Adjustable)

Formula:

Copilot Assisted Value per User (Adjustable) =

DIVIDE(
 [Copilot Assisted Value (Adjustable)],
 DISTINCTCOUNT('Table'[PersonID])
)

Usage Location: This measure appears in the "Copilot Assisted Value per User" column of the left-side summary table and is displayed in the main summary card showing per-user value at the top of the report.

Similar to the hours per user calculation, this measure provides the average business value generated per individual user. By dividing the total assisted value by the distinct count of users, organizations can understand the typical financial benefit each user derives from Copilot. This metric is particularly valuable for cost-benefit analysis at the individual license level and helps justify the per-user subscription cost of Copilot licenses.

INVESTMENT AND COST MEASURES

Copilot Investment

Formula:

Copilot Investment =

```
SUMX (
    VALUES ( 'Table'[YearMonth] ),
    COALESCE([Copilot PPUPM Value], 0) *
    CALCULATE(
        DISTINCTCOUNT('Table'[PersonId]),
        KEEPFILTERS('Table'[Copilot Enabled User] = 1)
    )
)
```

Usage Location: This measure appears in the "Copilot Investment" column of the left-side summary table, calculating the licensing costs for each user segment based on actual enabled users.

This measure calculates the total licensing cost for the organization by considering both the number of enabled users and the monthly cost per user. The formula uses SUMX to iterate through each unique year-month combination, ensuring that costs are calculated accurately across different time periods. For each month, it multiplies the per-user monthly cost (PPUPM) by the count of distinct users who have Copilot enabled.

The COALESCE function provides a fallback value of zero if the PPUPM value is not available, ensuring the calculation remains stable even with incomplete data. The KEEPFILTERS function maintains any existing filter context while counting enabled users, ensuring that the investment calculation reflects the actual scope of analysis rather than the entire dataset.

This measure is fundamental for ROI calculations because it represents the denominator in return on investment ratios, providing the baseline cost against which productivity benefits are measured.

Copilot Investment (Slicer)

Formula:

Copilot Investment (Slicer) =

VAR TotalLicenses = SELECTEDVALUE('Total Licenses'[Total Licenses], 30000)

VAR PPUPM = SELECTEDVALUE('Copilot PPUPM'[Copilot PPUPM], 30)

RETURN

SUMX (

VALUES('Table'[YearMonth]),

TotalLicenses * PPUPM

)

Usage Location: This measure is used specifically for the purple trend line in the line chart, representing the monthly investment cost based on total licensed users rather than just active users. It provides a different perspective on investment that reflects organizational licensing commitments.

This alternative investment calculation uses parameter values for both total licenses and PPUPM, then multiplies these fixed values by the number of months in the analysis period. This approach is useful when modeling scenarios or when the actual user count data might not accurately reflect the organization's licensing commitment. The VAR statements create local variables for the selected license count and monthly cost, making the formula more readable and ensuring consistent values throughout the calculation.

PARAMETER CONTROLS AND SLICERS

Hourly Value Configuration

Formula:

Hourly Value = GENERATESERIES(0, 1000, 1)

Hourly Value Value = SELECTEDVALUE('Hourly Value'[Hourly Value])

Usage Location: The Hourly Value appears as a slicer control on the report (typically showing "Average Hourly Salary" with a dropdown or slider), while the Hourly Value Value measure is referenced in all value calculations throughout the report.

The Hourly Value measure creates a parameter table using GENERATESERIES, generating a range of values from 0 to 1000 in increments of 1. This creates a comprehensive list of possible hourly rates that users can select. The corresponding Hourly Value Value measure extracts the currently selected value using SELECTEDVALUE, which returns the chosen hourly rate or a default if none is selected.

This parameter system allows report users to adjust the hourly rate assumption in real-time, immediately seeing how different valuation approaches affect the overall ROI calculation. This flexibility is crucial because hourly rates vary significantly across roles, regions, and industries, and the ability to adjust this assumption makes the analysis more applicable to diverse organizational contexts.

Total Licenses Configuration

Formula:

Total Licenses = GENERATESERIES(0, 300000, 500)

Total Licenses Value = SELECTEDVALUE('Total Licenses'[Total Licenses], 5000)

Usage Location: The Total Licenses appears as a slicer control at the bottom of the report, while the Total Licenses Value is used in the Copilot Investment (Slicer) calculation for trending analysis.

The Total Licenses measure generates a parameter range from 0 to 300,000 in increments of 500, providing flexibility for organizations of various sizes. The Total Licenses Value measure retrieves the selected value with a default of 5,000 licenses. This parameter controls the investment calculation in scenarios where the analysis needs to model different licensing scenarios or compare current usage against potential expanded deployment.

Copilot PPUPM (Price Per User Per Month) Configuration

Formula:

Copilot PPUPM = GENERATESERIES(0, 30, 1)

Copilot PPUPM Value = SELECTEDVALUE('Copilot PPUPM'[Copilot PPUPM])

Usage Location: The Copilot PPUPM appears as a slicer control on the report (showing "Copilot PPUM"), while the Copilot PPUPM Value is used in both investment calculation measures throughout the analysis.

The Copilot PPUPM measure creates a range from 0 to 30 in increments of 1, representing different possible monthly costs per user. The corresponding value measure extracts the selected price point. This parameter allows for sensitivity analysis around pricing, enabling organizations to model different licensing scenarios or account for volume discounts, promotional pricing, or currency variations.

Penalty Factor (Estimate Calibration)

Formula:

Penalty Factor = GENERATESERIES(0, 1.05, 0.05)

Penalty Factor Value = SELECTEDVALUE('Penalty Factor'[Penalty Factor])

Usage Location: The Penalty Factor appears as the "Estimate Calibration" slicer control on the report, while the Penalty Factor Value is used in the core productivity calculation (Adjusted Copilot Assisted Hours) that flows through all subsequent value calculations.

The Penalty Factor measure generates values from 0 to 1.05 in increments of 0.05, representing percentage adjustments to productivity estimates. A value of 1.0 would represent no adjustment, while 0.4 would represent applying only 40% of the original productivity claim. Values above 1.0 allow for scenarios where the productivity benefits might be underestimated.

This calibration mechanism is critical for creating realistic analyses. Initial AI productivity estimates often represent idealized scenarios, and the penalty factor allows analysts to apply more conservative assumptions based on organizational experience, industry benchmarks, or gradual rollout observations.

TREND ANALYSIS AND TIME-BASED MEASURES

Count of Copilot Enabled Users

Formula:

Count of Copilot Enabled Users =

```
CALCULATE(  
    DISTINCTCOUNT('Table'[PersonId]),  
    'Table'[Copilot Enabled User] = 1  
)
```

Usage Location: This measure is used in the orange trend line in the line chart, showing the count of enabled users over time. It also appears in summary cards and tables throughout the report to show total user counts.

This measure provides a snapshot count of users who have Copilot enabled at any given time. It uses CALCULATE with DISTINCTCOUNT to count unique PersonIDs where the Copilot Enabled User flag equals 1. This measure is essential for understanding adoption rates and license utilization over time.

Weekly Copilot Enabled Users

Formula:

Weekly Copilot Enabled Users =

```
CALCULATE(  
    DISTINCTCOUNT('Table'[PersonId]),  
    FILTER(  
        'Table',  
        'Table'[Copilot Enabled User] = 1 &&  
        NOT ISBLANK('Table'[PersonId])  
    )  
)
```

Usage Location: This measure is used for weekly reporting views and analysis, providing a more refined count of active users for shorter time period analysis.

This measure refines the user count by adding additional filters to ensure data quality. It counts distinct users who are both Copilot-enabled and have non-blank PersonID values. The additional ISBLANK check ensures that incomplete or corrupted data records don't skew the user counts. This measure provides a more precise view of active, valid users in weekly reporting scenarios.

Investment Calculation for Trending

The Copilot Investment (Slicer) measure provides a different approach to investment calculation, designed specifically for trending analysis. It uses parameter values for both total licenses and PPUPM, then multiplies these fixed values by the number of months in the analysis period. This approach is useful when modeling scenarios or when the actual user count data might not accurately reflect the organization's licensing commitment.

The VAR statements create local variables for the selected license count and monthly cost, making the formula more readable and ensuring consistent values throughout the

calculation. This measure helps create investment trend lines that reflect organizational licensing decisions rather than just active user fluctuations.

REPORT VISUAL ELEMENT MAPPING

Main Summary Cards (Top of Report):

- Total Copilot Assisted Hours: Uses "Adjusted Copilot Assisted Hours (Adjustable)"
- Monthly Copilot Assisted Hours per User: Uses "Adjusted Copilot Assisted Hours per User (Adjustable)"
- Total Copilot Assisted Value: Uses "Copilot Assisted Value (Adjustable)"
- Copilot Assisted Value per User: Uses "Copilot Assisted Value per User (Adjustable)"

Left-Side Summary Table:

- Usage Rank column: Static text labels for user segments
- Copilot Active Users column: Uses "Count of Copilot Enabled Users" with segment filtering
- Copilot Assisted Hours per User column: Uses "Adjusted Copilot Assisted Hours per User (Adjustable)"
- Copilot Assisted Value per User column: Uses "Copilot Assisted Value per User (Adjustable)"
- Copilot Assisted Hours column: Uses "Adjusted Copilot Assisted Hours (Adjustable)"
- Copilot Assisted Value column: Uses "Copilot Assisted Value (Adjustable)"
- Copilot Investment column: Uses "Copilot Investment"

Trend Line Chart:

- Blue Line (Copilot Assisted Value): Uses "Copilot Assisted Value (Adjustable)"
- Purple Line (Copilot Investment): Uses "Copilot Investment (Slicer)"

- Orange Line (Count of Copilot Enabled User): Uses "Count of Copilot Enabled Users"

Parameter Controls:

- Average Hourly Salary Slicer: Uses "Hourly Value" and "Hourly Value Value"
- Copilot PPUM Slicer: Uses "Copilot PPUPM" and "Copilot PPUPM Value"
- Estimate Calibration Slicer: Uses "Penalty Factor" and "Penalty Factor Value"
- Total Licenses Slicer: Uses "Total Licenses" and "Total Licenses Value"

PRACTICAL APPLICATION AND USAGE

These measures work together to create a comprehensive view of Copilot value generation. The adjustable hours measures provide the foundation by quantifying productivity gains with appropriate calibration. The value measures translate these time savings into business value using configurable hourly rates. The investment measures track the cost side of the equation, enabling ROI calculations.

The parameter controls (hourly value, total licenses, PPUPM, and penalty factor) make the analysis flexible and adaptable to different organizational contexts. Users can adjust assumptions in real-time to see how different scenarios affect the overall value proposition.

The trending measures enable time-based analysis, showing how adoption, value generation, and investment evolve over time. This temporal view is crucial for understanding the trajectory of Copilot implementation and identifying periods of acceleration or stagnation in value realization.

ANALYTICAL CONSIDERATIONS

When using these measures, it's important to understand that the penalty factor calibration is perhaps the most critical assumption in the entire analysis. Setting this too high results in overly optimistic ROI calculations, while setting it too low might undervalue genuine productivity benefits. Organizations should calibrate this factor based on their own observations, user feedback, and gradual rollout experiences.

The per-user metrics are particularly valuable for identifying usage patterns and targeting improvement efforts. Large variations in per-user value often indicate opportunities for training, change management, or technology optimization initiatives.

The investment measures should reflect the organization's actual licensing commitment rather than just active usage, as most Copilot licensing involves fixed monthly commitments regardless of individual user activity levels. This distinction is important for accurate ROI calculations and budget planning.

CONCLUSION

These measures collectively provide a robust framework for analyzing Microsoft Copilot business value across multiple dimensions: productivity gains, financial impact, user adoption, and return on investment. The flexibility built into the parameter system ensures the analysis can adapt to different organizational contexts while maintaining analytical rigor through calibration mechanisms. Understanding each measure's purpose and calculation method enables more effective use of the analysis for decision-making, budget justification, and optimization initiatives.