AI and Excel

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FULL-DAY LIVE ONLINE COURSE

AI & Excel in the Workplace

Three sessions. Five tools. One safe, validated workflow.

Enda Rochford — RandTrad Consulting, for CMG
9 September 2026

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SESSION 1 · 9:30 – 11:00

AI Fundamentals, Data Protection, ChatGPT for Excel

AI & Excel in the Workplace — CMG | 9 September 2026

- **Tutor:** Enda Rochford, RandTrad Consulting
- Live online course for **admin and data professionals** who work with spreadsheets
- By the end of today: which AI tools help, **how to use them safely**, and how to **validate the output**
- **Primary tool: Microsoft Copilot** — keeps data in your M365 tenant
- Other tools covered for awareness & comparison: **ChatGPT, Claude, Gemini, Perplexity**
- This course contributes to your **EU AI Act Article 4 AI literacy obligation**

Today's Agenda

Three sessions, one integrated workflow

Time	Session	Duration
9:30 – 11:00	**Session 1:** AI Fundamentals, Data Protection, ChatGPT for Excel	90 min
11:15 – 1:00	**Session 2:** Copilot Deep Dive, Claude, Gemini, Perplexity	105 min
2:00 – 3:30	**Session 3:** Integrated Workflow, Governance, Workflow Design	90 min

- Breaks: ☕ 11:00 – 11:15 | 🍽️ Lunch 1:00 – 2:00
- **~75% demo/exercise, ~25% presentation** — this is a hands-on day
- Certificate of attendance (CPD accredited) issued at the end

Housekeeping & Course Pack

What you need and where it is

- Course pack includes: attendee pack, **5 Prompt Library Cards (60 prompts)**, exercise files, resources
- **Excel for the web recommended** for exercises — most reliable Copilot Agent Mode (desktop varies by update channel)
- Interactive format — **questions welcome throughout**
- Post-course pack emailed after the day

Quick Poll

What's your most time-consuming spreadsheet task?

- Writing complex formulas
- Creating PivotTables and dashboards
- **Cleaning messy data**
- Month-end reporting / variance analysis
- Generating reports from spreadsheet data

What AI Is Useful For in Excel

Three categories of spreadsheet work

- **Formula work** — generating complex formulas from plain English, debugging broken formulas, explaining how formulas work
- **Data analysis** — building PivotTables, creating dashboards, identifying trends, executive summaries, forecasting
- **Data cleaning** — restructuring messy imports, normalising formats, deduplicating records, standardising text

Everyday Examples — See Yourself Here

Sales admin, finance, HR, project admin, office manager

- Cleaning a messy CRM export (dates, spaces, duplicates, text numbers)
- Building a sales dashboard from raw data
- Month-end **budget vs actual variance analysis**
- Drafting a project status report
- **Categorising expenses** from free-text descriptions
- Reconciling invoices against a payment log

The Partnership, Not a Handover

> *"AI generates the first draft. You validate."*

- AI cuts formula-writing time from **minutes to seconds** for common tasks
- **Validation is non-negotiable** — AI-generated formulas are wrong often enough to matter
- Simple formulas ~95% accurate; medium ~85–90%; complex ~70–80%
- The more complex the request, the **more carefully you validate**

The Tool Landscape

Five tools in this course

Tool	Strengths	Role in this course
Microsoft Copilot	Works directly in Excel; data stays in-tenant	**Primary tool**
ChatGPT	Formula generation from plain English	Awareness & comparison
Claude	Structured reasoning, report writing	Awareness & validation partner
Gemini	Google Workspace / Sheets, Deep Research	Awareness only
Perplexity	Live web search with citations	Research with public data

Data Protection & Responsible AI Use

Free AI tools train on your data

- Pasting commercially sensitive information into **free ChatGPT is a confidentiality breach**
- Free tiers (ChatGPT, Claude, Gemini, Perplexity) **train on your inputs** — no DPA, no compliance path for sensitive data
- **Copilot in M365 is the only AI tool that keeps data in your tenant** — GDPR-compliant, Microsoft DPA applies
- Rule of thumb: **Copilot for live data, ChatGPT/Claude for generation & interpretation, Perplexity for research**

The Confidentiality Matrix (Anchor)

Which tool for which data — the most important reference in this course

Data Type	Copilot (M365)	ChatGPT Free	ChatGPT Paid (DPA)	Claude Free	Perplexity
Publicly available data (market benchmarks, EU directives)	✅	✅	✅	✅	✅
Anonymised / synthetic data	✅	✅	✅	✅	✅
Commercially sensitive (pricing, contract terms)	✅ In-tenant	❌	⚠️ DPA required	❌	❌
Personally identifiable data	✅ In-tenant	❌	⚠️ DPA required	❌	❌
Legally privileged	✅ In-tenant	❌	❌	❌	❌

Confidentiality Matrix — Decision Rules

Six rules that do the thinking for you

1. **Publicly available data** → any tool is fine (Perplexity excellent, with citations)
2. **Anonymised/synthetic data** → any tool fine for learning and comparison
3. **Commercially sensitive data** → **Copilot in M365 only** — data stays in your tenant
4. **Personally identifiable data (PII)** → **Copilot in M365 only** — GDPR requires a DPA for external processing
5. **Legally privileged data** → **Copilot in M365 only** — no external tool is appropriate
6. **Not sure?** → **Don't paste it in.** Check with your data protection officer or IT security team

Copilot vs Free Tools — Why It Matters

In-tenant beats paste-to-cloud

- **Copilot in M365:** data stays in your organisation's tenant; Microsoft DPA applies; GDPR-compliant; safe for **real work**
- **Free AI tools:** inputs used for training; no DPA; no compliance path for sensitive data; use for **learning and comparison only**
- **Paid external tools** (ChatGPT Plus/Team, Claude Pro, Gemini Workspace): DPA available — but still **external processing**; check your organisation's policy
- **Common question:** "What about ChatGPT Plus?" → Better than free, but data still goes to OpenAI servers. You need a DPA for sensitive data.

Data Minimisation

Only share what the AI needs — not the whole sheet

Technique	How to do it
Column stripping	Copy only the columns the AI needs, not the whole sheet
Anonymisation	Replace names with “Person A”; companies with “Client 1”, “Client 2”
Aggregation	Replace individual records with totals or ranges
Synthetic data	Fake data with the same structure, for testing
Structure-only prompts	“I have a table with columns: Date, Department, Amount, Category, Status” — no data exposed

EU AI Act Article 4 — AI Literacy

Enforced from 2 August 2026

- **Regulation 2024/1689** requires organisations to ensure staff have **sufficient AI literacy** to use AI tools safely
- Applies to **all EU organisations using AI** — not just AI providers
- Literate staff make **informed decisions**: technical knowledge, risk awareness, ethics
- **This course contributes to your organisation's Article 4 obligation**
- Document attendance — course certificates serve as **compliance evidence**

ChatGPT for Excel — Position & Awareness

Understanding the landscape

- ChatGPT is covered for **awareness and comparison** — not the primary tool
- For sensitive data, **Copilot is your primary tool**
- ChatGPT's strengths: formula generation, debugging, data cleaning (paste-in), explaining formulas
- Weaknesses: **cannot directly edit Excel** (paste-in only), locale issues, no citations, data goes to OpenAI servers
- Pattern: **describe intent → AI generates formula → copy to Excel → test → iterate**

Demo — Generating Formulas from Plain English

Describe intent, AI translates to formula

- *"Write an XLOOKUP that matches an invoice number against a payment log and returns the expected amount"* → `=XLOOKUP("INV-2026-001", A2:A20, D2:D20, "Not found")`
- *"Create a nested IF that flags expense amounts: below €50 = OK, €50-€500 = review, above €500 = escalate"* → `=IF(B2<50,"OK",IF(B2<=500,"Review","Escalate"))`
- *"Write a formula to calculate tenure in years and months from a start date column"* → `=DATEDIF(B2,TODAY(),"y") & " years, " & DATEDIF(B2,TODAY(),"ym") & " months"`

Locale, PivotTables & Conditional Formatting

The #1 copy-paste error and design help

- **Locale warning:** AI defaults to US Excel — commas, MM/DD/YYYY. European Excel uses **semicolons** and DD/MM/YYYY. Always add: *“I'm using European Excel with semicolon separators.”*
- PivotTable design (AI can describe steps it can't click): *“Design a PivotTable layout for tracking sales by region and product”*
- Conditional formatting: *“Create conditional formatting rules that highlight overdue project milestones in red”*

Debugging Broken Formulas

The iterative debug pattern

- **The hard truth:** AI-generated formulas are wrong often enough to matter
- Common errors: wrong cell references, implicit intersection, **locale issues** (comma vs semicolon)
- Pattern: **paste error → AI explains → fix → test → repeat**
- Demo: paste a formula returning `#VALUE!` and ask *“Why is this returning an error?”*
- Fix date criteria: `>="01/01/2026"` → `">"&DATE(2026,1,1)`

The “Two AI” Approach

The most powerful validation technique

> ***Generate with one AI, validate with another.***

- *“Review this Excel formula. The intent is [describe]. The formula is [paste]. Identify any errors.”*
- **Two different models catch different errors** — different training data, different reasoning
- If both agree on a complex formula, **confidence is higher**
- If they disagree → investigate manually

Exercise 1 — Cleaning a Messy Imported Dataset

⏱ 15 minutes

The task: a messy CRM export — inconsistent dates, trailing spaces, blank rows, duplicates, phone numbers as text, spend as text with € and commas

Follow-along

Use ChatGPT (or Copilot Chat) to generate cleaning formulas — TRIM, DATEVALUE/TEXT, SUBSTITUTE, VALUE — then apply, remove duplicates/blank rows, **validate against known totals**

Extend

Clean a second messy expense list, then structure as a proper Excel Table

Challenge

The **two-AI approach** — generate with ChatGPT, validate with Claude, document the process

Takeaway: Prompt Library **Card 1 — 15 Prompts for Data Cleaning & Formatting**

SESSION 1 RECAP

Session 1 Recap & Takeaways

What you now know

- ✓ **Three categories** where AI helps: formulas, analysis, data cleaning
- ✓ **The confidentiality matrix** — check it before every tool (we'll re-show it before every exercise)
- ✓ **Copilot in M365** is the safe tool for sensitive data; free tools train on your inputs
- ✓ **EU AI Act Article 4** — enforced 2 August 2026; this course contributes to your literacy obligation
- ✓ **Always validate** — and the two-AI approach is your best friend
- ✓ Prompt Library **Card 1** is your Monday-morning starter

Coffee Break

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SESSION 2 · 11:15 – 1:00

Copilot Deep Dive, Claude, Gemini, Perplexity

Copilot deep dive — the core of the course

- **Copilot is your primary tool** — the only AI that works directly on your data and keeps it in-tenant
- We'll get the **“wow” moment**: building a dashboard from raw data in seconds
- Then awareness-level coverage of **Claude, Gemini and Perplexity** for comparison
- Secondary tools are for **public/anonymised data only**
- Data check: the confidentiality matrix appears before every exercise

Copilot in Excel — Current State (August 2026)

Free tier vs paid tier

Capability	Copilot Chat (Free)	Copilot Agent Mode (Licence)
Ask questions about data	✅	✅
Formula suggestions / trends	✅	✅
Edit cells, create PivotTables	❌	✅
Create charts, dashboards	❌	✅
Python in Excel, =COPILOT()	❌	✅ (GA / rolling out)
Model choice (OpenAI/Anthropic)	❌	✅

Copilot Licensing Quick Reference

Know your tier

Tier	What you get	Cost	Excel capability
No licence (any M365 sub)	**Copilot Chat** — suggestions, trends	€0	Can suggest, **cannot edit**
M365 Copilot licence	**Agent Mode** — full editing, PivotTables, Python	~€30/user/mo (promo ~€18)	Full capability
Copilot Pro (individual)	Word, Excel, PowerPoint, Outlook	~€22/mo	Full Agent Mode

- **Check with your IT team** — many Irish public sector bodies are rolling out Copilot licences in 2026
- No licence? Copilot Chat still helps; pair with a colleague who has Agent Mode for exercises

The Confidentiality Matrix (Data Check)

Copilot is the only tool safe for real data

Data Type	Copilot (M365)	Free tools
Publicly available / EU directives	✅	✅
Anonymised / synthetic	✅	✅
Commercially sensitive (pricing, contracts)	✅ In-tenant	❌
Personally identifiable data	✅ In-tenant	❌
Legally privileged	✅ In-tenant	❌

- **Copilot in M365** keeps data in your tenant — GDPR-compliant, Microsoft DPA applies
- This is why Copilot is the **primary tool** for real work

Demo — Ask Copilot to Analyse Your Data

Working directly on your data — no pasting

- Click the Copilot icon in **Excel for the web**. Ask:
- *“Analyse this sales data and show me the top 5 products by revenue.”*
- *“What is the average revenue by region?”*
- **Key point:** Copilot works directly on your data — no pasting, no copying, nothing leaves the tenant
- This is why Copilot is **safe for sensitive data**

Demo — Create a PivotTable with Agent Mode

Full editing, directly in cells

- *"Create a PivotTable showing revenue by region and product, with revenue as the value field (summed). Sort by total revenue descending."*
- Copilot **creates the PivotTable in a new sheet** for you
- Compare: Copilot Chat (free) can only **describe** how to create one — you do the clicking
- **Agent Mode does it for you**, instantly

Demo — Build a Complete Dashboard

The “wow” moment

- One detailed prompt produces a **multi-element dashboard**:
- *“Create a dashboard for this data. Add a KPI section at the top showing total revenue, total orders, and average order value. Below that, a PivotTable of revenue by product category and a PivotTable of revenue by month. Add a bar chart for revenue by region and a line chart for revenue by month. Add slicers for Region and Category.”*
- Building this by hand = **30–45 minutes** of PivotTables, charts, formatting
- Copilot does it in **seconds**

Model Choice — OpenAI vs Anthropic

Different strengths in the same Copilot

- Copilot lets you **switch models** for the same query — OpenAI and Anthropic
- **Claude Opus 4.8** is selectable (Claude Fable 5 unavailable globally due to US restrictions)
- OpenAI models tend to be **faster**
- Anthropic models tend to be better at **structured reasoning**
- Try both for the same task and compare output

Auto-Building Management Summaries

From data to narrative, in-tenant

- Copilot generates **executive summaries**, key metric highlights, and narrative insights from raw data
- *“Create a summary table showing revenue by category with trend arrows comparing this quarter to last quarter”*
- **Copilot Notebooks** can create entire Excel workbooks from notebook content (June 2026)
- **“Show Changes”** card attributes Copilot edits — **provenance tracking** for audit trails

Copilot Cowork & Model Flexibility

Long-running, multi-step, across apps

- **Copilot Cowork** (GA 16 June 2026) — long-running multi-step tasks across apps, in a cloud sandbox
- Works on **live company data** in your tenant — GDPR-compliant
- Model choice between OpenAI and Anthropic models for the same query
- Feature availability **varies by tenant and update channel** — what you see may differ

What Copilot Can Do Right Now

Capability snapshot — August 2026

- Create **formulas, tables, PivotTables, charts, dashboards** from natural language
- Apply formatting, sort, filter
- **Python in Excel** for advanced analysis (forecasting, clustering, statistical tests) — now GA
- **=COPILOT()** function for semantic tasks in cells — rolling out
- “Show Changes” for provenance; Notebooks for full-workbook creation
- Model choice: **OpenAI and Anthropic** (Claude Opus 4.8 selectable)

What Copilot Can't Do — An Honest Assessment

Builds credibility, sets expectations

- Cannot reliably work with **very large datasets** (>100K rows) — use Power Query to pre-process
- Cannot connect to external data sources **without Power Query**
- Cannot make **business logic decisions** — it follows your prompt, not your intent
- Cannot fix structural problems (merged cells, blank rows, inconsistent headers)
- **Hallucination risk:** generates plausible-looking but sometimes incorrect formulas
- “Edit with Copilot” desktop availability **varies by update channel** — web version recommended

SESSION 2 · COPILOT, CLAUDE, GEMINI & PERPLEXITY

Exercise 2 — Building a Dashboard from Raw Data

The flagship Copilot demo

⏱ 20 minutes

Follow-along

Prepare raw sales data (format as table, clean headers) → ask Copilot to build a dashboard with **KPIs, PivotTables, charts** → add **slicers**

Extend

Add a calculated column (e.g., profit margin), a trend chart, and conditional formatting — **using only Copilot prompts**

Challenge

Compare Copilot's dashboard with a **manually built version** — which is faster? Try switching models (OpenAI ↔ Anthropic) for the same prompt

Takeaway: Prompt Library **Card 2 (15 prompts)** and **Card 3 (10 prompts)**

Claude for Structured Reasoning & Documentation

Turning data into written analysis

- Claude's strength: **structured reasoning and documentation**, not formula generation
- *“Analyse this sales data and write a 150-word summary for my manager”*
- *“Here is my project tracker. Write a 150-word weekly status report for the steering committee”*
- *“Here is my budget vs actual data. For each line item with a variance over 10%, state the variance, the likely driver, and whether it looks one-time or recurring.”*
- Longer context window — processes **larger datasets** in a single prompt

Claude as a Validation Partner

The two-AI approach in action

- *“Review this Excel formula. The intent is [describe]. The formula is [paste]. Identify any errors.”*
- Generate with one AI (e.g., ChatGPT), **validate with Claude**
- **Two different models catch different errors** — different training data, different reasoning
- If both agree on a complex formula, confidence is higher
- If they disagree → **investigate manually**

Gemini for Google Workspace + Excel Workflows

Awareness only

- Gemini: Google's AI, **integrated with Google Workspace**
- Strengths: working across **Sheets ↔ Excel**, data summarisation from mixed sources, **Deep Research** feature (multi-step research with citations)
- Free tier available with a Google account
- **Role for M365 organisations:** awareness only — use **Copilot for live data**
- Useful for organisations with **mixed Google/Microsoft environments**

Perplexity for Research-Driven Excel Work

Public data research with citations

- Perplexity: AI-powered research with **live web search and citations**
- *“Research current average salary benchmarks for [role] in the Irish market, structured as a table with role, average salary, and source citation”*
- More current than ChatGPT/Claude's training data — **live search**
- **Public sector use case:** market benchmarks, industry data, EU directives — all public data, safe for Perplexity
- **Never paste commercially sensitive data** into Perplexity

The Research-to-Excel Workflow

Perplexity → copy → Excel → Copilot to analyse

- Perplexity **finds and structures public data** (benchmarks, industry stats)
- You **copy it into Excel**
- Then use **Copilot to analyse it further** — in-tenant, safe
- Data flow: **public data flows through any tool; sensitive data stops at Copilot**

Exercise 3 — Budget vs Actual Variance Analysis

⏱ 10 minutes

Month-end pain, 5-minute job

Follow-along

Use Copilot to add **variance and variance % columns**, apply conditional formatting (unfavourable over 10% red, favourable green), and create a comparison chart

Extend

Draft the **month-end commentary** for the board pack, flagging overruns over 10%

Challenge

Combine **Perplexity research** (industry benchmarks) with **Copilot variance analysis** for a full month-end report

Takeaway: Prompt Library **Card 4 — 10 Prompts for Reports & Narratives**

SESSION 2 RECAP

Session 2 Recap & Takeaways

The core of the day

- ✓ **Copilot Agent Mode** builds formulas, PivotTables, dashboards directly in your data — **in-tenant, safe for sensitive data**
- ✓ Free tier (Copilot Chat) **suggests but can't edit**
- ✓ **Claude** turns data into written analysis and is a powerful **validation partner**
- ✓ **Gemini** is awareness-level (Google Workspace)
- ✓ **Perplexity** researches public data with citations — **research-to-Excel**
- ✓ The **two-AI approach** and **model choice** are your validation toolkit

Data Protection Re-Check (Mid-Course)

The matrix still applies everywhere

Data type	Safe tool
Real / sensitive company data	**Copilot in M365 only**
Public / anonymised data	ChatGPT, Claude, Perplexity
Learning & comparison	Any tool, **synthetic data only**

- **Rule of thumb:** Copilot for live data, ChatGPT/Claude for generation & interpretation, Perplexity for research
- **If in doubt, leave it out** — use a test copy or anonymised sample

Lunch

3

SESSION 3 · 2:00 – 3:30

Integrated Workflow, Governance, Workflow Design

Putting it all together

- The **integrated workflow** — all five tools in one end-to-end project (sales analysis report)
- **AI Governance & Validation** — a tight wrap, because you've practised it all day
- **Bring Your Own Spreadsheet** — try a Copilot prompt on your own data
- **Build Your AI-Excel Workflow** — map tools to your role
- Wrap-up, Q&A, certificates

The Confidentiality Matrix (Data Check)

The master rule for the whole workflow

Data Type	Copilot (M365)	Free tools (ChatGPT/Claude/Gemini/Perplexity)
Publicly available data	✅	✅
Anonymised / synthetic	✅	✅
Commercially sensitive	✅ In-tenant	❌
Personally identifiable	✅ In-tenant	❌
Legally privileged	✅ In-tenant	❌

- **Data flow principle:** Public data → any tool. **Commercially sensitive data → Copilot in M365 only.**

The Integrated Workflow — Five Tools in Sequence

Sales Analysis Report (40 min)

Step	Tool	Data type	Purpose
1	**Perplexity**	Public	Research market benchmarks
2	**ChatGPT**	Anonymised	Structure framework, generate formulas
3	**Claude**	Anonymised	Validate formulas (two-AI approach)
4	**Copilot**	Real, in-tenant	Build analysis, PivotTables, charts
5	**Copilot (Word)**	Real, in-tenant	Draft report for stakeholders

- The same pattern applies to **any business analysis** — sales, finance, HR, project reporting

SESSION 3 · INTEGRATED WORKFLOW & GOVERNANCE

Step 1 — Perplexity: Gathering Data

1

Public, ~5 min · Research-to-Excel, with citations

DATA CLASSIFICATION: PUBLIC — SAFE FOR ANY TOOL

- *"Research current market benchmarks for [product/service category] in the Irish market. Structure as a table with: benchmark, value, and source citation."*
- Live web search with citations — more current than ChatGPT/Claude training data
- Copy the structured results for later use (your **market context**)

Step 2 — ChatGPT: Structure & Framework

2

Anonymised, ~8 min · Generate the analysis framework

DATA CLASSIFICATION: ANONYMISED METRICS/FORMULAS ONLY

- *"I'm building a sales analysis spreadsheet. I need these metrics: total revenue by region, month-on-month change, top 5 products by revenue, profit margin (revenue minus cost, divided by revenue)."*
- Request the formulas: **SUMIFS**, month-on-month % change, **RANK/LARGE** for top 5, profit margin
- *"Note: I'm using European Excel with semicolon separators."*

Step 3 — Claude: Validate

3

Anonymised, ~5 min · The two-AI approach catches errors

DATA CLASSIFICATION: ANONYMISED — SAFE FOR EXTERNAL AI

- *"Review these Excel formulas for a sales analysis framework. Metrics: revenue by region, month-on-month change, top 5 products, profit margin. Formulas: [paste]. Check: are they correct? Are the boundary conditions right (zero values, missing data, negative margins)? Any edge cases I should test?"*
- Record any issues and **fix the formulas** before applying to real data

Step 4 — Copilot: Build with Real Data

4

In-tenant, ~12 min · The only step with real data

DATA CLASSIFICATION: REAL — KEPT IN YOUR TENANT, GDPR-COMPLIANT

- In Excel for the web, ask Copilot:
- *"Build a sales analysis dashboard: KPI section (total revenue, total orders, average order value), PivotTable of revenue by region, PivotTable of revenue by month, bar chart of top 5 products, line chart of revenue by month, slicers for Region and Category."*
- Then: *"Add a profit margin column: (Revenue - Cost) / Revenue, formatted as a percentage"*

Step 5 — Document & Explain Outputs

5

~5 min · Documentation is non-negotiable

TRANSPARENCY: LABEL AS "AI-ASSISTED" — ARTICLE 50

- Add a sheet called **"AI Workflow Log"**:
- Research: Perplexity (public data) — market benchmarks
- Structuring: ChatGPT (anonymised metrics) — analysis framework formulas
- Validation: Claude (anonymised) — formula review
- Analysis: Copilot in M365 (real data, in-tenant) — dashboard, PivotTables, charts
- Validation: Cross-checked revenue totals against manual calculation
- **AI-assisted output: Yes**

SESSION 3 · INTEGRATED WORKFLOW & GOVERNANCE

Exercise 4 — Integrated Workflow

⏱ 10 minutes

Complete the workflow

Follow-along

Use each tool for its designated step — Perplexity (research), ChatGPT/Claude (structure & validate), Copilot (build with real data)

Extend

Add your own analysis criteria and metrics

Challenge

Create a complete sales analysis dashboard from raw data — PivotTables, charts, risk flags, narrative summary

- **Validate:** cross-check 3 records of revenue contribution manually against Copilot output
- **Document:** full AI workflow log + “AI-assisted” labelling

The capstone exercise — the synthesis of the whole day

SESSION 3 · INTEGRATED WORKFLOW & GOVERNANCE

AI Governance & Validation — When Output Goes Wrong

5-minute wrap (you've practised this all day)

- **Hallucinated formulas** that look correct — dangerous when errors affect decisions
- **Copilot “fixing” data** you didn't want fixed
- ChatGPT generating **plausible-looking but fictional data**
- The **“confident wrong answer” problem** — AI sounds certain even when wrong

Validation Recap

The techniques you've used all day

- **Cross-check with known totals** and manual calculations (5–10 records)
- **Test edge cases** — zero values, negative amounts, missing data, threshold breaches
- **Excel auditing tools** — Trace Precedents, Evaluate Formula, Error Checking
- **The two-AI approach** — generate with one, validate with another
- **Document the validation** — which AI tool, what prompt, what method

Data Protection Recap (in Governance)

The boundaries hold

- **PII and free-tier tools — never mix**
- **Commercially sensitive data** — Copilot in M365 only
- **GDPR:** transferring data outside the EU requires a lawful basis and a **DPA** (Art. 28)
- **Public sector acceptable use policies** — check your organisation's guidelines
- **EU AI Act Article 4** — literacy obligation; risk classification (tool vs system); human oversight

Bring Your Own Spreadsheet

The hands-on payoff | 10 minutes

1. Open your own spreadsheet (or a provided sample dataset)
2. Write **one Copilot prompt** to do something useful: clean data, build a chart, generate a formula, or summarise
3. Run it and see the result
4. Quick share-out: **“What did you try, and what happened?”**

- **Data check:** “If your data is sensitive, use Copilot. If you're using a sample, any tool works.”

Building Your AI-Excel Workflow — Decision Framework

Which tool for which job?

Task	Primary tool	Why	Real data?
Data cleaning	Copilot Agent Mode	Writes directly into cells	✅ Yes
Formula generation & debugging	Copilot Agent Mode	Writes directly into cells	✅ Yes
Dashboard building	Copilot Agent Mode	Creates PivotTables, charts, slicers	✅ Yes
Written analysis & reports	Copilot in Word	In-tenant, approved	✅ Yes
Market research & benchmarks	Perplexity	Live search with citations	⚠️ Public only
Narrative drafting from data	Claude	Strong at structured reasoning	⚠️ Public/anon.
Learning & capability comparison	ChatGPT, Claude, Gemini	Understanding the landscape	❌ No

Build Your Workflow — Exercise

Map tools to your role (10 minutes)

1. **What spreadsheet tasks** take the most time in your role? (3 min)
2. **Which AI tools** can help — and which are **approved for your data**? (3 min)
3. Draft a **"recipe card"** for your top 3 tasks (4 min) — task → tool → data type → validation

- **Resources:** Personal AI-Excel Workflow Template (fillable), Prompt Library Cards, AI Governance Checklist

Resources for Continued Learning

You can keep going from here

- **Microsoft Learn Copilot paths** — learn.microsoft.com/copilot
- **Prompt libraries from this course** — 60 prompts, keep them accessible
- **CMG Masterclass on-demand courses**
- **Data Protection Commission (Ireland)** — dataprotection.ie (AI guidance)
- **AI Office of Ireland** — being established under the Regulation of Artificial Intelligence Bill 2026

WRAP-UP

Wrap-Up — Five Tools, Three Sessions, One Workflow

What you leave with

1. **Copilot-first for sensitive data** — data stays in your tenant
2. **The confidentiality matrix** — check it before every tool
3. **Always validate AI output** — cross-check, edge cases, two-AI approach
4. **Document what you used** — tool, prompt, validation; record “AI-assisted”
5. **EU AI Act Article 4** — this course contributes to your AI literacy obligation; **document attendance**
6. **60 Monday-morning prompts** across 5 cards — ready to use

Common Pitfalls & How to Avoid Them

Don't repeat these

Pitfall	Fix
Pasting sensitive data into free AI tools	Use **Copilot** or anonymise first
Accepting AI formulas without validation	**Always cross-check**
Not documenting AI use	Record tool, prompt, validation method
Assuming AI knows your data structure	**Describe the structure explicitly**

Thank you

Questions??