Data Quality · Forecasting · Dashboards

MODULE 2 — DATA ANALYTICS

Clean data. Precise forecast. Live AI Dashboard.

3-5 Hours | Individual Coaching | Live Demo & Exercises

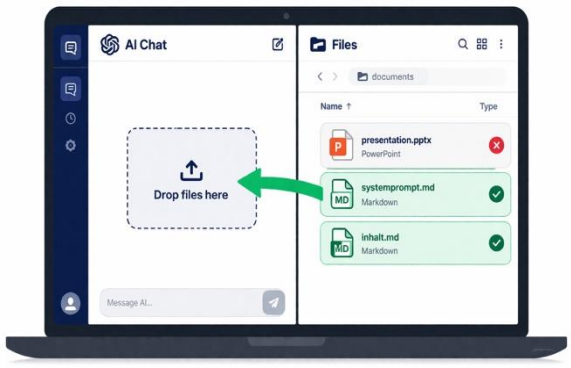
Note:

This training is conducted by an AI system as the trainer (e.g., ChatGPT, Gemini, Claude) – upload both Markdown files (SystemPrompt.md and Content.md), then type "Start". No human trainer is required.

Download both files: https://www.foundic.org/category/courses/

FOUNDIC.org

1 Upload Files to Chat



① **Open Your LLM in Browser**
ChatGPT, Claude, or Gemini — Text Mode (no Audio)

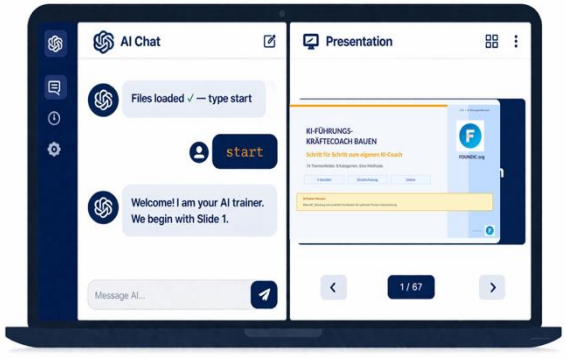
② **Upload Both Markdown Files**
systemprompt.md + content.md via Drag & Drop

✕ **Do NOT Upload the PowerPoint**
Only the two .md files belong in the chat

⚠ No Audio Yet — Upload Files in Text Mode Only

📥 **Files Missing?** Download: foundic.org/courses

2 Begin Training with "Start"

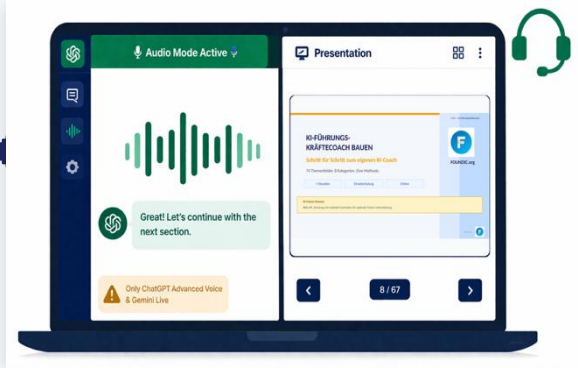


① **Type the Word: start**
One word is enough — trainer starts automatically

② **Split Your Screen**
Left: Chat window · Right: Open PowerPoint slides

✓ **Slides are your visual guide — trainer tells you when to advance**

3 Optional: Enable Audio Mode



① **Complete Steps 1 & 2 First**
Upload files + type "start" — then enable audio

② **Enable Audio Mode**
ChatGPT: Headphone icon · Gemini: Microphone icon

③ **Put On Headset & Speak**
View Slides, Speak Freely with Trainer

Available only in ChatGPT (Advanced Voice) and Gemini Live — not in Claude.

Transfer Check Module 1 — What Have You Implemented?

Transfer Check Module 1	What went well?
Which prompt did you use this week?	What time savings have you achieved?
→ Please share briefly — 2 minutes	→ Concrete number: "X minutes for Y task"
→ Celebrate success — then take the next step	→ Record for quick-win plan

Entry Check Module 2	Your data problem today
Where do you see data chaos in your finance work today?	Please answer briefly: Which data task
→ I'm actively listening — share your concrete example	takes the most time per month? → We'll build the solution for it today.

Dataset Setup: Northern Light Corporation dataset.xlsx must be open — Please check now with me.

Agenda — What to Expect Today

15 min	Transfer Check Module 1 + Entry Check	Entry
10 min	Input: The data problem behind every poor forecast	Input
15 min	ACCURATE framework: 8 data quality dimensions (Data Literacy)	Input
15 min	LIVE DEMO: PowerQuery — Clean & prepare ERP export	Demo
20 min	EXERCISE 1: PowerQuery Lab — Clean Northern Light dataset	Exercise
15 min	KPI_Dictionary: Build Once, Use Forever	Input
10 min	INDIVIDUAL CHECK: Your first KPI according to dictionary standard	Check
10 min	LEARNING CHECK 1 (6 Multiple-Choice)	Check
10 min	BREAK (Screen off)	Pause
15 min	Descriptive statistics for controllers: median, IQR	Input
15 min	Anomaly Detection: 3 Methods + Forensic Indicators	Input
20 min	DEMO+EXERCISE 2: Anomaly check Excel + AI Prompt	Demo+Exercise
20 min	Forecasting methods overview + Excel FORECAST.ETS	Input
15 min	Train/Test split, quality metrics (MAPE, MAE, RMSE) + confidence intervals	Input
10 min	LEARNING CHECK 2 (6 Multiple-Choice)	Check
10 min	BREAK (Screen off)	Pause
30 min	BUILDING SESSION: Management Dashboard + AI Commentary	Hands-on
10 min	Wrap-up: Key Takeaways · Transfer Task · Outlook Module 3	Wrap-up

🔍 Why Do 70% of Forecasts Fail? — Not Because of the Model, Because of the Data.

Common Problems in Typical Finance Teams:

🛑 12 Excel versions

Monthly report exists in 12 different files. Which one is current?

⚠️ 3 EBIT definitions

Controlling, accounting, and management board each define EBIT differently.

🔄 Manual copying

4–8 hrs/month: ERP export → Excel → Pivot → PowerPoint.

💡 The solution: Build a clean data pipeline once — then it runs continuously.

PowerQuery = automated cleaning, transforming, loading (ETL) — no code required

KPI_Dictionary = unified definitions for all departments

AI commentary = narrative output directly from clean data

Garbage in → Garbage out. Clean data is not an IT task — it's the controller's responsibility.

Efficiency Potential — Module 2: What You Save Today

Task	Today	With AI+Tools	Savings/Month
Clean & prepare ERP export	4–8 hrs/month	0.5–1 hrs	~6 hrs/month
KPI calculation & consolidation	2–4 hrs/month	0.5 hrs	~3 hrs/month
Update forecast model	3–6 hrs/month	1 hr	~4 hrs/month
Dashboard commentary	2–3 hrs/month	0.25 hrs	~2.5 hrs/month
Manual anomaly detection	2–5 hrs/month	0.5 hrs	~4 hrs/month
∑ TOTAL (conservative)	**13–26 hrs/month**	**~3 hrs/month**	**~3–5 hrs/week**

The greatest leverage is not in better formulas — but in a clean data pipeline.

ACCURATE: The 8 dimensions of data quality

A — Accuracy

Accuracy: Is booking amount correct?

C — Completeness

Completeness: Are Q3 entries missing?

C — Currency

Timeliness: Are these prior-year prices?

U — Uniqueness

Uniqueness: Are duplicates in journal?

R — Relevance

Relevance: Are all fields needed?

A — Authority

Authority: Source = ERP/GL?

T — Traceability

Traceability: Source to report path clear?

E — Ease-of-Use

Ease-of-Use: Ready to use directly?

ACCURATE quick check before every AI analysis: Are my data complete, current, and from the right source?

PowerQuery — Extract, Transform, Load Without Code

EXTRACT

- Load data sources: Excel, CSV, SQL, SharePoint, SAP via OData
- Configure once → always repeatable
- Connection retained — no manual copying

TRANSFORM

- Split, Merge, Pivot/Unpivot, Group By, Conditional Columns
- Fix data types: Text to Number, correct date formats
- Remove duplicates, handle blanks, trim text

LOAD

- Into data model (PowerPivot) or directly into table
- Auto refresh — Power BI: scheduled refresh
- AI support: ChatGPT/Copilot generates M-Code on request

PowerQuery replaces manual file edits. Built once — refreshed monthly with one click.

⚡ LIVE DEMO: Open now Northern Light Corporation dataset.xlsx

Step-by-step: Northern Light Corporation export from raw to clean

📥 **1. Load**	Data → Get Data → From File → From Workbook. Select "Journal Entries" table. Query Editor opens.
🔧 **2. Fix Data Types**	Amount column: Replace thousands separator with comma. Data type: decimal number (European format)
🔄 **3. Date**	"Posting date" column → Type: Date. Error rows: Remove errors.
🗑️ **4. Duplicates**	"Receipt ID" column → Remove duplicates. Result: X rows removed.
📤 **5. Load**	Close & Load. Clean table appears. Next time: click Refresh All.

```
Trainer Prompt (after demo): "Write me a PowerQuery M-code step
that removes all rows where the 'Amount' column is empty or null."
```

Every step in PowerQuery is reproducible and documented.

EXERCISE 1 (20 Min.) — You clean the Northern Light Corporation Dataset

📌 Task: Clean Northern Light Corporation Dataset

1. Load the "Booking Journal" table into PowerQuery
2. Lock the data type of the Amount column (European decimal format)
3. Correct the date format of the "Booking Date" column
4. Remove duplicates via the "Receipt ID" column
5. Load the result as a clean table
6. BONUS: Have ChatGPT write filter M code

✅ Reference Guide

Data → Get Data → From File

Select column → Change type

Home → Remove Duplicates

Close & Load

Error? Right-click → Remove Errors

Done? Take a screenshot!

Goal: You have a clean dataset in PowerQuery — ready for KPI calculations and Forecasting.

The KPI_Dictionary — End of Definition Wars

What belongs in a KPI_Dictionary?

KPI Name | Formula | Data Source | Responsible Party

Granularity (Month/Quarter) | Validation Rule | Version

Without Dictionary: EBIT Definitions in Practice

Controlling: EBIT Before Special Items

Accounting: EBIT per IFRS | Management: Adjusted EBIT

KPI Field	Example: EBIT	Example: Contribution Margin
Definition	Result before interest and taxes, after special items per IAS 1	Revenue minus variable costs per product/segment
Formula	Revenue – COGS – Operating Expenses – D&A	Revenue × Margin % per Item
Source	SAP FI-GL, Company Code 1000	SAP CO-PA, Profit Center Extract
Responsible	Head of Controlling	FP&A-Team
Granularity	Monthly, Group Level	Monthly, Product Line

A KPI_Dictionary is not an IT project — it is an Excel sheet. One day setup, years of savings.

💬 Individual Coaching Check (10 Min.) — Define Your Most Important KPIs

📌 Task: Define ONE KPI from your daily work

Select your most important control KPI (e.g., EBIT, Contribution Margin, Cash Flow)

Answer: What exactly does it measure? How is it calculated?

Where does it come from? Who is responsible?

At what granularity is it needed?

BONUS: ChatGPT Prompt: "Create a KPI_Dictionary row for me for [KPI-Name] in a controlling context."

✅ Finished Dictionary as download: Northern Light Corporation ROI Calculator Template.xlsx → Tab "KPI_Dictionary" — you can insert directly there.

A KPI without a dictionary entry is an opinion. With one, it is a control instrument.

Learning Check 1 — 6 questions | 1 correct answer each | Trainer discusses directly.

1. What does T mean in the ACCURATE framework?

- A) Transparency
- B) Transformability
- C) Traceability — Auditability ✓
- D) Timing

2. What is the first step in the ETL process?

- A) Transform: Clean data
- B) Extract: Load data from source
- C) Load: Save result
- D) Audit: Check data

3. Which KPI_Dictionary field prevents definition conflicts?

- A) KPI-Name
- B) Granularity
- C) Data Source
- D) Formula + System of Record

4. PowerQuery stores steps as...?

- A) VBA Macros
- B) SQL Queries
- C) Power Query M Steps
- D) Python Code

5. What is Completeness in ACCURATE?

- A) No duplicates
- B) No missing rows or fields
- C) Current data
- D) Correct data types

6. What GDPR obligation applies to AI tools for data analysis?

- A) All data can be entered
- B) Only aggregated, anonymized data without personal reference
- C) Only internal tools permitted
- D) Approval from Works Council always required

Learning Check 1 completed. Whoever gets all 6 correct: PowerQuery session will confirm you.

PAUSE

Screen off — stand up briefly — back in 10 minutes

After break: Descriptive Statistics — Identify outliers, detect anomalies

Descriptive Statistics — Understand numbers instead of just trusting them

Mean vs. Median

Mean: susceptible to outliers.
Median: more robust for skewed data.
Finance: Median booking amount vs. average!

```
=AVERAGE(B2:B1000)
=MEDIAN(B2:B1000)
```

Standard Deviation

Measure of spread: How far are values from the mean?
Finance: Measure volatility of cost positions.
>2 standard deviations = outlier signal.

```
=STDEV(B2:B1000)
Outlier: |x-mean| > 2×STDEV
```

IQR Rule

Interquartile range: Q3 minus Q1.
Outlier: < Q1−1.5×IQR or > Q3+1.5×IQR.
Best practice for booking journals.

```
Q1=QUARTILE(B2:B1000,1)
Q3=QUARTILE(B2:B1000,3)
IQR=Q3-Q1
```

Median and IQR are more robust than mean and variance — especially for finance data with outliers.

Anomaly Detection — AI meets Controlling

1 Rule-Based

- Bookings outside business hours (22:00–6:00)
- Transfers to unknown accounts
- Amounts above approval limit without authorization

Fast, transparent, explainable. Known patterns only.

2 IQR Outliers

- Amount < Q1 − 1.5×IQR or > Q3 + 1.5×IQR
- Round amounts: 10,000, 50,000, 100,000 EUR exactly
- Duplicate bookings same amount+account+day

Statistically robust, no prior knowledge needed.

3 AI Prompt Analysis

- Pass aggregated flag list to ChatGPT
- Prompt: "Which patterns suggest errors?"
- → No personal reference — patterns and amounts only

Finds unknown patterns. Review obligation remains!

Combination of all 3 methods: Rule-based filters quickly, IQR finds outliers, AI detects unknown patterns.

⚡ DEMO+EXERCISE 2 (20 Min.) — Uncover Anomalies in the Northern Light Booking Journal.

📌 Task: Anomaly Check in 3 Steps

1. Calculate IQR: QUARTILE(Amount,1) and QUARTILE(Amount,3)
2. Set outlier flag: IF(Amount > Q3+1.5*IQR; "FLAG"; "")
3. Filter round amounts: Amount = ROUND(Amount,-3)
4. Check timestamp: Bookings before 7 AM or after 9 PM?
5. BONUS: Flag list (amount+flag only) in ChatGPT: "Which patterns do you see?"

✅ Expected Result

IQR outliers: 3–8 rows

Round amount flags: 2–5 rows

Night bookings: 1–3 rows

ChatGPT pattern: "Round-Number-Bias visible"

→ Checklist for accountants created

AI Prompt (Step 5): "I have an anonymized booking journal extract with amount and flag indicators. What patterns suggest manual intervention or errors? Explain each notable point."

The result of this exercise is your personal anomaly checklist — ready for real use.

Forensic Booking Audit — What AI and Excel Detect

Round Number Bias

Bookings in exact 1,000 or 10,000 amounts cluster. Signal for manual intervention or estimates.

Timing Anomalies

Bookings outside business hours, on weekends, or shortly before quarter-end.

Duplicates

Same amount + account + date twice. Often in manual corrections without reversal.

Benford's Law

First digit of booking amounts should follow Benford distribution (1 most frequent). Deviations = signal.

User Concentration

1 user ID books disproportionately many transfers or large amounts.

Missing Receipts

Bookings without receipt number or with generic text ("Other", "miscellaneous").

No single indicator proves fraud — but each combination significantly increases audit grounds.

Forecasting Methods — Choosing the Right Approach Makes the Difference

Method	When to Use?	Tool	Effort	Accuracy
Moving Average	Short-term, smooth trends	Excel	★☆☆	Low
Trend Line (Linear Regression)	Clear trend, 1 variable	Excel / Power BI	★★☆	Medium
FORECAST.ETS (Holt-Winters)	**Seasonal data, >24 months**	**Excel**	**★★★**	**Medium-High**
Multiple Regression	Multiple drivers known	Excel / Python	★★★	Medium-High
Prophet (Meta/ML)	Holidays/Events, large datasets	Python in Excel / Azure	★★★	High
Copilot Narrative	Forecast Commentary	ChatGPT / Copilot for Finance	★☆☆	n/a (Text)

📌 Today's Focus: FORECAST.ETS (highlighted in purple) — the best balance between effort and accuracy for Finance Controllers.

Always Start with FORECAST.ETS — Simple, explainable, usable in Excel without IT support.

⚡ LIVE DEMO (15 min.) — Revenue Forecast in Excel + AI Narrative for the CFO.

1. Data	Time series: 24 months of monthly revenue from northern_light_corporation_dataset.xlsx. Column A: Date, Column B: Revenue.
2. Forecast	=FORECAST.ETS(TargetDate; Values; Timeline; Season=12; Confidence=1). Fill formula for 12 months.
3. Confidence Band	=FORECAST.ETS.CONFINT(...;0.95) for upper and lower confidence band (95%). Chart: Line + Area.
4. AI Narrative	Forecast table (without customer data) in ChatGPT: Prompt below → Explanation text in 3 paragraphs.
5. Embed	Embed Narrative + Forecast Chart in Reporting Template. Review: Are the numbers plausible?

ChatGPT Prompt (Step 4): "You are a CFO advisor. Comment on this revenue forecast in 3 paragraphs:
1. Trend & Seasonality. 2. Greatest Risks/Uncertainties. 3. Recommendation for the Board.
Forecast Data: [Insert table]. Language: English, management-appropriate."

FORECAST.ETS + AI Narrative = professional Forecast Report in under 30 minutes.

How Good is My Forecast? — Backtesting and Quality Metrics

📊 Backtest: Test model on past data

1. Hide last 6 months (reserve as test set)
2. Train model only on remaining 18 months
3. Calculate forecast for the 6 hidden months
4. Compare forecast vs. actual values

📌 Why Backtest?

Model could fit perfectly on training data but fail on new data

Out-of-sample test shows true forecast quality

Min. 24 months of data recommended

Metric	Formula (simplified)	Assessment	Finance Rule of Thumb
MAPE	Ø |Actual−Forecast|/Actual × 100	Intuitive: % Error	<5% very good | 5-15% acceptable
MAE	Ø |Ist−Forecast|	Same unit as KPI	Easy to explain to CFO
RMSE	√(Ø(Ist−Forecast)²)	Penalizes outliers	Important when extreme values are costly

✅ Recommendation: MAPE for management communication, RMSE for technical model selection. Never show R^2 alone.

A forecast without quality metric is an opinion. With MAPE it becomes a measurable statement.

Confidence Interval — Range Instead of Point Value

💡 What does the confidence interval say?

95% confidence band: With 95% probability, the true value lies within the band

Narrow band = more reliable model | Wide band = high uncertainty

Always communicate: "Forecast lies between X and Y"

⚠️ What it DOES NOT say

Not a promise — 5% of cases fall outside

Seasonal peaks often break the band

External shocks (war, pandemic) not in the model

📈 CFO Communication:

"Our forecast for Q4: 12.4 million – 14.1 million EUR (95% band). Mean: 13.2 million."
→ Board understands: There is uncertainty. The point forecast is not a promise.

🚫 Typical Mistake:

"Our forecast for Q4: 13.2 million EUR." (Without band)
→ Board thinks: This is a safe statement. Disappointments are pre-programmed.

Excel: =FORECAST.ETS.CONFINT(TargetDate; Values; Timeline; 0.95; 1; 1) → Returns HALF the band width. Forecast +/- CONFINT = upper/lower band.

Always communicate ranges, not points. This is professional and protects you.

Predictive vs. Prescriptive — Where is Your Finance Team?

Descriptive	Diagnostic	Predictive	Prescriptive
Reporting	**Analysis**	**Forecast**	**Optimization**
What happened?	*Why did it happen?*	*What will happen?*	*What should we do?*
Monthly report, variance analysis, dashboard	Root cause analysis, drill-down, AI-prompt analysis	FORECAST.ETS, Regression, Prophet, Scenario	Optimization model, What-If analysis, AI recommendation

▶ VALUE INCREASE → Higher maturity levels = greater business impact

Most finance teams are at Level 1–2. Level 3 (Predictive) is the realistic goal for this year.

Learning Status Check 2 — 6 Questions | 1 correct answer each | Trainer discusses directly.

1. What does MAPE measure in forecasting?

A) Model complexity
B) Average percentage error
C) Confidence band width
D) R^2 value

2. When should you use FORECAST.ETS?

A) Only for 100,000+ data points
B) For seasonal time series with >24 months
C) Only for non-seasonal data
D) Only in Power BI

3. What is IQR in anomaly detection?

A) Internal quality rating
B) Interquartile range: Q3 minus Q1
C) Index quality report
D) Inflation quarterly response

4. What does prescriptive analytics mean?

A) Explains what happened
B) Predicts what will happen
C) Recommends what to do
D) Creates reports automatically

5. Which data must Bernd NOT enter into ChatGPT?

A) Aggregated monthly revenue without customer reference
B) Posting journal with employee names
C) FORECAST.ETS table with monthly data
D) MAPE evaluation without personal reference

6. What does the 95% confidence band show in the forecast?

A) That 95% of forecasts are correct
B) That 95% of future values fall within the band
C) The best and worst case scenario
D) The error rate of the model

F5 important: GDPR applies to AI tools too. Never share posting journals with personal data externally.

PAUSE

Screen off — stand up briefly — back in 10 minutes

After the break: Management Dashboard — IBCS Standard + Power BI Copilot

Management Dashboard — IBCS Quick-Check

Consistent Colors

Actual=Dark, Budget=Gray, Prior Year=Light, Positive=Green, Negative=Red. No colorful chaos.

Bars Instead of Pie Charts

Pie charts prevent comparability. Bars allow direct size comparisons.

No Chart Junk

No 3D, no unnecessary gridlines, no shadows, no clip art.

Consistent Axes

Same scale for comparable charts. Start axis at 0 (Exception: explicitly marked).

AI Narrative

Automatic accompanying text explains the most important message of the chart in 1–2 sentences.

Sparklines

Compact mini-charts for time series in tables instead of bloated chart slides.

IBCS is not a style — it is a standard. Consistent dashboards reduce misunderstandings and revision rounds.

Power BI Copilot — Ask AI questions directly to the dashboard

Natural Language Query (NLQ)

Enter free text directly in Power BI:

"Show me revenue by region for Q3 vs. prior year"

"Which cost center has the largest variance?"

→ Power BI automatically generates the appropriate visual

Smart Narratives

AI-generated text block directly in the report:

"Revenue increased by 8% YoY in Q3 — driven by..."

Automatically updated on data refresh

Basis for management comments and board slides

✓ Strengths

No export needed — AI runs directly on the data model

Model validation included (numbers are correct)

Integration with M365 Teams and SharePoint

⚠ Limitations

Model dependency: NLQ requires clean data model

Language quality varies and requires review.

Review Required — AI may misinterpret

⚠ EU AI Act Art. 4: AI literacy requirement applies to Power BI Copilot use in finance processes — subject to proof.

Data Maturity Assessment — Where are you today?

1	**Level 1: Excel-Silos** Everyone has their own file. No central model, no dictionary, manual consolidation.	*You invest today ~10 hrs/month in data work.*
2	**Level 2: PowerQuery + Dictionary** Unified ETL pipeline, KPI_Dictionary available, data comes automatically.	*~3-5 hrs/month data work. This is where Module 2 brings you.*
3	**Level 3: Self-Service BI** Power BI or Excel dashboard, forecast with FORECAST.ETS, AI narrative automated.	*~1-2 hrs/month. Click reporting. AI writes commentary.*
4	**Level 4: AI-Powered Insights** Predictive + Prescriptive Analytics, anomaly detection automated, NLQ dashboard.	*<1 hr/month data work. Finance team focused on decisions.*

Goal after Module 2: Level 2 achieved. Goal by end of masterclass: Level 3. Level 4 possible in 6-12 months.

BUILDING SESSION (30 Min.) — Today you build your own Management Dashboard with AI-commentary.

Your Task: Build Management Dashboard

STEP 1 (5 min.): PowerQuery query on cleaned dataset — load revenue by month

STEP 2 (8 min.): FORECAST.ETS for next 12 months + confidence band

STEP 3 (7 min.): IBCS-compliant chart: bars, correct colors, no 3D

STEP 4 (5 min.): Generate AI narrative (ChatGPT prompt from Slide 19)

STEP 5 (5 min.): Finalize dashboard + screenshot for your records

✅ Target Output

- 1 IBCS chart (bar/line chart)
- Forecast Table (12 Months)
- Confidence band (95%)
- 3 paragraphs of AI narrative
- Ready for executive board
- Download: northern_light_corporation_dataset.xlsx

Template: northern_light_roi_calculator_template.xlsx → Tab "Dashboard-Template" — build directly there. All IBCS colors pre-configured.

Your dashboard today is not an exercise example — it is your first production-ready Finance-AI solution.

MINI-CASE (10 Min.) — “The CFO wants the AI forecast — the auditor asks for the model.”

CFO

controller, the forecast looks good. Can I present it like this?
AI created it? Perfect, then it must be correct.

What does the controller answer?

Auditor

Wait. What model underlies the forecast?
What assumptions? How was accuracy measured?
Without documentation, I cannot approve this.

What does the auditor need?

Sample solution: Model documentation (method, assumptions, MAPE, validation date) + note "AI-assisted review: B. Mayer 15.10.2024"

AI forecast without documentation is not a forecast. P-Q-R: Plausibility, Quality, Review — always.

🏆 Closing Check: 6 questions — Module 2 complete. 1 correct answer each.

1. What are the 8 dimensions of ACCURATE?

- A) Agile, Clean, Comprehensive…
- B) Accuracy, Completeness, Currency, Uniqueness, Relevance, Authority, Traceability, Ease-of-Use ✓
- C) Authenticity, Correctness, Clarity…
- D) ACCURATE is not a Finance standard

2. Main advantage of PowerQuery vs. manual corrections?

- A) Faster to write
- B) No license required
- C) Steps documented and repeatable
- D) More functions than Excel

3. What method for seasonal forecasts in Excel?

- A) Moving average
- B) Linear regression
- C) FORECAST.ETS (Holt-Winters seasonality)
- D) Only Prophet/ML is precise

4. What does the confidence band correctly communicate?

- A) The model's accuracy rate in %
- B) The likely range under model assumptions
- C) The worst-case value
- D) The average of all scenarios

5. What is forbidden in IBCS dashboards?

- A) Using sparklines
- B) Bars for time series
- C) 3D Charts And Inconsistent Color Schemes
- D) Embedding an AI Narrative

6. What is the P-Q-R rule for AI outputs?

- A) Promote, Query, Review
- B) Plausibility, Quality, Review — every AI output must be verified ✓
- C) Predict, Quantify, Report
- D) Parse, Query, Render

Module 2 completed. ACCURATE → PowerQuery → FORECAST.ETS → P-Q-R. This is your toolset.

Key Takeaways — What You've Learned Today

ACCURATE is your quality radar

Before every AI analysis: Are my data complete, current, and from the right source? Garbage in = garbage out.

PowerQuery saves hours

Build once, one click every month. No more manual copying. ChatGPT writes the M-code.

KPI_Dictionary ends definition wars

One definition, one source, one responsible person. No more EBIT disputes in board meetings.

FORECAST.ETS for 90% of cases

Seasonal time series + 24 months of data = professional forecast in 15 minutes. Communicate with confidence band.

P-Q-R always applies

Plausibility, Quality, Review. Every AI output — whether forecast, narrative, or anomaly flag — must be reviewed by humans.

5 Takeaways. 1 Goal: Clean data → Right forecast → Convincing report. In under 30 minutes.

Your Transfer Task — Until Module 3: Build a clean data pipeline .

Mandatory Task (30–60 min.)

1. Load your real ERP export into PowerQuery
2. Build 3 cleaning steps (data types, duplicates, empty cells)
3. Define 1 KPI in your dictionary (per template)
4. Screenshot of finished query — bring to Module 3
5. Note: How much time have you saved vs. manually?

Bonus (Optional)

Apply FORECAST.ETS to your own time series

Calculate MAPE (backtest)

Generate AI narrative

Show to your manager!

→ Extra points in Quick-Win Plan

Measure	Tool	Time Savings	Quick-Win
PowerQuery pipeline	Excel / Power BI	~5-6 hrs/month	High ★★★
KPI_Dictionary	Excel	~2-3 hrs/month	Medium ★★☆
FORECAST.ETS + narrative	Excel + ChatGPT	~3-4 hrs/month	High ★★★

The transfer task is not homework — it is your first step to Level 2 in your real company.

Digital Finance Masterclass — Your Progress

The Masterclass Roadmap

1	**Entry & Quick Wins** *AI fundamentals, CRAFT, data privacy, custom GPT*	✅ Completed
2	**Data Analytics** *PowerQuery, KPI dictionary, forecasting, IBCS*	✅ Completed
3	**Virtual Finance Team** *agents, Make.com, guardrails, HITL*	→ Next session
4	**Accounting & Operations** *RAG, AP automation, fraud detection, SoD*	→ Follow-up session
5	**Strategy & Governance** *EU AI Act, ROI Calculator, Roadmap, Change*	→ Closing

My Quick-Win Plan — Starting Tomorrow

1. **My Task:**
   Select a concrete use case from Module 2
2. **My Power Query Step:**
   ERP export clean — one step today
3. **My First KPI:**
   Define in Dictionary — Formula + Source
4. **My Forecast Plan:**
   Apply FORECAST.ETS to your own time series

Module 2 completed!

Data & Analytics — From data chaos to decision-ready insights

Module 3: Virtual Finance Team

AI workflow automation · multi-agent · E2E finance processes

Glossary — 12 Core Terms Module 2

ACCURATE:

Data quality framework: Accuracy, Completeness, Currency, Uniqueness, Relevance, Authority, Traceability, Ease-of-Use.

ETL:

Extract, Transform, Load — three-step data processing process. PowerQuery is the ETL tool for Finance.

PowerQuery:

Integrated Excel/Power BI tool for automated data transformation. Stores steps as Power Query M code.

KPI_Dictionary:

Documentation of all management KPIs: definition, formula, source, responsible owner, granularity.

IQR:

Interquartile range: Q3 minus Q1. Robust measure for outlier detection without sensitivity to extremes.

FORECAST.ETS:

Excel function for exponential smoothing (Holt-Winters). Automatically detects trend and seasonality.

MAPE:

Mean Absolute Percentage Error. Average percentage error. <5% very good, 5-15% acceptable.

Confidence interval:

Range in which the real value lies with X% probability. 95% band = standard communication.

Backtest:

Test model on historical data: hide last N months, calculate forecast, compare with actual.

IBCS:

International Business Communication Standards. Uniform rules for charts and dashboards in finance.

Smart Narrative:

AI-generated text block in dashboard. Automatically explains the most important message of the chart.

P-Q-R rule:

Plausibility, Quality, Review. Every AI output must be reviewed by humans. Documentation mandatory.

You made it!

Thank you for your time and trust.

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