

Introduction to Business Analytics Fundamentals



- Course objectives, agenda, and expected outcomes



- For analysts, managers, students, and decision-makers



- Turning data into actionable business insights



- Understanding the analytics workflow from data to decisions

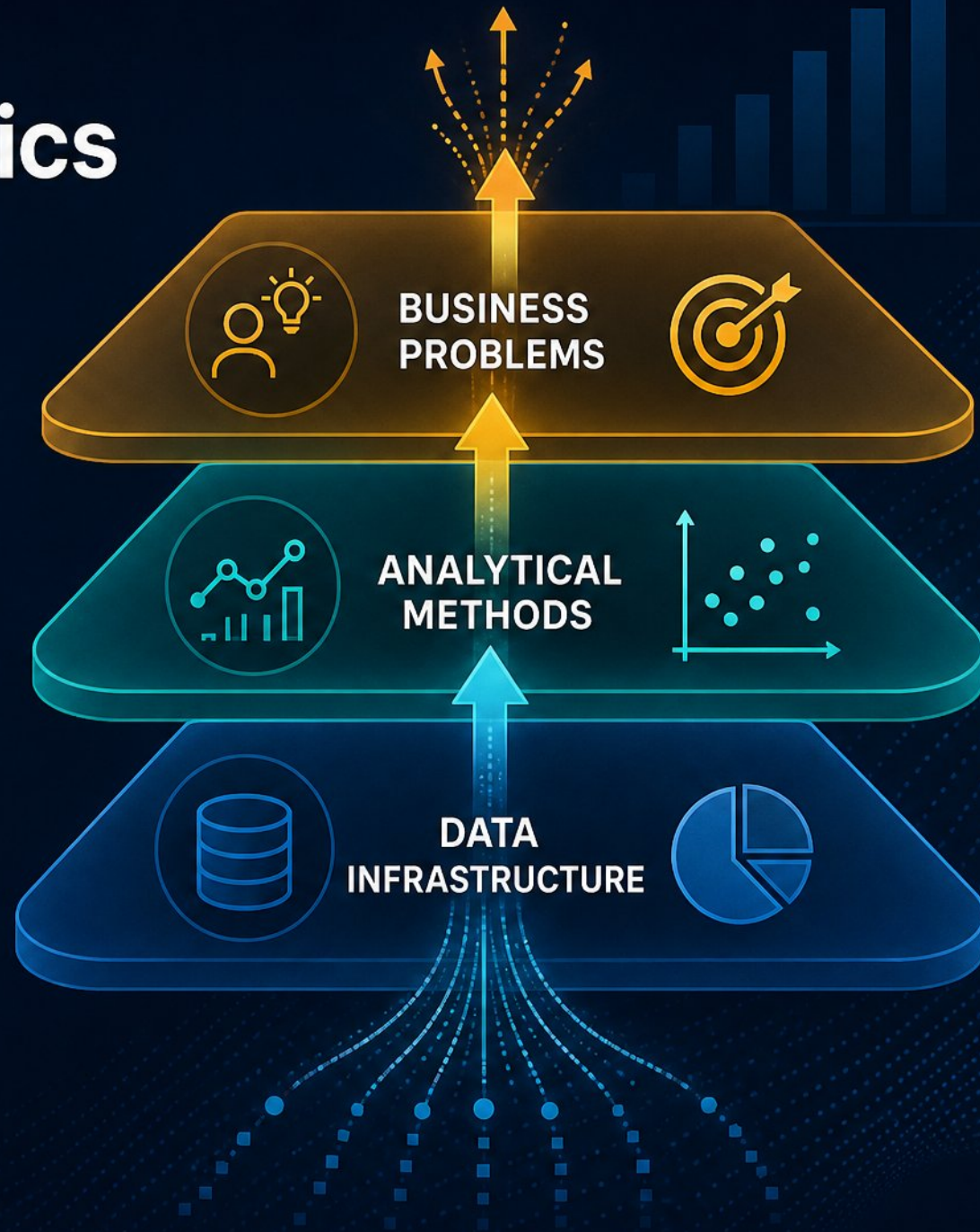


- Practical skills you can apply after this course



Defining Business Analytics

- Business analytics uses data, statistical models, and quantitative methods to solve business problems.
- It differs from BI by focusing on prediction and action, not just past performance.
- Data-driven decision-making is now a competitive necessity.
- It transforms raw data into actionable insights for leaders.



Why Analytics Matters for Decision-Making

- ▶ - Data-driven decisions reduce risk versus intuition alone
- ▶ - Analytics solves problems in operations, marketing, finance, and HR
- ▶ - Evidence-based choices outperform gut-feel decisions at scale
- ▶ - Analytics identifies trends and patterns invisible to instinct
- ▶ - Better decisions require clear business questions and data

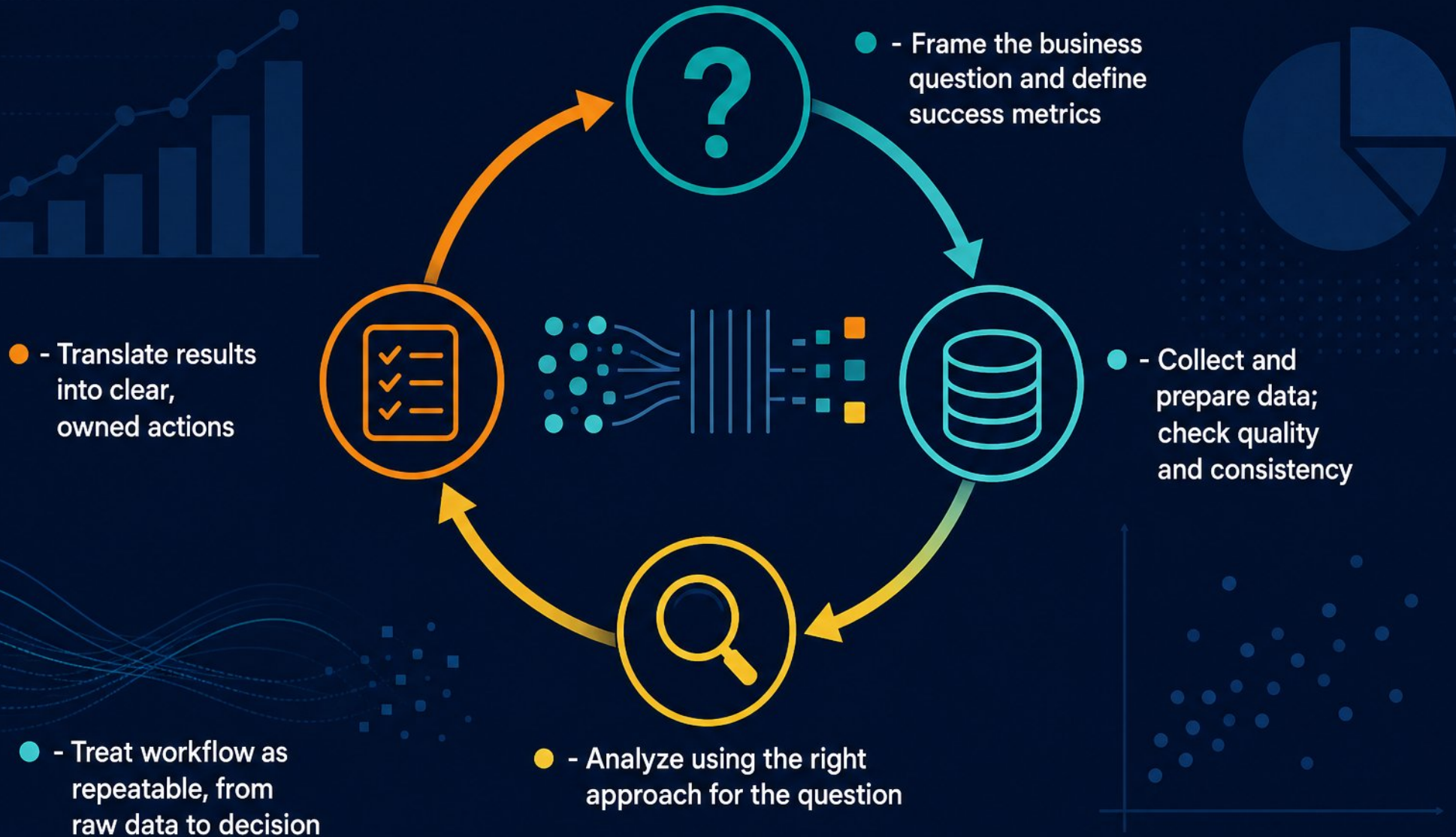


Types of Analytics: From Insight to Action



- Descriptive: What happened? Dashboards and summary reports
- Diagnostic: Why did it happen? Root cause and drill-down analysis
- Predictive: What is likely to happen? Forecasts and probability scores
- Prescriptive: What should we do next? Recommended actions and optimization
- Each type builds on the previous one—from insight to action

The Analytics Process: Framing, Data, Analysis, Action



Key Concepts: Metrics, KPIs, and Data Types

METRICS & KPIs



- **Metrics**
Measure what is happening
- **KPIs**
Measure what matters most

DATA TYPES



- Structured
- Unstructured
- Quantitative
- Categorical



- **Metrics:** raw numbers measuring activity or performance



- **KPIs:** key metrics tied directly to strategic goals



- Choose KPIs that are specific, measurable, and actionable



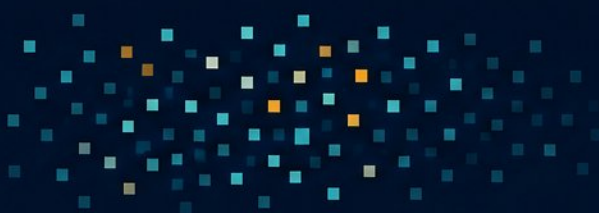
- **Data types:** structured, unstructured, quantitative, categorical



- **Key statistical terms:** mean, median, mode, distribution, variance

Core Tools and Techniques

- Spreadsheets for flexible, ad hoc analysis and modeling
- BI platforms for governed, published dashboards at scale
- Exploratory analysis: averages, distributions, trends, comparisons
- Use basic statistics for summaries; visualization for patterns
- Choose advanced methods only when simple tools fall short



Choosing the Right Tool



Excel/Sheets



Power BI



Tableau



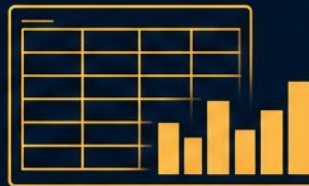
- **Excel/Sheets:** fast, flexible ad hoc analysis and what-if modeling
- **Power BI:** governed publishing, scheduled refresh, row-level security
- **Tableau:** visual-first publishing to Tableau Server or Cloud
- Match tool to workflow, sharing, and refresh needs
- Use spreadsheets for exploration; BI for scaled, repeatable reporting

Practical Analytics in Excel

- ✓ Organize raw data into structured tables and named ranges
- ✓ Use pivot tables to summarize, filter, and calculate key metrics
- ✓ Build a simple dashboard with charts and slicers
- ✓ Avoid using Excel as a permanent analytics platform



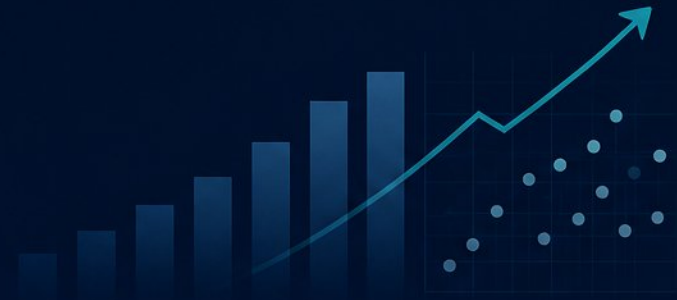
Raw Data



Structured Insights



Practical Analytics in Power BI and Tableau



Connect to files, databases, or web sources and preview data



Transform data with Power Query or Tableau's data layer



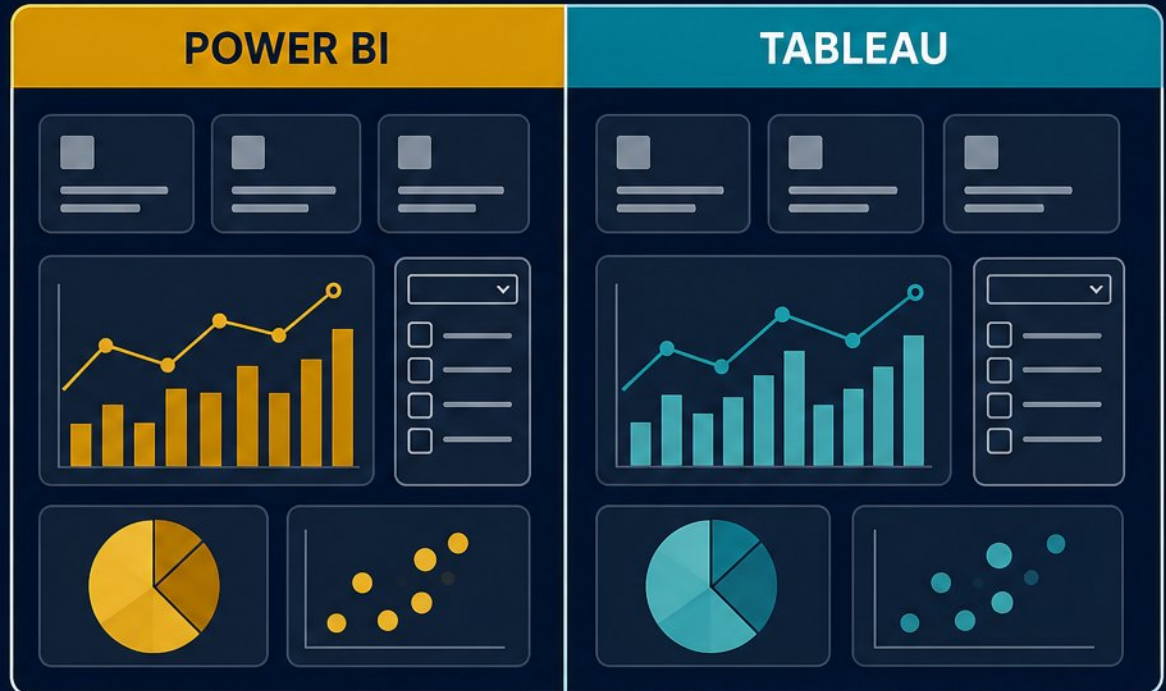
Build KPI cards, bar/line charts, and slicers for interactivity



Publish dashboards to Power BI Service or Tableau Server/Cloud



Use data models and measures to keep calculations consistent



Visualization and Communication of Findings



- Match chart type to the core message



- Design for clarity: highlight key points, avoid clutter



- Tailor depth and format to the audience



- State insights in plain, actionable language



- Lead with the conclusion; support with data

CHOOSE THE RIGHT CHART



Common Challenges and How to Avoid Them



POOR
DATA QUALITY

INCONSISTENT
METRIC
DEFINITIONS

CORRELATION
TRAP

MISALIGNED
STAKEHOLDERS

UNACTIONABLE
DASHBOARDS

- Poor data quality: duplicates, missing values, and inconsistent formats
- Inconsistent metric definitions create conflicting answers across teams
- Correlation does not imply causation; avoid misleading conclusions
- Misaligned stakeholders lead to insights that are not acted upon
- Unactionable dashboards stop at information instead of decisions

From Insight to Action

- Most dashboards inform, but don't let you act or close the loop
- Traditional workflow stops at visuals; decisions happen elsewhere
- Operational analytics writes decisions back as newly captured data
- End with specific actions: what to do, intended outcome, owner, timeline
- A recommendation without an owner is just an observation



Applying Analytics in Your Role



- ✓ - Define the business question and a measurable success metric
- ✓ - Identify required data, owners, and quality gaps
- ✓ - Translate the question into a focused analysis plan
- ✓ - Assign owners, timelines, and expected outcomes for actions
- ✓ - Continue with curated resources and practical exercises

PersonWise.

PersonWise • AI digital-human course platform



Scan the code or click anywhere to watch this course live, with voice Q&A

personwise.ai/t/dbdaae68/public