

Data Analytics

From messy data to decisions people trust.

KEY CONCEPTS

Clean data

Fixing blanks, duplicates, and wrong types before analysis.

SQL

The language to pull, filter, and join data from databases.

JOIN

Combining tables on a shared key, e.g. customer_id.

Aggregation

GROUP BY with COUNT / SUM / AVG to summarise data.

KPI

A key metric that tracks a goal, e.g. monthly sales.

Correlation vs causation

Two things moving together doesn't mean one causes the other.

KEEP LEARNING — FREE, TRUSTED SOURCES

- **Kaggle Learn (free, hands-on)** · Kaggle
kaggle.com/learn
- **Google Data Analytics (free to audit)** · Coursera
coursera.org/professional-certificates/google-data-analytics
- **Power BI training (free)** · Microsoft Learn
learn.microsoft.com/training/powerplatform/power-bi

QUICK-START CHECKLIST

- ☐ Write the question before touching the data.
- ☐ Clean first — expect 70% of your time here.
- ☐ Learn SELECT, WHERE, GROUP BY, JOIN.
- ☐ Summarise with PivotTables / GROUP BY.
- ☐ Pick the right chart for the message.
- ☐ End with a recommendation, not just numbers.

PRO TIPS

- Start every analysis from the question, then pick the tool — not the reverse.
- A simple, clear chart beats a fancy one — design for the decision-maker.