

Ways of work

EGAD: An introduction to EXPLAIN

The EGAD framework

The EGAD framework provides us with a guide on how to **leverage data to solve problems**. It includes everything from understanding the problem to maintaining the solution.

	Draft	Do	Deliver	Decompress
EXPLAIN	Problem statement	Storytelling	Communication	Feedback
GATHER	Problem landscape	Databases	Data engineering	Insights
ANALYSE	Equation of value	Programming	Solution governance	Performance metrics
DEPLOY	Project management	Version control	Production	Maintenance

EXPLAIN

EXPLAIN in the EGAD framework focuses on how we **formulate the problem**, **tell the story**, **communicate our insights**, and how we **collect feedback on our solution**.

EXPLAIN

DRAFT

Problem statement

If we **understand the problem** we are trying to solve,

DO

Storytelling

we can uncover significant **patterns** and **variations** within data,

DELIVER

Communication

through **clear expectations** and **descriptions**, articulate **patterns** and **anomalies** in the observed data,

DECOMPRESS

Feedback

and ensure that our **insights** are **understood** and **actionable**.

EXPLAIN, DRAFT

The first phase of **EXPLAIN, DRAFT**, ensures that we are able to **describe** and **justify** our **problem** with a concise statement.

Before we can solve a problem, we need to understand what it is and be able to EXPLAIN the problem:

- Are we able to **EXPLAIN why** we need to solve this problem?
- Are we able to **EXPLAIN what** it is we need to do?
- Are we able to **EXPLAIN how** we are going to do it? (*The plan details when we get the right people, data, and other resources involved.*)

We use a **problem statement** to EXPLAIN our problem.

The key elements of a problem statement are:

The current state (the problem): What is the problem, why is it occurring, and who is impacted by it?

The gap (quantifying the problem): What are the effects of this problem?

The future state (the desired outcome): What would the situation be if there wasn't a problem?

EXPLAIN, DO

The **DO** phase of **EXPLAIN** guides us in how we approach data to **uncover patterns** and **insights** within the context of our problem. We often use visualisation and storytelling for this.



What do all of the below datasets have in **common** with this dinosaur?

All these datasets have the **same** summary statistics:

- x mean: 54.26
- y mean: 47.83
- x standard deviation: 16.76
- y standard deviation: 26.93
- Correlation: -0.06

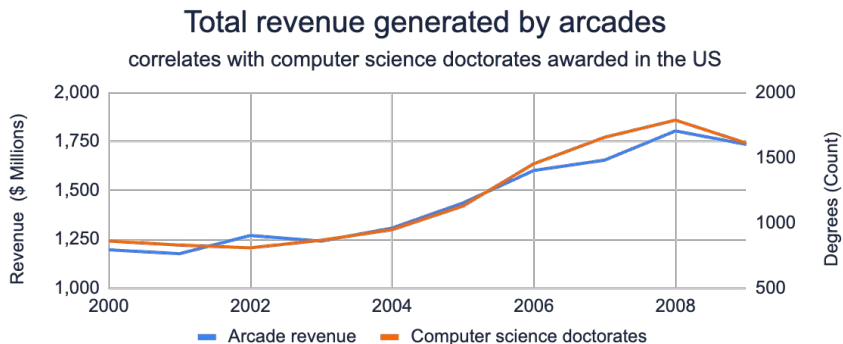
Datasets with the same summary statistics can **differ significantly when visualised**, revealing patterns and outliers often **missed** in **numerical analysis**.

EXPLAIN, DELIVER to DECOMPRESS

The **DELIVER** phase of **EXPLAIN** is all about communicating for impact. We also use visualisations to communicate our findings in this phase.

While data **visualisation** provides insightful perspectives, it doesn't always **depict the full story**.

Example:



*Spurious correlations

Visualisation and **communication** go hand in hand. Visualisation presents data **visually**, but effective communication **contextualises** and **clarifies** it.

Together, good visualisations and communication translate data into **meaningful narratives**, turning numbers into **actionable insights**.



Actively **work** on developing your **written** and **verbal communication** skills throughout the course.

EXPLAIN tools

Some of the **tools** we can use during EXPLAIN include **spreadsheet**, **presentation**, and **dashboarding** tools, as well as **programming languages**, such as:

Google Sheets

A free web-based application in which **spreadsheets** can be created, edited, and **stored online**.

Google Slides

A free web-based application in which **presentations** can be created, edited, and **stored online**.

MS Power BI

A **business analytics** service that provides interactive **visualisations**, where end users can create **reports** and **dashboards**.

Python

Python is a **programming language** with **statistical analysis**, **visualisation**, and **machine learning** capabilities.

Effective EXPLAIN techniques

Using both data **visualisation** and **communication** together helps us **explain** complex data better.

With **good visuals**, we can **understand** our data more deeply, seeing more than just numbers.

By **communicating** our findings well, we can turn insights into **real-world solutions** that make a big difference.

Throughout this course, you'll **learn** various **skills** and **tools** you can apply in the DRAFT, DO, DELIVER, DECOMPRESS phases of many different **projects** to solve real **problems**.