

Ways of work

# EGAD: An introduction to ANALYSE

# 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

# ANALYSE

ANALYSE in the EGAD framework is about **understanding the value** of solving the problem and how we can use **mathematics**, **statistics**, and **programming** to solve these problems.

## ANALYSE

### DRAFT

#### Equation of value

We need to understand how **value is unlocked**,

### DO

#### Programming

**solving the problem** through mathematics, statistics, and programming,

### DELIVER

#### Solution governance

ensuring that the **solutions align with strategic goals**,

### DECOMPRESS

#### Performance metrics

in order to **measure the success** of the solution.

# ANALYSE, DRAFT

The first phase of **ANALYSE, DRAFT**, ensures that we understand the value of the solution we are proposing.

We ANALYSE the value of the solution by focussing on the following variables:

- **ANALYSE the value** of the project to the business.
- **ANALYSE key drivers and variables** that we need to focus on.
- **ANALYSE key indicators and metrics** that will help to track or adjust the process to ensure success.

The *equation of value* helps direct us on where to focus our attention:

$$\begin{array}{ccccc} \text{Value} & & & & \text{Value} \\ \text{unlocked} & = & \text{Key value} & \times & \text{unlocked per} \\ & & \text{drivers} & & \text{key value} \\ & & & & \text{driver} \end{array}$$

We use the **equation of value** to ANALYSE value.

# The equation of value (EoV)

The **equation of value** helps us direct our attention to the **factors that contribute value** to a project, product, or organisation.

The **key value drivers** are factors that significantly **contribute** to the **creation, enhancement, and preservation of value** within a project or organisation.

The specific key drivers of value can vary depending on the context, industry, and goals, but some common examples include:

- Revenue growth
- Operational efficiency
- Talent and human capital

The **value unlocked per key value driver** represents the **degree** to which the driver **contributes** to unlocking or generating value, often in the form of **revenue**.

For example, if we wanted to build a system that helps insurance assessors pay claims correctly and timeously, the equation of value could be something like:

$$\text{EoV} = \# \text{ claims} \times \text{cost per claim} \\ + \text{assessment cost per claim} \times \# \text{ claims}$$

# ANALYSE, DO

The **DO** phase of **ANALYSE** focuses on how we can leverage programming to solve complex problems.

Depending on the **type of problem** and the **volume of data**, we have **various programming tools** and **languages** we can use:

**Flowcharts and pseudocode:** A toolset that allows us to visually and textually represent the flow of control of logic, algorithms, and conditional statements.

**Spreadsheet functions:** A toolset that empowers us to solve problems and extract valuable information from datasets efficiently in spreadsheets.

**DAX (Data Analysis Expressions):** A formula language that allows us to perform complex calculations on data in a data model.

**SQL (Structured Query Language):** A domain-specific programming language that enables us to manage, manipulate, and query relational databases.

**Python:** A high-level programming language that enables us to wrangle data, build complex machine and deep learning models, scrape the web, and more.

# ANALYSE, DELIVER to DECOMPRESS

The **DELIVER** and **DECOMPRESS** phases of **ANALYSE** ensure that the solution being proposed aligns with the strategic goal and that the value thereof can and is measured.

## Solution governance

Refers to the **processes, practices, and frameworks** that an organisation puts in place to ensure that the development and implementation of **solutions are aligned** with the organisation's **strategic goals**.

### Key aspects of solution governance include:

- Alignment with business or project goals
- Risk management
- Quality assurance (QA)
- Compliance
- Resource allocation

## Performance metrics

Refers to the **measurable indicators** that are used to **assess the effectiveness, efficiency, and quality** of a solution throughout its development, implementation, and ongoing operation.

Key aspects of measuring performance include **monitoring, benchmarking, and continuous improvement**.

**Examples of metrics** include response times, system uptime, user adoption rates, error rates, cost savings achieved, compliance levels, etc.

# The fundamentals of ANALYSE

Being able to **understand and quantify the value of a solution** enables better problem solving and decision-making.

Programming enables us to **solve complex problems** in various ways and good programming allows us to solve a problem once.

Although Python is a popular language for data analysis and science, there are **many toolsets** that **enable complex analytics**.

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**.