THE
ANALYST
PERSPECTIVE

Data Career Kickstarter

WITH MICROSOFT EXCEL
& POWER BI

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Course Outline

Module 1 – Introduction to Data Analytics (2 hrs)

Module 2 – Excel for Data Analysts (8 hrs)

Module 3 – ETL with Power Query (4 hrs)

Module 4 – Data Modeling Concepts (4 hrs)

Module 5 – Data Analysis in Power BI with DAX (8 hrs)

Module 6 – Data visualization and report design (4 hrs)

Module 7 – Deploy and maintain Power BI Assets in Power BI Service (2 hr)

Module 8 – Introduction to SQL (4 hrs)

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Module 1 – Introduction to Data Analytics

We will learn

- Introduction to data analytics
- Types of data analysis
- Different roles in data career
- Behaviors of a data analyst
- Day in life of a data analyst
- Problem-framing and hypothesis generation
- Logical workflows (MECE & 5 Whys)

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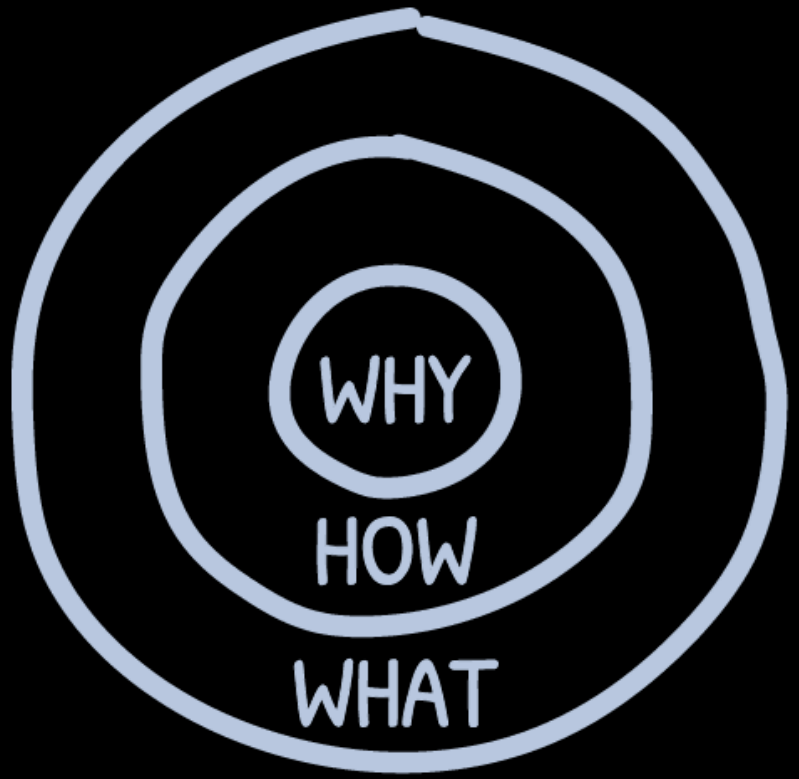
Introduction to Data Analytics



Why?

To transform raw data into powerful insights that drive smarter decisions and unlock new opportunities

How?

By skillfully applying techniques from statistics, programming, and visualization to reveal hidden patterns

What?

The essential art and science of extracting meaningful knowledge from data to solve real-world problems

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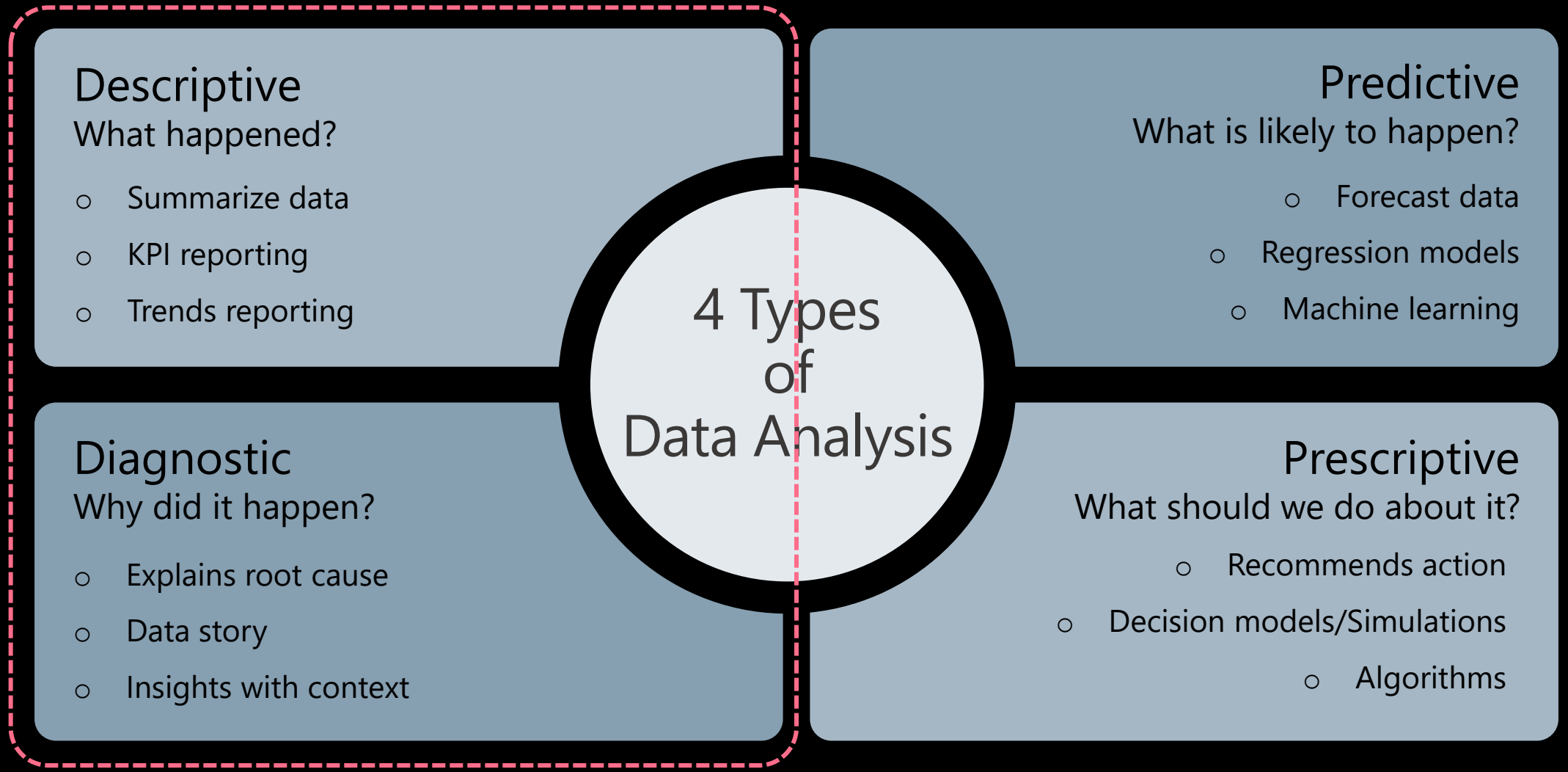
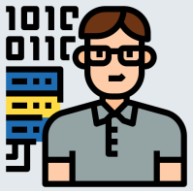
Types of Data Analysis



Different Roles in Data

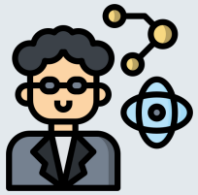
- Extract the data
- Analyze trends and root cause
- Communicate insights to drive action

Data Analyst



- Build data extraction and storage systems
- Design efficient data warehouse and pipelines

Data Engineer



- Use statistical methods to make predictions
- Build predictive models
- Optimize models

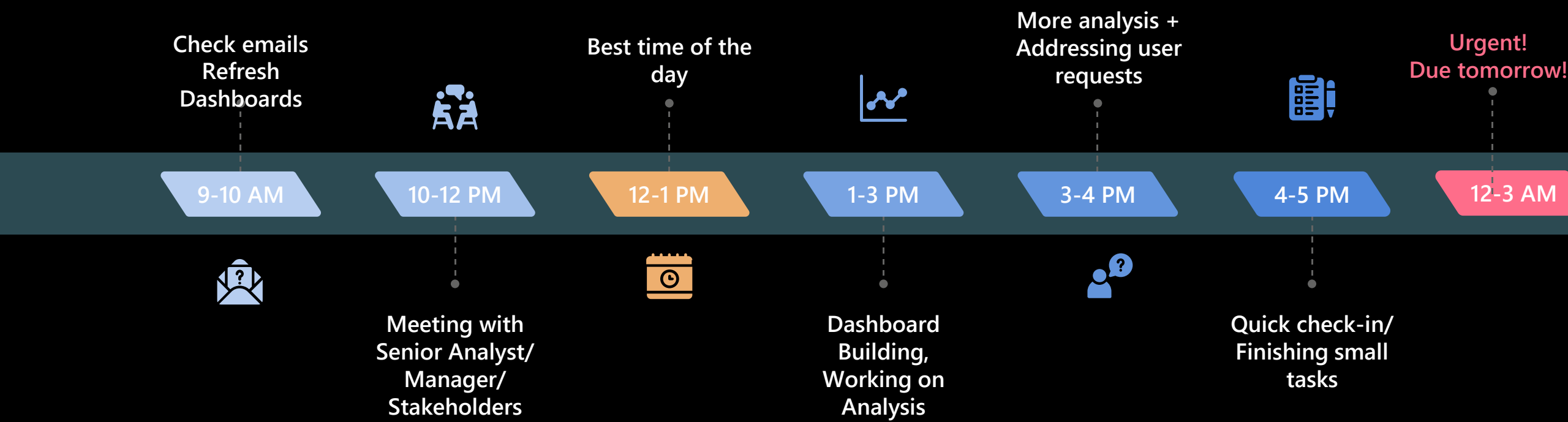
Data Scientist

- Design and build ML models
- Deploy and maintain ML pipelines
- Optimize models

AI/ML Engineer

Our starting point

Day in life of a data analyst



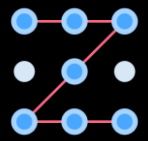
Behaviors of a data analyst

Love crunching numbers

Nit-pick everything

Always finding the meaning behind

Pattern recognition



Curious, Always learning

Break Time – (5 Minutes)

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Problem Framing - Questions comes first!

- Aim to answer business questions before any analysis
- Converts business needs into questions
- Narrow the scope – Focus on one dimension
- Clarify expectations – What decisions will be made?

Hypothesis Generation – Think like a detective

What is a hypothesis?

An educated guess about what might be driving the problem

Step 1. Make a logical argument

e.g. Umbrella sales are higher due to the rainy season

Step 2. Use If…then logic

e.g. If umbrella sales are high every year in July, then it is due to rainy season

Step 3. Validate or Disprove with data

e.g. Check the historical data to see if the umbrella sales are high in July every year

Logical Frameworks to use as an analyst

MECE

MECE stands for Mutually Exclusive, Collectively Exhaustive — a structured way to break down problems without overlap or gaps.

5 Whys?

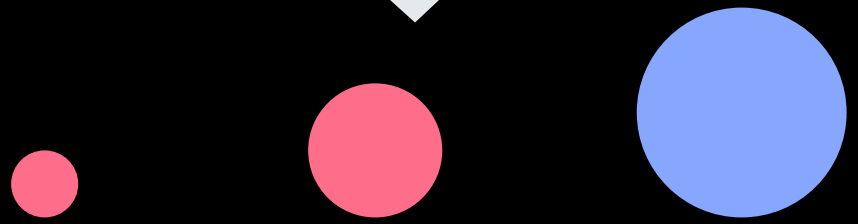
Problem-solving technique developed by Toyota — repeatedly asking "Why?" to identify the root cause of a problem

MECE

Mutually Exclusive

(No Overlaps)

Each item fits into one and only one group



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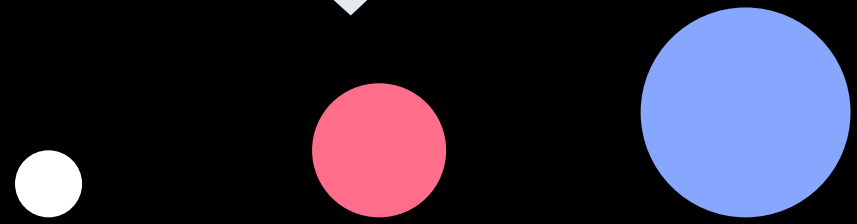
✗ Red Medium Large

Collectively Exhaustive

(No Gaps)

No item is left without a category



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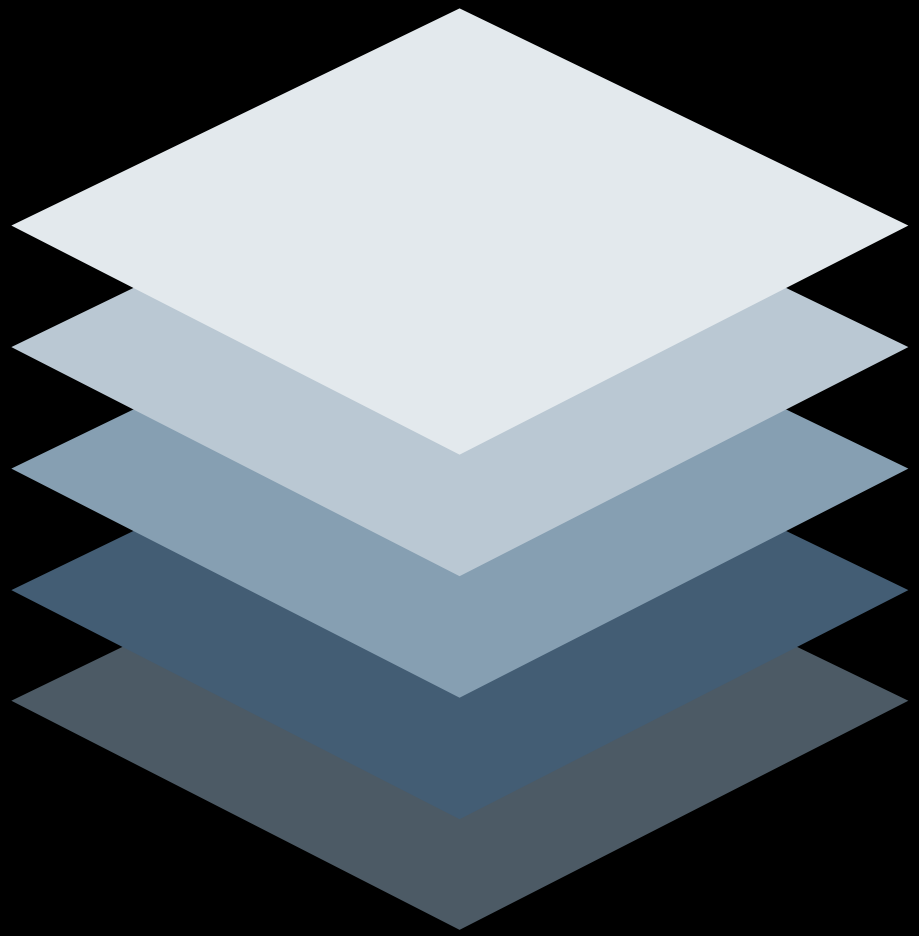
5 Whys?



You are late to the office. Why?

Because I missed the bus this morning. Why?

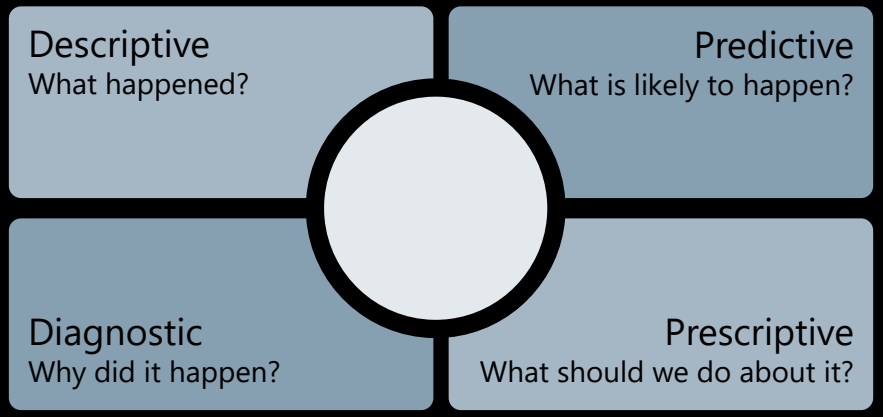
Because I did not wake up in time. Why?

Because I did hear the alarm. Why?

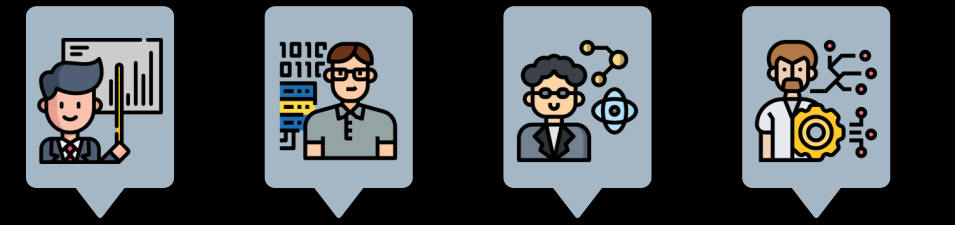
Because I only slept at 3:30 a.m.

Module 1 - Recap

4 Types of Data Analysis



Different roles in Data Career



Problem Framing

Best question to ask – What decisions will be made?

Hypothesis Generation

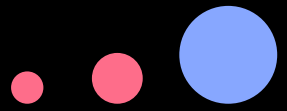
Step 1. Make a logical argument

Step 2. Use If...then logic

Step 3. Validate or Disprove with data

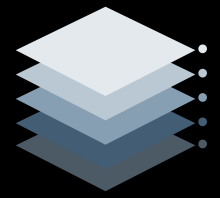
Logical Frameworks

MECE



No Overlap,
No Gap

5 Whys?



Keep asking why
until the root cause

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"Exceptional results almost exclusively happen when you work hard on an area where you have some natural aptitude. Play to your strengths"

JAMES CLEAR

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