

Making a business impact

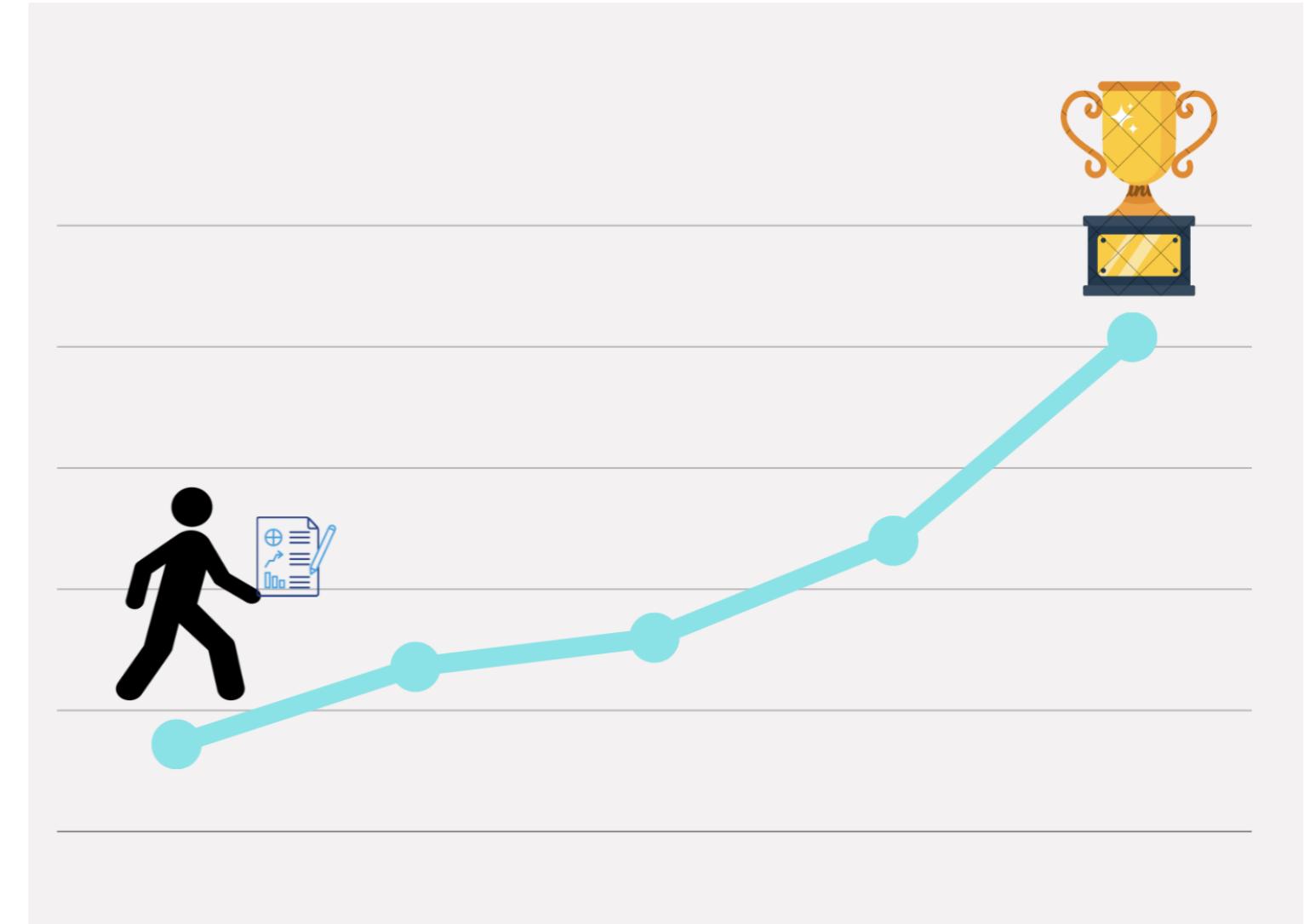
FORMING ANALYTICAL QUESTIONS



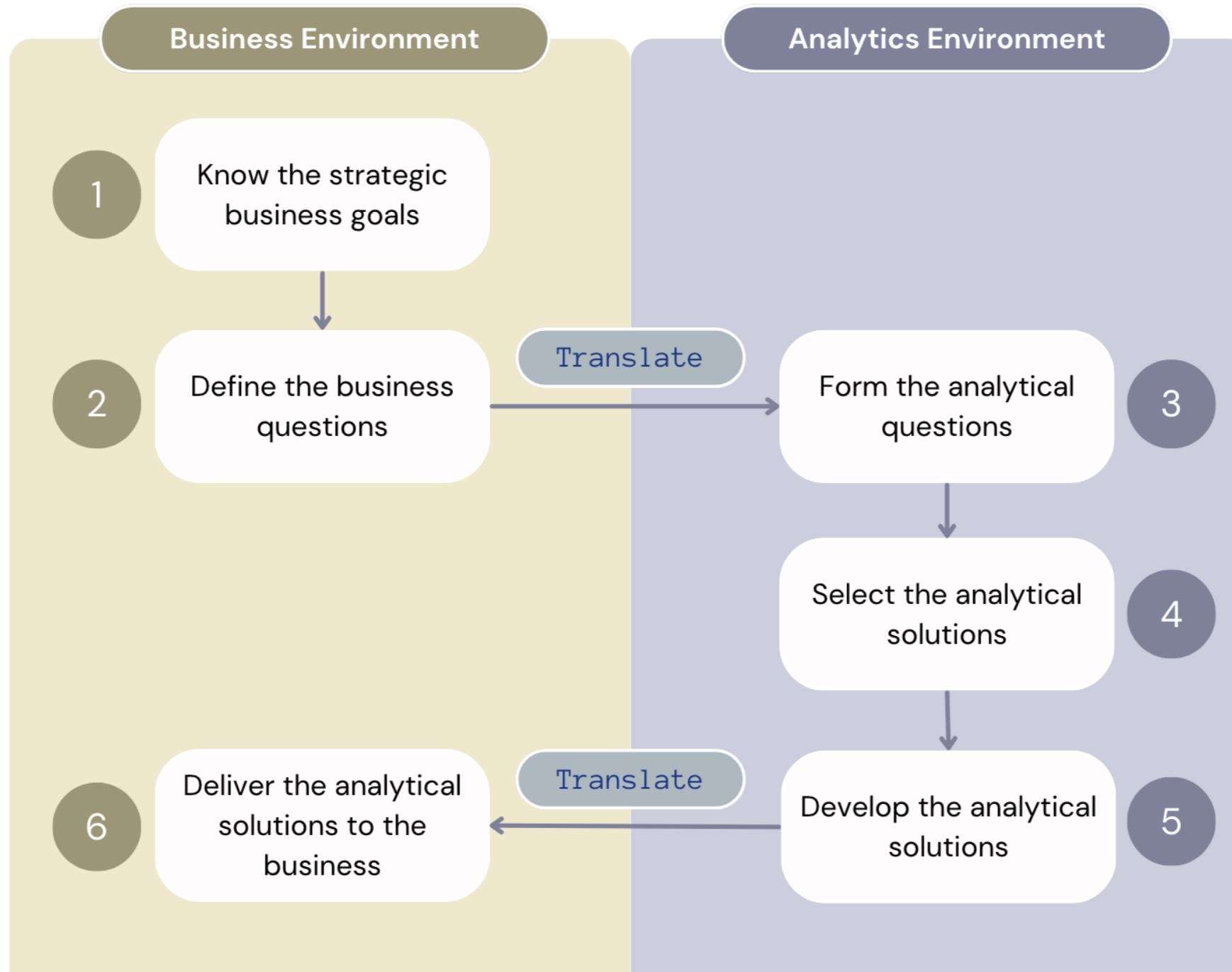
Konstantinos Kattidis
Data Analytics Lead

The data-driven path to success!

- Business decisions made based on intuition can lead to poor decision-making.
 - Data analytics provides stronger evidence to support decisions.
1. How do we ensure that we **focus on the right areas**?
 2. How do we **select the right analytical solutions**?



The "Value from Analytics" workflow



Know the strategic business goals

Business Environment

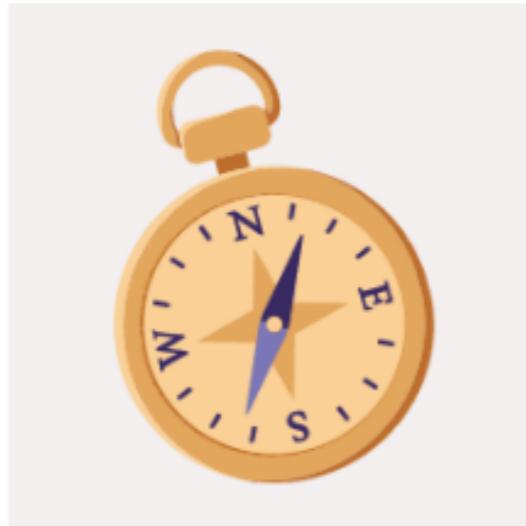
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Know the strategic
business goals

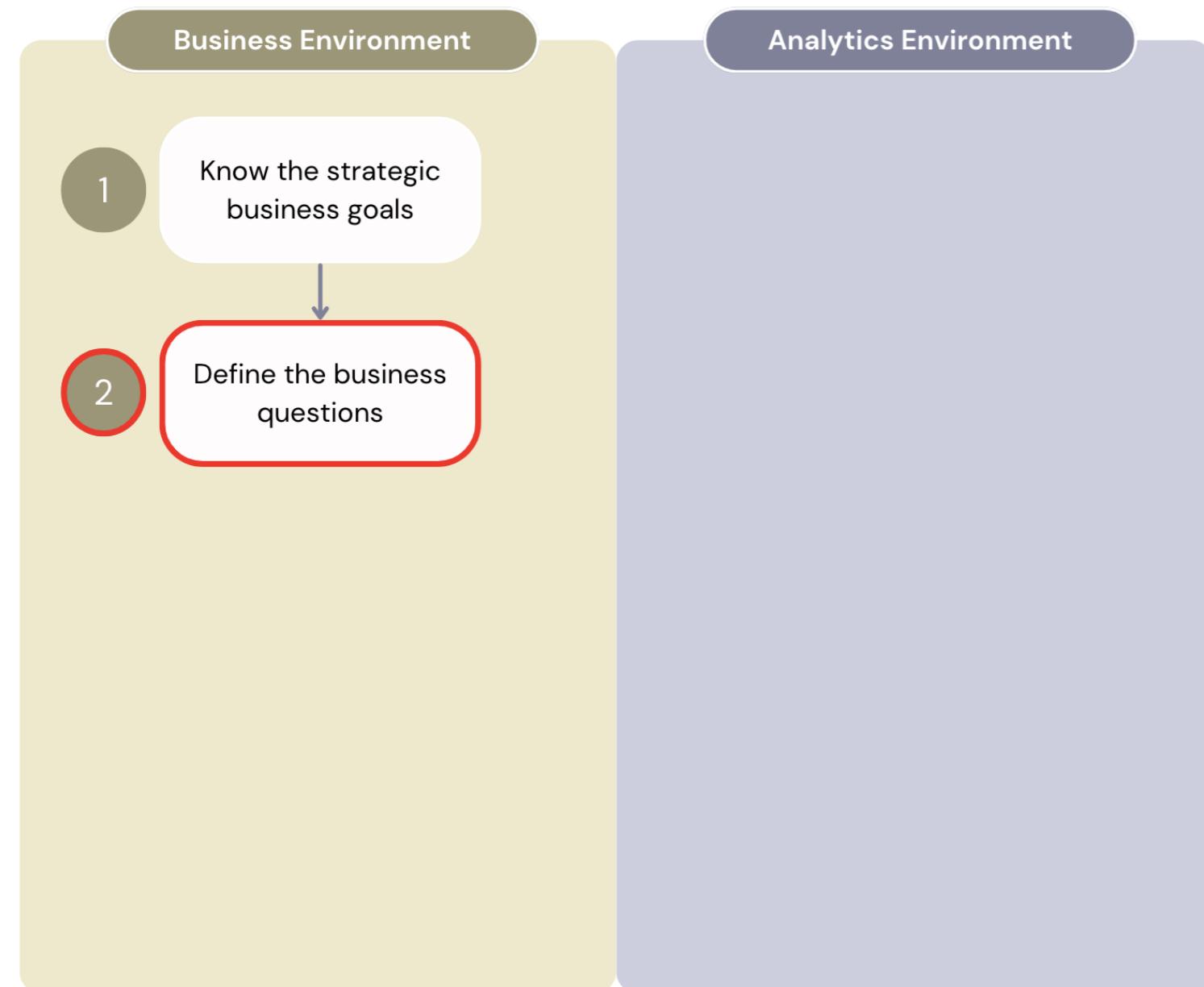
Analytics Environment

Strategic business goals can be defined as predetermined targets that companies want to achieve over a set period.

- Knowing these goals gives direction and purpose to the teams.



Define the business questions

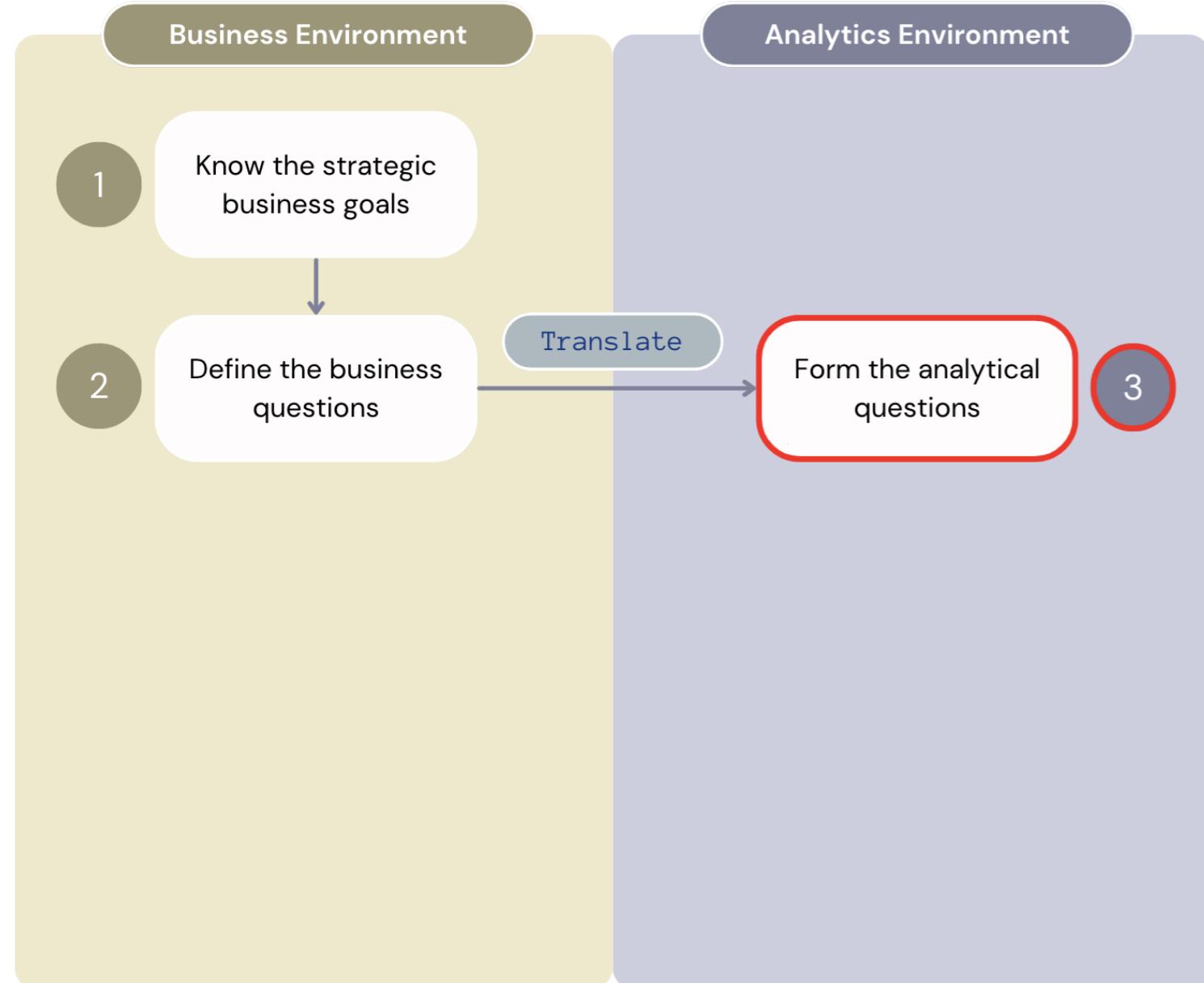


- Business teams define **team-level goals** based on the strategic goals.
- This results in **business questions** that need to be answered or **problems** that need to be solved.

Why is customer churn increasing?

How can we increase the product sales of existing customers?

Form the analytical questions



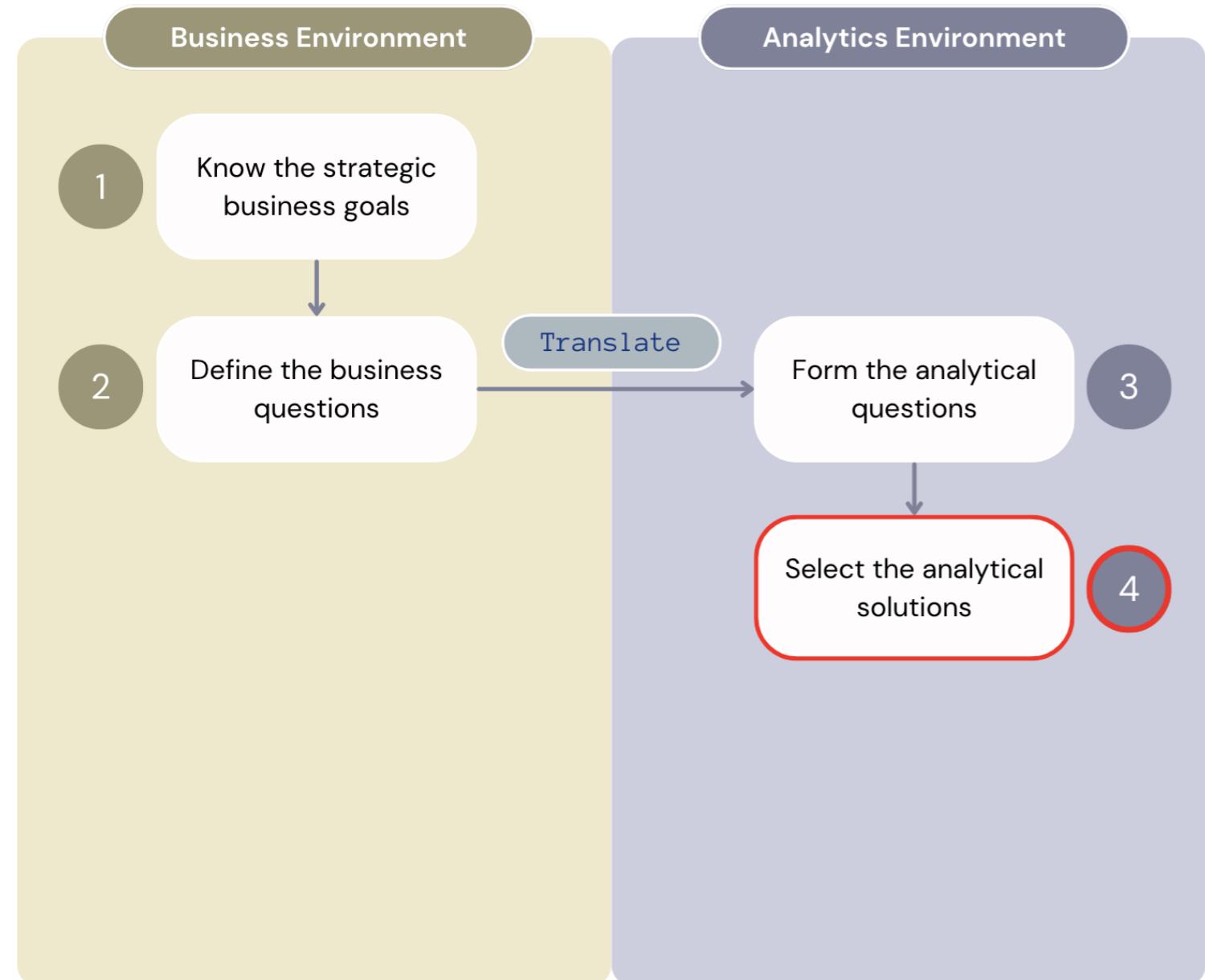
- Analytical questions that require the use of **data and analytics** to be answered.

Translate

- In this translation process we are moving from the **business environment** to the **analytical environment**.

What are the main drivers of customer churn based on the past sales data?

Select the analytical solutions

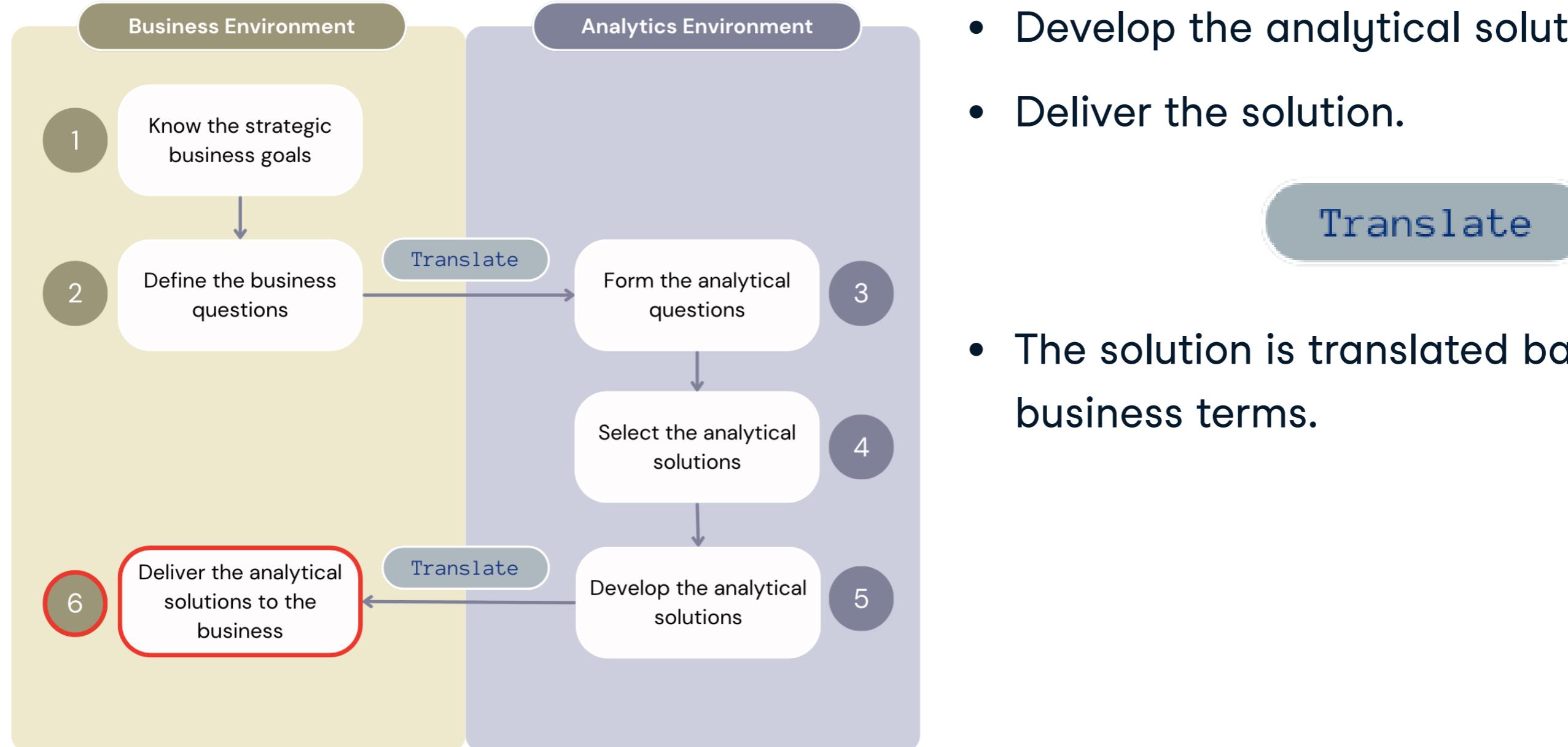


- Select the right analytical approach or solution to answer the **analytical questions**.

Examples:

- Regression analysis
 - Time-series analysis
 - Forecasting

Develop & deliver the analytical solutions



- Develop the analytical solution.
- Deliver the solution.

Translate

- The solution is translated back into business terms.

Our focus for this course

- Understand the business question
- Translate and form the analytical questions
- Select the best analytical solutions



Let's practice!

FORMING ANALYTICAL QUESTIONS

Difference between business and analytical questions

FORMING ANALYTICAL QUESTIONS



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What's the difference?

Business Questions



Analytical Questions



Strategic goal:

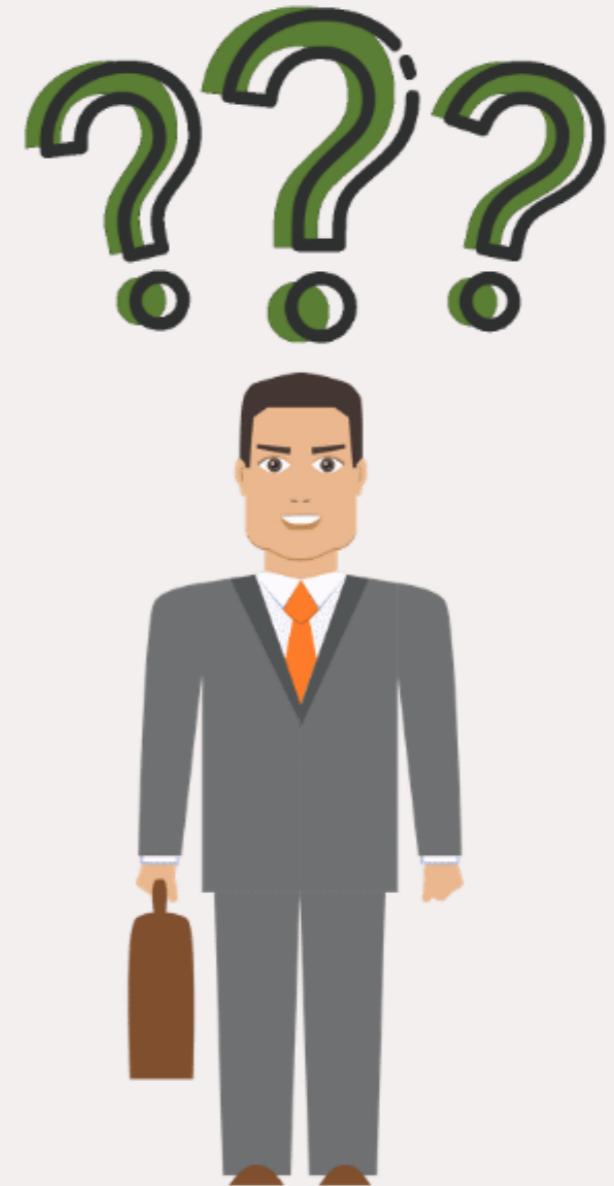
Increase total revenue by \$30M in the next three years.

Business questions:

Pricing team: At what levels should we set our prices to increase revenue?

Marketing team: What campaigns should we do to attract new customers?

Business Questions



Analytical Questions



Analytical questions:

Which customer group generates the most and least revenue based on the last 6 months' sales?

How have past campaigns affected the sales volume for each customer group?

Analytical solutions:

- Descriptive analysis
- Data visualization

Two key characteristics



- The **scope** of the questions
- The **methodology** used to answer them



The scope of the question

Business questions:

- Broad in scope and **open-ended**.
- Aim to provide a **high-level solution to a business problem**.

Analytical questions:

- Specific and focused on a particular aspect of the business problem.
- They are formed to **help answer broader business questions**.



Characteristics of the analytical question

Which **customer group** generates the most and least **revenue** based on the **last 6 months' sales**?

Following the **SMART** methodology:

- Specific
- Measurable
- Actionable
- Relevant
- Time-bound



Difference in the methodology used

Business questions:

- Data analytics
- Intuition, experience, or expert opinion

Analytical questions:

- Data analytics and the use of statistical techniques



Analytical inputs to the business questions

Analytical question: Which customer group generates the most and least revenue based on the last 6 month sales?

It can be answered using:

- Revenue data analysis and data visualization

Business question: What campaigns should we do to attract new customers?

It can be answered using:

- Inputs from the above data analysis
- Brainstorming sessions and input from experts

Let's practice!

FORMING ANALYTICAL QUESTIONS

Challenges in transforming business questions

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The importance of the translation process

- Identify the **data** that is needed to answer the question.
- Choose the best **analytical solution** that provides business value.
- It facilitates communication and collaboration.
- Greater trust and appreciation between the business and the analytics teams.



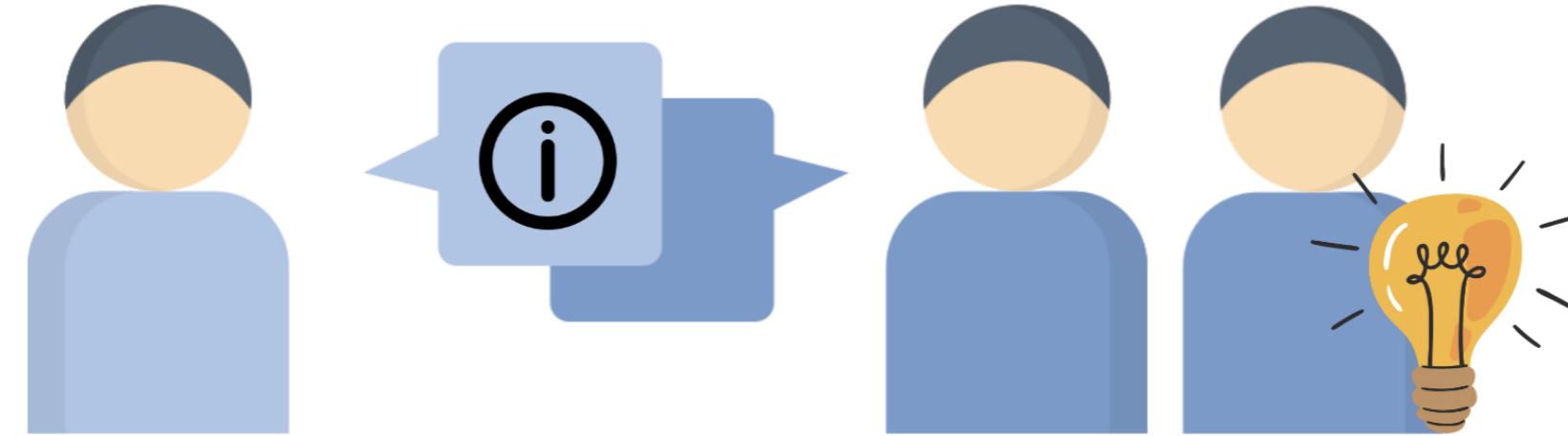
The challenges of the translation process

Consider the following scenario:

- 1 - A business team raises a request to the analytics team with limited information.
- 2 - The analytics team quickly proceeds with the analysis.
- 3 - Delivers the solution to the business.
- 4 - The solution provided does not solve the business problem.



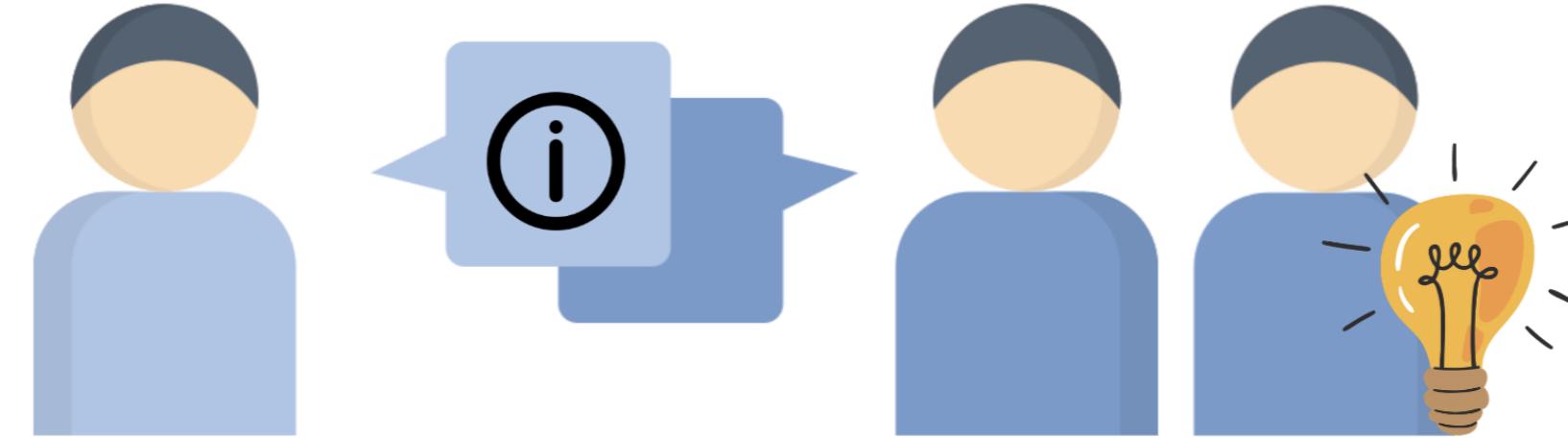
Interpreting the business problem



The business questions often are given in business terms, and do not provide enough information.

- Ideal approach: Both teams exchange a series of questions and clarifications.
- Aim: Understand the business goals, target audience, and constraints or limitations.

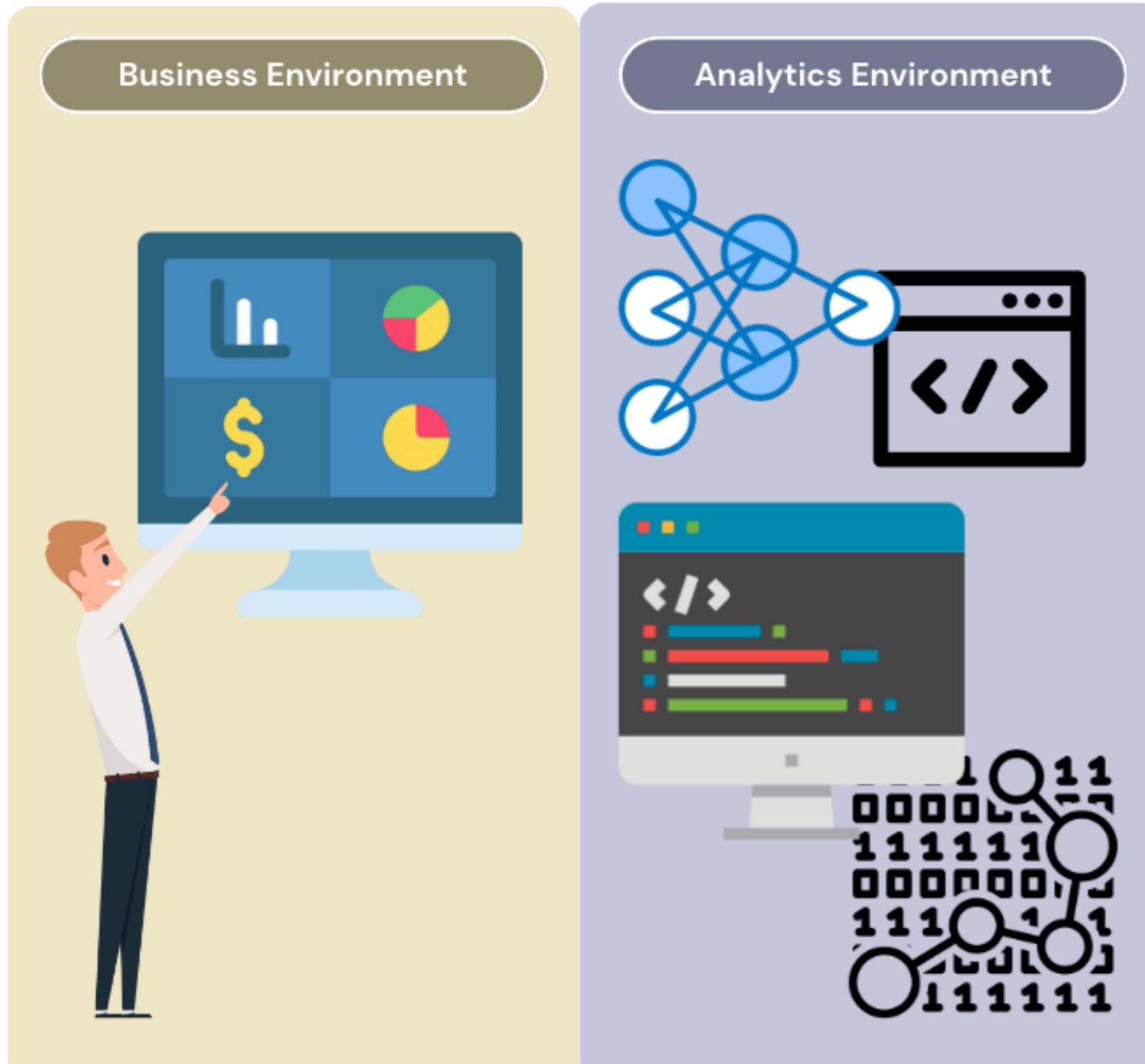
Interpreting the business problem



Cause:

- Fast paced business environment and tight deadlines.
- Analysts do not want to bother the business with too many details.

Forming relevant analytical questions



Business teams are often not clear about how data driven analytics methods can help achieve their goals.

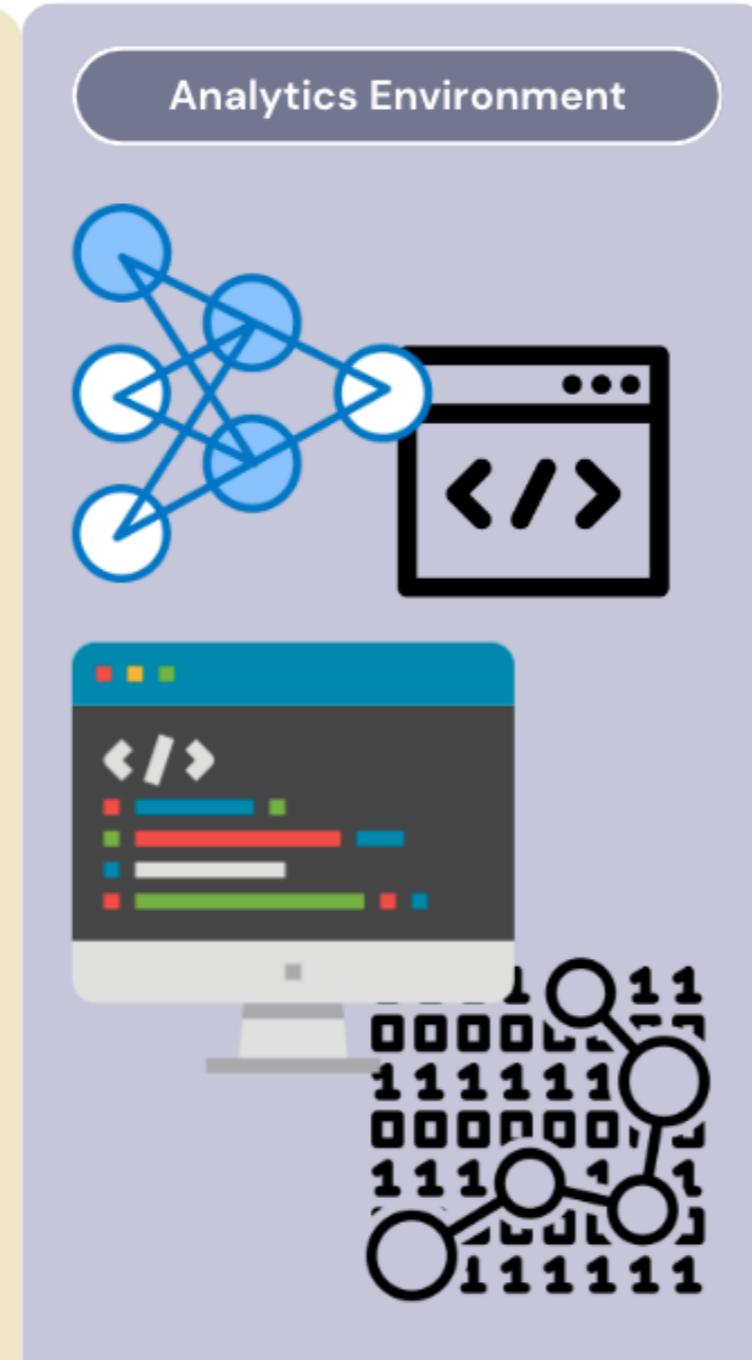
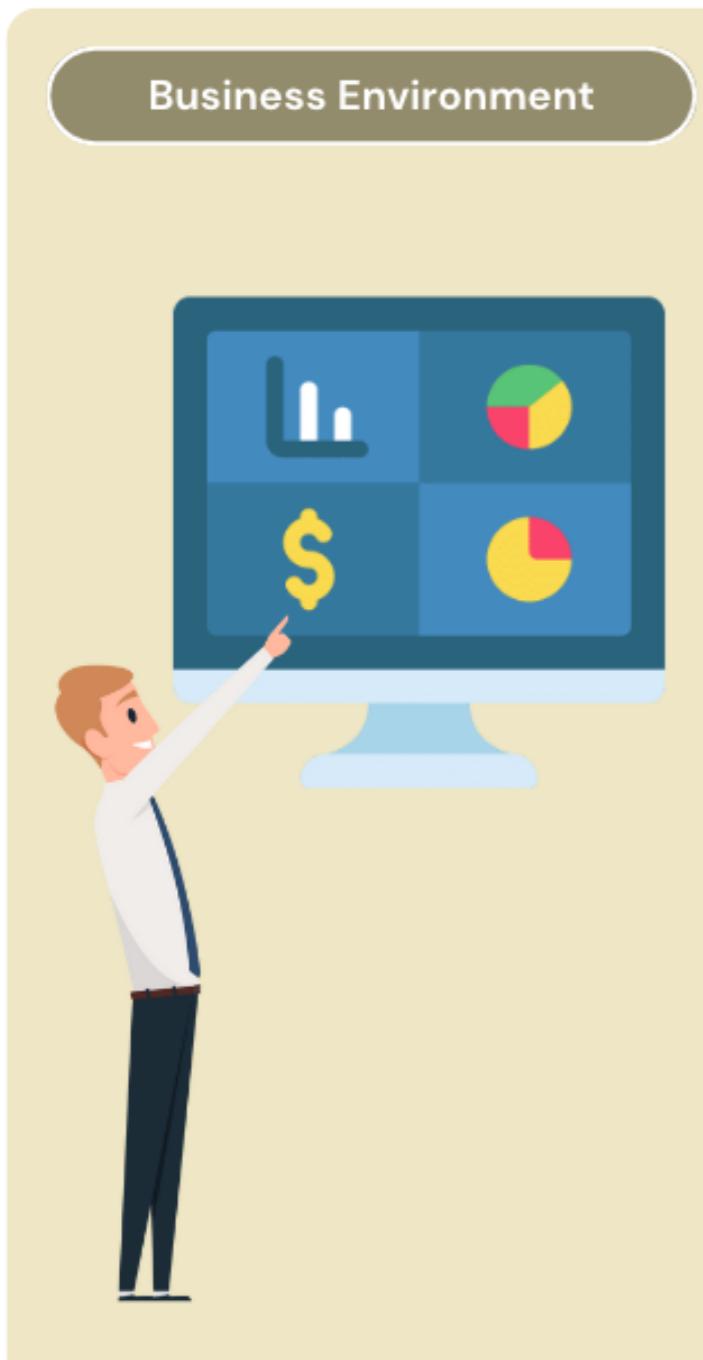
Cause: The **large conceptual distance** between:

Business strategies, and processes.

And..

Data and algorithms.

Forming relevant analytical questions



- Analysts are often **stuck in their local view**, focused deep in the data and algorithms.
- They **focus on the solution**, for example clustering or classification from the beginning.
- Both sides have **different goals and processes**.
- The data may not be available, or may not be of sufficient quality.

Choosing the right analytical solution

- There may be **various analytical solutions** that could potentially be used.
- Difficulty choosing the one that is most appropriate for the data and the business question.



Bridging the gap



We need a set of **best practices** that will enable:

- Efficient translation of the business problems into analytical questions.
- The selection of the right solutions that will make a business impact.

Let's practice!

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