

Generative AI

Identifying Trends and Insights

LEARNING OBJECTIVES

By the end of the lesson, you will be able to...

- Identify the different types of trends and insights that can be intuited by ChatGPT.
- Identify trends and insights in data by asking good data questions
- Use insights from ChatGPT to make more informed decisions.



LEARN

Identify Trends & Insights





The most serious mistakes are not being made as a result of wrong answers. The true dangerous thing is asking the wrong question.

- Peter Drucker

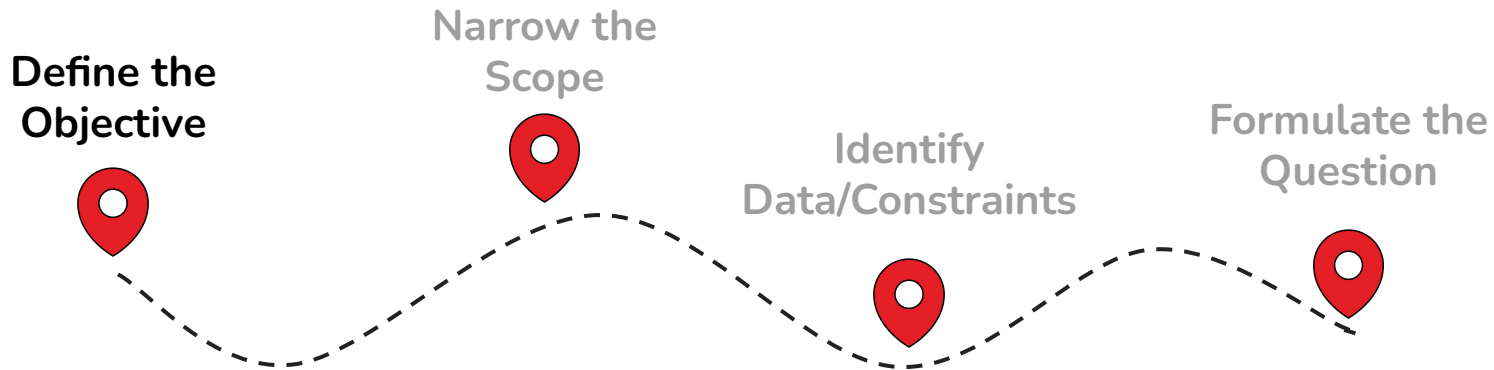
Think About It: What makes a good data question? 🤔

Whether you're briefing a Data Scientist or Business Analyst, what makes a question good or bad?

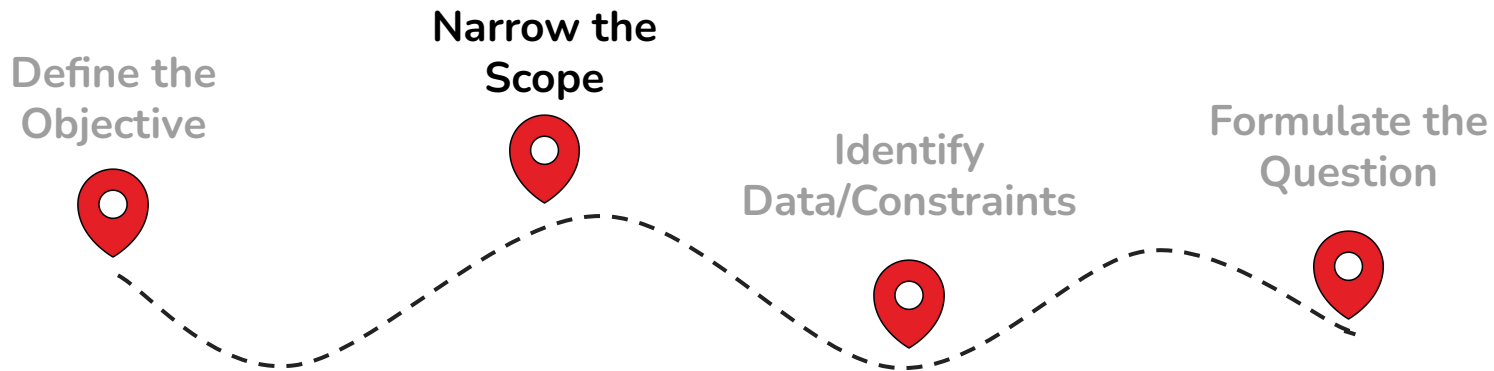


**Type your response
in the chat.**

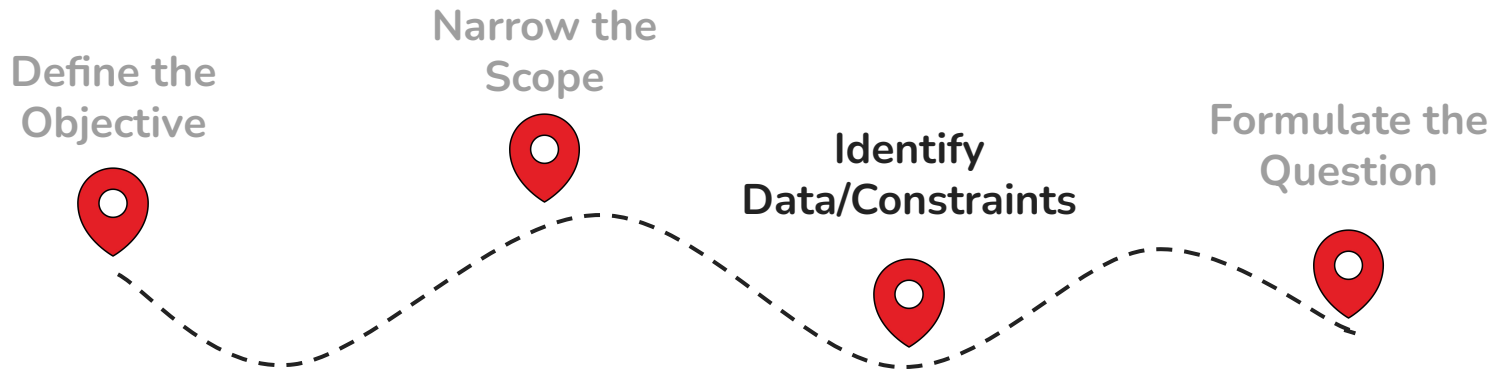
Formulating a Good Data Question



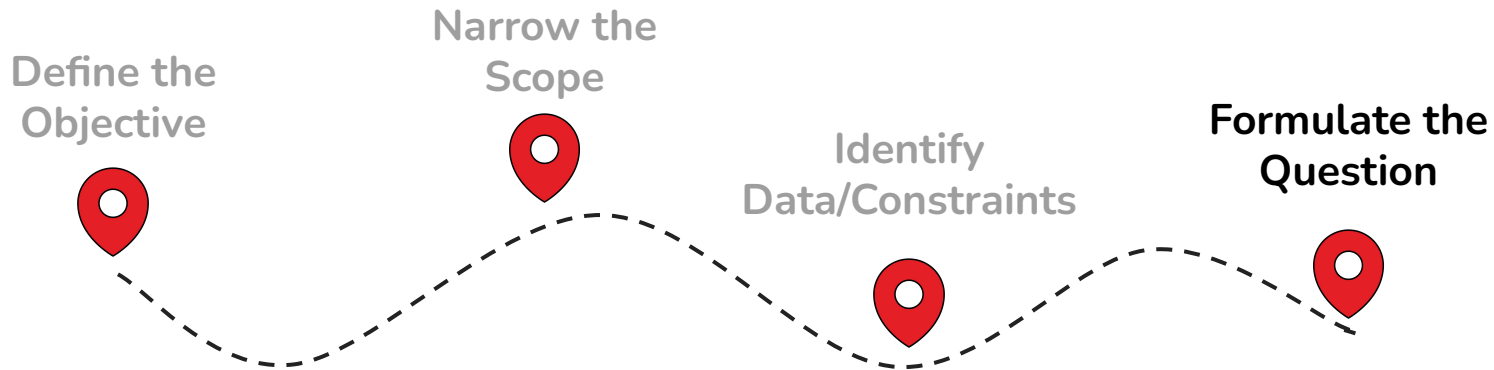
Formulating a Good Data Question



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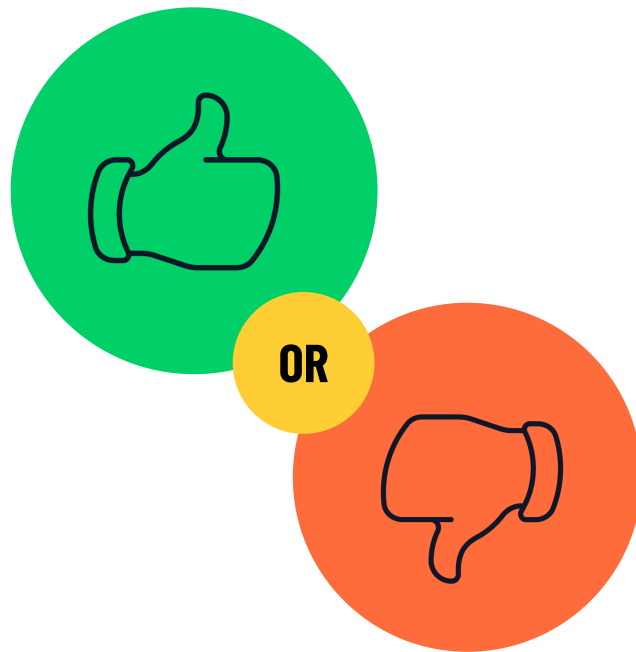
Formulating a Good Data Question



Is this a good or bad question?

For the next few slides, you will be given a question and must determine if it is a **good or bad question**.

1. I will read the questions aloud.
2. You will respond with a thumbs up or thumbs down on the quality of the question.
 - a. **Good** = thumbs up
 - b. **Bad** = thumbs down
3. We will review the answer together.



Is this a good or bad question?

"What trends can we identify in customer behavior from the sales data of Q1 and Q2 in 2023 compared to the same period in 2022?"

Specific and Clear

This question is time-bound, topic-specific, and directly asks for an analytical perspective, enabling the analyst to focus on providing precise insights.



Is this a good or bad question?

"Can you tell me something interesting about our customers?"

Vague and Unclear

This question is vague and open-ended, making it difficult for the analyst to determine what specific data to analyze or the type of analysis the questioner is interested in.



Is this a good or bad question?

"Can you confirm that our latest product is the sole reason for the increase in this quarter's revenue?"

Implies a Desired Outcome

This question implies an expected answer and might pressure an analyst to confirm a preconceived belief, potentially leading to biased analysis.



Is this a good or bad question?

"Based on historical data, what factors seem to influence customer retention the most, and can we forecast retention rates for the next year?"

Encourages Prediction

This question seeks a deeper understanding of influencing factors and asks for a predictive model, encouraging the use of more advanced analytical skills.



Is this a good or bad question?

"What will be our exact revenue in the next five years?"

Beyond the Scope

While data scientists can forecast based on trends, asking for precise predictions over a long period can be unrealistic due to the countless variables that can affect future outcomes.



Is this a good or bad question?

"Given the recent user engagement data, what changes could we consider to improve our product's user experience?"

Seeks Suggested Action

This question connects data analysis to strategic decision-making and asks the professional to provide actionable insights.



Is this a good or bad question?

"We hypothesize that the recent marketing campaign has increased our website traffic, but not our conversion rate. Can the data support this?"

Hypothesis Driven

Asking to validate or refute a hypothesis with data helps guide the analysis and connects it with business understanding.





PRACTICE

Asking Good Data Questions



Asking Good Data Questions

Upload [ecommerce-data.csv.zip](#) and provide both context and an objective for what you would like to achieve based on the analysis.

Instructions:

- 1 After some exploratory data analysis, narrow the scope of the analysis (product, geo, etc)
- 2 Get ChatGPT to outline constraints of the data, and ask if any more data or context is needed.
- 3 Formulate a good data question, and refine ChatGPT's responses to find an answer.

Example Refinements:

I believe `.show()` isn't available because your environment is sandboxed.

Work step-by-step, and pause to ask for feedback every so often.

If you need any further data, please ask for it.

We have a hypothesis that...

REFLECT

Identify Trends & Insights



Reflection: Identify Trends & Insights

Taking what you learned and what you practiced, answer the following reflection questions.

- 1 What errors or problems did you encounter with ADA? How did you overcome them?
- 2 What are some ways you might integrate ChatGPT when you need data analysis?
- 3 Given the importance of human involvement, what other skills would you need to develop?



Tips for Reflection:

Think carefully through the questions, provide specific details and examples, and try to break down your thinking.

