Analytical Questions

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"Product Managers are expected to be problem solvers. They usually have the first go at a new problem encountered by the organization. They are an equivalent of the **first responders in an emergency situation**. Their accurate assessment of the situation is extremely crucial in the success of employees who take on the problem after them."
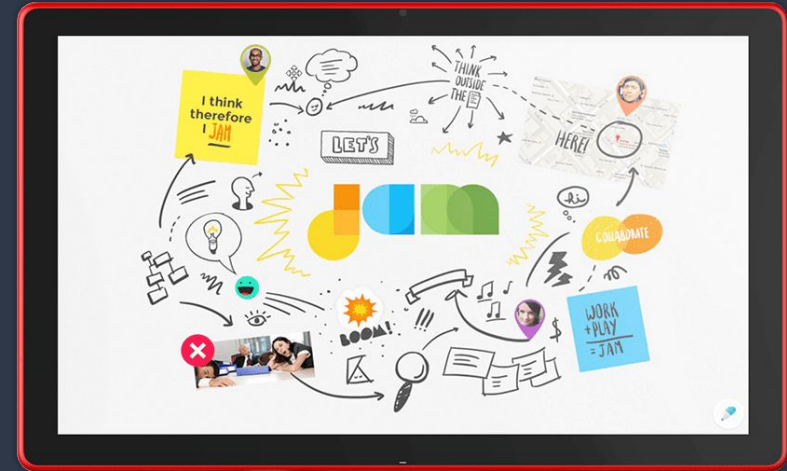
- *The UX Collective*

Agenda

1. **In-Class Activity**
2. **Analytical Questions**
3. **How-to-Approach**
4. **Example Analytical Question**

Google Jamboard:

**What is a Product Manager?
What are some of the tasks/responsibilities of a Product Manager?**

1.

Analytical Questions

What even are Analytical Questions?

What are Analytical Questions?

Analytical Questions usually involve a **problem occuring** with the product/feature and require **further investigation** to determine what the cause might be.

Why do we get asked Analytical Questions?

What your interviewer is looking for:

- Ability to ask questions in a structured manner
- Ability to filter only questions relevant to answering the question
- Ability to identify and eliminate potential causes

Why is my interviewer looking for this:

As a PM, you'll often need to:

- Problem-solve by discovering root causes for unexpected situations
- Mitigate risks/loss for the company/product by identifying the cause
- Understand the factors that might affect a product beyond the product itself

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2.

Approach

How-to-Approach Analytical Questions

Approaching an Analytical Question

1. Ask clarifying questions
2. Tackle by category of cause
   a. *Internal*
      i. Product changes
      ii. Historical trends
      iii. Poor marketing
   b. *External*
      i. Market analysis
      ii. Current events/social media

3.

Example Question

Runthrough of Sample Analytical Question

Sample Analytical Question

> *If you were a PM at Spotify, and you noticed that the rate at which users convert from the 30-day free trial to Premium decreased by 10%, how would you investigate the potential cause?*

Clarifying Questions

- *Candidate:* "Is this conversion rate measuring day-over-day conversion, or month-over-month, or another dimension of time?"
- *Interviewer:* "Let's suppose that the 10% drop in conversion rate is a month-over-month measurement. As an example, let's say our conversion rate was 30% in June, but it dropped to 20% in July."
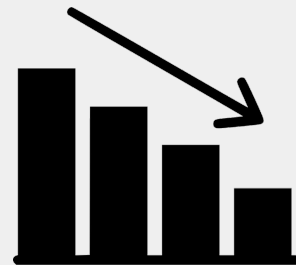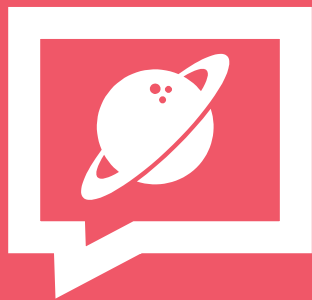
KEY TIP

Don't freak out if the interviewer responds with a **"we don't know"** or **"that information isn't really relevant"**. While you didn't hit the gold mine with that question in particular, even a non-response lets you cross off certain paths and helps you narrow down the cause.

Clarifying Questions (cont.)

- *Candidate:* "Just to be clear, is the conversion rate here essentially the number of users who were on a free 30-day trial, that converted to Premium? Meaning, the denominator is not ALL users of Spotify."
- *Interviewer:* "The denominator of the conversion rate is, you're right, not ALL users, but all users that are currently on a free trial of Spotify OR their free trial expired within the last 30 days. The top value/numerator is the number of these users that purchased Premium."

Follow-Up Questions

- *Candidate:* "Since this is a month-over-month metric, do we have any additional information on day-to-day trends? For example, is there a specific downtrend on our day-to-day or week-to-week conversion rate, or is it constant/sporadic or something else?"
- *Interviewer:* "We don't have any information to support any of those situations."

Internal Causes

Internal Issues at Spotify

Internal Causes

- *Candidate:* "Okay, got it - if this was a gradual decrease, it would've been less likely to be caused by a bug/outage, but since we don't know if there was any trend, let's keep in the on table."
- *Candidate:* "Where there any major bugs/outages, or perhaps a privacy/data breach that might have affected user experience or brand perception?"
- *Candidate:* "Or, were there any changes to the Premium offering or other major changes to Spotify in either its web, mobile, or IOT platforms?"

Internal Causes (cont.)

- *Candidate:* "How about any new campaigns for Spotify recently? Such as packaged deals, like *sign up for Spotify's free trial and receive 1 month of HBO as well*? A campaign like this could've increased the number of free trial users, diluting our conversion rate due to more users, but the same number of converters."
  - "Regardless, do we have information on the total number of free trial users between the months of June and July?"

Internal Causes (cont.)

- *Candidate:* "Have we seen any historical trends of the month of July having less conversions than other months? For example, the end of the school year may result in less Spotify activity for users who use music for studying."

External Causes

Market Analysis, Current Events

External Causes

Market Analysis:

- *Candidate:* "Have we seen any new competitors in the music streaming industry in the last few months?"
- *Candidate:* "What about any legal/compliance changes with music/media licensing that may have affected Spotify's music library?"

Current Events:

- *Candidate:* "Was Spotify involved in any recent headlines that may have affected the brand or company's popularity?"

Homework:

1. **Watch video on [How to Approach Analytical Questions]** and **post a sticky note (with your name)** to Jamboard for one of our example questions using tips learned from the video
   a. Include potential internal or external causes in your sticky note
2. Complete *What it Means to be a PM* document