The Product Manager Interview Guide

This is the free preview of The Product Manager Interview Guide (2021 Edition).

Inside the full version you can find template questions and answers, which cover the majority of possible question types that can come up in the Execution (also known as Data Analysis) and Product Sense (also known as Product Design) sections of a product management interview. As well as these templates, you can also find example answers where these templates are applied to real life questions. In this preview we've included one template question, answer and example below for free.

Template answers are found in **bold** and example answers are found in *italics*.

Contents

Execution / Data Analysis

- What metrics would you track for [product]?

Questions below are included in the full version only, find it at www.thepminterviewguide.com.

- Define a goal and metric for success for [product].
- [Metric] of [product] has decreased. Investigate and find out why.
- Choose between [feature A, feature B, feature C… etc].
- What if [product A] doing well is at the expense of [product B]?

Product Sense / Product Design

- Improve [product].
- Redesign [product] from scratch.
- Design a product to improve [user journey / experience].
- Design a [specific type of product] that improves [user journey / experience].
- Design [company] [category].
- How would [company] tackle [problem area]?

Execution / Data Analysis

What metrics would you track for [product]?

Examples of this type of question
- What are metrics that we should look at to understand how WhatsApp is doing?
- Which metrics are important for Google Docs?
- What metrics would you use to measure Facebook Reactions?
- What sort of things would you measure as a PM at Spotify?
- What are metrics that we should look at when evaluating Facebook search?
- What are things Netflix should measure and analyse on a daily basis?

Template answer
Applied to example question: What are metrics that we should look to understand how WhatsApp is doing?

1. **When thinking of metrics to track, the main categories we will want to look at are:**
Example: For WhatsApp I'd break down the metrics we'd want to track as follows.
2. **Acquisition - Are new users discovering the product and how?**
    - **For standalone apps, this includes:**
        - **Total installs**
        - **% breakdown of installs by acquisition channel**
        - **Total registrations**
    - **For features within apps, this includes:**
        - **Number of users engaging with the feature for the first time**
        - **% breakdown of new users by entry point (both from in-app, and external acquisition channels)**
    - **For non-mobile products:**
        - **Any way of tracking new user acquisition and the source**
Example: First we'd look at acquisition, so we can understand how many new users are arriving on WhatsApp, and how they get there. For WhatsApp relevant metrics would include:
    - *Total installs per day*
    - *% breakdown of installs by acquisition channel, per day*
    - *Total registrations, per day*
By comparing this to our marketing spend across various channels, we can use this information to optimise our marketing strategy.
3. **Top of funnel - Are new users using the product, how, and does this lead to new user retention?**
    - **Any actions new users take related to the product, including:**
        - **Activation rate (Of users who start registration in a given day, the % who complete registration on that day)**
        - **% of registered users who drop off at different points of the registration funnel**
        - **The user's first day (or 'D0') experience, including any actions the user can take on the first day but most notably the actions they would need to take to get the 'value' the product is trying to deliver.**
    - **New user retention (What % of users who 'activate' come back the next day (D1)?)**
Example: Next I would focus on the behaviour of these new users, and the associated group of 'top of funnel' metrics. For WhatsApp I would be interested in:

- *Activation rate - aka what % of users who install the app get through registration and onboarding?*
- *We would then double click into the onboarding funnel, to understand where the highest % of users drop off. For example if we saw the highest drop off was at the point we ask users for access to their contacts, then we could identify and target problems at that stage of the funnel to optimise activation rate. In that example, perhaps users might not understand why we are asking for their contacts, and we could make that clearer.*
- *It would also make sense to understand what a user does on the first day after joining WhatsApp, how this relates to retention of new users (aka what % come back the following day). I would hypothesise that generally users are more likely to retain when they realise the value WhatsApp has to offer - so it would be important to see if new users are taking key actions such as adding and messaging contacts, and if this correlates with new user retention. If it does then we might invest in features to try and guide users to take these key actions sooner.*

4. **Engagement - How are users using the product generally?**
   - **Any actions users take related to the product, particularly those that are necessary for the user to get the 'value' the product aims to deliver.**
   - **For networked products: How users vary in terms of these actions across the ecosystem in terms of distribution, to get a sense of the state of the population (allowing you to separate power users from less engaged users).**

Example: Next we'd want to look at how users are more generally engaging with the product. The goal of WhatsApp is to help users stay in touch with their network, so we'd want to make sure users are getting this value from the product. Keeping in touch with your network is generally a daily use case, so I would measure these metrics per day.

   - *I would hypothesise users are most likely to stay on WhatsApp if they engage with a few WhatsApp contacts every day. I would be interested in understanding if there is an ideal number of 'live chats' a user needs to be retained. I would define 'live chat' as any chat where at least form of communication happens per day (e.g. any message type sent, and/or a successful audio or video call happens).*
   - *Supposing we find this value, I would then be interested in understanding the distribution of live chats on WhatsApp per user (25th percentile / median / 75th percentile) to get a sense of the state of the ecosystem in relation to the ideal number of live chats we want them to have.*
   - *We also might conduct the same exercise for WhatsApp contacts.*

5. **Retention - Are users returning the product?**
   - **Active users per [time period] (How many users are active with the cadence we would expect, given the product use case?)**
     - **Active users per [time period] should grow or be stable for the business to be viable.**
   - **Next [time period] retention (What % of users from the last time period continue using the product in the next time period?)**
     - **This can given us an idea of how much of the base is regularly churning from the product.**
   - **Day 7 / Day 30 retention for cohorts by registration date (What % of users who activate are coming back by Day 7 and Day 30?)**
     - **This will tell us about the behaviour and quality of the users we are acquiring.**

Example: After this we'd want to check that WhatsApp users come back to keep using the app over time. This is the best signal that users find WhatsApp to be a valuable product. Again we would measure these per day because WhatsApp is a product with a daily use case. We could look at:

- *Daily active users (How many users in the last 30 days were active every day? We want to keep this number stable or ideally grow.)*
- *Next day retention (What % of users who were active yesterday came back today? We want this number to be as close to 100% as possible. We need to acquire or re-engage users to replace those who churn to maintain or grow DAU.)*
- *Day 7 and Month 1 retention for cohorts of users by date they registered for WhatsApp (What % of activated users came back on Day 7 and Day 30 after joining? If these numbers start to fall, it is a signal that the users we are acquiring are not motivated to keep using the app, which could be attributable to either: a) something going wrong in the first 7 / 30 day experience of new users and/or b) of the poor 'quality' of who we've acquired (e.g. users who aren't motivated to use the app).)*

6. **Monetisation - Is the product commercially viable?**
   - **Average revenue per user aka ARPU (Revenue per month / Active users within that month)**
     - **How much money does a user generate per month? This is useful for evaluating products with a free experience, as a general way to understand the value of acquiring users who don't pay directly.**
   - **Average revenue per paying user aka ARPPU, for apps which generate revenue by charging the user (Revenue per month / Active payers within that month)**
     - **How much money does a paying user generate per month? This is useful for evaluating products with a paid experience, as a way to understand the value of users who do pay directly.**
   - **Lifetime value per user aka LTV (ARPU per month x Average lifetime (how long someone keeps using the product before they churn) per user in months)**
     - **How much money does one user generate over the expected time they will use the app?**
   - **Cost per acquisition aka CPA (Total cost of marketing to acquire new users per month / Total registrations per month)**
     - **How much does it cost to acquire each user (accounting for both organic and paid acquisition)? Lifetime value needs to be higher than cost per acquisition for the business to be sustainable.**

Example: In addition to the user value side of metrics, we also want to track monetisation metrics so we can understand the commercials of the product and optimise for the best possible business model. I believe WhatsApp monetises through tools for businesses. Accordingly we might look at:
- *ARPU (Revenue per month / Active users per month), where user refers to a non-business WhatsApp user*
- *ARPPU (Revenue per month / Active business payers per month)*
- *LTV per user (ARPU x user lifetime), where again user refers to a non-business WhatsApp user*
- *CPA for non-business WhatsApp users (marketing cost per month / registrations per month) - we could compare this to LTV per user to ensure that we earn back more than we spend by acquiring new users.*

7. **Task success - Is the product working properly?**
   - **Time to complete certain key actions**
   - **% of key actions that yield an error**

Example: The next thing I'd be keen to keep a close eye on are task success metrics such as:

- *How long it takes to do certain things on WhatsApp, like for a message to be sent or received. We want these numbers to be as low as possible to ensure nothing is going wrong technically.*
- *For the same reason: % of times an action results in an error, e.g. the % of message sends that produced a message not sent error.*

8. **Happiness - How do users feel about the product?**
    - **Mainly gauged through qualitative research and surveys (e.g. NPS).**

Example: The last thing I would add here is metrics won't give us the full picture of what is happening with users - they will especially fail to capture how they feel about WhatsApp or 'why' they behave in the way that gives us the metrics we see. Accordingly it would be useful to keep visibility of:

- *Regular surveys to help us understand how users feel about WhatsApp - if we see for example that users hate WhatsApp but use it because of the strong network effects, we can investigate why and action that to strengthen our moat against possible competitors.*

For this question you should be precise in the metric you are proposing should be measured. Here are some useful ways to describe metrics:

- *Are they a direct measure or a proxy? e.g. For example task success metrics tell you exactly what is happening, whereas a survey like NPS is an indicator.*
- *Are they measured per user (e.g. average or median), as a volume or in relative terms as %? See pros and cons in the 'Define a metric for success' question above.*
- *Are they measured by cohort? For example Day 7 retention cohorts users by registration date, and tells you only about this group of users.*
- *Are they intrinsic or a composite of multiple metrics? For example total installs measures exactly that, whereas LTV is comprised of 2 metrics: ARPU and average lifetime.*
- *Are they leading or lagging? For example you can read daily active users every day (for the previous day) and it will reflect what happened on that day, so the metric is reasonably up to date. Comparatively for most revenue metrics you'll need to wait for the month to complete to get a sense of what performance looked like that month - so it might be useful to have some leading revenue metrics too, because you don't want to wait a month to find out if something goes wrong!*