

To model the impact of the battle pass to ARPU before introducing the battle pass, as a Product Manager, I would consider the following factors:

1. Historical data: I would analyse the historical data on ARPU to understand the trend and patterns in user spending behaviour. This will give me a baseline for the current ARPU.
2. Market research: I would conduct market research to understand the impact of similar features, such as in-game purchases or subscription models, on ARPU for similar games. This will help me understand the potential impact of introducing a battle pass.
3. User behaviour: I would also consider the behaviour of our current user base to understand their spending habits, preferences, and motivation for spending money on the game.

To measure the impact of the battle pass to ARPU after introducing the battle pass system, I would consider the following:

- ☐ **Before-and-after analysis:** I would compare the ARPU data before and after the introduction of the battle pass system to determine the impact on user spending behaviour.

- ☐ **Cohort analysis:** I would group users based on the time they joined the game and analyse the ARPU trend for each cohort before and after the introduction of the battle pass system.
- ☐ **A/B testing:** I would also conduct A/B testing to compare the ARPU trend of users who purchased the battle pass versus those who did not purchase it. This will help me understand the causal impact of the battle pass system on user spending behaviour.
- ☐ **Regression analysis:** I would also consider conducting regression analysis to determine the causal impact of the battle pass system on ARPU, while controlling for other factors that may influence user spending behaviour, such as marketing campaigns or seasonal events.
- ☐ **User feedback:** Finally, I would also gather user feedback to understand their perception of the battle pass system and how it influenced their spending behaviour. This will help me identify areas of improvement and optimise the battle pass system to maximise its impact on ARPU.
- ☐ **Segmentation analysis:** Another approach to measuring the impact of the battle pass on ARPU is through segmentation analysis. This involves dividing the user base into different segments based on their spending behaviour, such as high spenders, medium spenders, and low spenders. By analysing the impact of the battle pass system on each segment, we can identify which segments are most

receptive to the feature and optimise our strategy accordingly.

- **Time series analysis:** A time series analysis can also be useful to measure the impact of the battle pass system on ARPU. This involves analysing the trend in ARPU over time and identifying any shifts or changes that occur after the introduction of the feature. Time series analysis can help us understand the long-term impact of the battle pass system on user spending behaviour and identify any seasonality or trends in user behaviour.

By combining these approaches, we can gain a comprehensive understanding of the impact of the feature and optimise its implementation to drive sustainable revenue growth.

In summary, modelling the impact of the battle pass system on ARPU requires a comprehensive analysis of historical data, market research, and user behaviour before introducing the feature, followed by a thorough measurement of the impact using before-and-after analysis, cohort analysis, A/B testing, regression analysis, and user feedback after introducing the feature. By combining these approaches, we can gain a deep understanding of the impact of the battle pass system on ARPU and optimise its implementation to drive sustainable revenue growth.