

Measurement Case Study

Improving the measurement of in-app ad revenue



The Challenge

As mobile app usage continues to grow, in-app advertising revenue is surging. In the next three years, the industry will see revenue from in-app advertising increase to \$45.2 billion, a 26% year-over-year increase from 2019.¹ Yet, most advertisers who adopt in-app advertising monetization do not have an accurate way of attributing the effectiveness of their marketing activities to in-app ads. That's because revenue is typically reported at the placement level, meaning it is difficult to connect users who are engaging with an ad to the channels they come from.

Without this knowledge, it can be difficult for marketers to create successful strategies around in-app advertising. To address this gap, in Q4 2019, Facebook's Marketing Science team began developing and validating a new model that can help advertisers accurately estimate in-app advertising revenues. Called the "Average Model," [this new framework](#) allows Facebook advertisers to leverage data they already have to accurately estimate return on ad spend (ROAS) for in-app ads.

The Opportunity

Seventy-three percent of gamers are happy with an ad-funded model, which makes in-app advertising an excellent investment for the gaming industry.² For that reason, Facebook Marketing Science worked with several gaming clients across North America and Asia-Pacific to test its new model, including 89Trillion, Random Logic Games, and Learnings Co. Ltd. Specifically, the team wanted to compare results from the new model to actual Facebook's Audience Network revenues in order to test its accuracy. Participating clients provided data showing which channels users were acquired from and which users were served which ads, as well as metrics like placement-level daily CPMs and impressions, in a privacy-safe manner.

The Facebook Marketing Science team used this information to calculate the average revenue generated by each user—the model multiplies the number of impressions a user receives by the average value per impression. Average value per impression is daily total revenue divided by daily total impressions at placement. Results were compared to Audience Network revenues, which showed that the new model was highly accurate. The Facebook Marketing Science team then shared its findings with participating clients to help improve their internal models. Now, 89Trillion, RLG, and Learnings Co. Ltd can invest in in-app campaigns that deliver their desired ROAS.

The Results

After testing the model with clients in North American and Asia-Pacific, the Facebook Marketing Science team found that:

- The accuracy of the Average Model met expectations and is suitable for advertisers looking to estimate in-app advertising revenues.
- While the model estimates revenue at the user level, advertisers can and should aggregate estimates up to the campaign level.
- The longer you collect data for the model, the more accurate the model is. Advertisers should wait seven days after user acquisition before estimating in-app revenues for a particular campaign.

How They Did It

Getting a campaign-level view

While the model estimates in-app revenue on a user level—meaning it calculates the average revenue generated by individual users—advertisers will get a better picture if they aggregate results at the campaign level. That’s because estimating for larger cohorts will result in more accurate estimates. In other words, aggregating at the campaign level will improve the accuracy of the model’s revenue predictions.

Investing the time

The Facebook Marketing Science team found that, to achieve greater accuracy, advertisers using the Average Model should run it over longer periods of time. Because the measurement stage begins after the user acquisition stage, the model will provide increasingly accurate data the longer it is left to run—the recommended time is a minimum of seven days post-user acquisition before estimating in-app advertising revenues for the campaign. This will ensure accuracy, especially at campaign level, as larger cohorts will result in more accurate estimates.

Reach out to your client partner and solutions manager to learn more and start implementing the average model method.

“With the Average Model method, we were able to measure users’ monetization value. We believe this will significantly boost our business. Highly recommend partnering with the Facebook team to gain bigger success.” — John Li, Co-founder and COO of Learnings Co. Ltd.

“In partnership with the Facebook Measurement team, we were able to validate our monetization attribution and modeling method to a high level of accuracy, and we’re now more confident than ever before investing to acquire users profitably.” — Andrew Stone, President of Random Logic Games

“By having this collaboration with Facebook, it helped us improve our IAA measurement model. As a result, we are able to better acquire core and high value users, which help us build a healthy ecosystem in the game” — Vicky Liu, COO, 89Trillion