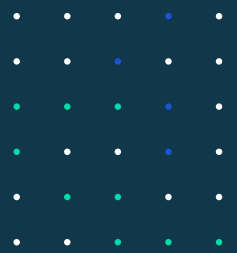





Apple's privacy changes one year on: The good, the bad and the solutions



As we are a few weeks from the first anniversary of Apple's **AppTrackingTransparency** (ATT) launching, and with Google now beginning to share Android's mobile privacy plans, it seems like a good time to take stock of ATT's impact on **performance advertising**.



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The Good

While there was a lot of panic and concern about the future of mobile advertising prior to the launch of ATT, it seems safe to say that the sky hasn't fallen and mobile advertising continues to exist. We've even seen a few silver linings with ATT:

The majority of the ecosystem was ready

Despite concerns that the ecosystem wasn't prepared, the numbers show that the vast majority of the industry – from publishers to advertisers to demand and supply-side ad tech partners – has stepped up and updated their systems to be compatible, particularly with Apple's privacy-compliant measurement option SKAdNetwork (SKAN).

Opt-in rates weren't irrelevant

Consumers are actually opting in to share their IDFA (Identifier for Advertisers, which is Apple's device-level identifier) at higher rates than many expected. Opt-in rates vary depending on source but generally they're over 20% – not as low as the sub-10% some predicted; as a result modeling is possible. This bodes well for a more privacy-centric advertising world because it shows that some consumers are willing to share their data if approached the right way, with transparency and a clear value exchange.

ATT knocked down some garden walls

ATT has also created a more level playing field with the walled gardens, as they have often historically not been transparent while also grading their own homework. With SKAN in particular, advertisers are getting more transparency with raw data now available to them.

Apple has released SKAN improvements

SKAN is slowly becoming a more viable solution – not only did thousands of developers and partners across the ecosystem rally to make the technical changes required to be SKAN compatible, but Apple also released enhancements to SKAdNetwork. As a result, some advertisers are increasingly successful, and SKAN is slowly becoming the attribution framework of choice for user acquisition and app install campaigns on iOS.

All-in-all the predicted mobile advertising apocalypse hasn't been anywhere near as apocalyptic as many cynics predicted.



The Bad

We've started well, however, we should take off our rose tinted glasses and look at what has been more challenging. The overarching challenge we've seen from conversations with performance marketers is a struggle to prove the value of advertising investments on iOS 14.5+ devices. This causes them to struggle to spend on those devices. You just have to look at the results of this eMarketer survey from October last year to see this:



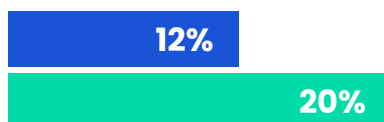
Have Mobile App Publishers Worldwide Made Changes to Their Android/iOS Strategy Since the Rollout of Apple's App Tracking Transparency (ATT)?

% of respondents, by audience size, Oct 2021

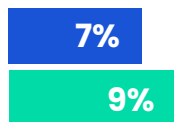
No, everything remained the same



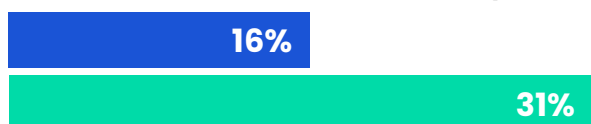
Yes, we reduced our iOS spending but our Android spending remained the same



Yes, we've shifted some of our spending from iOS to Android



Yes, we've shifted much of our spending from iOS to Android



- Publishers with less than 100K daily active users (DAU)
- Publishers with 100K or more daily active users (DAU)



Overall, **60%** of large mobile app publishers reduced their iOS spending alongside **35%** of smaller publishers.

We'll break this challenge out into two categories: **measurement** and **targeting**.

Measurement

While there has been progress by Apple on SKAN, there are still some challenges that advertisers are struggling to overcome. You may not think that these are challenges, but that's likely because your measurement solutions are falling back on fingerprinting, meaning you can ignore SKAN.

This is like sticking a band-aid over a serious wound, because it's not a case of "if" Apple will clamp down on fingerprinting, it's "when." When that happens, if you haven't overcome these challenges, you will be left very exposed.

Optimal Conversion Value and Conversion Window Setup

A big challenge we've seen for performance advertisers at Appsumo has been identifying the optimal Conversion Value setup and Conversion Window length on SKAN. To recap, Conversion Values are a 6-bit code (six 0s or 1s) included in the SKAN postback that creates up to 64 combinations of post-install conversion events you can track. They are designed to highlight the value of an install by identifying conversion events that happen such as a purchase, ad impression, trial signup, etc.

There are many approaches to Conversion Values based on the monetization model of an app and what your mobile measurement partner (MMP) offers. You can see a summary of different approaches that we put together prior to ATT launching [here](#).

In addition, there's the Conversion Window. This is the time period you as an advertiser decide to leave between the install and the SKAN postback being sent to you. You only get one postback sent for each install and the minimum length is 24 hours. However, if there is no change in the Conversion Value for 24 hours it is automatically returned.

Initially, Meta (the company formerly known as Facebook) dictated that advertisers on their platform needed to set this window to 24 hours. However, since then Meta has stepped back from influencing Conversion Value and Window setup, leaving advertisers free to test longer Conversion Windows.





The newness of SKAN, along with its greater freedom for advertisers to test their setup, has created a challenge. Longer Conversion Windows mean installs from the same day are firing back at random times, making it hard to cohort back to a specific install day of spend. Similarly, playing around with Conversion Value setup creates an inconsistent dataset, making it hard to compare performance apples to apples over time.

Additionally, if your app doesn't monetize quickly after an install or lacks the stickiness to keep users coming back every day after the initial install, then the Conversion Value on its own doesn't give you much indication on the value of an install.

Challenge Summary

Constantly changing Conversion Windows and Values creates an inconsistent dataset that makes it hard to compare performance over time.

If you don't monetize on day one or have a sticky product that keeps users coming back daily in the days post-install, it's hard to predict the overall value of an install using only 24 hours of conversion data.

This all makes it difficult to create a business case for iOS 14.5+ ad investments using reliable data.

Privacy Thresholds



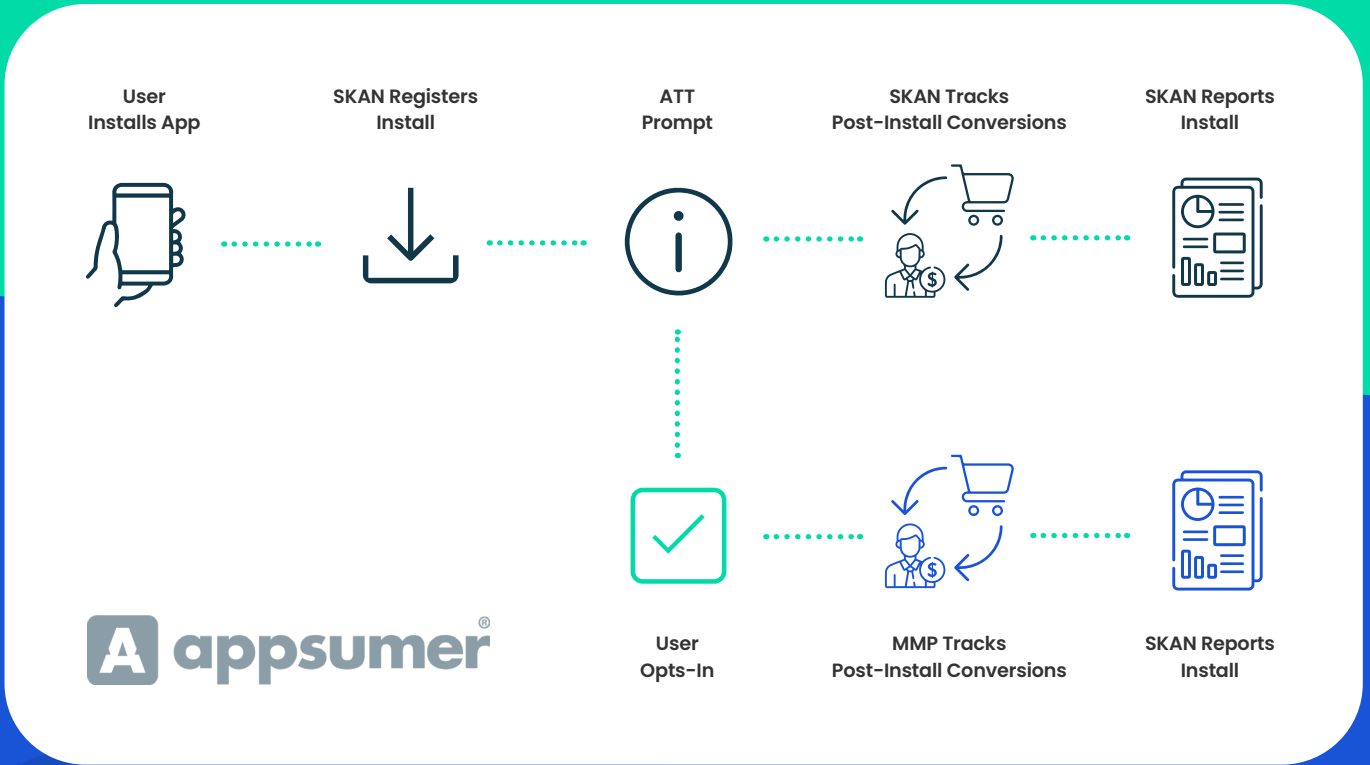
Another big challenge we see with SKAN is Apple's mysterious privacy threshold. This is a mechanism that returns a "NULL" Conversion Value and source app details when a specific volume of installs isn't met for a campaign.

It's mysterious, because Apple doesn't reveal what that volume of installs is per a campaign. Facebook revealed that on their platform you require 128 installs per campaign per day to avoid falling foul of the privacy threshold. However, we suspect that the privacy threshold is between 10-20 installs per day per SKAN Campaign ID. The reason it's higher for Facebook is that they don't have a one-on-one relationship between their campaigns and SKAN campaigns as they use extra Campaign ID's for their own learning.



The Deduplication Challenge

Another challenge is around duplicate installs across different attribution sources. On iOS 14.5+ after an install happens, SKAdNetwork immediately starts tracking and attributing them. Simultaneously, an ATT prompt will be shown during the onboarding flow and the user may opt in to share their IDFA, meaning the install will also be attributed separately by the MMP.



In your reporting, this means you now have duplicate installs in your MMP and your SKAN postback with no way of identifying them.

Challenge Summary

If a user opts in to share their IDFA via an ATT prompt your MMP and SKAN will simultaneously and separately attribute that install.

This duplicate install makes it hard to trust and unify your data across your MMP and SKAN.

Targeting

The fact that iOS budgets did slump initially and switch to Android does also show that there have been issues with targeting that are now being overcome.

Behavioral Targeting and Frequency Capping Became More Difficult

Behavioral advertising has relied so heavily on tracking users across multiple mobile properties using the IDFA. Building a behavioral profile of a user using the IDFA including intent signals was a powerful tool. However, this got smashed apart, meaning algorithms (and the human brains that build them) have had to relearn targeting in this new world.

Similarly, frequency capping would historically be done at the user level using the IDFA. Controlling the frequency of ad impressions for an individual user was largely taken away with the IDFA.

Challenge Summary

Behavioral targeting algorithms have had to adjust to life without the IDFA, meaning short-term performance took a hit for many behavioral targeting options across channels.

Frequency capping became challenging as it could no longer be done directly at the user level using the IDFA.



Testing on iOS is More Limited



The way to test and scale new targeting, creatives or channels previously has been to do small budget tests and scale (or not) depending on the results. The challenge now is that Apple's privacy threshold means you won't understand results on iOS with small-scale testing at the campaign level due to the privacy threshold.

For example, if you want to test a new Facebook campaign you'll need to invest enough budget to drive 128 installs per day and sustain this over multiple days. For many advertisers, this is no longer a small-scale test. This makes it hard to test campaigns for many channels on iOS devices.

Challenge Summary

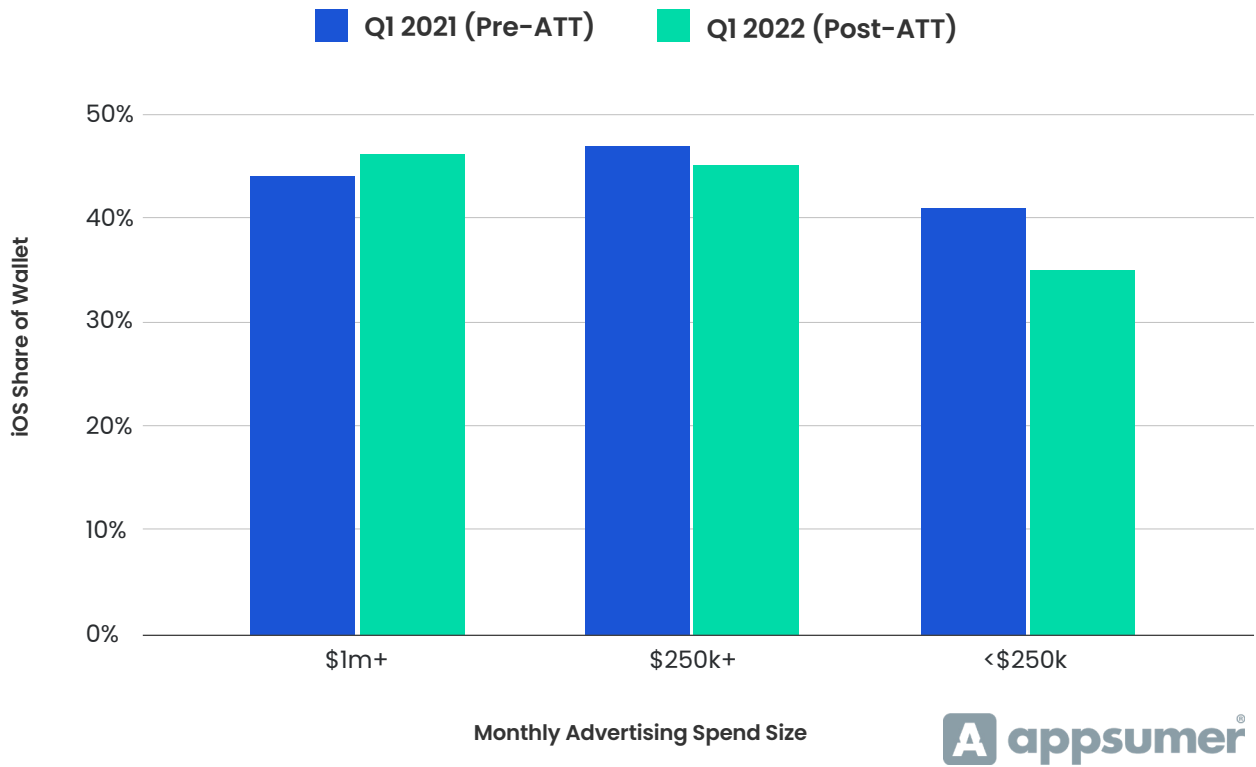
With the privacy threshold, small-scale testing is difficult when testing new targeting options and channels on iOS.

The Solutions

One interesting thing that we see in our data at Appsumer is that despite the initial challenges advertisers faced with measurement and targeting, larger advertisers have been able to overcome them and actually find opportunity on iOS. When we look at the overall spend that we track, the percentage of spend that was going to iOS pre-ATT in Q1 2021 for larger advertisers was 44% and in Q1 2022 it was 46%.



iOS Share of Wallet by Monthly Advertising Spend Size



However, smaller advertisers have clearly struggled more as the impact of ATT set in. They saw their iOS share of spend drop from 41% pre-ATT in Q1 2021 to 35% post-ATT in Q1 2022.

Clearly, larger more sophisticated advertisers have been able to overcome the challenges of a post-ATT world, whilst smaller advertisers have struggled to come to terms with the changes and maintain iOS investment levels.

So what we want to do is outline solutions we've worked on with these larger advertisers to overcome some of the challenges that we've highlighted.



Choosing the Optimal Conversion Value and Conversion Window Setup

An important part of the Conversion Value and Conversion Window setup to emphasize is not to mess with it too often. That ensures you have consistent datasets to compare over time.

When it then comes to choosing the right Conversion Value and Conversion Window there are three key factors to consider using product analytics:

Speed of monetization:

Ultimately, ask yourself how many days does it take to monetize the majority of users? This will dictate the type of Conversion Value setup that will be optimal and give you a sense of how long your Conversion Window setup should be. Mostly you want to identify, does a good majority of monetization happen in the first seven days? If so, by what day?

Product stickiness:

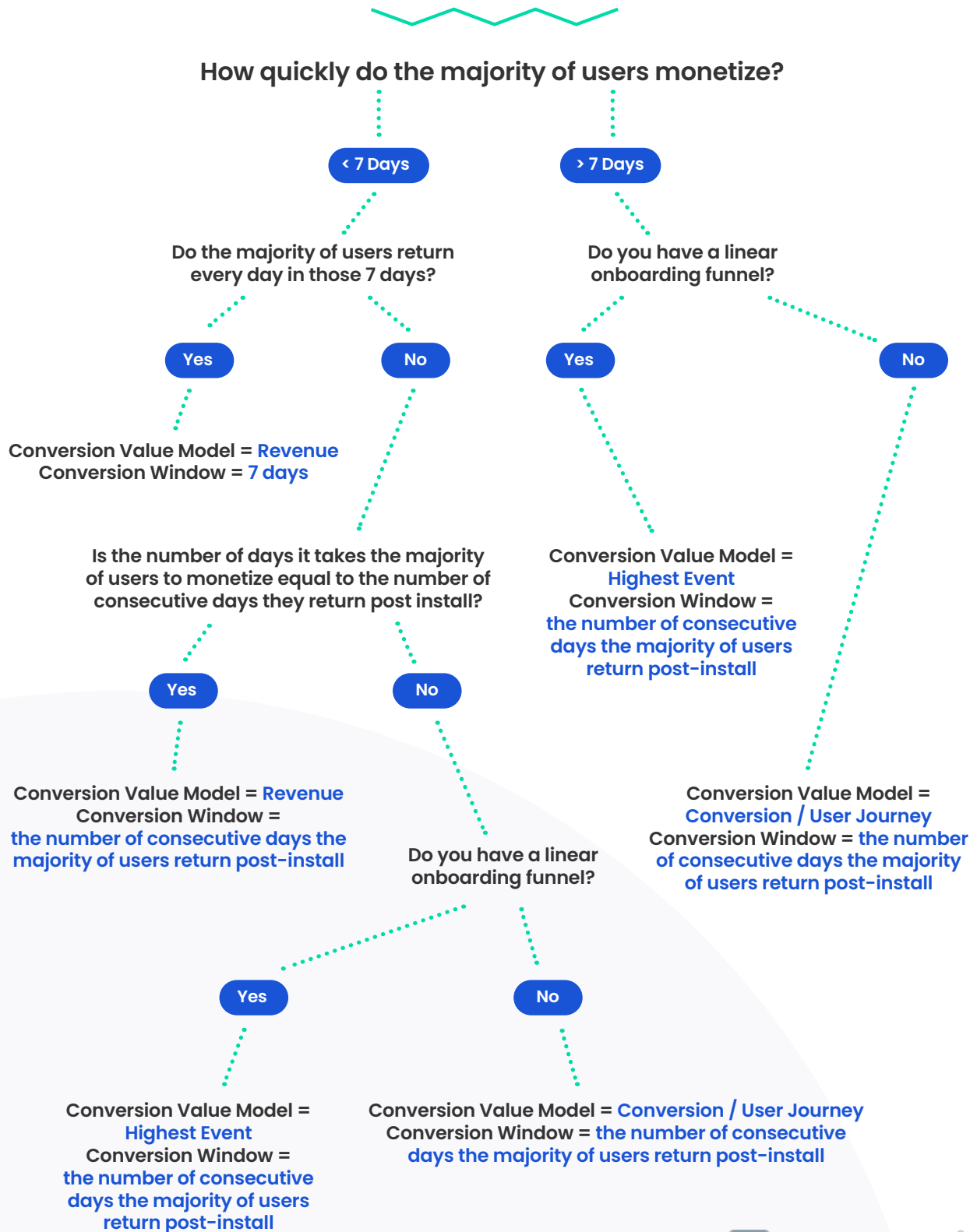
What percentage of users use the app every day in the first seven days after install? Your Conversion Value will postback if it doesn't change in 24 hours. If users are not coming back on day two or every day in the first seven days, you likely want to set the Conversion Window to one day or as many consecutive days as the majority of users return.

Linearity of onboarding funnel:

How predictable or linear is your onboarding funnel? In the first few days after install, do users go through a consistent set of steps that are predictable and give a good indication of their monetization likelihood?

Once you have analyzed your analytics data to understand the answers to these questions, you can essentially follow this decision tree to define the optimum starting Conversion Value and Window setup for your app.

The Conversion Value and Window Decision Tree



As a refresher, here are some examples of what those different Conversion Value models / schemas look like:

Revenue Model Example

Each increase in the Conversion Value is a revenue increment.
In the below example each increment = \$1

A Conversion Value that returns a \$1 purchase looks like this:



A Conversion Value that returns a \$63 purchase looks like this:



Highest Event Model Example

Each increase in the Conversion Value is an event deeper into the conversion funnel.

A Conversion Value that returns a registration might look like this:



A Conversion Value that returns an annual subscription might look like this:



Note: 61 conversion events can be tracked in between these two e.g. levels completed, invited friend, purchased starter pack

Conversion/User Journey Model Example



You could also create a hybrid custom model where you use a couple of bits / digits to track key conversion events and a couple of bits / digits to track revenue generated. Most advertisers use these base models / schemas as a starting point though.

The key to getting more valuable data, from what we've seen, is aligning product and user acquisition (UA) teams. The more your product and UA teams can do to accelerate monetization, increase product stickiness and make your onboarding flow more linear, the better value data you will get. The challenge here is balancing this against user experience and negative impacts on overall monetization.

Also, in most scenarios the further right you go on the decision tree you're capturing data to be used for modeling revenue, which brings us to our next section.



Modeling and a Mindset Shift

Unless you have a rapid speed of monetization and a very sticky product in the days post-install, most of your revenue/lifetime value (LTV) data will need to be modeled. Essentially, this involves taking early monetization signals/conversion events and revenue data from internal systems to predict revenue at the campaign level.

There are really three approaches to modeling, which we cover in more detail in [this post](#):

Linear redistribution:

In this simplistic model you start with two data sources: 1) actual revenue cohorted to install day via internal databases and product analytics, and 2) SKAdNetwork data with channel attribution and post-install data cohorted to the day when you received it or assumed install day. You can then assign users into clusters based on conversion events post-install and then linearly assign revenue to each channel based on the number of installs in a cluster.

Probabilistic redistribution:

This works similarly to linear redistribution, which takes SKAdNetwork data, network-reported metrics and internal user level data. The key difference is adding deterministic attribution from MMPs to assign opt-in installs via the ATT framework and advanced clustering using algorithmic modeling, which enables the creation of many more clusters.

Top-down incrementality:

This is a more advanced approach that takes three major inputs: 1) Aggregated cost data by channel from tools like Appsummer, 2) App event data and 3) Real revenue data from product analytics and internal revenue sources. Econometric models are then applied to attribute revenue incrementally by channel and at more granular levels.



As mentioned, to get a detailed rundown on these approaches and vendor options check out [this post](#).

However, you'll need to adjust to the fact that you can't deterministically measure everything to the nth degree. As user acquisition experts, we have a mindset of looking for the most accurate degree of measurement with user identifiers providing deterministic data and not trusting anything else.

This world is gone. We should stop trying to cling onto it for iOS.

In this new world we need to get comfortable with modeling and extrapolating data to understand campaign performance. The alternative is not having any data to justify iOS spend and ultimately the existence of team members.

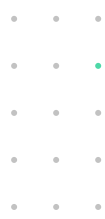
Your focus now needs to be on gathering the richest data possible through SKAN, and building the models and infrastructure to get data as accurate as possible. It won't be perfect, but it's better than nothing when building business cases and optimizing campaigns.

Privacy Threshold Analysis



The SKAN data being returned on certain campaigns is limited by the privacy threshold. As such, measurement infrastructure and analytics needs to be expanded.

This data loss makes it near impossible to measure performance as accurately as before. We've set up reporting for a number of customers now to help them understand the campaigns where the highest percentage of SKAN postbacks are being returned with "NULL" values. This view enables you to identify where you need to consolidate or expand campaigns to get richer data returned. This can then actually inform optimization and justify the business case for investments.



Using 1 bit of your Conversion Value for deduplication



To overcome the duplicate install problem, an increasingly popular approach, championed by AppsFlyer, is to use one of the 6-bits in the Conversion Value to identify whether or not an install (i.e. the person that just installed the app from an ad) has opted in via the ATT prompt.

Then on the back end you can remove those who opted-in via ATT from your SKAN data to overcome the issue of duplicate installs.





Test on Android and Flip to iOS



With privacy thresholds limiting the ability to test new channels and targeting on iOS at a small scale, this testing is now having to switch to Android. The focus now is on running small-scale tests on Android and then running winning approaches on iOS, evolving and optimizing from there when you can reach the scale to avoid the privacy threshold.

Obviously, you will see behavioral differences from Android to iOS, and you will need to adjust campaigns on-the-fly for this. However, this approach avoids burning budgets with large scale testing flops on iOS. At the same time, it's worth keeping track of what impact Google's upcoming (in 2 years) privacy changes might have on this approach over the long term.



Evolve Targeting



We're starting to see algorithmic targeting evolve across channels to adapt to this new world, with performance recovering for many advertisers on channels that were hit hard. Advertisers are also starting to explore new channels on iOS earlier in their growth, as they learn how they need to adjust targeting in this new world.

For many smaller advertisers, the scale challenge to overcome the privacy threshold's impact on Facebook has hit perceived performance on one of their core channels. This means that they need to consider diversification into new channels where the privacy threshold isn't an issue and they can reliably measure performance.

Although IDFA is now more limited, there are still other valuable signals that can be used to inform targeting and bidding, including app metadata like app category and version, content consumed within apps, device information, time spent in app, etc. Contextual targeting has long been popular, and in-app advertising provides more contextual signals than would be available for, say, a linear television buy.





For example, on InMobi's DSP they look at things like:

- If they see a user is in a certain app, they may be interested in a similar app.
- If they see a user's battery level is low, that user may be less likely to install a new app.
- The local time and keyboard language preferences of a user reveal the rough location (country/region) of the user.

When you take available signals together, it's very powerful as you can start to paint a picture of what a user's interests or preferences may be, and then target them with relevant ads, all in a privacy-safe way.

The key point here is that targeting is evolving. Contextual targeting will become more evolved and powerful and scaling advertisers are needing to diversify earlier from core channels than they perhaps have previously. It's also important to work more closely with partners to understand their targeting approaches and how you need to evolve targeting with individual channels to optimize performance in this new privacy era.



Conclusion

The impact of ATT is now clearer. While there will be smaller adjustments in the coming months and years, it's now easier to define and plan your new approach for the privacy era in mobile performance advertising.

If you decided to jump off iOS for a while, it's time to jump back on the wagon – just be sure to evolve your measurement infrastructure and targeting approaches to fit the new world. Areas to focus on include:

- Define the optimal Conversion Value and Window setup that you will use for the long term. Consider reserving 1-bit for deduplication.
- Build reporting to give you transparency on the impact of the privacy threshold.
- Define your approach to modeling and get comfortable with measurement being more estimated than definitive.
- Run all small-scale testing on Android (for now) and flip learnings over to iOS and evolve with larger scale tests there.
- Diversify earlier and work closely with partners to understand their targeting adjustments when the IDFA isn't present and evolve targeting approaches at an individual channel-level.

About Appsumer

Appsumer offers an off-the-shelf BI solution for performance marketers at consumer mobile apps with:

Easy-to-use dashboards and reports which unify cost, attribution and revenue data across advertising channels and operating systems, so you can get a **complete view of performance down to a granular level.**

A **unified view of SKAdNetwork data** alongside other attribution sources so you can get an apples-to-apples performance comparison across newer versions of iOS and other OS's to **continue proving the business case of iOS investments.**

If you already have an existing BI setup for your performance marketers, we offer a **cost data pipeline from 100+ channels to save time on maintaining API connectors** and deliver granular data across all channels you can trust every day.

App developers like Picsart and Miniclip have already seen **significant performance improvements and time savings** from using Appsumer. **Book a demo** today to get the performance marketing insights you deserve.



About InMobi

InMobi is a world-leading provider of marketing and monetization technologies reaching billions of consumers around the globe. With deep expertise and unique reach in mobile, it is the trusted and transparent technology partner for marketers, content creators and businesses of all kinds. InMobi's mission is to power its customers' growth by helping them engage their audiences and build meaningful connections. Its affiliated businesses – Glance, the world's largest lock screen-based content discovery platform and video platform Roposo – help InMobi create new content and commerce experiences in a world of connected devices. InMobi maintains dual headquarters in San Francisco and Bangalore with operations in New York, Chicago, Kansas City, Delhi, Mumbai, Beijing, Shanghai, Jakarta, Singapore, Manila, Kuala Lumpur, Sydney, Melbourne, Seoul, Tokyo, London and Dubai.

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