



RESULTS REPORT

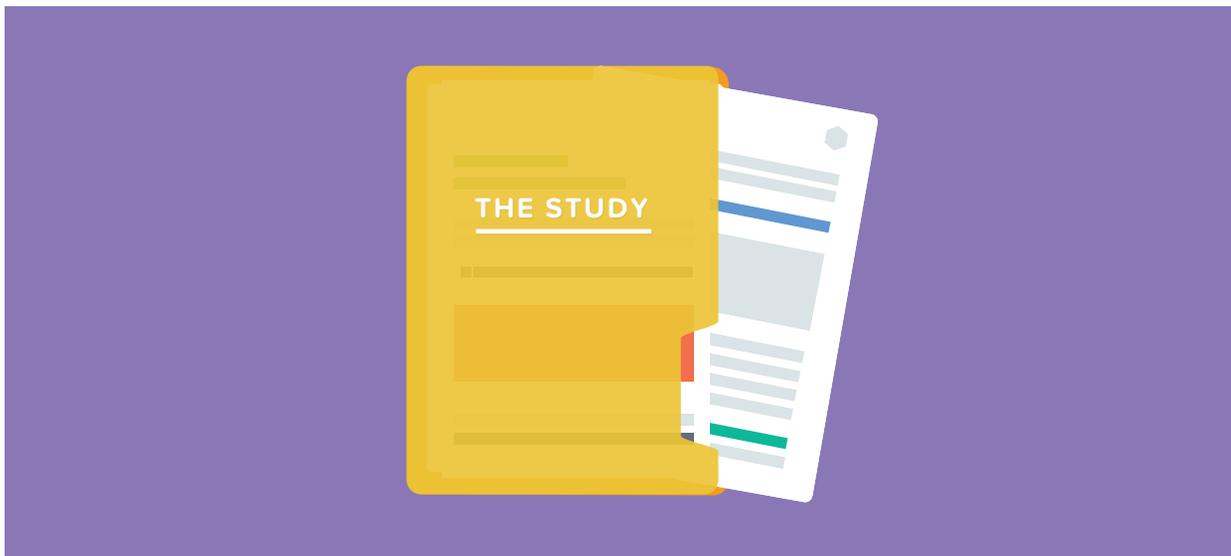
An in-depth study of Free-to-Play (F2P)
in-game advertising in Mobile Games

October, 2015



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The Study

While we were developing the SmartAds independent ad mediation and player targeting tool, it became clear, when looking at how developers handle ad monetization, that there is a broad spectrum of approaches taken, ranging from ultra-cautious to super-aggressive.

This struck us as unusual, particularly in F2P, where everyone is looking at what constitutes 'best practice'. We thought, "Maybe no-one is on top of this; maybe it's not clear how to balance ads with IAP, but most of all, maybe no-one knows what a good outcome looks like."

This survey is based on how respondents' highest monetizing F2P games use advertising, and is a comprehensive reflection of best practice, giving a compelling insight into the challenges ahead.

About deltaDNA

DeltaDNA is the only deep data analytics platform for games. We optimize games by bringing all your data into a high performance environment and exposing it for interrogation. This means you can achieve incredibly accurate insight and build high definition segments for precise, realtime player marketing.

SmartAds moves our deep data technology into ad mediation. It provides independent ad mediation and cascading to optimize eCPM from a custom-definable network of ad providers. It applies machine learning to optimize ad frequency on a user-by-user basis, so only ad-responsive players receive ads, optimizing revenues.

SmartAds combines with our analytics and marketing tools to give unprecedented transparency of ad revenue and monitor the effects ad serving on player behavior and retention, giving you the power to balance ad revenue against IAP revenue.

The net effect of SmartAds is improved retention, improved store ratings and greater total ad revenue. SmartAds is the final piece of the puzzle when it comes to unlocking your game's full potential.



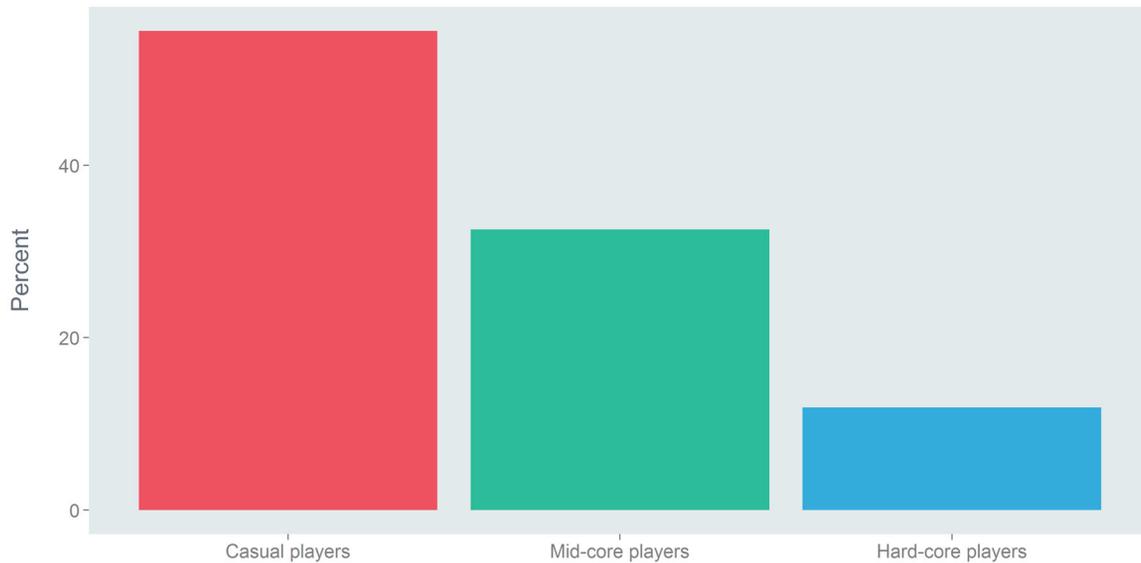
For a demonstration or to find out more

Email info@deltadna.com or visit www.deltadna.com/smartads

Results

This section will look at the aggregated results of the questionnaire. Its purpose is to provide an overall picture and to guide further analysis.

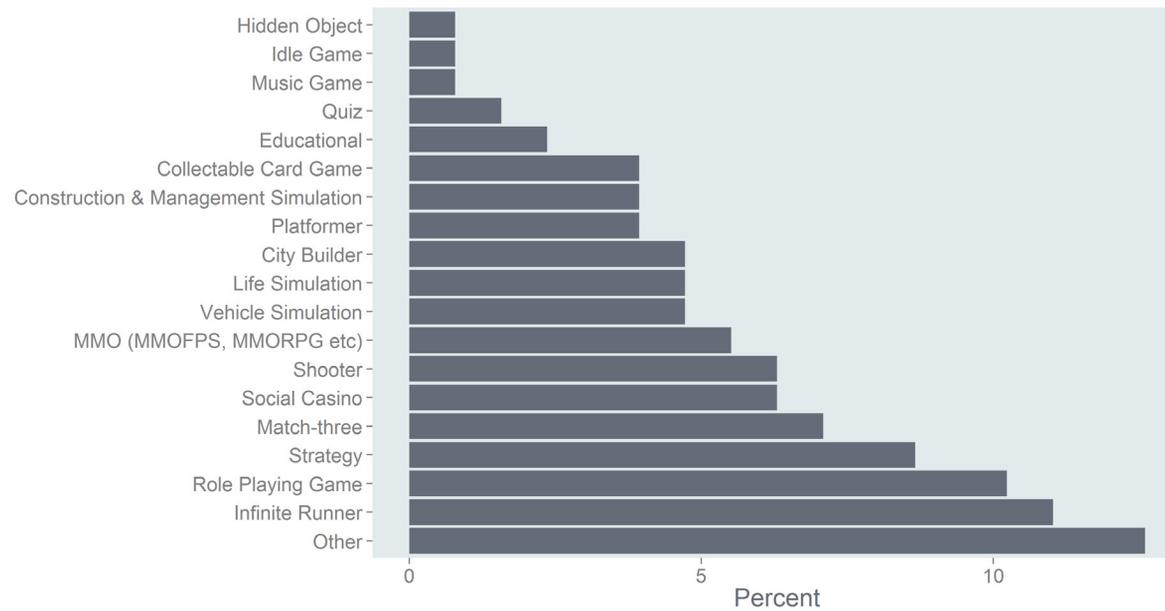
Q1: What audience does your highest monetizing F2P mobile game mainly target?



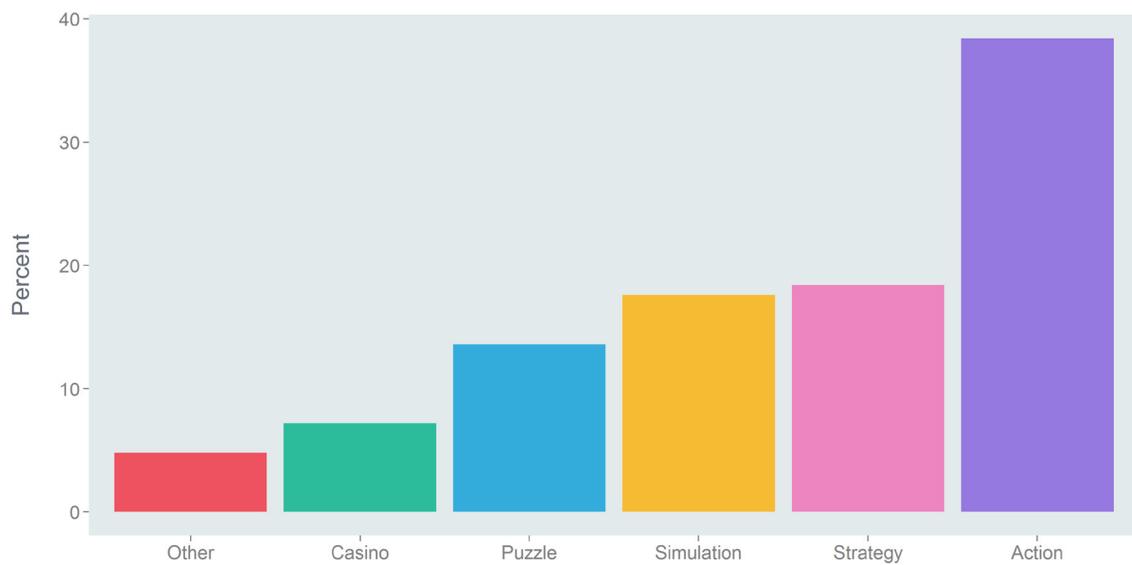
TYPE OF PLAYER	PERCENTAGE
Casual players	58%
Mid-core players	31%
Hard-core players	10%



Q2: Which one of the genres listed below most closely describes your highest monetizing F2P mobile game?



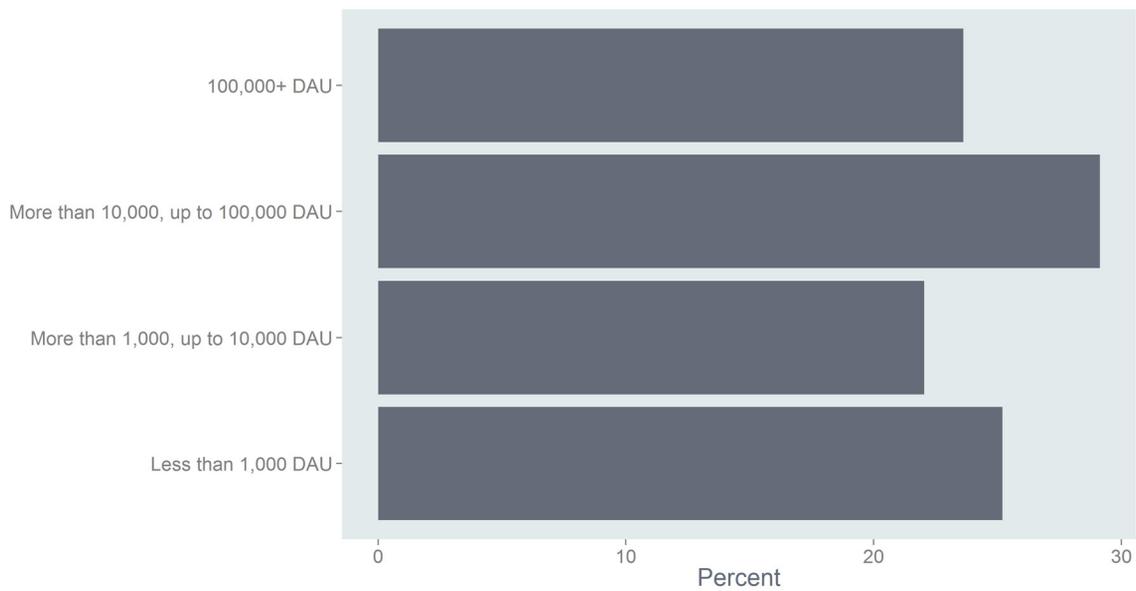
To allow for further statistical analysis, these genres have been mapped to more general groupings, below:



GENRE	PERCENTAGE
Action	38%
Casino	9%
Other	6%
Puzzle	13%
Simulation	18%
Strategy	16%



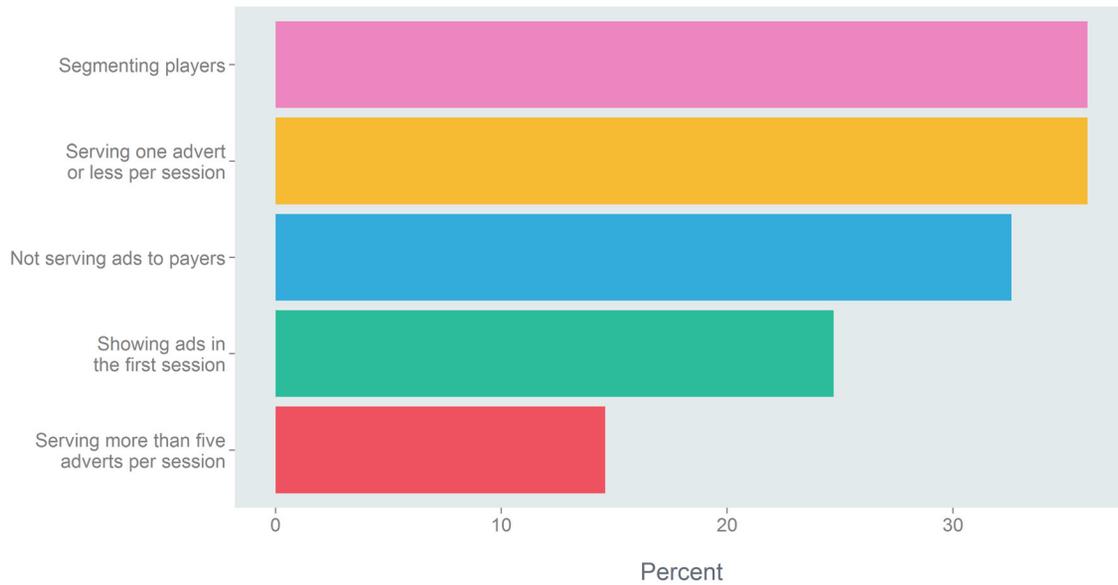
Q3: Approximately what traffic volume in DAU (Daily Active Users) does this F2P mobile game have?



TRAFFIC VOLUME	PERCENTAGE
100,000+ DAU	22%
More than 10,000, up to 100,000 DAU	28%
More than 1,000, up to 10,000 DAU	24%
Less than 1,000 DAU	26%



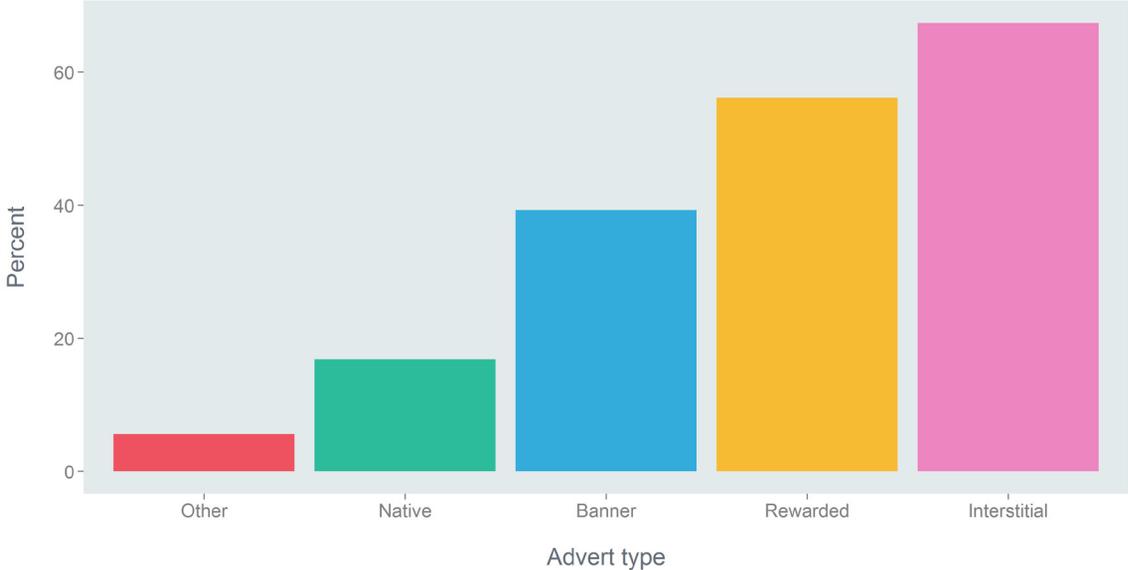
Q4: Which of the following statements could be used to describe your approach to F2P in-game ad serving?



AD SERVING APPROACH	PERCENTAGE
Different types of non-paying players receive different ad strategies	36%
Most players only see one ad or fewer per session	36%
We don't serve ads to our paying players	33%
We serve ads to most players in the first session	25%
Most players see 5 or more ads per session	15%



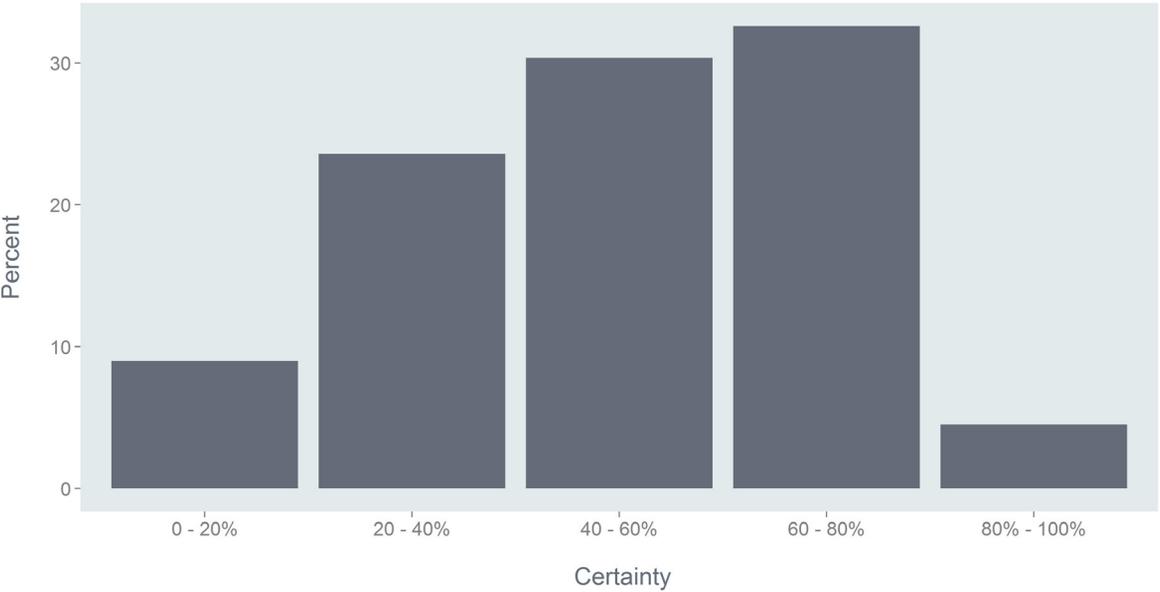
Q5: What types of ads do you display in your game?



TYPES OF ADS	PERCENTAGE
Banner	39%
Interstitial	67%
Native	17%
Rewarded	56%
Other (Specify)	6%



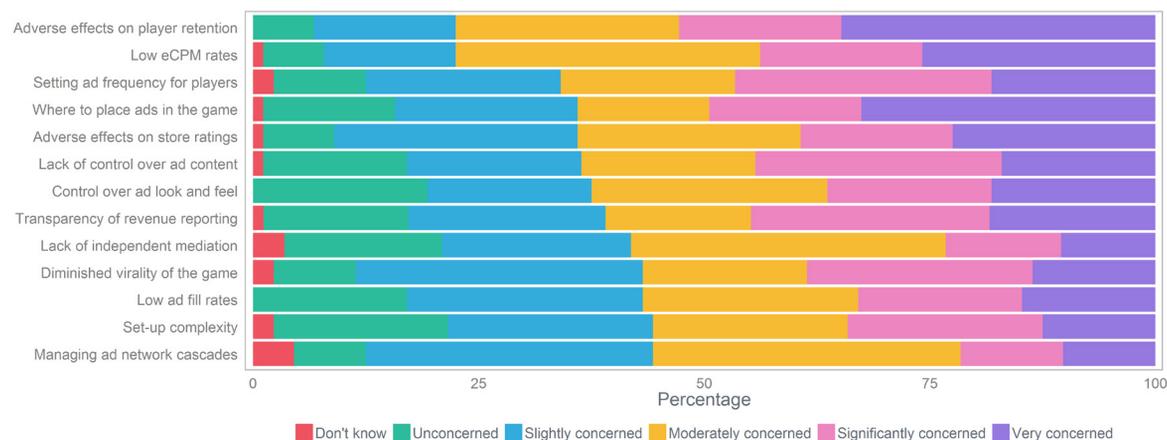
Q6: How certain are you that you are taking the optimum approach towards in-game advertising in your highest monetizing F2P mobile game?



Average certainty that the right approach is being taken: 54%

Q7: How concerned are you by the following ad-serving issues in your highest monetizing F2P game?

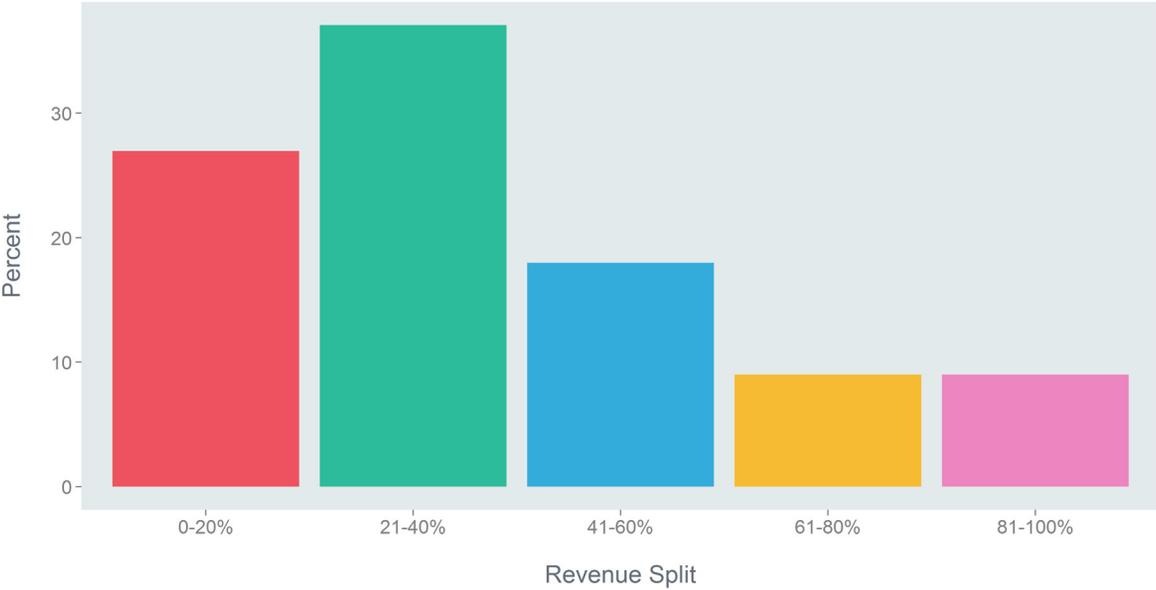
The answers to this question were weighted 1-5, with 5 being very concerned



ANSWER OPTIONS	RATING AVG
Low ad fill rates	2.88
Low eCPM rates	3.42
Adverse effects on player retention	3.58
Adverse effects on store ratings	3.19
Lack of control over ad content	3.10
Managing ad network cascades	2.83
Transparency of revenue reporting	3.09
Diminished virality of the game	3.02
Control over ad look and feel	2.98
Selecting the most effective ad formats	3.26
Where to place ads in the game	3.33
Setting ad frequency for players	3.23
Lack of independent mediation	2.77
Set-up complexity	2.85



Q8: What would you expect the approximate revenue split between Ads & IAP to be in your highest monetizing F2P mobile game?



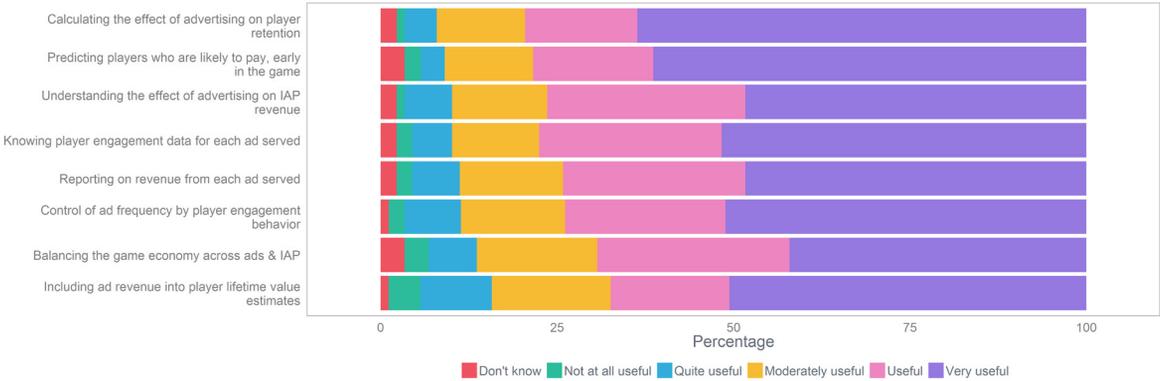
REVENUE	PERCENTAGE
Ad serving is 0-20% of total revenue	27%
Ad serving is 21-40% of total revenue	37%
Ad serving is 41-60% of total revenue	18%
Ad serving is 61-80% of total revenue	9%
Ad serving is 81-100% of total revenue	9%



Average percentage of revenue from ad serving is: 38%

Q9: How useful would you find the following analytics measures and interventions for planning future ad-serving?

The answers to this question were weighted 1-5, with 5 being very useful



ANSWER OPTIONS	RATING AVG
Calculating the effect of advertising on player retention	4.40
Predicting players who are likely to pay, early in the game	4.36
Understanding the effect of advertising on IAP revenue	4.18
Knowing player engagement data for each ad served	4.22
Reporting on revenue from each ad served	4.14
Control of ad frequency by player engagement behaviour	4.14
Balancing the game economy across ads & IAP	4.01
Including ad revenue into player lifetime value estimates	4.00



Average certainty that the right approach is being taken: 54%

Results analysis

Overall, we are seeing very cautious approaches to showing ads in games. There is a great deal of concern about frightening players off by displaying ads (scoring 3.58 out of 5), and people are also concerned about whether they are getting a good deal from ad networks (scoring 3.43 out of 5).

High levels of uncertainty in best approach

Across all respondents, the certainty that they are taking the right approach is only 54%, about the same confidence you would have in predicting the toss of a coin! Revenue from advertising, when compared to IAP income, averages 38%, but what's really surprising is that those who are most certain they are getting advertising right have, on average, only 34% of revenue coming from advertising.

This is likely to be indicative of the need to carefully balance IAP and player retention with ad revenue, rather than misplaced confidence, as uncertain respondents are shown to be more concerned about retention, placement, frequency and store rating.

Tendency towards caution

When looking at the approach taken, we asked questions to determine either aggressive or passive approaches to showing in-game ads. The prevalent approaches taken are showing one ad or fewer per session (36%), non-paying players are segmented (36%), and paying players are protected (33%). More aggressive approaches are less popular, with (25%) serving ads in the first session and only 14.6% show 5 or more ads per session.

To optimize revenue, the example data in the table below demonstrates that even with low retention, it is less important to serve ads early than it is to optimize frequency, particularly as early ads can interfere with game on-boarding.

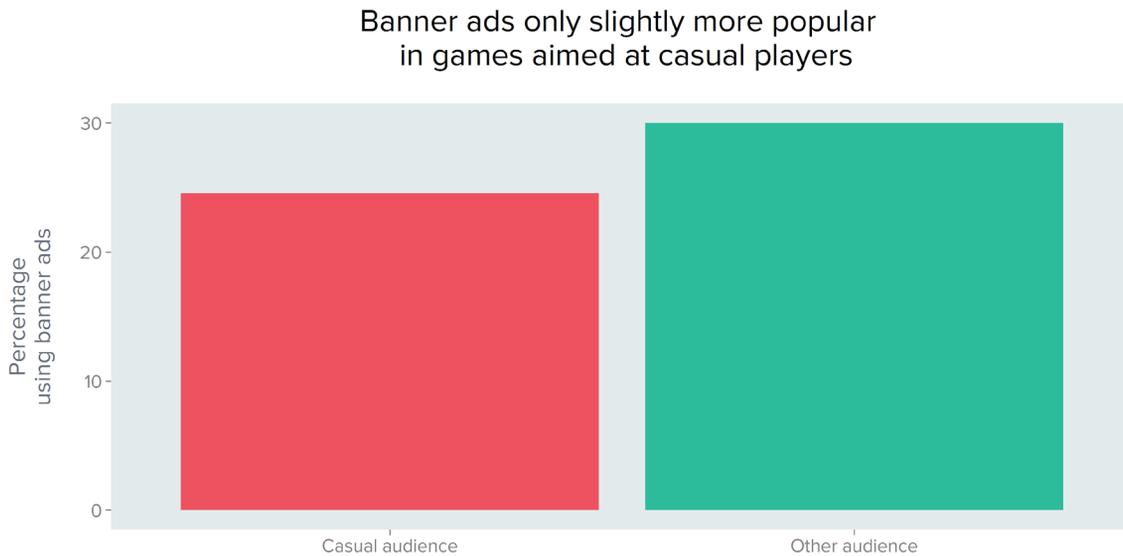
The table compares two scenarios. Firstly where the frequency of ads per session is 1 and showing ads in the first session, and secondly where ad frequency is 2 ads per session, but with no ads shown until session 3. In this simulation, there is a 30% increase in revenue over 7 sessions, with break-even between the approaches occurring just after level 4.

SESSION	PLAYERS	FREQ F=1	FREQ F=2	eCPM	REV F=1	REV F=2
1	10,000	1	0	\$3.00	\$30.00	\$0.00
2	8,000	1	0	\$3.00	\$24.00	\$0.00
3	7,500	1	2	\$3.00	\$22.50	\$45.00
4	7,000	1	2	\$3.00	\$21.00	\$42.00
5	6,500	1	2	\$3.00	\$19.50	\$39.00
6	6,250	1	2	\$3.00	\$18.75	\$37.50
7	6,000	1	2	\$3.00	\$18.00	\$36.00
				TOTAL	\$153.70	\$199.50

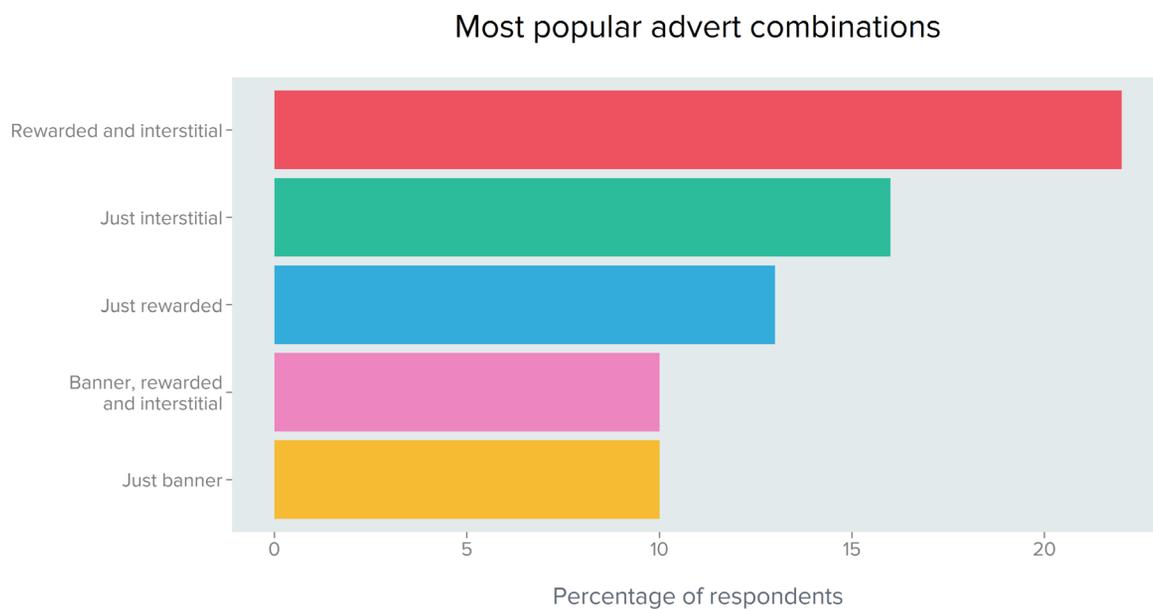
Interstitial and rewarded most popular

The share of types of ads shown by respondents was generally unsurprising, with interstitial formats being the most popular (67.4%) and rewarded ads (56.2%) being another mainstream inclusion. Banner ads also proved popular (39.3%).

We wondered whether the skewing of the data set towards casual games may have some responsibility for the strong preference for banner ads, but the graphic below shows that casual games are only slightly more likely to feature banner ads.



Looking at the ways that the ads are combined within games, we can see that the most common format by far is a combination of rewarded and interstitial ads.

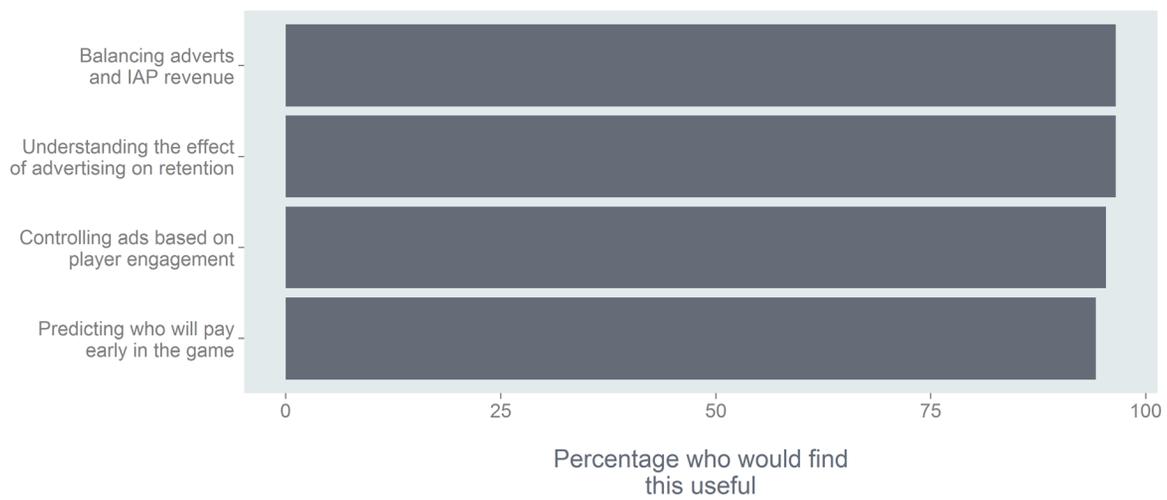


Widespread concerns

The big concerns people have with ad serving, highlighted by the survey, are player retention, ad placement, ad formats, ad frequency and eCPM rates. When looking at how they think these are best addressed, data appears to be at the heart of the solution.

Better data facilitates the ability to calculate the effects of serving ads on player retention, to predict players who are likely to pay early in the game, to know player engagement data for each ad served and to understand the effect of advertising on IAP revenue.

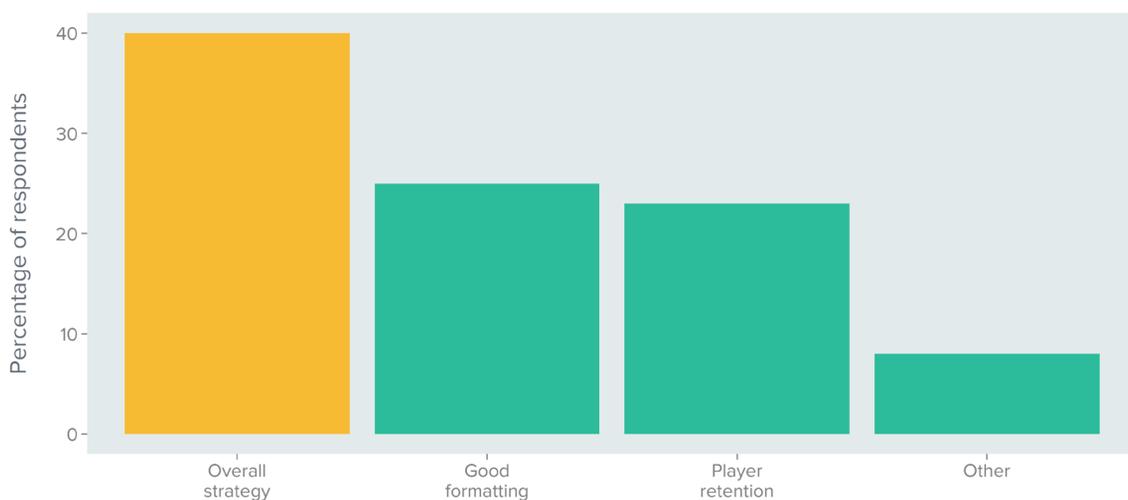
The advertising features that our responders would find most useful



Getting the strategy right

Respondents were asked to provide the most important factor for successfully monetizing their game using ads. We classified their responses into the different categories seen in the table below. Recommendations made by the responders show that they believe strategy is the most important element to getting it right.

What is your top recommendation for getting advertising right?



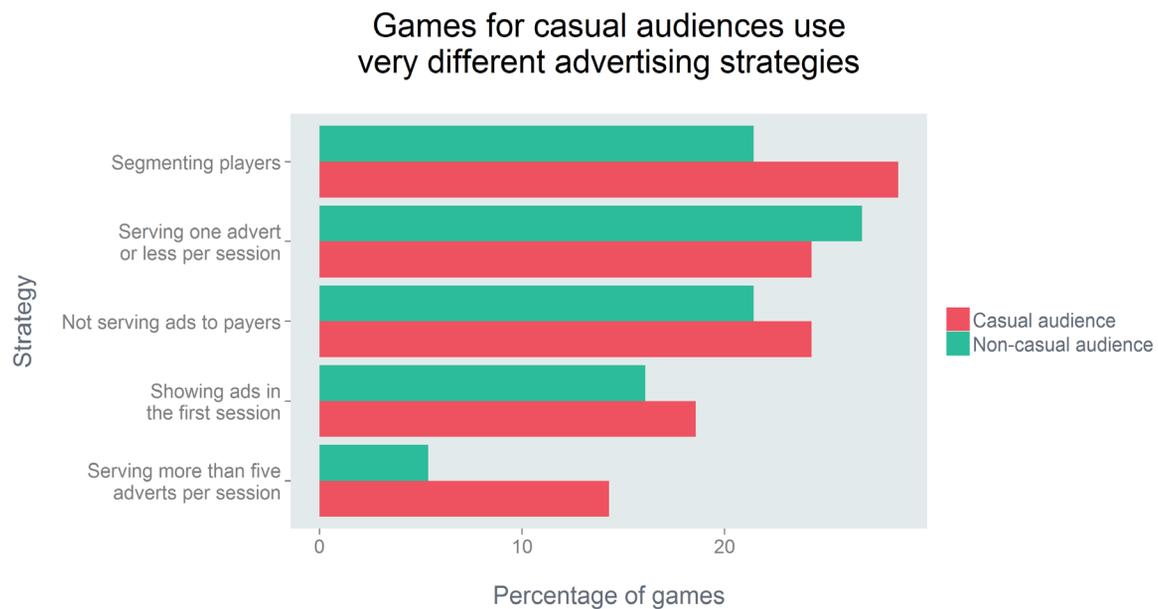
Segmented analysis

While the aggregated results are useful, it's only once you start to investigate deeper that patterns emerge. We continued by looking at the differences that different player types and game genres made to the approach taken. We've looked at three groups of games. Those with a high proportion of ad revenue, those where respondents had a high degree of certainty in what they were doing, and games with large numbers of players.

Segment players to improve ad frequency

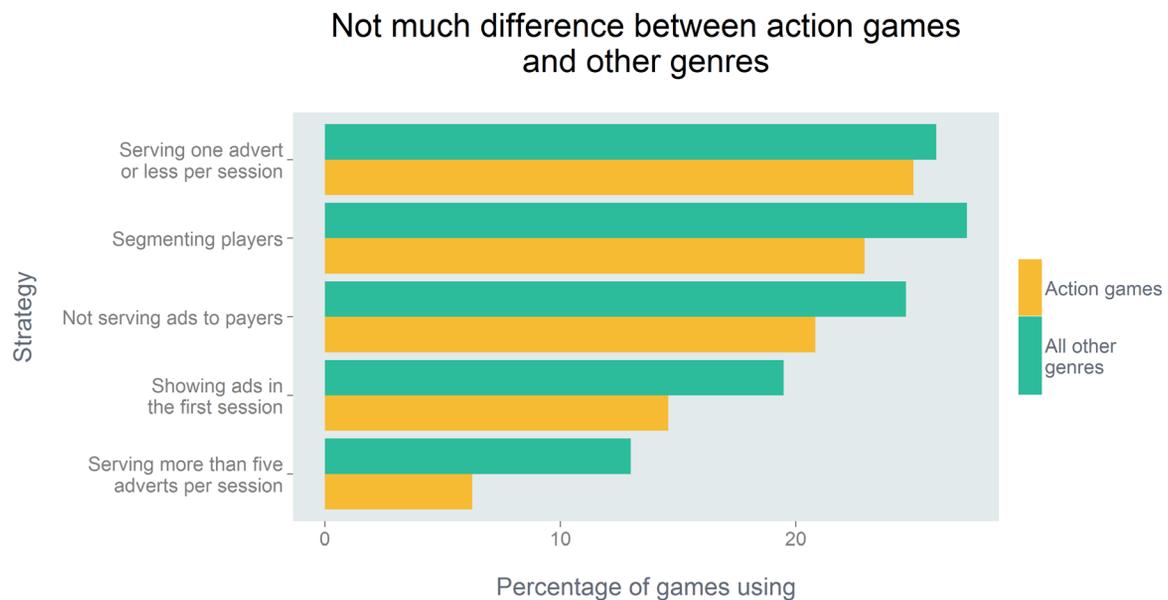
Games targeted at casual players make up 58% of the respondents. While this is not conclusive evidence that casual games are more likely to monetize using advertising, it provides an opportunity for us to evaluate the approaches taken by casual games in comparison to mid and hard-core games.

You can see that in casual games, developers are more likely to segment their players, and the players are much more likely to receive 5 ads or more per session.



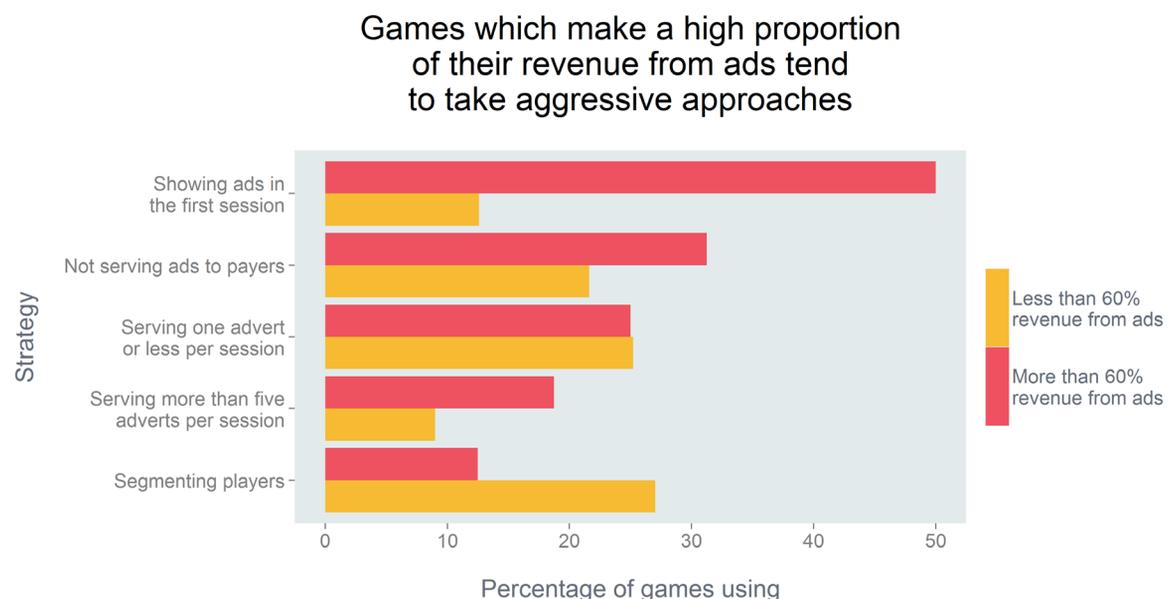
Action & strategy games use ads less aggressively

Action games feature heavily in our data, representing 38% of the responses. Looking at the approaches taken by genre, we can see that it isn't a very important factor in determining the approach to ad serving. This is true when determining whether payers see ads, see only one ad per session, or whether the game takes a segmented approach to non payers. Strategy and action games, however, are much less likely to take an aggressive approach to serving ads to players. The data shows that 4% of action and strategy games show more than 5 ads per session, while 18% of all other games show more than 5 ads per session.



High revenue from ads, but protect payers

Looking at respondents who generate a high proportion of their revenue from ad serving (60%+), we can see they take a more aggressive approach and are less likely to segment their non-payers, but they are more likely to protect their payers. Games with a high proportion of ad revenue tend not to have high numbers of players though, they tend to be much smaller and are more likely to target casual gamers.

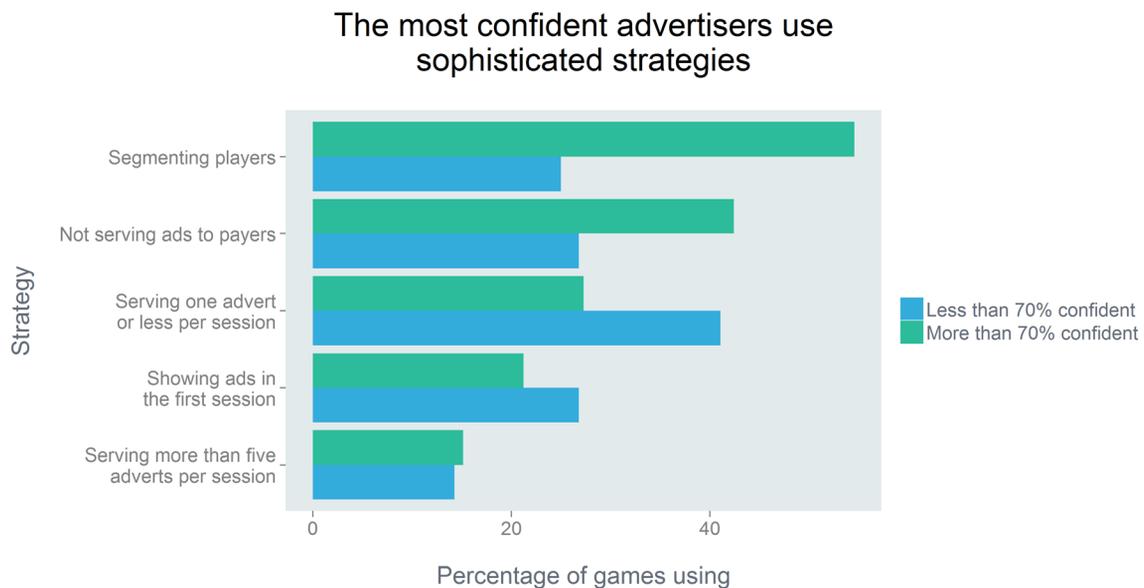


High certainty (70%+ confidence) comes from segmenting players

So what makes these super-certain individuals so sure of themselves? It seems to be because they take a segmented approach towards non payers, as well as protecting their payers, and they also make sure they serve more than one ad per session to most players.

The type of ads they show are not very different from anyone else; they are less likely to use banner ads and players are more likely to see native ads, but not enough to make a statistically significant difference. These guys are also much more likely to be working on games with higher DAU volumes.

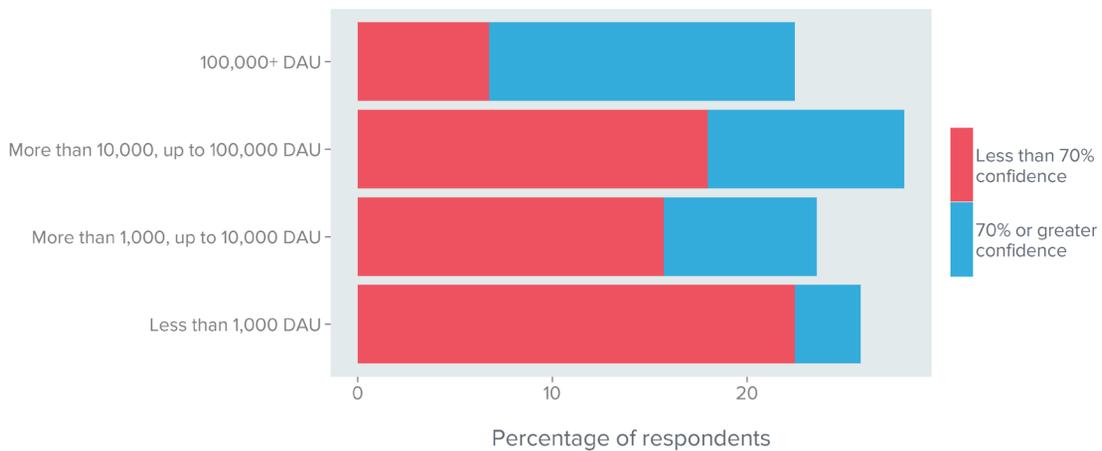
What's most striking is that the percentage of revenue coming from ads in these games is lower than average. Only 9% of individuals who have a high certainty are making 60% or more of their revenue from ads, while 23% of everyone else is making 60% or more of their revenue from advertising. It is therefore possible to hypothesize that their confidence comes from the actions they are taking to protect their IAP revenue.



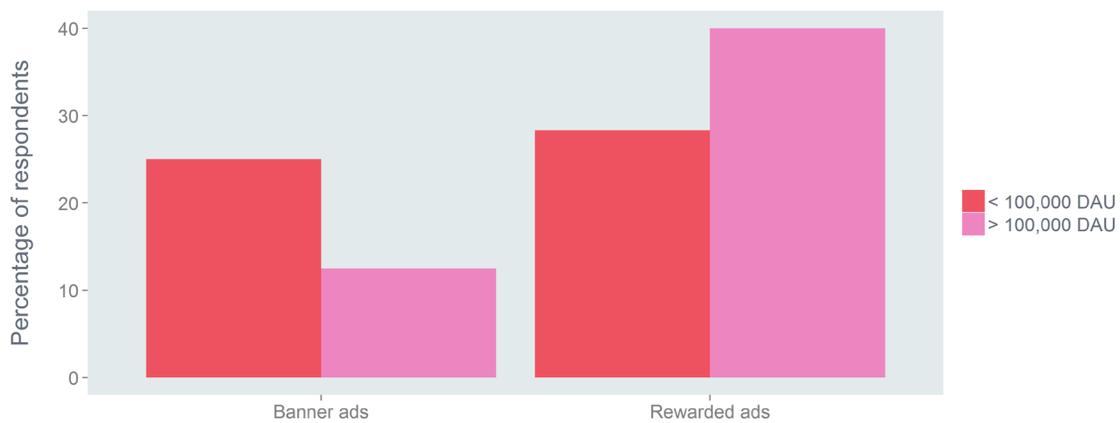
Less certain popular games advertise more aggressively

So, how do games with large numbers of users (100k+ DAU) differ in their approach from the confident guys? Firstly, a lot of the confident people have big games. But those with big games with less than 70% certainty are less likely to use segmentation, more likely to be serving ads to non-payers, and have a more aggressive strategy. Their lack of confidence may stem from concerns (real or misplaced) about player retention; their more aggressive approach sees a revenue split of 40% from ad-serving overall.

If you have a very big game you will have more confidence about your advertising strategy



Large games are more likely have have rewarded ads and less likely to have banner ads



deltaDNA recommendations

We believe that developers have a low level of certainty over their approach because they find it difficult to evaluate their ad data alongside their game data. They cannot clearly see the outcomes of their advertising campaigns, so testing frequency against retention and eCPM is difficult.

To overcome this, our first recommendation is to bring all your advertising and game data into one place. This will let you see the effects of serving ads on player churn and IAP monetization in your game.

Segment your players based on their exposure to advertising. Evaluate ad placement, frequency and eCPM; reviewing their churn rates and IAP monetization. In many cases we've seen, an increase in ad frequency can have a minimal effect on player retention or store ratings, but ad placement is more likely make a difference.

Compare in-game player behaviors such as social engagement, speed of progress, competence, IAP spending patterns, acquisition channels with ad interaction, frequency, and eCPM to create high definition segments.

Create realtime in-game personalized approaches for your player segments to maximize revenue from IAP and advertising.

Evaluate your ad networks as the quality of the ad can have a significant effect on player retention. Networks showing high quality ads may not have the highest eCPM, but they may be worthwhile if they mitigate player churn.

The deltaDNA platform with SmartAds enables you to evaluate all your game data and engage with high-definition player segments. SmartAds also provides independent dynamic mediation that can be applied to any combination of ad networks to optimize eCPM, fill rates, and frequency. This replaces the need to set up a waterfall; a labour-intensive task that is difficult to get right and maintain.

By adopting a segmented, automated, and targeted approach, SmartAds offers the best possible experience for each player while optimizing game revenue.

Bonus level

In addition to our survey, we also undertook a review of the strategies taken by fifty popular games of various genres. All were F2P and had more than 500,000 players. We found that 69% of the games had some form of ad serving. Of those that serve ads, there was an even split between games that host interstitial ads and those that don't.

Of the games that featured interstitial ads, all of those evaluated showed ads in the first session. 85% showed more than 5 adverts per session, with 47% showing an ad in the first 60 seconds. A total of 88% of games showed an ad in the first 5 minutes, and all showed an ad in the first 30 minutes of gameplay. Placement of interstitial ads varied. Most commonly, we saw an ad being displayed after every loop, every third and every fifth loop of the game.

In reviewing these highly popular games serving interstitial ads, we found that 65% served a mixture of ad types and 35% served interstitial ads only. When it came to genres, the MMO, RPG, and Social Casino games we looked at here did not feature any form of advertising.

Analyzing games with incentivised ads showed 67% of ads integrated the placement of the ads into the game mechanic, while the remainder made them available as a menu option.

Strategy

Looking at games with high store ratings, it is clear from the table below that no matter whether an aggressive or passive advertising strategy is taken, it does not noticeably affect players' views of the game. Additionally, data from trials we've undertaken shows that when ad frequency is increased, there are often minimal adverse effects on retention, meaning many games can take a more assertive approach towards showing ads without the feared down-side, so long as they are careful about placement and quality.

TITLE	TYPE	HIGH FREQ	INTRODUCED	iOS STORE RATINGS	COMMENTS
Tiny Troopers	I	Yes	Session 1	4.5	Aggressive Interstitials
Trial Xtreme 4	I	Yes	Session 1	4	Aggressive Interstitials
Flight Pilot Simulator	RV	No	Level 3	5	Video as every 2-3 levels
Extreme Car Driving Simulator	I, RV, B	Yes	Session 1	4.5	Extremely aggressive ad strategy
Tap Titans	R, I	No	Level 30	4.5	Level 30 occurs session 2 or 3
Cooking Dash	I	No	Level 2	4	Ad display is tied to level success
Family Guy - The quest for stuff	RV	No	Random	4	Unpredictable, earns premium currency
Angry Birds 2	R, RV	Yes	Level 2	4	Ads to prolong gameplay
Racing Rivals	R, RV	Yes	Optional	4.5	Grind & premium currency rewards
Threes! Free	RV	No	Optional	4.5	To earn replays
Lara Croft Relic Run	RV	No	5 Fails	4	Tied to game fails
R= Rewarded, I= Interstitial, B= Banner, RV= Rewarded Video					

Learn more about deltaDNA



Know your game

The deltaDNA platform gives unprecedented insight into how your game is performing by granting access to all your game data, in one place. We record more in-game detail than any other platform, including; acquisition channels, in-game currency, player progression, ad interaction, and IAP interaction.

Know your players

See in detail how your players interact with your game. Cast light on parts of your game no other analytics platform can illuminate. More detailed data allows for better targeted segmentation and more accurate understanding.

Engage with your players

High definition segments make for more accurate engagements and better LTV and retention. The deltaDNA platform provides realtime messaging, notifications, game balancing and SmartAds ad management.

Find out more, or try it for free

visit: www.deltadna.com or email us at info@deltadna.com