THE COMPLETE GUIDE TO

APP STORE AND IN-APP A/B TESTING

SplitMetrics APPTIMIZE

Complete Guide to App Store & In-App A/B Testing:

Proven strategies, professional tips, and best practices

This book is the result of cooperation between **SplitMetrics** and **Apptimize**. Our A/B testing platforms ensure success of mobile apps and best possible digital experience.

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Introduction

A/B testing has been around in the marketing land for quite a while. One of the best tools for getting data on target users' behaviour - it's been used across multiple categories, from websites and mobile apps to user acquisition on major app stores.

Now, let's imagine something.

What if you could know which app features your users will love before starting to develop them?

What if you could get into your users' heads and learn which types of texts and pictures appeal to them most, use this information on your app pages and inside the app itself, and boost your marketing ROI?

What if ASO was no longer a guesswork, but a series of data-backed actions towards proven results?

All of that is what A/B testing is used for by thousands of app publishers around the globe. There's no rocket science - A/B testing can't be called a novelty and might've been already used by your marketing team.

That is why we created this guide - to give you actionable insights and proven tactics, which will help you increase conversion on app stores and keep users engaged inside the mobile app via A/B testing. You'll learn to identify the right elements to test, get the complete roadmap of necessary actions, get tons of benchmarks and much more.

Let's jump in.

CHAPTER 1

# Deconstructing App Store A/B Testing

App Store A/B Testing Overview

How to Run Valid A/B Tests

- Research Prior to A/B Testing
- Hypothesis
- Traffic
- Targeting
- Finishing A/B Tests and Interpreting Results
- Measuring Impact of A/B Testing Results in Stores

Pre-launch A/B Experiments

I. App Store A/B Testing Overview

A/B testing (often referred to as split testing or bucket testing) is a means of comparing two options and analyzing results. It can be used to test, compare, and analyze just about anything.
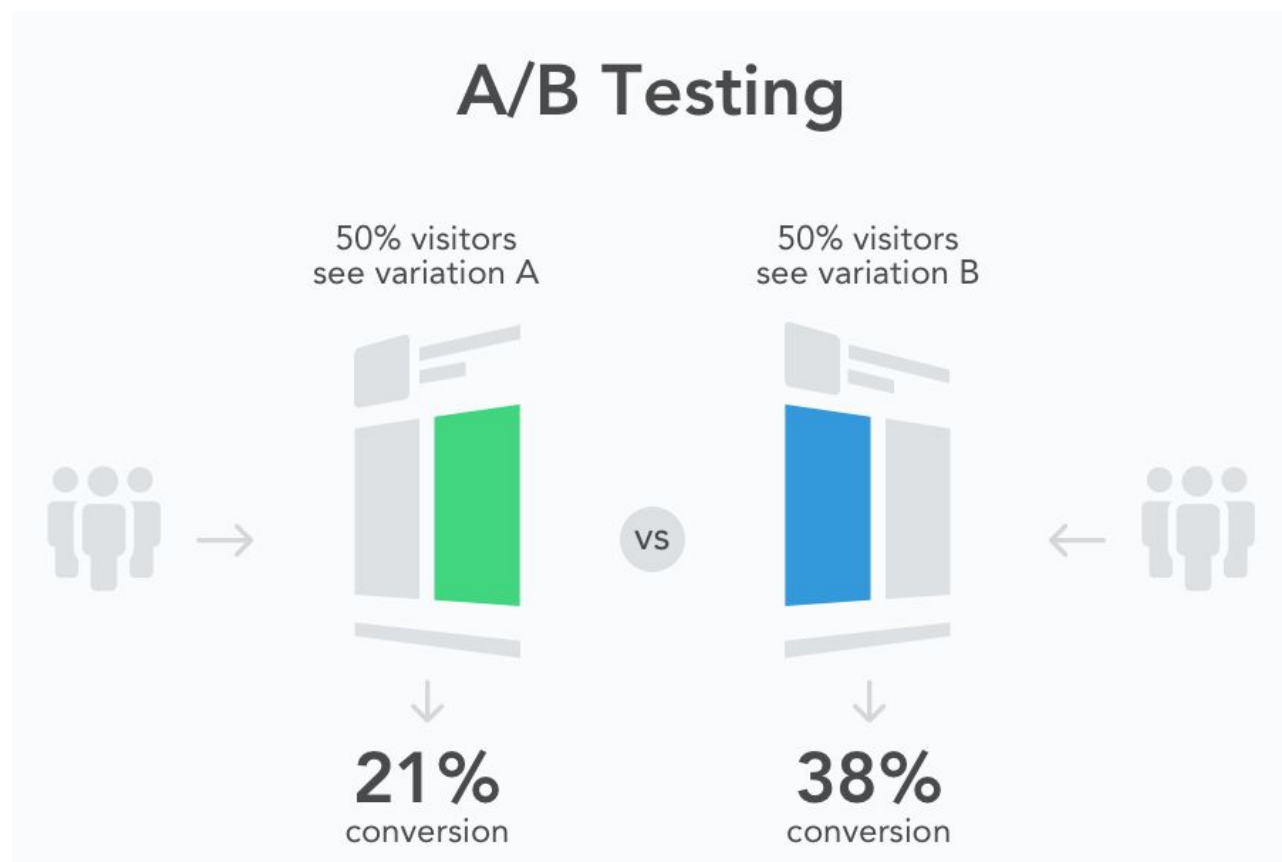
It is most often associated with websites and recently, mobile apps; A/B testing is primarily used for conversion rate optimization.

Online businesses regularly optimize their landing pages and improve ROI through the help of A/B experiments.

If you want to increase your app page conversions on the App Store or Google Play, it's vital to understand that a solid ASO strategy can help you get impressive results. Smart A/B testing should be an indispensable ingredient of such strategy.

A/B testing of various product page elements is a really efficient way of optimizing your app's conversion rate.

But remember that running your tests mindlessly will give no results, that's why you should take into consideration quite a few aspects which predetermine success or failure of your experiments.

II. How to Run Valid A/B Tests

The truth is if you are not ready to spare time for a thorough preparation, the chances of your experiment's success shrink to zero. So it definitely makes sense to set aside some time for:
- research;
- hypothesis elaboration.

Let's dwell on each of 6 key aspects of successful and high-performance A/B testing.

1. Research Prior to A/B Testing

The better you do your homework, the more chances your test will give meaningful results. So take enough time to do the research and analyze the market, competitors, target audience, etc.

You can start with the following steps:
1. study app pages of your competitors carefully;
2. determine trends and best practices in your app category;
3. take a closer look at the industry leaders;
4. think how you can reflect the best practices in the design of your product page elements.

Another aspect you should think over properly is your target audience. Having a clear portrait of your ideal users is a must. You should know everything about them from basic things like age and sex to their interests and preferences.
These insights will help to adapt your future app store creatives and ad campaigns.

> **PRO TIP**
>
> Constant A/B testing helps to perfect your target audience portrait if you create ad groups with different audience settings to check which one performs better.

The research stage also includes the qualification of traffic sources. It's really important to discover ad channels that bring more loyal users. You can use A/B testing for such qualification as well launching campaigns with the identical targeting in different ad networks and comparing their performance later.

Determining the most effective ad channel doesn't only makes your A/B experiments more meaningful, this knowledge is essential for any marketing campaign in general.

According to the experience of SplitMetrics clients, Facebook and Adwords proved themselves as the best traffic sources while other ad channels have major shortcomings such as:

- loads of filtered visitors due to overall low quality of traffic and fraud;
- in case of cross-promo, you need way more traffic to achieve statistically significant results;
- using Smart banners for A/B testing, you'll have to run your experiment for a very long time (average test duration is up to 1-2 months).

2. Hypothesis for A/B testing

Only at fulfilling the above-mentioned steps, you can proceed to hypothesis elaboration. It is impossible to overstress the importance of a solid hypothesis for A/B testing.

Keep in mind that thoughtless split-experiments are doomed from the very beginning. A/B tests for the sake of A/B tests make absolutely no sense. So it definitely makes sense to take time and mull over a solid hypothesis worth proving.

But what makes a good hypothesis? Remember that hypotheses are bold statements, they can't be formulated as open-ended questions. A neat hypothesis should say what you plan to learn from an A/B experiment.

Any A/B testing hypothesis should contain the following elements:

1. a proposed solution (what do you plan to change);
2. the anticipated results of implementing the solution;
3. hypothesis rationalizing (this element is highly recommended but not obligatory).

Here is an example of a good hypothesis based on the abovementioned model formulated by Rovio prior to Angry Birds 2 launch:

> *If I change the orientation of the screenshots from horizontal to vertical, my app will get more installs as my target users are not hardcore gamers and are not used to landscape mode.*
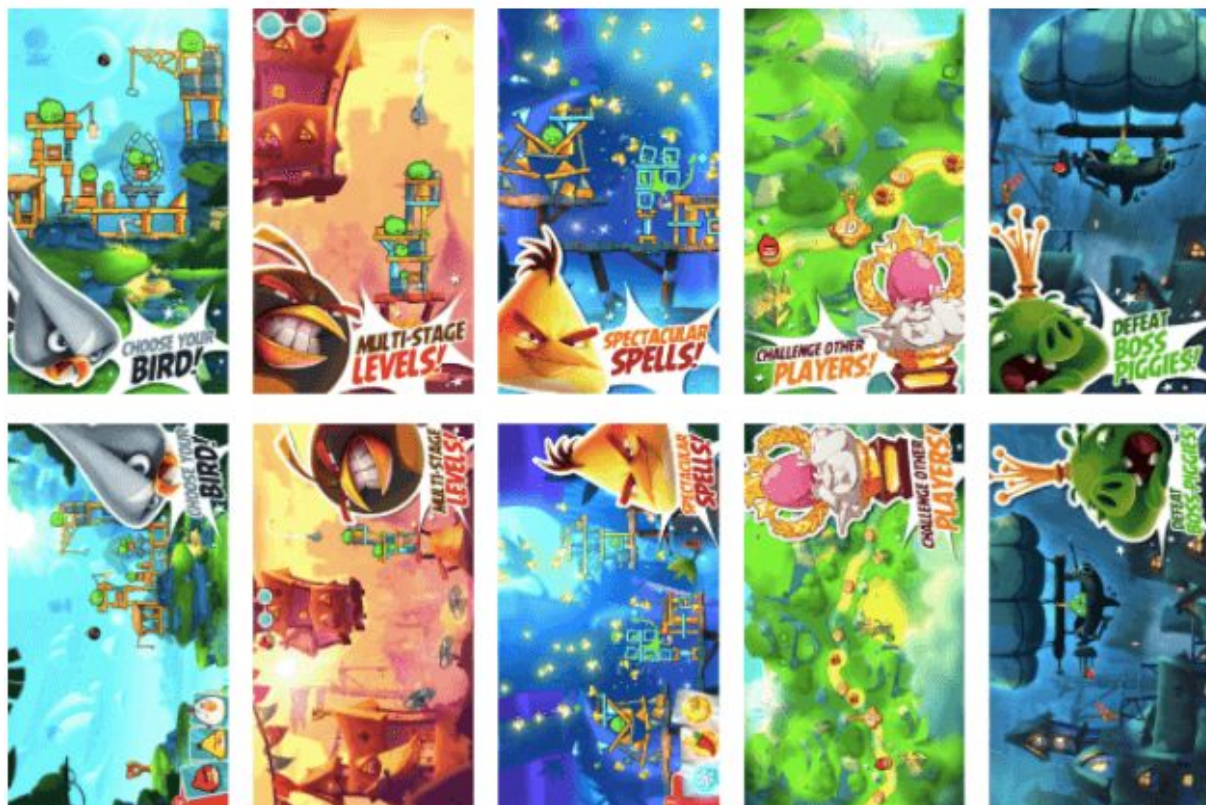
By the way, the experiment based on the above-mentioned hypothesis yielded the impressive 99.7% confidence level and demonstrated curious results. Indeed, portrait app screenshots did better in terms of conversion which is, to some extent, against the industry standards. The hypothesis was proven right.

Keep in mind that it's useless to A/B test practically identical variations. Don't expect stellar results running an experiment for two icons for your game depicting the same character with different head posture.

What can be tested in this case then? Here are a few ideas:
- Various characters.
- Background color.
- Character's facial expression, etc.

Let best practices you found out during the research be your inspiration for the test you can run. A solid hypothesis will become a basis for further goals setting and choosing the experiment type.

For instance, you decided to test screenshots orientation. Now you have to decide what kind of screenshots experiment you'd like to launch:

- **On your product page**: the results of such test will help to boost overall conversion of your product page. It's extremely important if you mainly rely on high volumes of paid traffic.

- **In the context of the search results:** this experiment type will show how your screenshots perform next to competitors. It's essential for apps which stick to organic traffic and strive for better discoverability.

Now you are ready to design variations for testing and launch an A/B experiment. Thanks to such specialized A/B testing platforms as SplitMetrics, starting a test is a matter of minutes.

3. Traffic for A/B Testing

It is essential to understand that no A/B experiment succeeded without decent and well-considered traffic. The truth is that you may have awesome creatives and use the best A/B testing platform, but the poor quality and insufficient volume of traffic will predetermine the failure of your A/B experiment.

Running an A/B test, you should reach a really high confidence level before considering the experiment finished. Confidence is the statistical measurement used to evaluate the reliability of an estimate. For example, 97% confidence level indicates that the results of the test will hold true 97 times out of 100
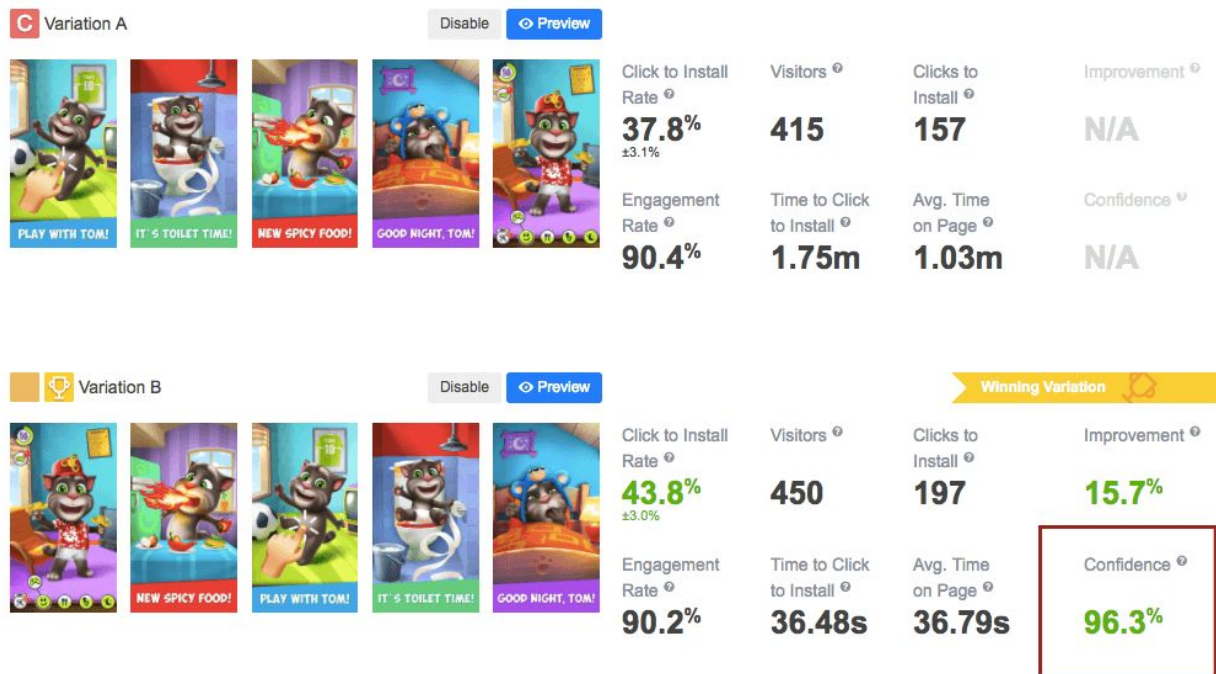
How much traffic do you need to run a meaningful experiment? Lots of publishers ask this question. Unfortunately, nobody will tell you the gold standard number which will guarantee high confidence level.

The necessary volume of traffic (sample size) is highly individual and depends on myriads of factors such as:

- **Traffic source.** Different traffic channels have different conversion potency. You'll need less traffic from, let's say, Facebook than from some strange ad network swarming with bots.

- **The conversion rate** of the app's product page. The better the conversion, the faster you reach the required confidence level.

- **Targeting.** This comes from the previous factors – trustworthy traffic sources provide great targeting options which fuel good conversion of the product page under test.

According to SplitMetrics observations, it normally takes at least 50 'Clicks to Install' per variation to get statistically significant results. On average, you need 400-500 visitors per variation for a test on your app's product page and 800-1000 users per variation if you run an experiment on the search or category page. These numbers can help you take your bearings, but again, this index is highly individual.

> **PRO TIP**
>
> It's really important to remember that the smaller the difference between the conversion rate values of the variations A and B, the greater sample size is required for the test. So it's better to use one of the specialized calculators to estimate a sample size of traffic for A/B testing. For example, one by Evan Miller.

4. Targeting for A/B Testing

As it was mentioned before, all factors are interconnected and require your close attention. However, one of the most impactful things you should consider is targeting. Smart targeting helps to get statistically significant results buying less traffic.

That's why it's so important to study your primary audience in the course of the research phase. The more granular your targeting, the better results you get. Lots publishers prefer to drive traffic from Facebook due to its amazing targeting options.

To ensure trustworthy and quality test results of A/B testing, it's important to filters out:

- users that don't meet targeting requirements (e.g. Android users visiting iOS experiments);
- bots and fraudulent traffic;
- repetitive visits;
- mistaps and misclicks, etc.

Unique Visitors
865

Filtered Visitors
57

Avg. Time on Page
48.65s

That's why it makes sense to rely on specialized A/B testing tools like SplitMetrics which won't let you fill your experiments with absolutely irrelevant traffic thanks to built-in filters.

5. Finishing A/B Tests and Interpreting Results

We already made it clear that confidence level is one of the most important metrics which helps to determine when to finish your experiment. Yet, it's not the only one.

Here is the list of metrics to consider before finishing your A/B test:

- Visitors per variation. The total number of users that visited the variation of the product page (on average at least 400-500 users per variation for a product page test and 800-1000 visitors for a search/category test)

- Clicks to install per variation. The percentage of visitors that tapped the Install button on the variation page (minimum 50 installs per variation).

- Time to click to install. How long visitors stayed on the variation page before tapping the Install button.

- Engagement rate. The percentage of visitors that interacted with the variation page. Interactions can include page scrolls, taps on Install button, and 'Read more'.

PRO TIP

Ensure that your experiment lasts for 5-10 days before finishing it. This way, you'll capture users' behavior during all weekdays making the results even more accurate.

Once you finish your experiment, the fun part begins. You find out whether your hypothesis was wrong or right and try to find reasons behind the obtained results.

Above all, it's incredibly important to understand that there's no such thing as negative results of A/B testing. Even if your new design suffers a crushing defeat from the old one, the experiment prevents mindless upload of these new creatives to the store.

Thus, an A/B test with negative results averts mistakes that could cost your app thousands of lost installs.

There's one more metric we should consider before deciding to use a winning variation in the App Store.This metric is called 'Improvement', it shows increase or decrease in the conversion rate of the variations in comparison to the control one.

			Winning Variation
Click to Install Rate	Visitors	Clicks to Install	Improvement
43.8% ±3.0%	450	197	15.7%
Engagement Rate	Time to Click to Install	Avg. Time on Page	Confidence
90.2%	36.48s	36.79s	96.3%

If an A/B experiment shows that your new design wins by 1% or less, don't rush to upload it to the store straightway. Remember that only the advantage of at least 3-4% can really impact the conversion of your app's store product page.

Word to the partner

Zimad (an international developer and publisher of games for all major app stores):

> *"We noticed that if our new app store screenshots set wins a test with a little advantage (around 1% difference in the conversion rate), that wouldn't guarantee the gain of conversion in the real environment. It may even result in the conversion rate decrease sometimes.*
>
> *Before noticing it, we were surprised that we hadn't seen any positive changes. So make sure that your winning set of app store screenshots overcomes the control one by at least 2% to get the real visible benefits."*

There are cases when publishers draw quality traffic to their experiments but the confidence level refuses to grow. It normally happens because of a similar performance of the variations due to weak hypotheses.

> **PRO TIP**
>
> Keep in mind that even if your variations look totally different, it doesn't prove the strength of your hypothesis. In such a situation, it's highly recommended to finish the experiment and revise creatives.

Prepare yourself to the fact that your assumptions will be wrong as a rule. Yet, finding a game-changing product page layout definitely worth the effort.

6. Measuring Impact of A/B Testing Results in Stores

Sustainable results that change your conversion rate for the better is the ultimate goal of experimenting with your app's product page unless you are an A/B testing enthusiast and run such tests for sheer delight.

Many publishers wonder how to measure the impact of test results in the main stores. It is indeed an interesting yet tricky question. For sure, you should have a finger on the pulse of your conversion fluctuation after the upload of a new product page version.

For instance, in the graphic below, you can see how the conversion rate of Zimad's Magic Jigsaw Puzzles changed after they optimized their app product page for Japan with help of A/B testing. Optimization of screenshots with SplitMetrics resulted in 36% conversion rate increase which was obvious from their iTunes Analytics.

Nevertheless, remember that any app store is a compound ever-changing environment teeming with factors influencing your app's performance. To see a positive impact of your A/B testing results you should always be consistent.

For instance, let's imagine you tested your new screenshots on users from Hong Kong. You got stunning results and uploaded them to the US store, as it's your core market. You expect the same conversion boost you saw during the test but nothing really happens. It's easy to claim A/B testing worthlessness in this situation, but targeting inaccuracy is to blame here.

The same is true when you apply the results of testing in the Google Play to the App Store failing to acknowledge the difference between Android and iOS users, their unlike perception of the store, varying behavioral patterns, etc.

The main recommendation here is to be diligent and consistent. Thus, you'll see app's performance improvement in iTunes or Google Console without extra effort.

> **PRO TIP**
>
> Test only 1 element and only 1 change at a time as experimenting with different concepts at once, you will probably get ambiguous results requiring multiple follow-up tests.

Providing you are ready to take time and use your wits, split-testing testing will become a safeguarded tool in your ASO arsenal. A/B experiments don't only boost apps' performance on both paid and organic traffic, they also provide essential metrics and analytics which can and should be applied in your audacious marketing activity.

III. Pre-launch A/B Testing

Pre-launch phase is one of the most critical periods in the lifecycle of an app. Publishers have to deal with myriads of tasks which put their time management and priority setting skills to the test.

However, an overwhelming majority of app marketers fail to realize that skillful A/B testing can smooth things down for them and assist in various pre-launch tasks: from product ideas validation to ensuring stellar conversion rate when an app is not even live.

In fact, the split-testing functions we are going to discuss below can redefine your pre-launch strategy saving time and contributing its efficiency.

Validating Product Ideas

A/B testing is at hand when it comes to qualifying ideas for an app. Thus, developers can track users reaction to various concepts, characters, features,messages, marketing banners, etc. and maximize their CVR.

This evaluation of ideas saves time and budget giving publishers a unique chance to give up doomed undertakings or change the direction of their app marketing and development.

Developing the Right Positioning

Apps usually have quite a few features, so it's hard to understand which one will resonate most with your target audience. A/B testing helps to leave all doubts behind and experiment with various messages highlighting different features.

The photo and video filter app MSQRD ran a series of A/B tests to identify the most appealing mask from the range this app planned to offer.

The monkey mask won as 2016 New Year's Eve was approaching and it's the year of the monkey according to the Chinese zodiac. The team placed this filter first in their screenshot set ensuring it'll be the first thing potential customers would see.
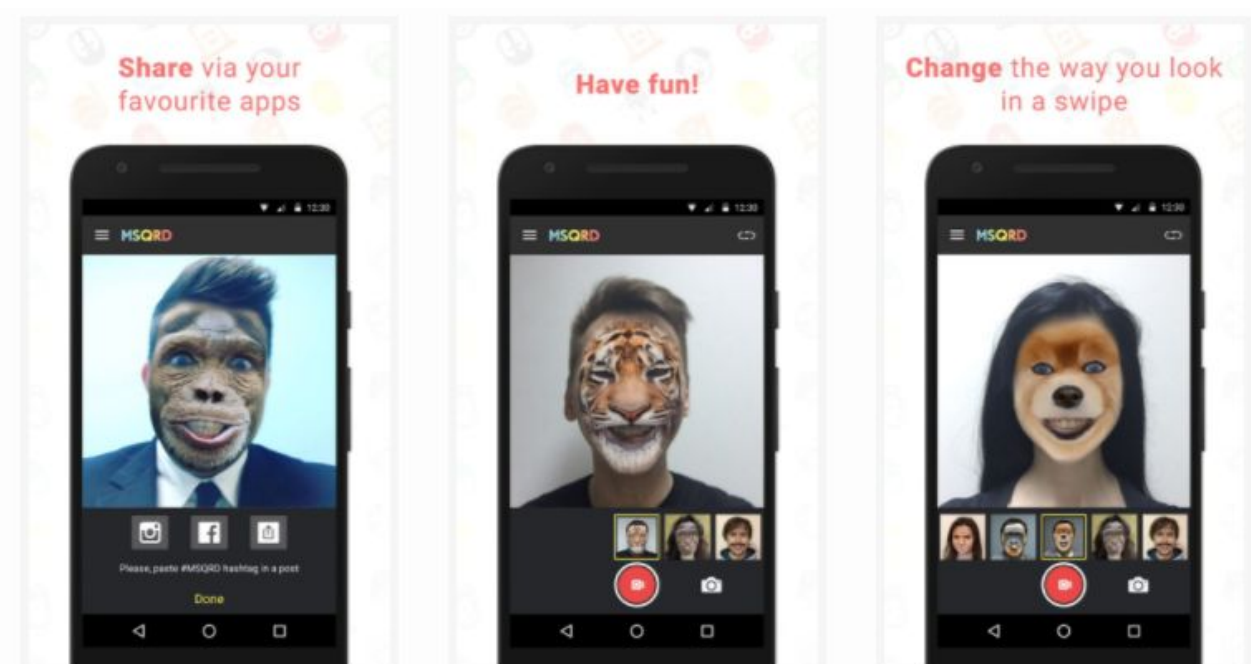
The right positioning from app's early days means not only loyal customers, but also an impressive performance on both paid and organic channels.

Product Pages Reinforcement

All store product page elements (from name to screenshots) have their role in forming users' perception of an app. These app page pieces have an enormous impact on conversion. Nevertheless, lots of marketers neglect their importance especially when an app is not in a store yet.

Even analytical minds that wouldn't alter a single keyword without a proper research tend to forget that app's product page is an ultimate decision-making destination. Icon, screenshots, description, etc. have to represent the essence of your app just like keywords or even better.

Trusting instincts is not enough. Unfortunately, it's standard practice to put diligence aside and rely on a subjective opinion of your team members ignoring available app store optimization options. A/B testing makes you leave all guessing games behind and be guided by statistically significant numbers.

For instance, Rovio took advantage of this gimmick and played around screenshots before Angry Birds 2 release (we've already mentioned one of their hypothesis which busted industry standards). A series of app screenshots and other experiments produced the assets combination that generated a maximum conversion exceeding others by 13%.

It is a sound improvement that meant millions of extra downloads for Angry Birds 2. The game got more than 20 million downloads during the first week after its release and A/B testing with SplitMetrics can be credited for at least 2.5 million downloads. For a hit game like that, it is a huge cost cut.

Identifying Ideal Audiences and the Best Ad Channels

Having a clear vision of your ideal target audience is a core element of any app successes. The sooner you identify who your customers are, the better. A/B tests assist in solving this problem even when your app is not in the store.

You can find out who is more likely to install your app running experiments on different demographic groups. These data are vital for any further marketing activities once your app is live. For example, G5 Entertainment ran a series of experiments for their 'Hidden City' app and found out that their most converting targeting is a 35+ female who loves board games and is interested in puzzles, riddle, and mysteries.

> **PRO TIP**
>
> Professional A/B testing platforms like SplitMetrics allow to collect potential users contacts within such pre-release A/B testing. Thus, you can building early adopters list for company's newsletter and app updates.

A/B testing is indispensable for ad channels qualification as well. Discovery of an ad source which brings a lot of loyal users advances any marketing game plan. App publishing companies check the performance of different ad channels via split-testing. At comparing their performance, they opted for one of the variants for the promotion of their new games and apps.

User Behaviour Analysis

Using scroll and hit maps of app A/B testing platforms, publishers get precious insights on users interaction with app's product page clearing up what can be altered for the sake of better app performance.

Moreover, such pre-launch A/B testing analytics assists in uncovering app page bottlenecks. Developers have a chance to determine potential problems of their app and points of growth in a short space of time.
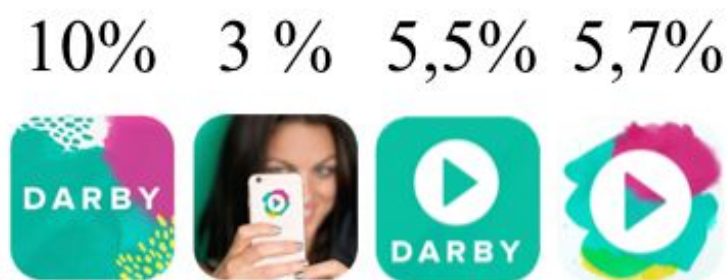
For instance, Darby (an app with DIY videos) discovered that their icon misled customers. A "play" sign in the icon made audience believe Darby was a video editing app. A/B tests helped to nip this problem in the bud and the icon was altered completely.

Pricing policy

This point is extremely important for aspiring paid apps. It's vital to identify the price which won't scare potential users and will help to earn more eventually. A/B testing different prices before the app's launch is one of the best options. It may even result in change of app's policy and waiver of paid form in favour of free model with in-app purchases.

Localization for Other Markets

Pre-launch phase or period before major app redesign is really favourable for localizing your app. However, it's not enough to merely translate description, and you should localize beyond the text. It's important to understand that you're adapting your product for another culture, not just another language. A/B experiments are handy to test various cultural hypotheses.

For instance, FiftyThree used split-testing to localize their Paper app for the Chinese-speaking market. Renewed screenshots in Chinese with multicolored backgrounds had 33% better conversion than the English ones.

There's no need to give yourself a hard time trying to guess what will work better for your app prior its launch. Using A/B testing, you can empower your conversion even when app isn't even live. Thus, you'll ensure stellar results right from the start of your app's life in a store.

Split-testing doesn't only takes conversion rate to the brand new level, it also facilitates decision-making process making it transparent and eliminating unnecessary team conflicts. Plus, using specialized A/B testing platforms, marketers also get valuable insights on users behaviour which can be used for further development of an app and store page polishing.

KEY TAKEAWAYS

1. A/B testing of various product page elements is a really efficient way of optimizing your app's conversion rate.

2. Running your tests mindlessly will give no results, that's why you should take into consideration quite a few aspects.

3. The key factors which predetermine A/B testing success are:
   a. Research;
   b. Hypothesis elaboration;
   c. Traffic;
   d. Targeting;
   e. Timing;
   f. Post-experimental analysis.

4. Pre-launch A/B testing can empower such tasks as product ideas validation, right positioning development, user behaviour analysis, product pages reinforcement, localization, identification of ideal audiences and the best ad channels .

5. It's better to opt for specialized A/B testing platforms like SplitMetrics to ensure quality results and minimize inaccuracy.

Workflow: A/B Testing Timeline

1. Research and Analysis;
2. Brainstorming Variations;
3. Designing Variations;
4. Running Your A/B Experiment;
5. Evaluation of A/B Testing Results;
6. Results Implementation and Tracking;
7. Follow-up Experiments.

Workflow: A/B Testing Timeline

When you're an A/B testing newbie, it might be hard to know where to begin. A/B testing is not as straightforward and easy as it may seem at first. Especially, when you're aware of all aspects which should be considered that we've mentioned above. However, there are certain steps which are integral parts of any A/B testing activity.

Let's review each step of a classic A/B testing workflow. Mind that pretty much any A/B testing timeline should include the following action points:

1. research and analysis;
2. variations brainstorming;
3. designing of variations;
4. running your A/B experiment;
5. results evaluation;
6. results implementation and tracking;
7. follow-up experiments.

1. Research and Analysis for A/B Testing

Duration: 2 days – week

Let's make it clear – leading companies don't A/B test random changes these days. They'd rather use research and elaborate strong hypotheses based on the collected data. And, as we know, a solid hypothesis is a cornerstone of any A/B testing success.

Word to the partner

Here's the list of core research activities made by Gabe Kwakyi from Incipia that can help you embark upon this highly important phase.

a) Compare your screenshots, feature graphic, videos, and icon designs with the styles of other apps that appear near yours in keyword search results. Your app has to stand out among these apps in order to earn a user's initial install.

It's preferable to focus on the keywords that have the highest volume and for which your app ranks best for, as these keywords will have the highest contribution margin to your organic downloads.
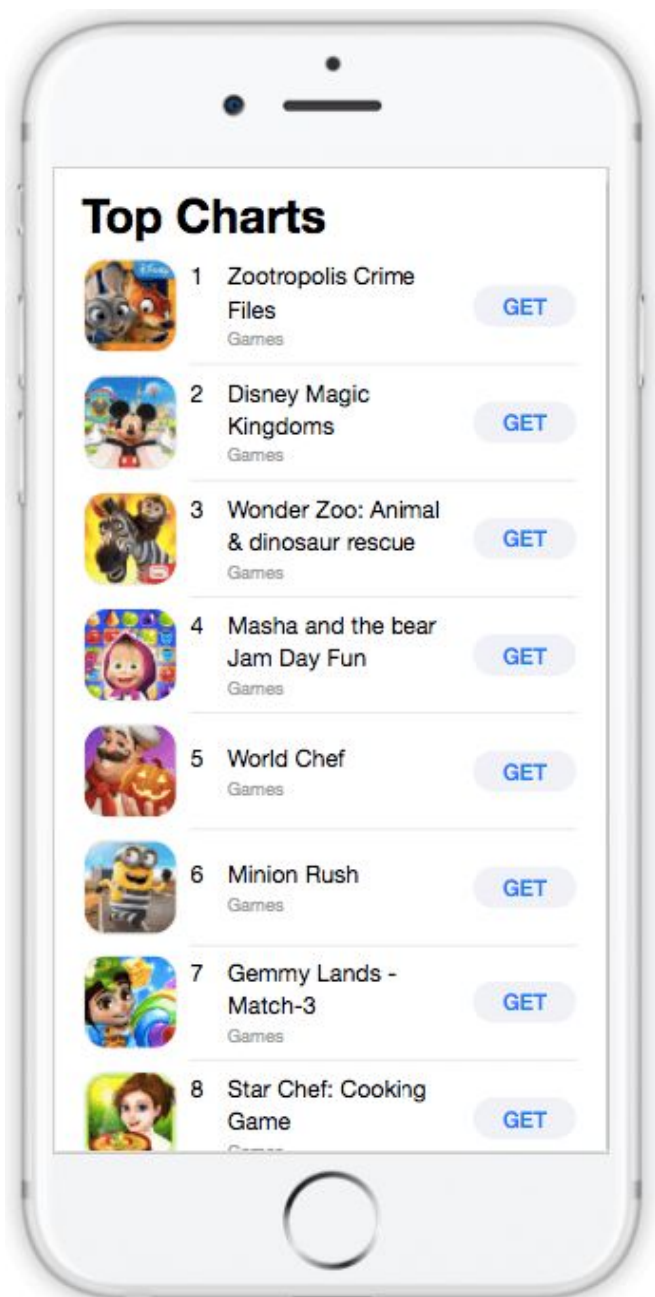
b) Compare the messaging found in your captions, videos, and descriptions against that of your competitors. You are to come up with the messaging that gives your app a competitive advantage.

Think over what statements you can make that your competitors cannot. Analyze the advantages your rivals possess and how you can overcome them in order to convince users to download your app.

c) Read your app's reviews to determine the language and key features that users care about and integrate it into your messaging, mark selling points that don't appeal to your users and are basically the dead weight of your product page.

Try to focus on features that are marked most useful by users, inspect the most recent reviews for better results.

d) Review your app's usage data to figure out which features or configurations are most-used or most-purchased. It makes sense to use these insights to increase your app listing's appeal to new users.

Top Charts

1	Zootropolis Crime Files Games	GET
2	Disney Magic Kingdoms Games	GET
3	Wonder Zoo: Animal & dinosaur rescue Games	GET
4	Masha and the bear Jam Day Fun Games	GET
5	World Chef Games	GET
6	Minion Rush Games	GET
7	Gemmy Lands - Match-3 Games	GET
8	Star Chef: Cooking Game Games	GET

2. Brainstorming Variations for A/B Testing

Duration: a couple of hours

Your variations for A/B Testing should always reflect a quality hypothesis. Form your hypothesis and create variants after researching how your app can be best positioned next to your competition.

Keep in mind that hypothesis is not a question, it's a statement which suggests a solution, its expectation effect, and its rationalization. For example, Prisma decided to test the following presumption based on the app category best practices:

> *Using a bolder font in captions placed on the top of screenshots triggers conversion growth due to better readability.*
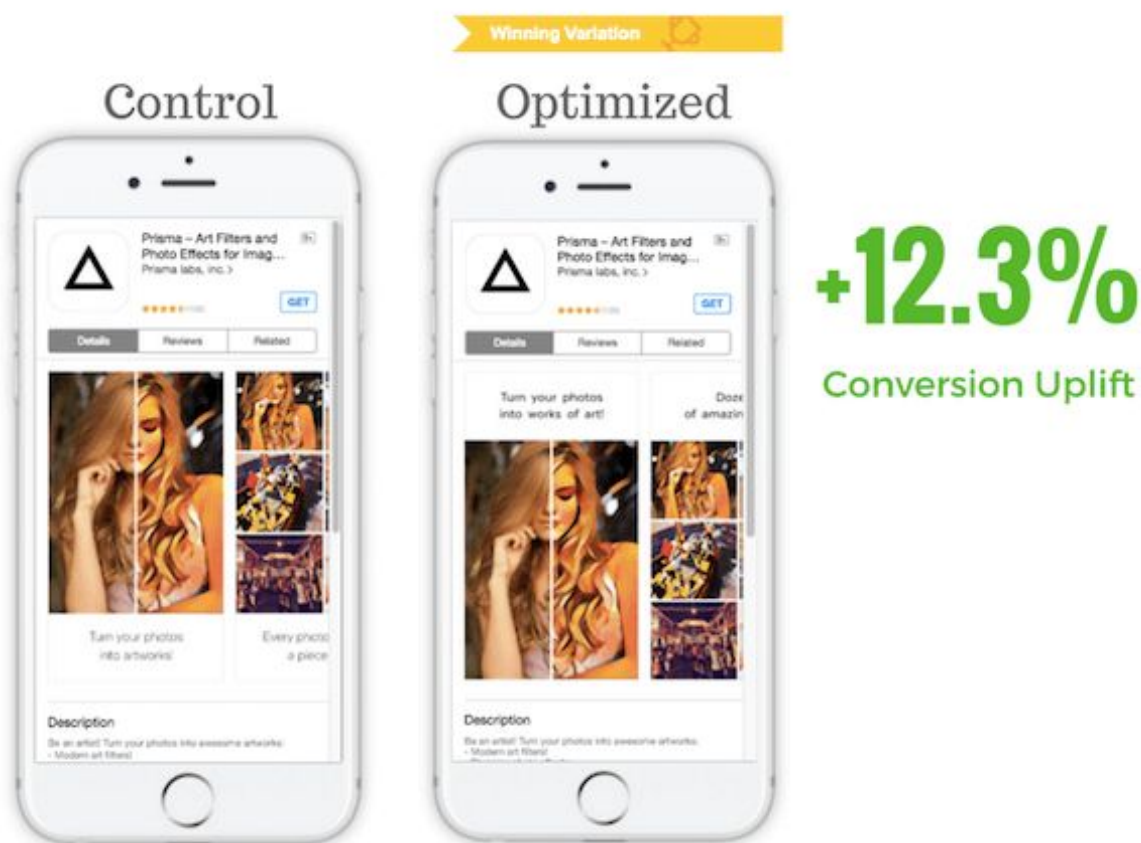
Thus, on this step, you'd also want to think over variations layout based on the hypothesis you plan to test and prepare technical design specification.

3. Designing Variations for A/B Testing

Duration: 1 day – a few weeks

It's the phase where designers create layouts for the upcoming A/B testing. The design is to reflect presumptions under the test and correspond to the technical design specification.

The duration time of this phase depends on the workload of your in-house designers. Companies that don't have a staff designer have to resort to third-party solutions which, naturally, takes more time.

4. Running Your A/B Experiment

Duration: 7-14 days

You can proceed with A/B testing itself once the first 3 steps are completed. It's vital to choose a traffic source and appoint a target audience before launching an experiment. Remember that users are to be split equally.

A/B test won't even bother you if you decide to test with specialized tools like SplitMetrics as they distribute audience members automatically landing these users on two different variations. All you have to do is fill your experiment with quality visitors and the platform will do everything else for you:

- collect powerful insights into visitor behavior on your app page;
- filter fraudulent traffic to ensure results trustworthiness;
- calculate confidence level sufficient for determining the winner of your experiment.

Relying on quality A/B testing platform, you eliminate human errors and ensure the highest possible quality of your experiments.


It's recommended to run split-tests for at least 7 days to keep track of users behavior on all weekdays. This contributes results trustworthiness as well.

5. Evaluation of A/B Testing Results

Duration: a few hours

You can finish your test and start analyzing its results at reaching a statistically significant number of active users who visited the experiment. Upon reaching the trustworthy confidence level, your original hypothesis will be either proven or refuted.

It's worth repeating that a disproved hypothesis doesn't mean that your A/B testing ended in a fiasco. Quite the opposite. Negative results prevent us from making changes that could cost us thousands of unseized installs.
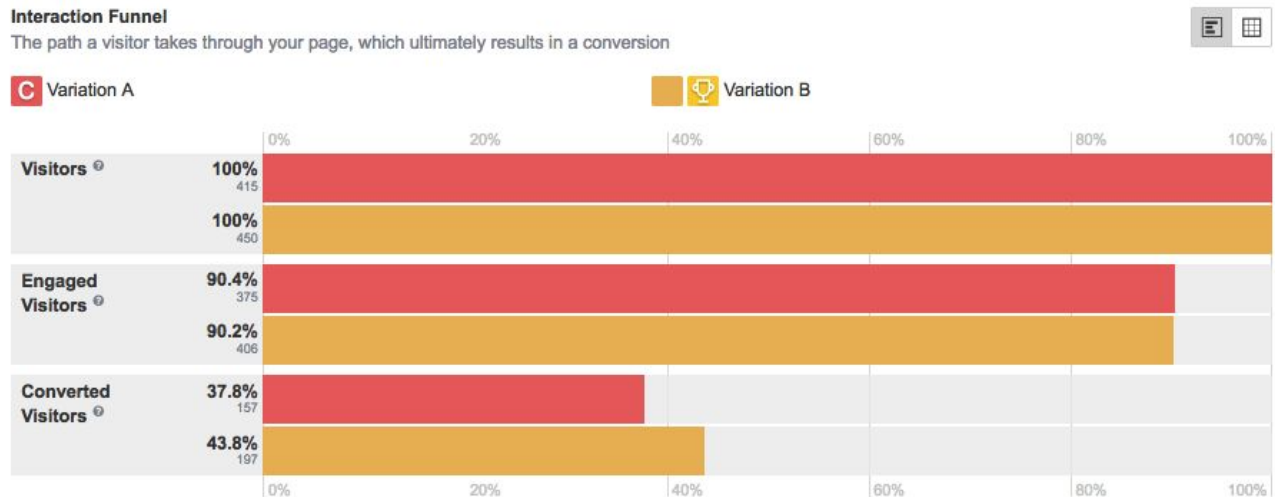
PRO TIP

Conversion changes analysis is a must, there's no denying. Yet, don't forget to spare time to explore other metrics which will help you understand your users better and empower your further marketing activity with these insights:

- video metrics;
- scroll heatmaps;
- time on page;
- interaction funnel;
- screenshot stats;
- behavioral segments.

Variation A — Preview

Screenshot Views: **409** Screenshot View Rate: **98.6%**
Total Visitors: **415** Avg. Time before View: **1.40s**

98.6% 409	18.6% 77	15.7% 65	14.0% 58	13.0% 54	0.0% 0	%	%	98.6% 409	Screenshot Views
6.0% 25	2.7% 11	2.4% 10	2.4% 10	1.9% 8	0.0% 0	%	%	7.0% 29	Screenshot Views in Full Screen
12.04s	9.94s	5.01s	8.30s	4.65s	0s	0s	0s	0.31m	Screenshot Avg. Full View Duration
516	171	155	142	117	0			1,101	Screenshot Total Views
14	3	4	2	10	0			33	Installs after Viewing Screenshot

Variation B — Preview

Screenshot Views: **430** Screenshot View Rate: **95.6%**
Total Visitors: **450** Avg. Time before View: **1.68s**

94.9% 427	47.1% 212	32.9% 148	30.4% 137	22.7% 102	0.0% 0	%	%	95.6% 430	Screenshot Views
3.3% 15	2.9% 13	2.7% 12	2.4% 11	1.6% 7	0.0% 0	%	%	4.0% 18	Screenshot Views in Full Screen
4.26s	4.30s	3.50s	3.71s	4.36s	0s	0s	0s	0.20m	Screenshot Avg. Full View Duration
735	571	430	365	211	0			2,312	Screenshot Total Views
29	15	5	17	12	0			78	Installs after Viewing Screenshot

6. Results Implementation and Tracking

Duration: 1-2 months

Providing you find a clear winner, you can implement the results in the App Store straight away. It goes without saying that you should track the conversion changes after the upload of the optimized product page elements.

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If you stay consistent with your A/B testing activity, the results will speak for themselves. Nevertheless, your conversion won't change overnight. It normally takes 1-2 month to see a new trend gain ground.

7. Follow-up Experiments

Duration: 3-4 months

It's crucial to turn A/B testing into an essential part of your ASO strategy. The truth is that app stores are ever-changing systems subject to constant alterations. That's why it's critically important to run follow-up experiments to scale results.

When it comes to app's conversion, there is always room for improvement and well-structured approach to A/B testing can help you become an App Store highflyer. However, as in all things, success requires time, dedication, and persistence.

KEY TAKEAWAYS

1. When it comes to A/B testing, top companies use research and elaborate strong hypotheses based on the collected data.

2. Your variations for A/B Testing should always reflect a quality hypothesis.

3. It's vital to choose a traffic source and appoint a target audience before launching an experiment.

4. A/B test won't even bother you if you decide to test with specialized tools as they distribute audience members automatically landing these users on two different variations.

5. Negative results prevent us from making changes that could cost us thousands of unseized installs.

6. It's crucial to turn A/B testing into an essential part of your ASO strategy and run follow-up experiments to scale results.

CHAPTER 3

Pages to Optimize in App Stores

1. App's Product Page Testing

2. Category & Search Pages Testing

3. Creative Sets Testing within Apple Search Ads

Pages to Optimize in App Stores

When you get down to ASO optimization, it's important to acknowledge all options app store A/B testing offers. You can test different app store elements within:

- Product page;
- Category or Search page;
- Search Ads banner.

It's hard to tell which of the options mentioned above is the best as different contexts call for different test types. Let's dwell on all these experiment options to make it clear why and when it's preferable to use each of them.

I. App's Product Page

App's product page is the first thing that comes to publishers heads when they think about store A/B testing. Indeed, your product page is the place where users get all necessary information about your app in different forms: text, video, and image.

The app store page provides a playground for mobile marketers to experiment with several elements of a product page. Naturally, different product page elements have various impact on conversion. You should keep it in mind prioritizing elements optimization.

Icons
Experiments with icons can bring you up to 26% increase in app page performance. The maximum improvement we observed was as high as 560%. Nevertheless, mind that icons matter more in the context of store search results.

Screenshots
On average, A/B testing screenshots can boost your app page performance up to 20%. You can experiment with background color, copy, landscape/portrait orientation, or shuffle the same screenshots to see which one should run in the front. The maximum improvement we observed got up to 650%.

Video Preview

On average, tests with video previews improved app pages' performance by 16%. The maximum increase we saw was 110%. However, video preview is a tricky thing, in many cases app store pages were better off without video preview than with one.

Description

A short promo text before 'Read more' button should be your priority as only about 2% of app store visitors actually read full description. At the same time, a short and catchy promo text can show an average 35% conversion lift (that said, we've seen a maximum increase in 75%), raising flags for knowledgeable ASO specialists.

Product Page A/B testing Peculiarities:

- App store product page experiments give you a chance to play around all possible elements distilling a pitch-perfect combination.
- Product page A/B testing is a must for mobile publishers which rely on paid traffic as the majority of their users skip search phase.
- One of product page tests advantages compared to Search experiments is the fact that normally you need far less traffic to reach statistically significant results.

II. Category & Search Pages

It's no secret that if you want to hit organic traffic jackpot, you should pay closer attention to optimization of your app listing in the App Store Search. Indeed, Apple claims that 65% of App Store downloads come from search queries. Ignoring this fact is an act of folly which may cost your app thousands of lost users.

To fend off organic traffic losses, we collected the most important App Store Search benchmarks and A/B testing tips.

In general, App Store search is one of the first stages of any user acquisition funnels. The ratio of users that saw your listing and users that tapped 'Get' button is normally referred to as tap-through rate in the App Store Search.
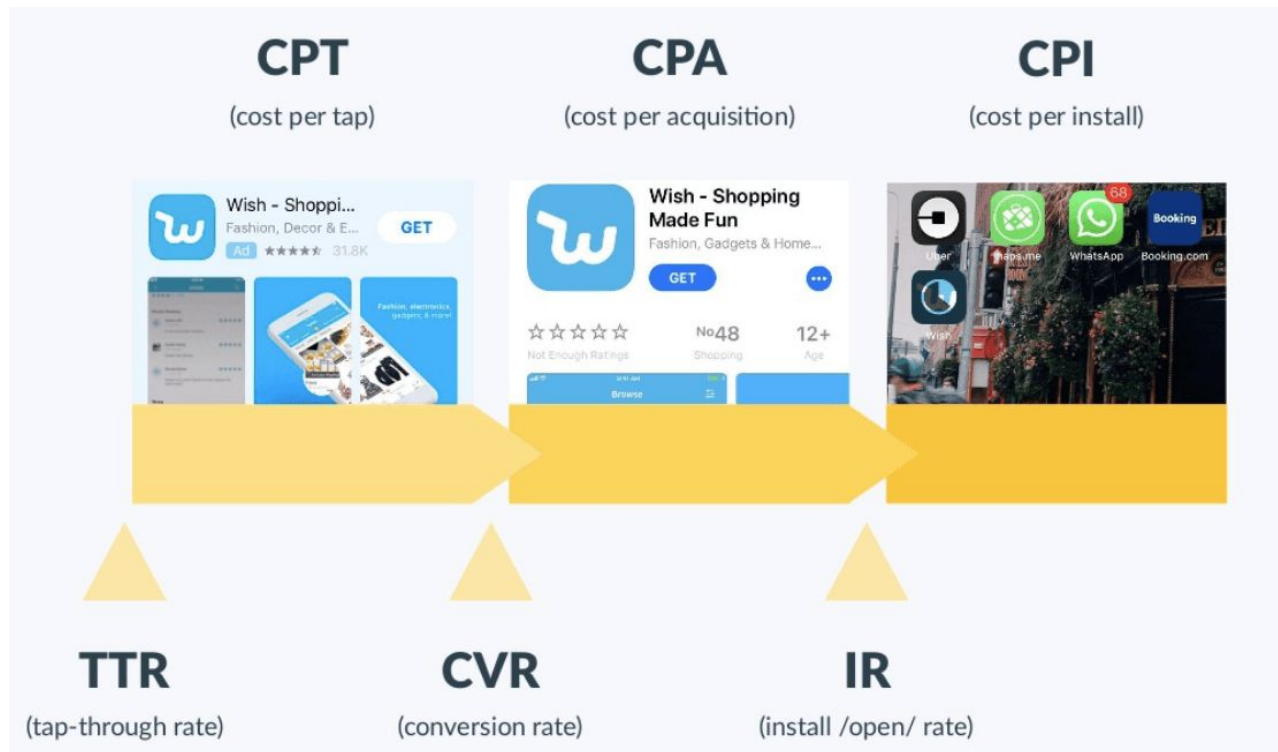
App publishers always wonder what is a good tap-through rate in the App Store Search in order to get their bearings and understand whether the current state of things calls for immediate improvements. Unfortunately, each category, each app, each case are highly individual and there is no golden standard to take cues from.

Nevertheless, here are the benchmarks of a tap-through rate in the App Store Search which will put some clarity into this issue. We analyzed hundreds of tests in different categories to identify:

- how App Store search positions favor downloads and further exploration of an app;
- the average conversion of the first 10 positions in the App Store search.

2018

Tap-through rate in the App Store Search

Position in Search	Median	Average	Standard deviation	Min TTR	Max TTR
0	19.29%	28.38%	22.22%	0.38%	83.33%
1	5.11%	6.15%	5.63%	0.09%	43.52%
2	1.46%	2.66%	4.56%	0.05%	32.84%
3	0.80%	1.36%	1.61%	0.04%	11.54%
4	0.56%	1.22%	1.55%	0.04%	8.02%
5	0.59%	0.92%	0.91%	0.06%	5.55%
6	0.53%	0.80%	0.96%	0.04%	7.69%
7	0.62%	1.00%	1.20%	0.04%	7.69%
8	0.62%	0.98%	1.08%	0.04%	4.20%
9	0.33%	0.57%	0.61%	0.06%	2.33%

It is no wonder that the first position in App Store Search guarantees the best TTR. Thus, the average TTR for an app which tops search results is 28.38% while minimum and maximum TTRs are 0.38% and 83.33% respectively. These impressive results turn the top position into something definitely worth fighting for.

Having the second position predetermines considerable drop in TTR compared to the top position (6.15% against 28.38%) but still shows better results than the third one (2.66%). At the same time, the fourth and fifth positions show similar results (1.36% and 1.22% respectively)

Yet, you shouldn't feel down even if your app isn't in top 5 list of App Store search results. Our study showed that lower position doesn't equal to disastrously low results. In fact, the eighth and ninth positions have even better average TTR than the sixth and seventh ones (1% and 0.98% against 0.92% and 0.80%).

PRO TIP

One of the ways to improve your TTR is to run tests in the context of category and search pages. There are myriads of ways of improving your App Store listing.

For example, you can experiment with banner-like landscape screenshots. This easy trick can bring you up to 45% TTR increase in the App Store search. The thing is such screenshots draw all user attention and turn the listing of your closest competitor into a blind spot.
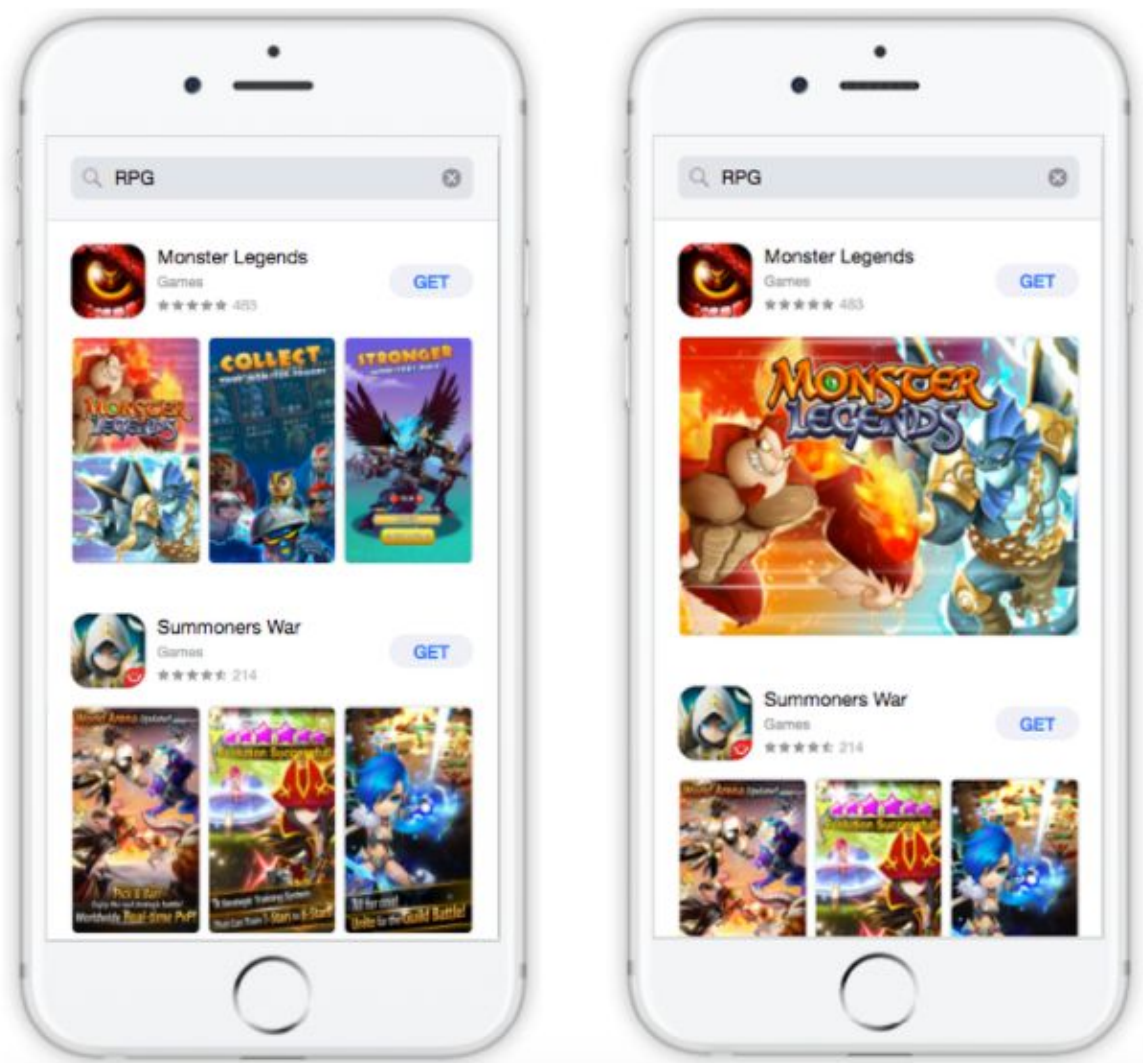
Social Point successfully applied this gimmick to their game Monster Legends. They A/B tested App Store search results page with SplitMetrics. As a result, a banner-like screenshot in a landscape mode reached 15.4% conversion while the conversion rate of the closest competitor was only 4.7%. So if you rely on organic traffic rather than paid one, this tip is really worth testing.

A pitch-perfect video app preview may become another game changer. Nailing the optimal video structure may showcase your app in the best possible way and it'll happen right from the App Store search results page thanks to autoplay. Luring, isn't it?

Nevertheless, when it comes to A/B testing, keep in mind that only smart complex approach can help you improve your rank in the App Store search. And remember that it's very unwise to leave your position in the App Store search to chance.

Optimize every aspect of store listings you can and it won't take too long to enjoy impressive results.

III. Creative Sets Testing within Apple Search Ads

The introduction of Creative Sets gives Apple Search Ads users a great opportunity to align various creatives to different keywords. On top of that, now app publishers can test Apple Search Ads assets.

However, it doesn't mean that Apple's update made full-scale A/B tests possible within the App Store itself. It's really important to understand how Creative Sets can be used for Apple Search Ads assets testing and what are the limitations of this experimental method.

Basically, a Creative Set is an assets pack for Apple Search Ads which consists of screenshots and app previews chosen from your app's product page in the Store. The primary goal of these Creative Sets is to add more variation to Apple Search Ads aligning various assets to ad group keywords and audience segments.

The number of Creative Sets within Apple Search Ads is limited to 10. Each set has an image number limit as well:

- iPhone: 4 or more screenshots/app previews in the portrait mode and 2 or more assets in the landscape one;
- iPad: 3 or more screenshots/app previews in the portrait mode and 2 or more assets in the landscape one.

The process of testing Apple Search Ads Assets with Creative Sets is pretty straightforward: at creating different Creative Sets and aligning them with various Ad Groups or Campaigns, you are to track their performance (based on conversion and tap-through rate).

PRO TIP

When creating Creative Sets try to avoid using screenshots/app previews denoted as "default". The thing is the default Apple Search ads with the first creatives from your store product page is already there. It makes more sense to compare the performance of your default ads with the one of your Creative Sets.
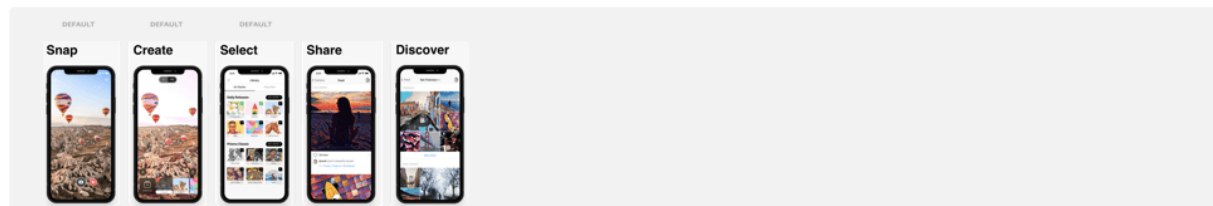
Apple also recommends using the same number of assets for each Creative Set under testing. Thus, the same scheme of your Creative Sets will make the results of comparison clearer. Try to use a maximum of 3 portrait or 1 landscape screenshot/app preview on iPhone; 2 portraits or 1 landscape asset on iPad.

The introduction of Creative Sets induced the speculation about 'A/B testing within the App Store itself'. However tempting, it's not true.
Experimenting with Creative Sets is indeed a great way of empowering Apple Search Ads and improving audience response to it. Nevertheless, it doesn't provide tools for quality A/B testing of product pages within the App Store.

Here is the list of limitations which preclude calling the new Creative Sets feature a tool for proper A/B testing:

1. Creative Sets allow tests only in the context of Apple Search Ads.

It's a good method of optimizing Apple Search Ads banners but the results can't be treated as the universal truth of user interaction with your app. In fact, the difference in user behavior is quite substantial.

For instance, according to our latest study on TTR benchmarks, App Store visitors now detect Apple Search Ads way better and it changes their behavior. For instance, the average tap-through rate of Apple Search Ads banner is about two times lower compared to the results of genuine top position in the App Store Search (7.11% against 19.29%).

2. It's impossible to test app's product page.

Experimenting with Creative Sets, one can draw conclusions regarding App Store search at most. The results of this testing can't be applied to product pages of apps. Furthermore, such Apple Search Ads 'tests' don't allow you to experiment with such extremely important product page elements as an app icon, name, promo text, etc.

Apple Search Ads is based on keywords and match types so its targeting method is dramatically different from Facebook, Google AdWords and in-app ads. Creative Sets don't allow mobile marketers to use external traffic sources.

That's why one should be extra careful with the takeaways from experimenting with Creative Sets if they rely on paid traffic. In such cases, fully-fledged optimization of App Store product page with help of specialized mobile A/B testing platform like SplitMetrics is a must.

3. The restrictions of screenshots and app previews within Creative Sets.

As it was mentioned above, one can use only screenshots and app previews from their product page preparing Creative Sets. It imposes serious restrictions on the testing ability of experimentation with Apple Search Ads Assets.

Thanks to the recent update of screenshots limit, an app product page in the App Store can contain up to 10 images. This limit seems more than sufficient unless you plan to test screenshots with help of Apple Search Ads Creative Sets.

We shouldn't forget that screenshots and app previews within Creative Sets have the same order as on your product page. It means you can't play around their order to its full extent. For example, such fixed order won't allow you to put the second screenshot before the first within one of your Creative Sets.

Order of Screenshots in Creative Set
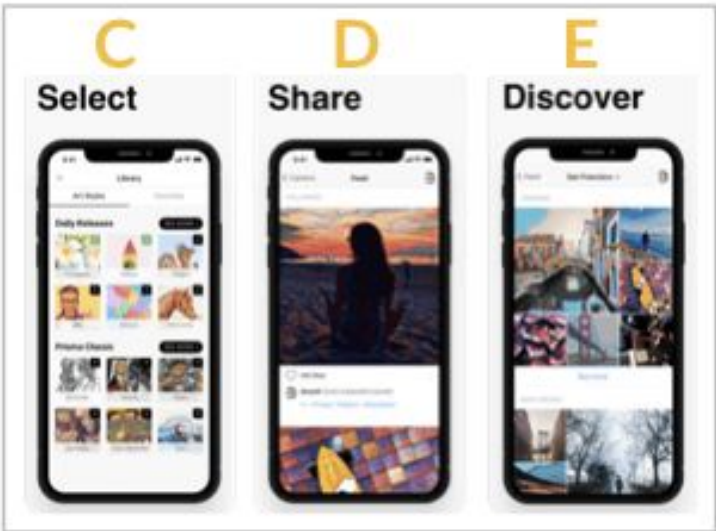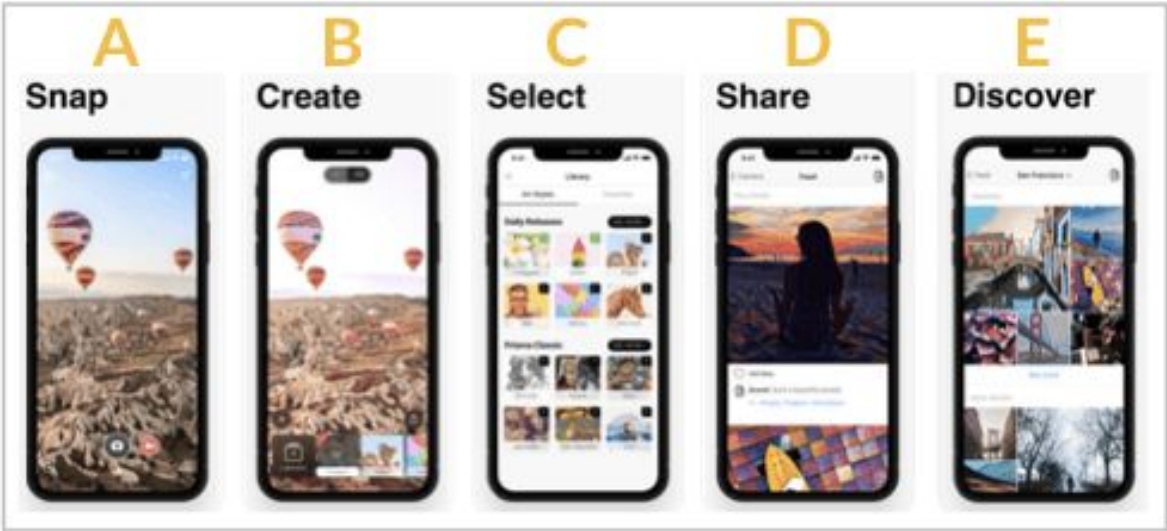
Valid Creative Set Combination

Invalid Creative Set Combination

This Creative Sets limitation also doesn't allow you to test polar opposite hypotheses and creative concepts. Indeed, there is barely a publisher that'll allow their product page to be packed with differently designed screenshots with various color schemes.

4. Creative Sets are aligned to keywords.

Creative Sets are bound to different keywords which makes results interpretation tricky. It's impossible to tell which screenshot/app preview combination outperforms others in all respects and should take first positions on your product page.

Let's assume that Creative Sets testing determined different winners for two different keywords, this result is quite ambiguous. However, in such cases, you can check Creative Sets performance on the ad group level to grasp average results and identify the winner.

5. The limited number of storefronts.

For now, Apple Search Ads storefronts are limited to 13 countries:

- Australia;
- Canada;
- France;
- Germany;
- Italy;
- Japan;
- Mexico;
- New Zealand;
- South Korea;
- Spain;
- Switzerland;
- the United Kingdom;
- the United States.

Presumably, this list will keep growing but for now the storefront limitation is a serious testing obstruction. It's also impossible to localize your app's assets via Creative Sets testing.

6. It's hard to measure the statistical significance of Creative Sets testing.
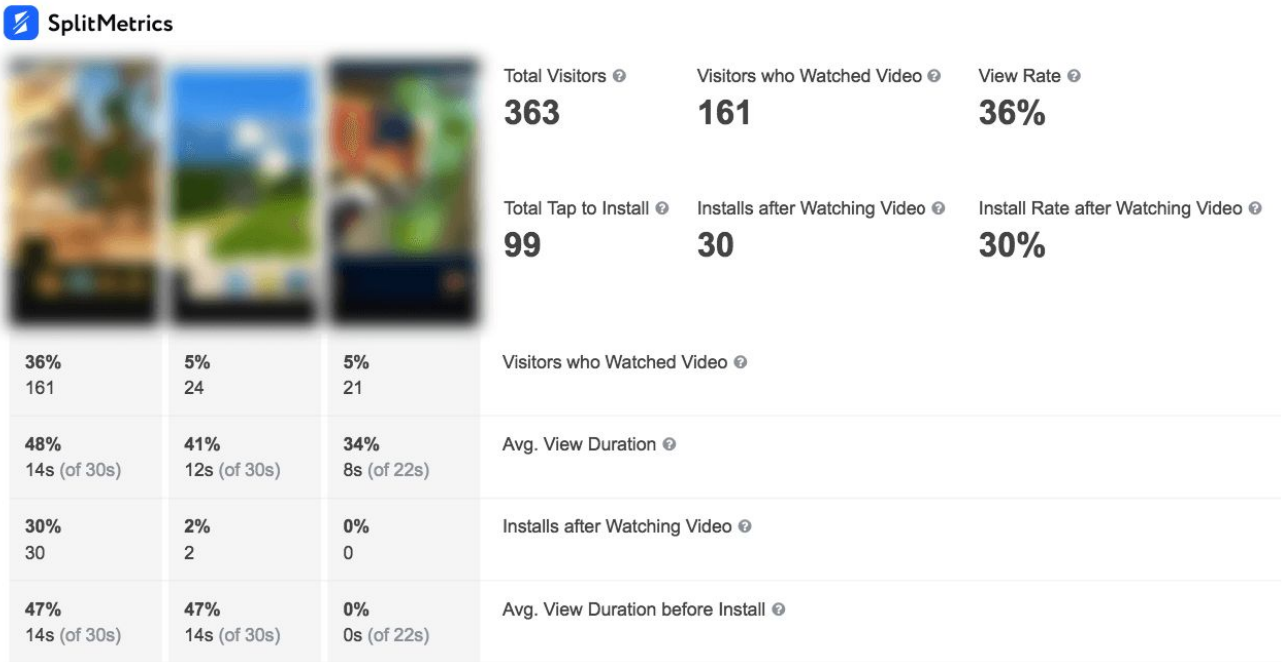
Apple Search Ads doesn't have a built-in calculator of results statistical significance as testing is not the primary goal of Creative Sets launch. So you are responsible for all these calculations yourself. In case of specialized A/B testing platforms, all work is done for you ensuring quality results.

7. The sample size for testing should be calculated manually.

Sample size is another important ingredient of a successful experiment which Apple Search Ads testing lacks. You should calculate sample size manually as well, otherwise your tests won't be valid and trustworthy conclusions will be out of your reach.

8. No insights into user behavior.

Conversion and tap-through rate are the only metrics that Creative Sets testing can provide. These metrics can barely tell why App Store visitors like or dislike your app and its assets. To enhance your marketing strategy, you need way more advanced and exquisite analytics.

SplitMetrics

			Total Visitors	Visitors who Watched Video	View Rate
			363	**161**	**36%**
			Total Tap to Install	Installs after Watching Video	Install Rate after Watching Video
			99	**30**	**30%**

36% 161	**5%** 24	**5%** 21	Visitors who Watched Video
48% 14s (of 30s)	**41%** 12s (of 30s)	**34%** 8s (of 22s)	Avg. View Duration
30% 30	**2%** 2	**0%** 0	Installs after Watching Video
47% 14s (of 30s)	**47%** 14s (of 30s)	**0%** 0s (of 22s)	Avg. View Duration before Install

For instance, when it comes to app preview analytics, Apple Search Ads testing won't tell you the average view duration, or how many users installed your app after watching the app preview, or what episode of the video triggers the majority of installs. In its turn, SplitMetrics A/B testing platform can provide all these data and more.

That's why it's better to opt for specialized A/B testing solutions that provide in-depth analytics for all product page and search page elements along with the expertise on running smart experiments.

9. Creative Sets testing low capacity.

Experimenting with Creative Sets within Apple Search Ads doesn't give that much room for manoeuvre. The number of tests you can run simultaneously is limited by the number of existing Creative Sets.

Moreover, it's quite time-consuming as the change of concept under the test calls for product page update and Apple review.

10. It's impossible to run pre-launch tests.

Pre-launch is a vital period which can doom your app or become a cornerstone of its success. That's why it's so important to spare time for testing an app before it is live. Optimizing apps in pre-launch doesn't only guarantees you'll make the most of your first days in the store, it also helps to validate ideas and create the app people are willing to install.

As you can see, the word about free App Store A/B testing doesn't have much ground. Moreover, Creative Sets testing can't be qualified as a free method as you still have to pay for Apple Search Ads.

Av. Cost per Tap

Australia $0.62	Canada $0.63
Switzerland $0.77	UK $0.61
Mexico $0.38	New Zealand $0.54
United States **$0.81**	

Av. Cost per Acquisition

Australia $1.30	Canada $1.32
Switzerland $1.75	UK $1.17
Mexico $0.87	New Zealand $1.09
	United States **$1.52**

SearchAds HQ 🍎 Search Ads
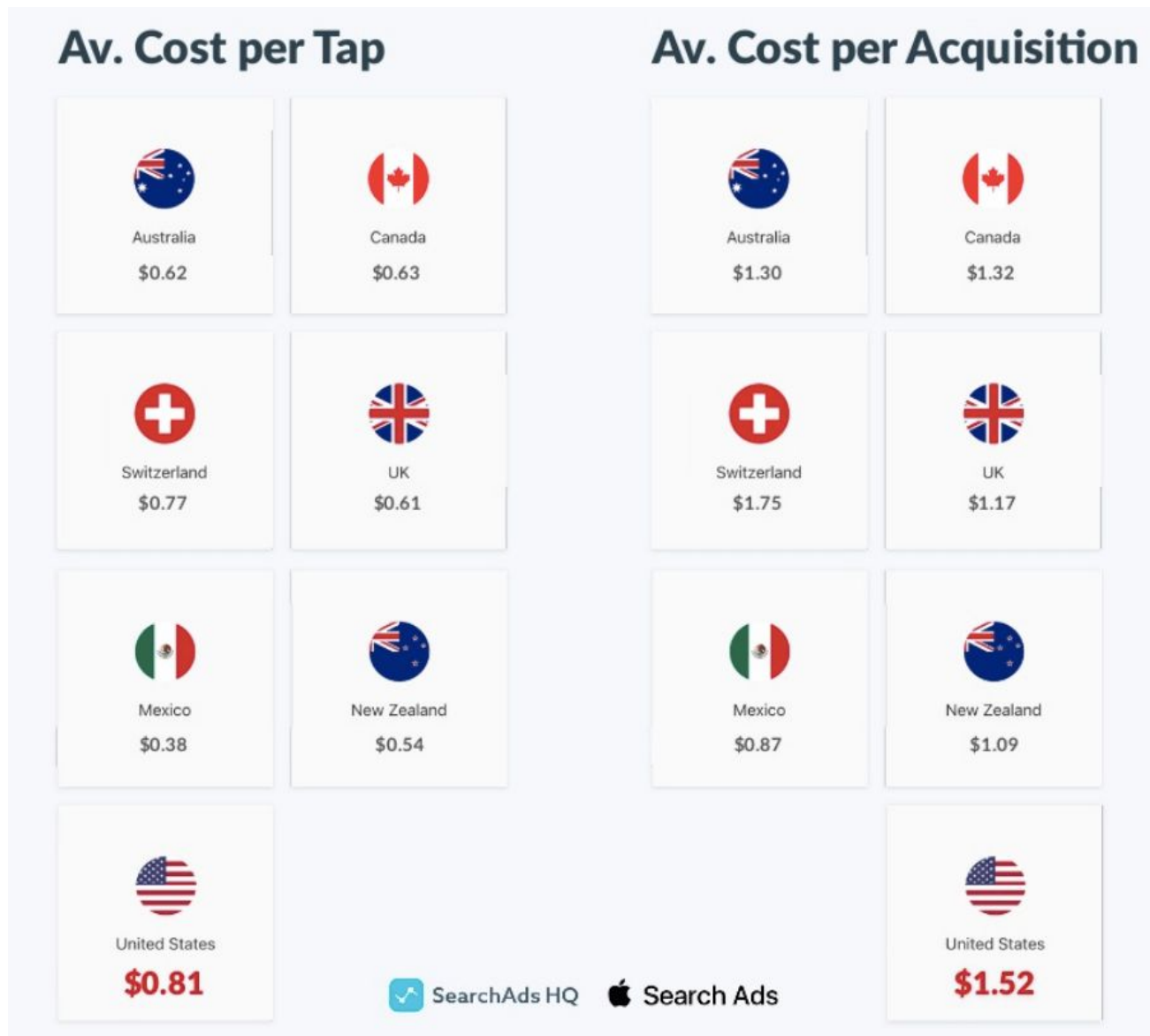
Nevertheless, Creative Sets is a great way of making your ads more relevant, for instance, if you have a dating app, it makes sense to run ads with screenshots depicting male and female characters for corresponding gender groups.

What's for experimenting with Creative Sets, [SearchAdsHQ](#) created the tool for convenient assets testing within Apple Search Ads. Nevertheless, when it comes to comprehensive ASO strategy, Creative Sets can't be the only method of testing as you'll need more scale, flexibility, and analytics.

KEY TAKEAWAYS

1. You can test different app store elements within:

    - Product page;
    - Category or Search page;
    - Search Ads banner.

2. App store product page experiments give you a chance to play around all possible elements distilling a pitch-perfect combination.

3. Product page A/B testing is a must for mobile publishers which rely on paid traffic as the majority of their users skip search phase.

4. If you want to hit organic traffic jackpot, you should pay closer attention to optimization of your app listing in the App Store Search as Apple claims that 65% of downloads come from search queries.

5. The introduction of Creative Sets gives Apple Search Ads users a great opportunity to align various creatives to different keywords but it doesn't mean that Apple's update made full-scale A/B tests possible within the App Store itself.

CHAPTER 4

Most Influential Page Elements for A/B Testing

1. Icon

2. Screenshots

3. App Preview

I. Icon

Considering the fact that human brain processes visual information much faster than text, the way apps' icons look must be a governing factor for ASO. Icons give us the first impression and therefore they are the gateway to your apps. They can also be the most impactful app store product page elements that help you grow an app organically.

Remember that the App Store and Google Play have different requirements and recommendations for an icon design. Regardless of the OS for which you are creating the application, a good icon does not just grab the attention of app store visitors instantly, it also communicates your app's quality and purpose.

This is why an optimized app icon is of crucial importance for app store optimization. On average, the app's icon has a 10-25% potential for conversion increase, and in some cases, your app's conversion may skyrocket.

How do we make sure we use the app icon that drives results? Core elements of a converting icon are simplicity, lack of excess visual components, ability to stand out among competitors without losing touch with the conventional principles of your store category.

The most difficult part of testing mobile app icons is generating variations. For a start, you can simply review some of the top performing apps across your categories to find the styles you could try in the design of your mobile app icon. But before you start you should ask yourself:

- **does your icon tell the story and sell the unique features of your app?**

It's essential to ensure that the users understand the message behind your icon. For example, if we look at selfie app icons, we'll see that the vast majority feature camera, lens or a lens-like visual.
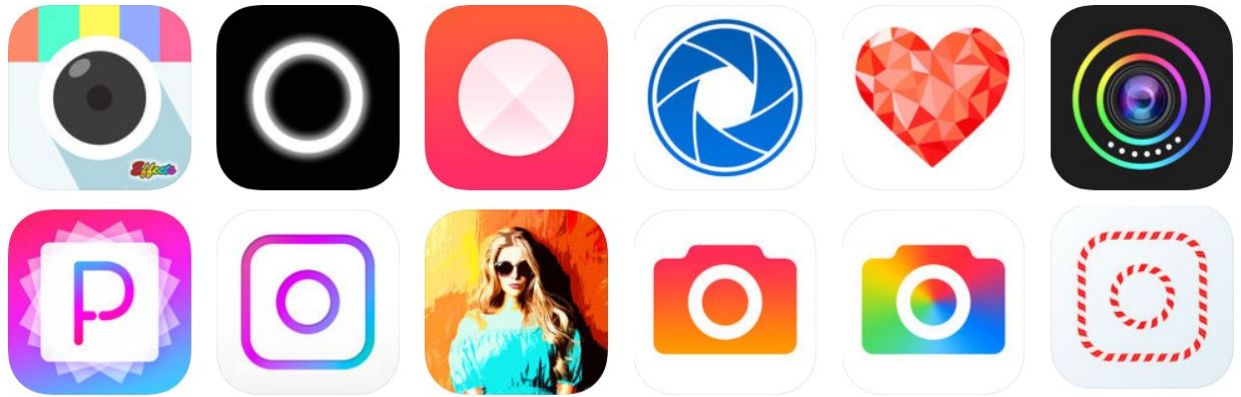
Music app icons contain musical notes, sound waves or equalizers. The cooking utilities, aprons, or chef's hats appear on recipe apps icons respectively.

Each app also has its strong points. Identifying and highlighting them is essential. So when developing an app store optimization strategy, you should make sure the app stands out.

PRO TIP

If your brand is already visible in your target market, using it in the icon is a

must. It will give the app credibility and increase the trust of users.

For example, if you search for "racing", you will notice that the results contain some icons having a big publisher's logo in the corner. You can find a few examples below.

- *Does your icon stand the competition in search?*

Using your target and related keywords you can see your app's position in search. Look at its main competitors. Do their icons look the same? What makes yours stand out? Getting down to optimization, it's important to remember that icons matter most at the app discovery stage.

Once store visitors get to the product page, they pay very little attention to the icon. So the best way to perfect an icon is to run a series of category tests on an app store identifying, which version performs better in the competitive environment.

App Store Icons Requirements

Whatever style or design you choose, you'll have to follow the technical requirements posed by Apple or Google to make your app icon rank. Both companies provide detailed description of what they expect from a good icon from size to overall user experience. You can access Apple's and Google's style guides.

App Icon Sizes

Each app is supposed to have a set of small icons for the Home screen and a larger icon for the App Store itself.

Here's the App Store icons size table for different Apple devices:

Device or Context	Icon Size
iPhone	180px × 180px (60pt × 60pt @3x) 120px × 120px (60pt × 60pt @2x)
iPad Pro	167px × 167px (83.5pt × 83.5pt @2x)
iPad, iPad mini	152px × 152px (76pt × 76pt @2x)
App Store	1024px × 1024px (1024pt × 1024pt @1x)

App Icon Attributes

All app icons should adhere to the following specifications.

Attribute	Value
Format	PNG
Color space	sRGB or P3 (see Color Management)
Layers	Flattened with no transparency

Resolution	Varies. See Image Size and Resolution
Shape	Square with no rounded corners

To publish your Store Listing in Google play store, a high-res icon is required. The high-res icon does not replace your app's launcher icon, but should be a higher-fidelity, higher-resolution version that follows these design guidelines:
- Material icons used through Android M
- Adaptive icons for Android O

Google Play Requirements
- 32-bit PNG (with alpha)
- Dimensions: 512px by 512px
- Maximum file size: 1024KB

Colors and Styles of Icons

Choosing your icon style and color scheme is close to a full-scale branding decision as app icons actually represent your company in the App Store and serious discrepancies between the app design and your corporate identity can discourage even the most loyal customers.

When you create an app, you definitely know who you are creating it for. Age, gender, location, language, and other characteristics of your prospects impact the app design. The same rule applies to icons, and the more precise your targeting is the more installs you can expect.

It seems obvious that the icon style of a kids game will be drastically different from an icon of an accounting app in terms of colors and composition.

Barbie Life™ 4+
Mattel, Inc.
Free

Productive - Habit Tracker 4+
Checklist & Goals Reminder
Apalon Apps
#48 in Productivity
★★★★★ 4.8, 30 Ratings
Free · Offers In-App Purchases

Colors

Like companies that are known by the colors they use in their branding, apps can also be determined by their colors. Yet, what is the most suitable color for a new app icon? There is no certain response to this question. However, the examples and the meanings of colors can guide your decision.

From Facebook and Twitter to PayPal and Visa: **Blue** is an iconic color that makes up thousands of logos. Colour theorists say that blue suggests reliability, trust, honesty, loyalty and tranquility. That is why blue is so popular as a icon color, especially for products that are intended to be used globally and need to transcend cultural interpretations.
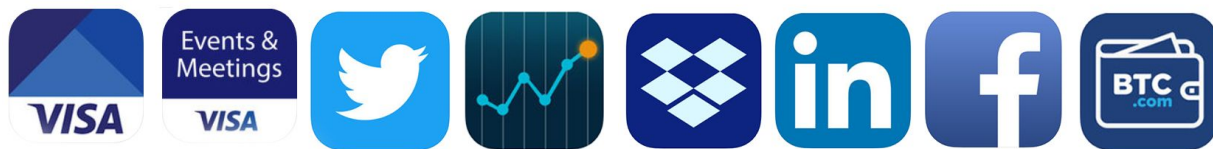
Green is often associated with money. Green color is mainly used by 2 categories of apps. The first one are financial services, as we know that green is mainly associated with money. The second category includes some apps that promote eco friendly behavior.

Monefy - Money Manager 4+
Daria Darma

#27 in Finance
Free · Offers In-App Purchases

Ecofriendly Menu 4+
Davide Peri

Free

Purple is considered to be a female color rather than male (that's why it is so popular with selfie app designers). Red is bold and energetic, orange is cheerful, yellow is warm, and green is peaceful, so you can pick red for a sports app, and green for some health tracker.

Weight Loss Running by Verv 4+
Your run tracker & meal plan
GRINASYS CORP.

#53 in Health & Fitness
★★★★★ 4.6, 38.3K Ratings
Free · Offers In-App Purchases

Endomondo 4+
GPS Running & Workout
Endomondo.com

★★★★★ 4.5, 985 Ratings
Free · Offers In-App Purchases

However it's important to be careful and account all possible associations and interpretations that go with the chosen color (except blue, as you can guess).

Best Practices of Icon Optimization

Even a well-designed icon based on your branding rules can't guarantee that you'll win millions of apps in an app store. Only data-driven approach, testing and optimization of different elements of an icon (colors, backgrounds, graphics, compositions etc.), allow you to boost the downloads of your apps and make the most of your icon.

Make sure you test variations that differ from each other significantly. Small changes like a color shade or a different angle of the graphics are bad candidates for a split test, usually showing little to no difference in conversion. Here are some basic optimization tips:

1. Keep it simple

You probably have quite a few ideas of what to put on the icon. Try a variation with the simplest concept and bring the number of graphical elements to a minimum. Or better, choose one. Check if less is really more (converting).

Sizer   Rise Alarm Clock   Download Expert

> **PRO TIP**
>
> 1024 × 1024-pixel canvas is a challenge in itself. Try the design out on the
>
> device in multiple contexts and sizes. Make sure the icon looks good against a
>
> variety of backgrounds.

2. Try different colors

Your designer probably knows what color combinations look good. The tough part is to figure out which of them actually work. Test and see if a soft neutral or a bold contrast background will highlight the main element of the icon along with increasing the conversion rate.

3. Let your graphics speak for you

For some reason, many app developers are tempted to put their app's name or some text in the icon. Usually, this isn't a good idea, as you have plenty of space in the app's title and description. Test if the graphic language will convert better than extra letters in the icon.

But some some apps use words or letters in their icon; most are branded, but not all. If you're using a single letter and it's a good (and unique) fit, then the letter will lose its "wordy" quality and become iconic. However, this is more of an exception than a rule. Remember that an icon is not the same as a logo and it shouldn't be forced into the same context.

4. Logo/No logo?

If you use your company's logo as an icon, play around and test if another concept will translate the brand as well as the app's value proposition to users. The main issue is the

fact that an app icon is not a logo. They have some similarities the success criteria are absolutely different.

Logos are vector images and icons are raster ones, logos don't have to be square but they need to look good on letterheads, etc. The approach, the tools, and the job for these two are absolutely different.

5. Add borders

Try to add borders to your icon to make it look clear and attractive on all backgrounds. Sometimes, simply adding a border without changing anything else makes the icon appear more "complete" and eye-catching.

6. Derive your own benchmarks

History repeats itself, so analyse your competitors and do something different. Emulating the leaders is a safe but a tricky route to go down. Your uniqueness is one of the keys to success. Start with the colors as they do make the difference but don't neglect the research not to end up in a hole.

PRO TIP

Pick out 10 best app icons in your category and think how to make yours stand out. Create a couple of alternatives based on your analysis and start testing.

Icons A/B Testing

As mentioned above, it's a good idea to start with competitors research and determine the best practices

PRO TIP

If you study the icons of the top games, you'll notice that the overwhelming majority use the same pattern: an icon depicts characters with their mouths open. It may seem silly, but the trick works. You can use this layout to design one of your variations.

Testing different characters on your icon is another highly recommended path. For example, MyTona ran a series of icon experiments for their game, Seekers Notes: Hidden Mystery. They started by testing a human character against a pumpkin head. The latter performed 9.3% better.

In the follow-up tests, the icon with the pumpkin head beat the serious man in a hat once again, but performed only 3.5% better this time. The new icon with the smiling witch smashed the previous two with a 9.1% conversion lift. This experiment once again proved the efficiency of 'open mouth' strategy and the significance of testing characters.

Remember that devil is in the detail. Even changing of your background color may result in incredible growth. The app Hobnob experienced a serious conversion fall after the icon rebranding and opted for A/B experiments to remedy the situation.

A series of split-tests identified the icon that performed 64% better than the rebranded one. Surprisingly, the only difference between the icons was in gradient background in the winning variation.
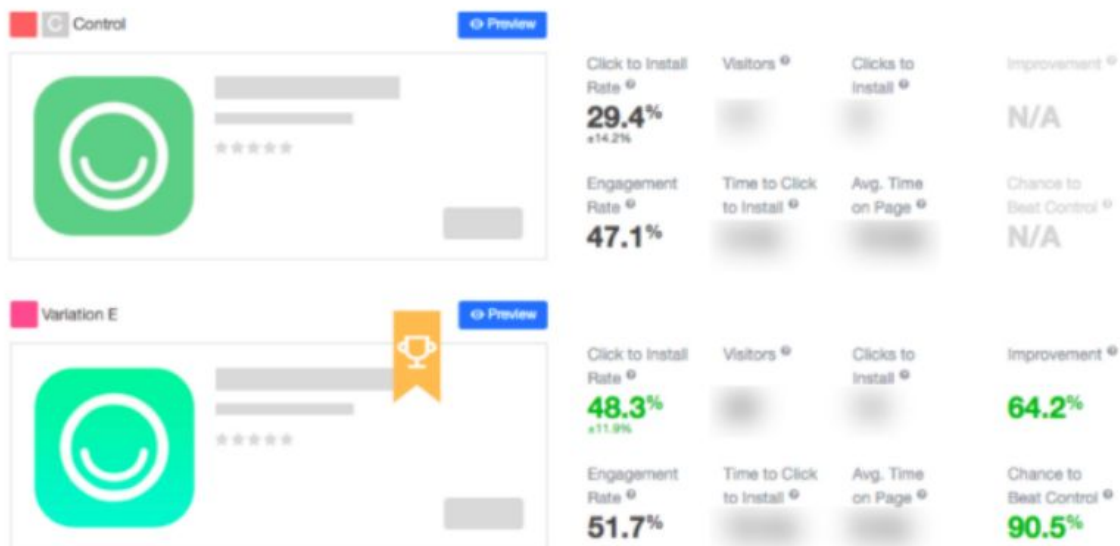
After users find your app page the icon will to a large extent determine their decision to install the app or leave for good. You should start working to optimize your icon long before launching it to App Store.

Here are a few things to keep in mind:
1. Meet your audience's expectations
2. Let the graphics represent your app
3. Follow App Store's recommendations
4. Avoid text on the icon
5. Experiment with colors
6. Add borders
7. Be original

… And test everything you can to make sure you are moving in right direction.

II. Screenshots

When a user gets on the product page, screenshots tend to catch the best part of attention due to its visual nature and a large proportion of page space. Thus, app screenshots are responsible for grabbing the attention of potential users and argue them into installing an app.

There's a considerable part of users whose perception of an app is primarily based on the quality of its screenshots and app reviews. Therefore, your screenshots should answer the following questions:

- Can your app solve a particular problem of users?;
- Is it an app of high quality?;
- Is it worth spending time and money on the app?

Still, nobody will examine your screenshots to answer these questions if they're not engaging enough. To perfect your screenshots you have to run multiple of tests checking the efficiency of various design tricks.

App Store Screenshot Sizes and Requirements

First things first, your screenshots are to meet the technical requirements if you want them to look professional and appealing.

The number of screenshots on each store product page is limited to 10 images on the App Store. Don't forget that if you add a video to your store page, its preview acts as the first screenshot. It's important to remember the 'Play' sign in the process of video preview designing.

Here's app store screenshots size summary for different Apple devices:

iPad
- 2048 x 2732 pixels for portrait
- 2732 x 2048 pixels for landscape

iPhone
- 1242 x 2208 pixels for portrait
- 2208 x 1242 pixels for landscape

iPhone X
- 1125 x 2436 pixels for portrait
- 2436 x 1125 pixels for landscape

Apple watch
- 312 x 390 pixels (42 mm).

What concerns the file format, the App Store accepts PNG and JPEG files. It's vital to upload files of the best possible quality within accepted resolutions, you can check out iTunes Connect Developer Guide for more details. Following these simple requirements, you'll have no problem submitting your app.

App Store Screenshots Orientation (Portrait vs Landscape)

Choosing between portrait and landscape screenshots is a common dilemma app marketers face. Some publishers end up submitting horizontal screenshots as vertical ones forgetting about users' convenience, so it's not the best option.

Such decisions are highly individual and require data;driven approach A/B testing can provide.

Furthermore, Apple changed the number of screenshots per product page lately. Now store product pages can feature up to 10 screens which entails the extension of A/B testing playground.

These screens limit increase is on a per-device basis which means you can upload sets of 10 different screenshots for iPhone, iPad, Apple Watch, and Apple TV.

The screenshots allowance was restricted to 5 images before the update. Now 5 extra screens can be added to complement product pages. However, mind that the changes did not concern app preview limit, each app page in the store can still feature maximum of 3 video clips not more than 30 seconds each.

It's also important to understand that the update doesn't affect Search results pages or Apple Search Ads. They'll continue to depict 3 portrait screenshots or 1 landscape one providing no app preview is available on your product page.

Apple assures publishers that new extended screenshot sets will help to show potential users more of an app's experience. Indeed, marketers get more space to tell about app's core features and competitive advantages and lure app store visitors into installing their apps.

It makes a lot of sense but only in theory. The harsh truth is that not that many users scrolled to the fifth screenshot before the update let alone making it to the tenth one.

We decided to have a closer look at how users interact with product pages with 5 screenshots. The following study is based on 1,800 A/B tests of store pages with at least 100 views per each 5-image set.

It's important to bear in mind that the overwhelming majority of the analyzed tests featured optimized screenshots. So, publishers with raw and plain screens shouldn't expect the same scroll depth and conversion. A/B testing with SplitMetrics is a great way of pushing your metrics closer to ones of the industry leaders.

Screenshot orientation plays an important role here. We analyzed hundreds of SplitMetrics tests to discover the following curious numbers. When it comes to a

landscape set of screens, only 15% of users scroll through all 5 images, these metric is even more humble for portrait screenshots – 11%.
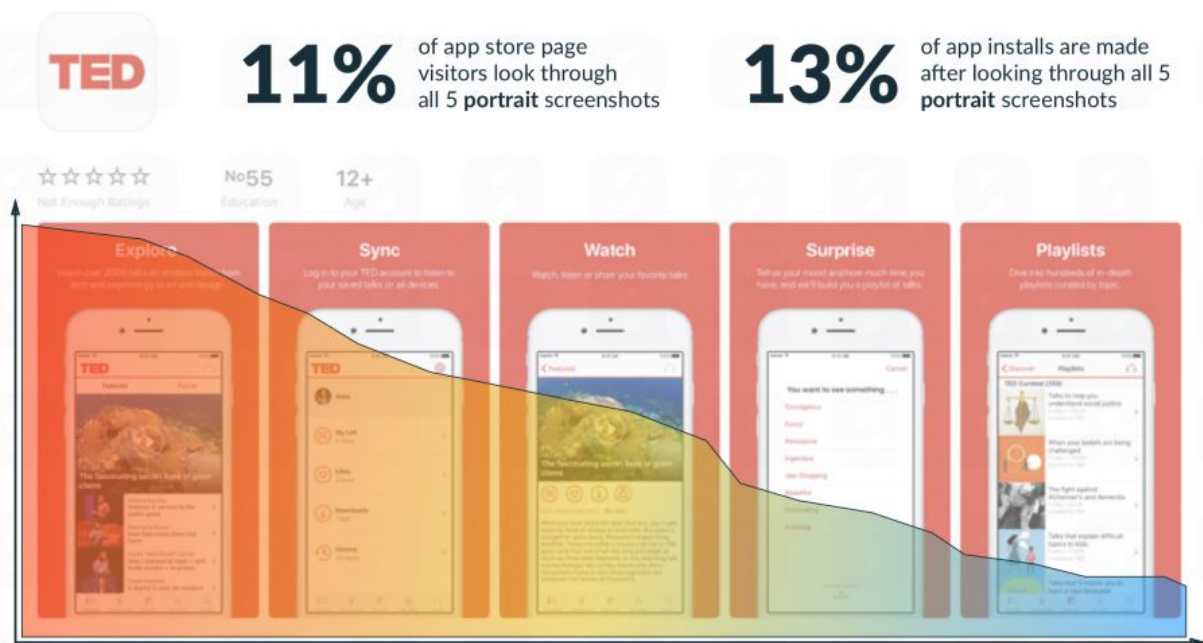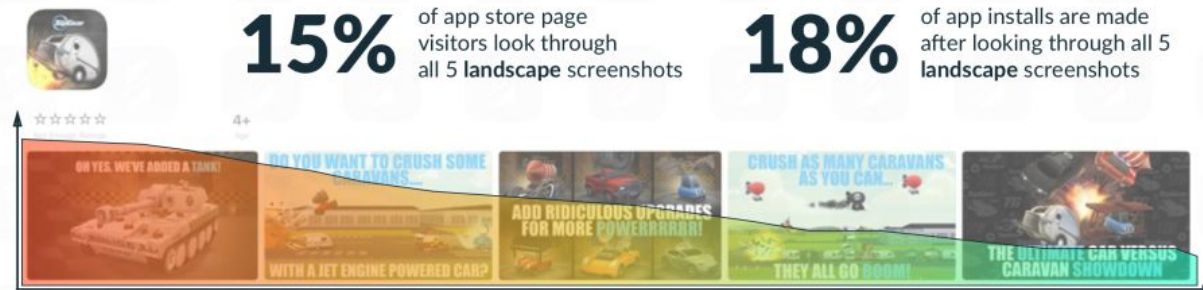
This result is quite surprising as publishers tend to think that vertical screenshots are more scrollable. However, our statistics states that horizontal screenshots favor better scroll depth. Furthermore, they can boast a slightly better converting capacity as well.

Providing users got around to the fifth image, they are more likely to install the app if it was a landscape screenshot set. In this case, the average conversion rate is about 18%. When it comes to a fully scrolled through portrait sets, the average conversion is 13%.

Thus, we can assume that if you plan to upload up to 10 screenshots and strive for a better scroll depth and conversion rate, it's better to opt for horizontal images. However, it would be wrong to shut the door on portrait sets.

Each app and each target audience have their peculiarities. That's exactly what makes App Store optimization so exciting.

> **PRO TIP**
>
> That's why it's essential to A/B test different orientations along with other product page elements despite overall vertical screenshots dominance. Who knows, your app's conversion might skyrocket thanks to this simple and straightforward aspect.

App Screenshot Colors and Backgrounds

Testing colors and backgrounds of your screenshots is a neat experiment idea. Remember that it depends on your app style. Sure, you're not restricted to the same color palette used in your app design. However, it's good to start with it as it's an easy yet effective way of delivering your app's spirit.

If your app is playful, the screenshots should reflect it, for example, via using vibrant custom colors for every screenshot. Minimalistic nature of an app can be applied to your app screenshots color layout.

Here're a few tips concerning colors used in screenshots layouts:

- colors shouldn't contradict the message of your screenshots;
- colors used in app design are more likely to convey what it's like to use it;
- less is more: don't turn your screenshots into a hot mess of various colors;
- colors should resonate with your target audience. It's especially important when you localize your product page.
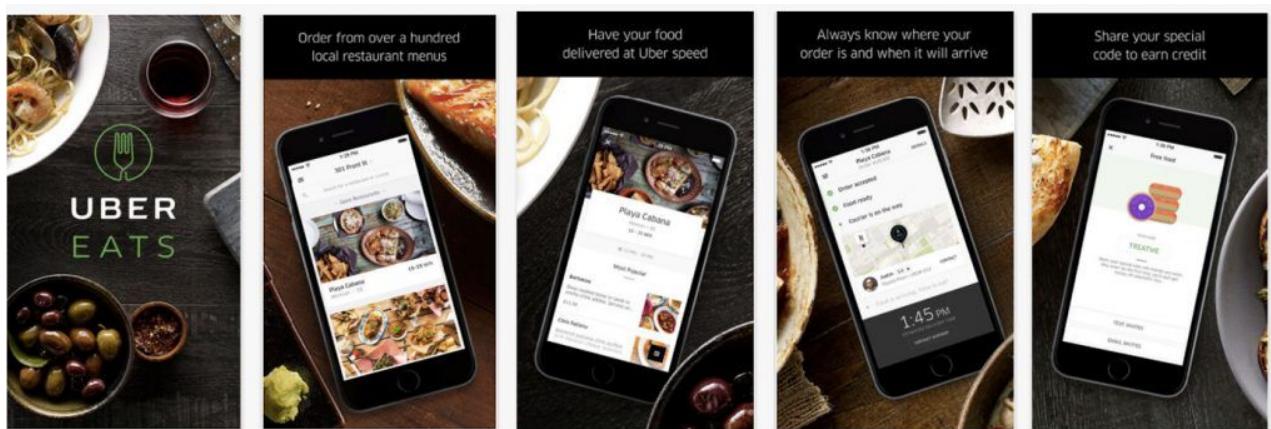
Soundly elaborated background in its turn can help draw users attention and emphasize app's usage context clarifying app's features. It's also a good idea to research background images your target audience like the most.

Incipia studied product pages of top 100 free apps in the Apple App Store and got the following results:

- Custom background turned out to be the most popular one;
- Blurred images in the background are more commonly used than clear ones;
- Colorful backgrounds are popular in such categories as social networking and shopping;
- Blue and white are the prevalent background colors;
- The overwhelming majority of apps used in-app screenshots on the product page (N/A in this graph).

Background type

Background type	Value
N/A	32
blue	16
white	13
bright colors	8
blurred image	6
clear images	5
yellow	3
red	3
gray	3
custom designed animations	3
black	2
white with images	1
white with color strip at top	1
purple	1
pink/red	1
pastel colors	1
green	1
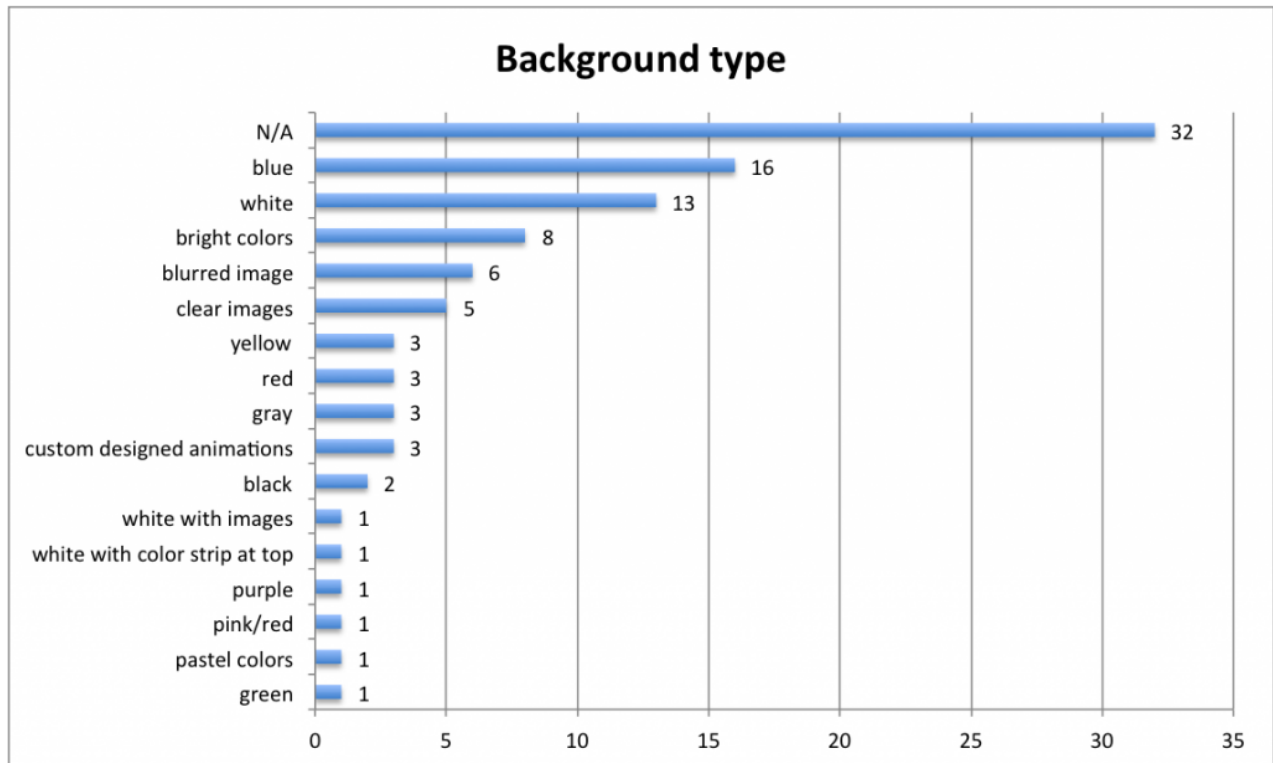
Screenshots Caption

A distinct screenshots trend has emerged lately: app publishers prefer to add a short descriptive text reducing illustrations in size. However, it's important not to overdo, a caption shouldn't exceed two lines. So caption tests are a must.

> **PRO TIP**
>
> Adding caption makes no sense unless it's easy-to-read, short, and clear. The truth is app store visitors don't open full-screen gallery normally, so it's important to make fonts bold and readable even from product page thumbnails of screenshots. Usage of call-to-actions is encouraged, app's features are to be emphasized with verbs.

Short action-packed captions were used in optimization of SongPop2 trivia game. For example, a brief verb-packed caption "LISTEN, GUESS, AND COMPETE" replaced extended "The addictive trivia game featuring real music". The app obtained 10% better CVR as a result.

Incipia found out what type of captions prevail in top apps in their study. The majority of apps used a plain white or black text. Captions in screenshots of game apps took a certain shape, box or banner on top or bottom of the image as a rule.

It turned out that keywords don't make any difference, so it doesn't really matter whether you use them in your captions. In general, apps with some sort of caption had better ranking compared to ones without any text on screenshots.
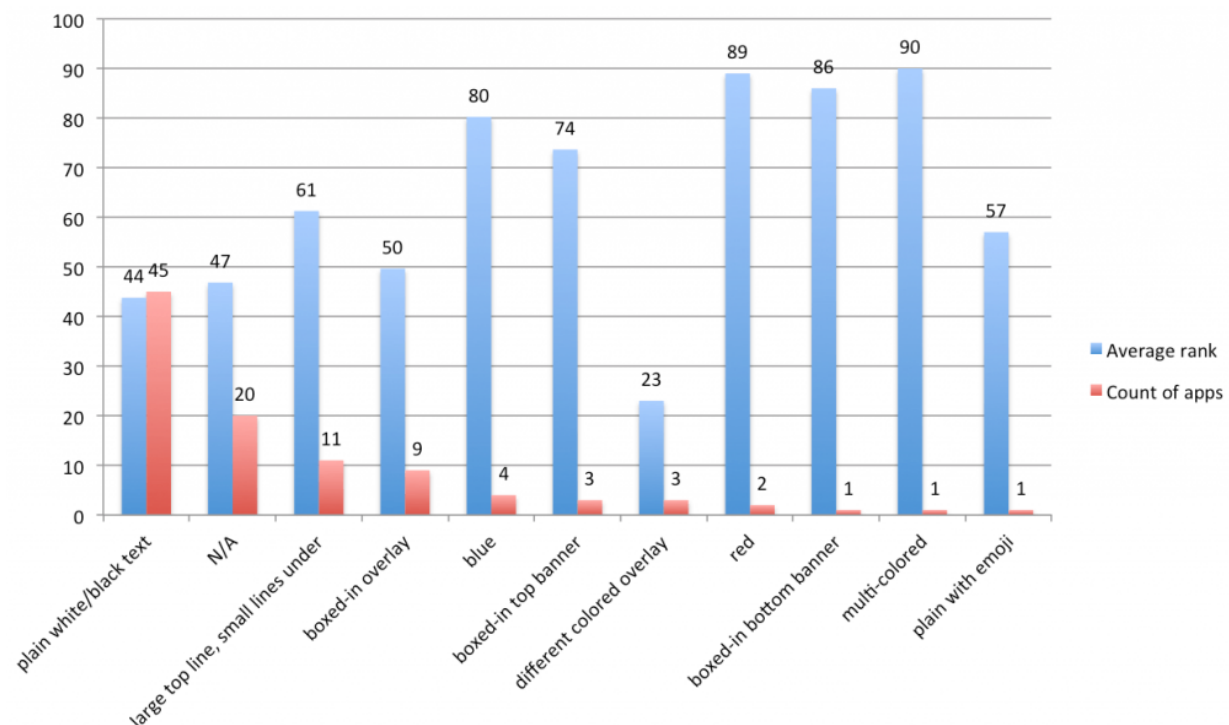
Screenshots Localization for App Store

Many app publishers don't realize how dangerous it is to underestimate localization impact on app's performance. A/B tests of localized store pages can help you understand each market better.

> **PRO TIP**
>
> It's highly important to remember that it's not enough to merely translate your screenshots captions. Localization is to happen beyond the text. After all, you're adapting to another culture.

Remember that devil is in details when it comes to localization. Uber nails details with its product pages for different locales. It seems that the screenshots were just translated but they were truly optimized. On app store versions for the US and Japan, we see various maps, destinations, currencies, etc.
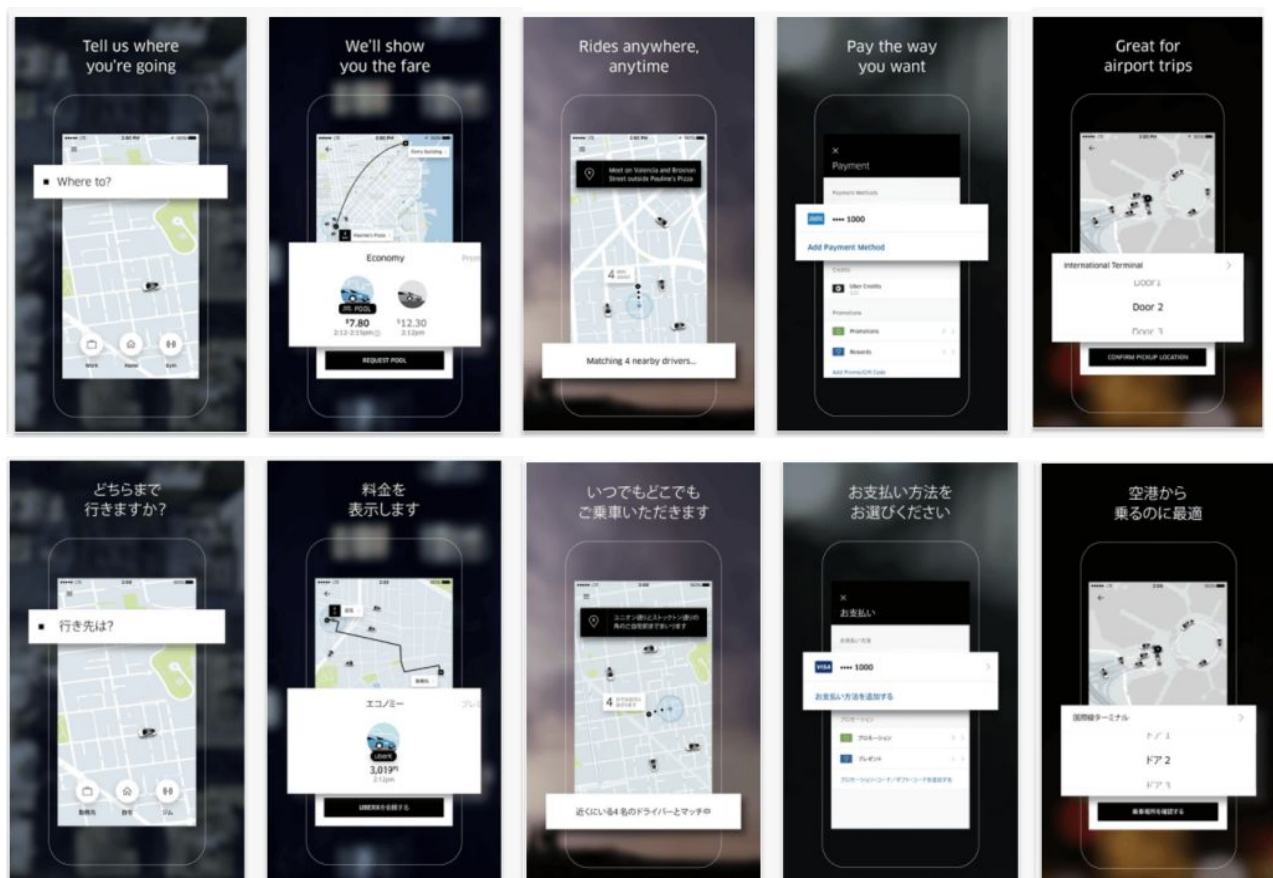
Localizing screenshots you make your app more appealing for representatives of different cultures, thus enlarging your customer bases immensely. So, you'd better take it seriously, it wouldn't hurt to consult professional translator and ask a native speaker to double check renewed localized screenshots.

Ideas for Screenshots Tests

It might be hard to come up with ideas for tests at time. So when you're stuck, it's a good idea to draw inspiration for hypotheses from App Store screenshots core principles listed below.

First screenshots are to encapsulate the essence of your app

First two screenshots have to be as engaging and informative as possible without hurting the ease of comprehension. App store visitors should get the core message of your app straight away.

Choose the most popular feature of your app for the first screenshots based on insights about users' in-app behavior.
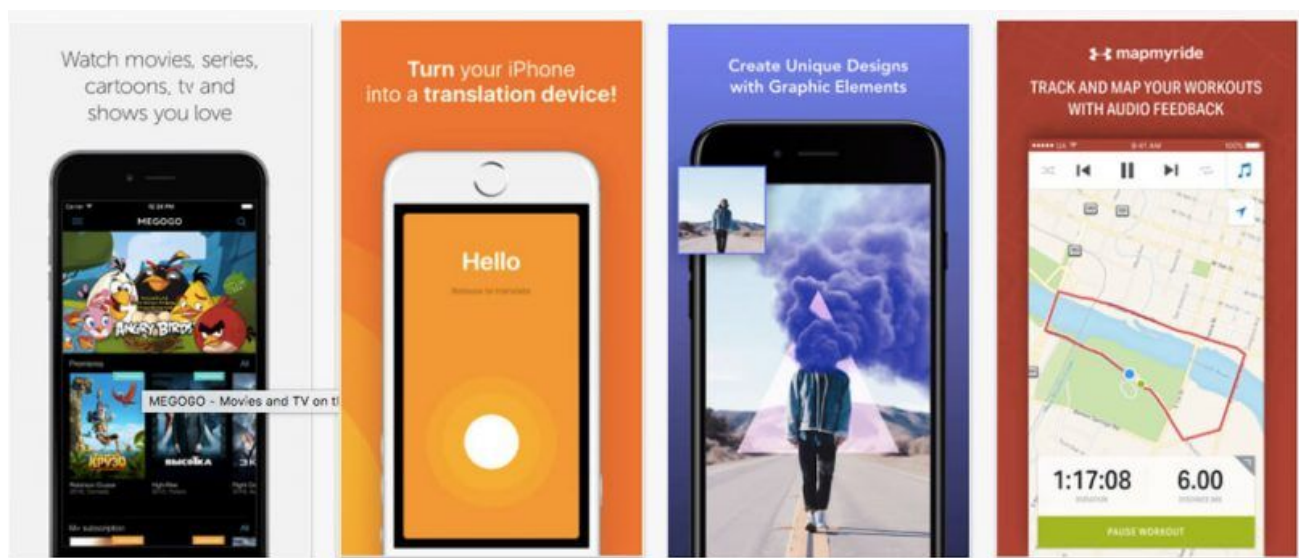
Highlight value and benefits not merely features

In fact, it's better to prioritize benefits over features. Your app can be super innovative and well designed, but nobody will download it unless it solves problems of users. Your screenshots should convey the value of the app and explain how it makes users lives easier.

Use all available screenshots

Sure, not every app store visitor scrolls through all screenshot, but when they do it's sensible to make the most of the store guidelines. Using all screenshots, you communicate more value and cool features your app can boast multiplying chances of the app download.
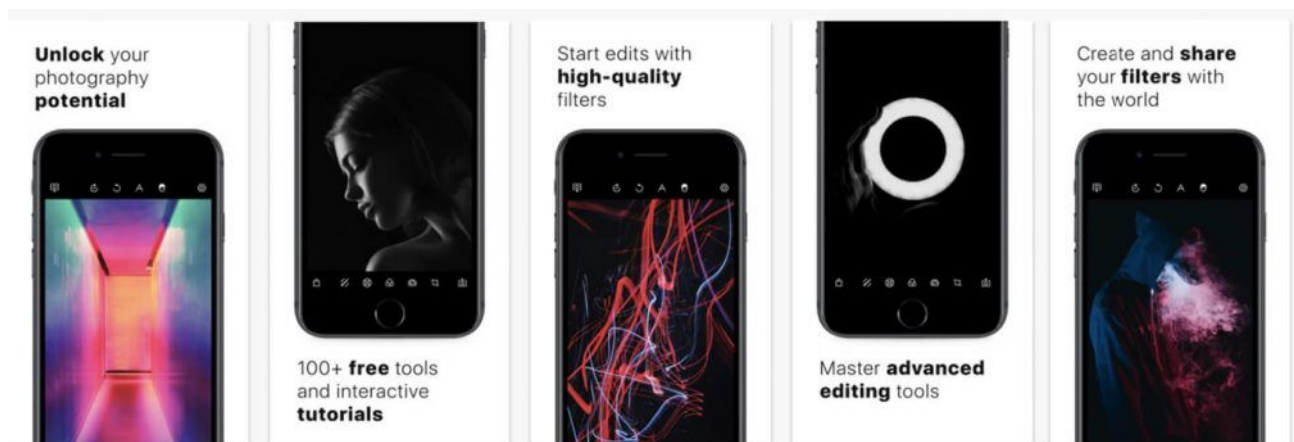
Make use of social proof (testimonials, media mentions, and awards)

If your app got recognition (from being #1 lifestyle app in Honduras to being mentioned in a top-notch media outlet), don't be shy to reflect it in your screenshots. It'll only make your core message more credible and speed up users' decision-making.

Showing target audience that your app is already popular has incredible psychological power which makes it easier to believe that the app is worth installing. Yet, it goes without saying that it's hardly a good idea to fake comments and boast imaginary awards.

Highlight new features after major updates

Your new feature might be a game changer and it makes sense to put it on the first screenshot after its release. Don't ignore Apple updates as well, users should know that your app is compatible with new devices and services.

By the way, it has a potential of increasing your chances of being featured by Apple. However, once all these updates are no longer hot news, don't forget to update your screenshots.
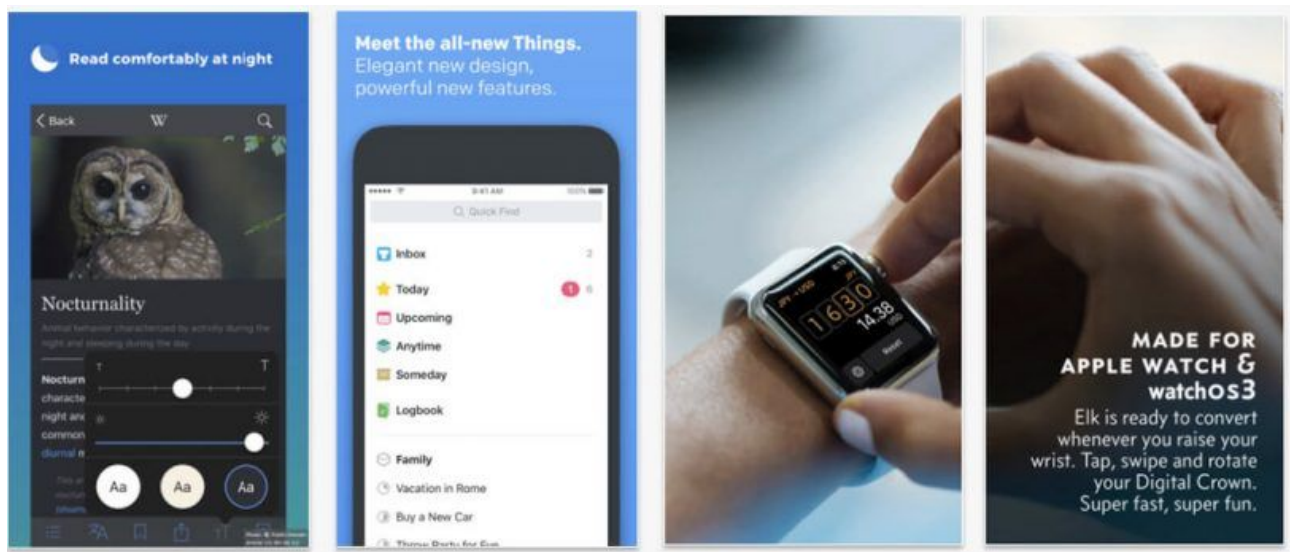
Pay attention to details

There's no place for carelessness when it comes to screenshots design. Many app publishers make same old mistakes over and over again. For instance, if you plan to put a device on you screenshot make sure that status bars should show a full network icon, full Wi-Fi icon, and full battery icon. Such little things can produce an unfavorable impression on users, so be as diligent as you can.

Trusting your instincts might be good sometimes, but it makes way more sense to A/B test all changes before renewing your screenshots on the App Store. At times, results of experiments contradict surefire hypotheses. Even at getting great conversion increase after initial testing, don't stop. After all, there's always room for improvement.

Control version   **Optimized version**

Bubble Birds 4 managed to get a 32% conversion lift via optimizing screenshots with SplitMetrics. Old creatives were redesigned according to game category major trends: short and catchy captions with most appealing characters and custom background which brings together art overlays, real screenshots, and gameplay elements. These helped the company reduce user acquisition costs considerably.

Sure, your app's prosperity doesn't solely rest on your screenshots looks and informativity, but it's reckless to ignore the considerable impact of this product page element. We live in the world where people tend to ignore extensive texts in favor of visual information especially when we talk about app stores.

The majority of app store visitors know how screenshots of a good app look from prior experience. So, equip oneself with tips and get down to polishing your screenshots via A/B testing.

III. App previews

Video app preview is considered a dark horse of store product pages. Some publishers are in the mistaken belief that uploading any video will favor conversion rate growth. The truth is app previews can skyrocket your conversion as well as drive potential users away.

It shouldn't come as a surprise that video quality is a major game changer when it comes to the efficiency of app previews. However, different types of video previews work for different kind of apps.

How to reduce a gambling factor of placing app preview on your store product page? A/B testing is the answer. Optimize your video assets properly, make sure they are able to boost conversions and only then update your App Store page.

Below you can find recommendations which can help you brush up your app previews for further A/B testing.

Don't duplicate images and captions from screenshots

You app previews will show better results if they do not duplicate images and captions used in screenshots of the product page.This easy yet effective tip reminds us to use App Store visitors attention span wisely.

For instance, we've seen tests where variations with app preview captions duplicating all screenshot captions showed conversion decrease of about 5%. Thus, when it comes to your product page, every second of users attention matters so try to engage the audience without repeating yourself and cover different aspects of the app.

Keep videos up to 20 seconds long

The length of the best-performing app previews is normally up to 20 seconds. This unsaid time limit encourages you to create clear and straight to the point videos that do not contain small, hard-to-read and fast-moving texts and avoid screenshots duplication.
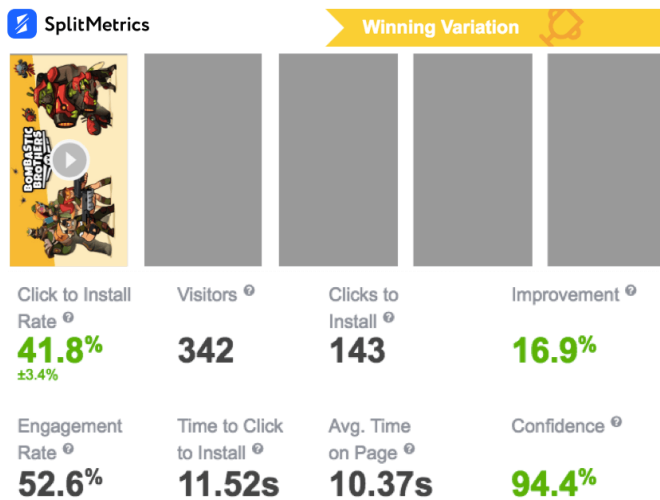
FFStudio experimented with app previews for their game Bombastic Brothers. The 15-second video became the winner showing 16,9% conversion uplift. All other variations exceeded the 20-second limit and had less impressive results. For example, the conversion improvement of the runner-up variation was more than two times worse compared to the winning one.

Lean toward 2 short videos

If a publisher wants to uncover different sides of one application within their app preview, it makes sense to split features into several app previews 15-second each. In the majority 2 short app previews focusing on 2 different features win performing better than a couple of 30 seconds videos.

Avoid using all 3 videos

Store product pages with 3 app previews hardly ever win. We've seen 3 app previews outperforming 1 and 2 videos only once, but even then users didn't watch them until the last seconds. It once again speaks in favor of 2 short and eloquent app previews.

For instance, Zimad A/B tested 3 variations and each had one, two and three app previews per page respectively. The page with two videos won with 11,5% conversion rate improvement.
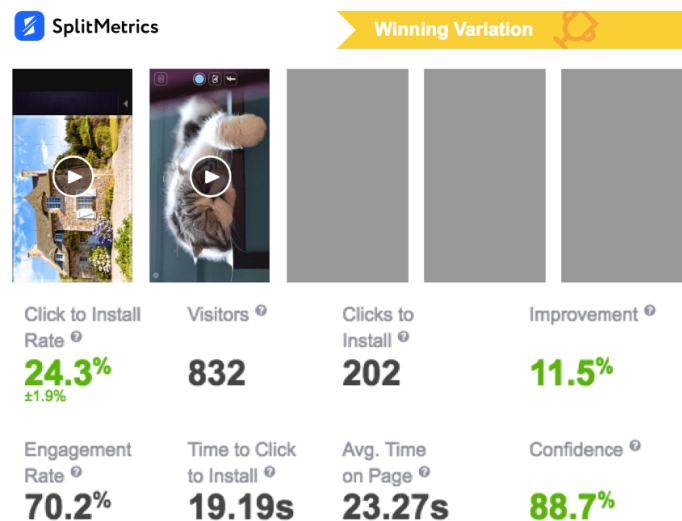
It's curious that the control page with one app preview showed the second result while variation with 3 videos showed 9.3% decrease in conversion. It proved the trend we've mentioned above once again.

Mull over your priorities before choosing video orientation

It is better to avoid using landscape app previews on store product pages with portrait screenshots. In such cases, a video is placed in the Closer Look section which basically means that it has very little or no influence on CVR. However, it may make sense to use landscape app previews with portrait screenshots to increase TTR in Search and keep CVR on the app landing page unchanged.

Thus, you need to sort out your priorities before deciding on the orientation of your app preview:

- If you rely on organic traffic, it's definitely worth focusing on increasing TTR in Search and experimenting with landscape app previews;
- If you focus on paid traffic, avoid orientation mismatch of app previews and screenshots which puts a video in the Closer Look section.

Word to the partner

Sylvain Gauchet from Apptamin, the agency for app videos, complemented our recommendations list with 5 insights based on the experience of creating app previews. These tips can help you get bearings and nail a perfect video preview for your product page.

1. Start with your value proposition

Your app previews should have a strong start focusing on the value proposition of the app or game without going into too much detail at the beginning. Your app preview can slow down a bit after but should still remain an "overview".
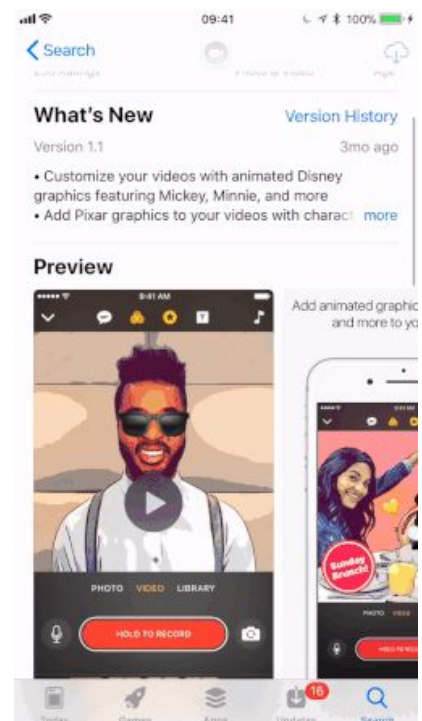
Just like an ad in a Facebook feed, your App Preview can be skipped with just a scroll in the search results. And on the Product Page, you want to make a good first impression. So try to show something that embodies the value proposition of your app, and if possible something that is visually appealing.

Without going to the extreme, it's best if this first part of the video doesn't dive into details and instead gives a quick glance at the app.

Using easily readable copy can also be a great way to have a strong start. You can find a good use of copy below. Never make it smaller than this.

2. Choose your poster frame wisely

Don't forget about a well-chosen poster frame that complements your screenshots set. It's true that the videos autoplay diminishes the importance of the poster frame. But it doesn't mean you should neglect it.

Try to think about your app preview frames and screenshots as a whole. The poster frame needs to be a frame of your video, so you should plan it at the same time as you plan your video preview.

The poster frame of the first App Preview will be displayed in the following cases:
– for a very short time before the App Preview starts playing in the search results on the App Store. But still enough time for most users to see it (try it yourself!);
– while the App Preview of the app below or above (competitors) is playing in the search results. For example, while the Candy Crush video plays, we see the Jelly Splash poster frame;
– before the App Preview video is fully visible on the Product Page;
– in India and China;
– for any users that have disabled autoplay in the settings.
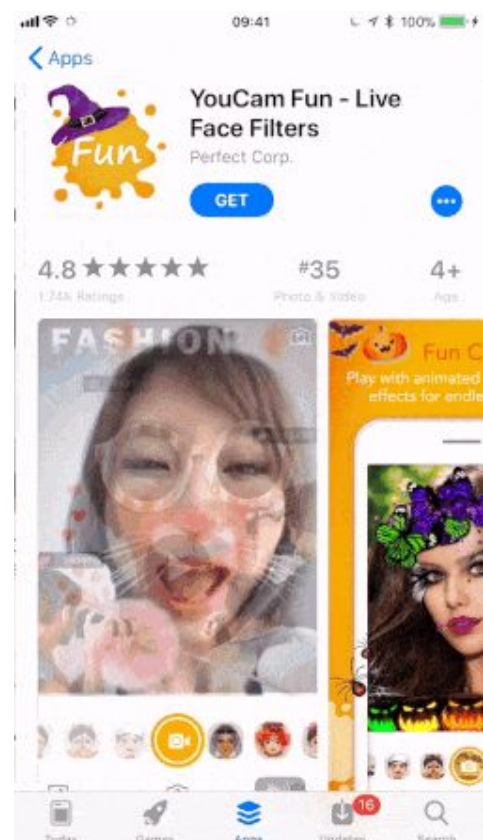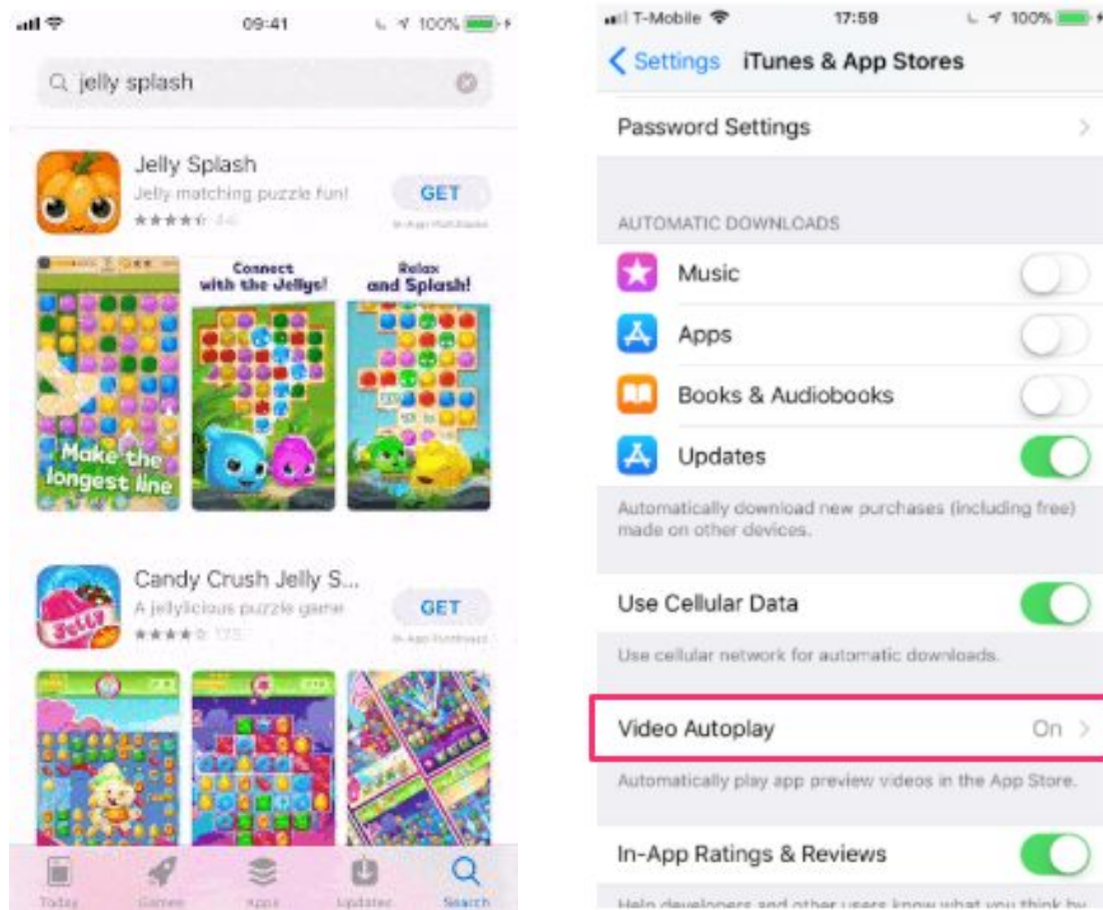
3. Make all details distinguishable

Mind that a user should be able to perceive mute app videos in the preview mode. So make sure that all captions you use in your app preview are easy-to-read and all details are distinguishable.

All videos autoplay in the mute mode so don't rely on narrative aspect of your audio. The footage of your app preview should speak for itself.

4. Know Apple guidelines

Know the guidelines and have a backup plan when experimenting in the "grey area". It goes without saying that it's essential to study Apple app preview guidelines carefully before getting down to your videos to avoid any problems in the course of product page reviewing:

- App preview length should be between 15 and 30 seconds;
- It's forbidden to use UI outside of your application so use only the footage captured within the app itself;
- Showing features available within in-app purchases, it's obligatory to put an in-app purchase disclaimer;
- Your video is to be appropriate for ages four and older;
- Creating your app preview, it's highly important to avoid objectionable content, violence, profanity, etc.;
- It's necessary to update your app in the Store in order to upload new app previews or poster frames;
- App Previews in the App Store are device-specific so mind the required resolutions:

Device or context	Native resolutions	Accepted resolutions
5.8-Inch Retina Display Screenshots	2436 x 1125	886 x 1920 pixels for portrait 1920 x 886 pixels for landscape
5.5-Inch Retina Display Screenshots	2208 x 1242 (Rendered Pixels) 1920 x 1080 (Physical Pixels)	1080 x 1920 pixels for portrait 1920 x 1080 pixels for landscape
4.7-Inch Retina Display Screenshots	1334 x 750	750 x 1334 pixels for portrait 1334 x 750 pixels for landscape
4-Inch Retina Display Screenshots	1136 x 640 (16:9 aspect ratio)	1080 x 1920 pixels for portrait 1920 x 1080 pixels for landscape
12.9-Inch Retina Display Screenshots	2732 x 2048 (4:3 aspect ratio)	1200 x 1600 pixels for portrait 1600 x 1200 pixels for landscape 900 x 1200 pixels for portrait 1200 x 900 pixels for landscape
9.7-Inch Retina Display Screenshots	2048 x 1536 (4:3 aspect ratio)	900 x 1200 pixels for portrait 1200 x 900 pixels for landscape
Apple TV	1920 x 1080 (16:9 aspect ratio)	1920 x 1080 pixels

Historically Apple's guidelines have been pretty strict. It seems that Apple has loosened up a bit, and browsing the App Store it does not take long to find videos that would definitely have been rejected before.

Exploring the "border guidelines" can be interesting if it helps you better portray what your app is all about. But a review by Apple is still a manual process, which comes with subjectivity. So it's almost impossible to know for sure what Apple will approve or not.

That's why if you experiment with something (showing a live-action video behind a text screen, a short animation on a screen, special effects over your gameplay, etc.), you should plan it in a way that it won't "break" your video in case Apple rejects it and you have to redo it.

Have a backup plan!

5. Make attention-grabbing your major priority

App previews should be aimed at covering the Attention stage of the A.I.D.A.model (stands for the terms Attention, Interest, Desire, and Action). So make attention-grabbing your main priority creating your app previews.

Only an intelligent approach brings significant results. It also may be sped up with experts assistance. That's why it's worth investing in professional video production and high-quality A/B testing tool.

Getting down to A/B testing, keep in mind that app previews don't ensure a higher conversion on the app store page by default that's why A/B testing is a must. However, app preview done right is definitely worth the investment.

KEY TAKEAWAYS

1. Icons, screenshots, and app previews are normally the most influential product page elements so it makes sense to start your A/B testing journey with them.

2. Core elements of a converting icon are simplicity, lack of excess visual components, ability to stand out among competitors without losing touch with the conventional principles of your store category.

3. If your brand is already visible in your target market, using it in the icon is a must. It will give the app credibility and increase the trust of users.

4. Pick out 10 best app icons in your category and think how to make yours stand out. Create a couple of alternatives based on your analysis and start testing.

5. When a user gets on the product page, screenshots tend to catch the best part of attention due to its visual nature and a large proportion of page space.

6. Screenshot orientation plays an important role. We analyzed hundreds of SplitMetrics tests to discover that when it comes to a landscape set of screens, only 15% of users scroll through all 5 images, these metric is even more humble for portrait screenshots – 11%.

7. Adding caption makes no sense unless it's easy-to-read, short, and clear. The truth is app store visitors don't open full-screen gallery normally, so it's important to make fonts bold and readable even from product page thumbnails of screenshots.

8. It's highly important to remember that it's not enough to merely translate your screenshots captions. Localization is to happen beyond the text.

9. Use A/B testing to reduce a gambling factor of placing app preview on your store product page.

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10. Don't forget about a well-chosen poster frame that complements your screenshots set.

11. Try to think about your app preview frames and screenshots as a whole. The poster frame needs to be a frame of your video, so you should plan it at the same time as you plan your video preview.

CHAPTER 5

In-App A/B Testing

1. Why Is In-App A/B testing Crucial for Long-term Product Growth?
2. What Is In-App A/B Testing?
3. Five Steps to a More Powerful In-App A/B Testing Roadmap.
4. Reasons for In-App A/B Testing.

I. Why Is In-App A/B testing Crucial for Long-term Product Growth?

It's not a big revelation that mobile app adoption has exploded over the past five years. App downloads increased by 62% in just two years. By 2022 there will be a staggering 31.5 billion app downloads across the globe.

With the rapid democratization and proliferation of mobile app adoption over the last few years, it's no secret that the product management landscape has shifted.

Very unlike web or desktop apps, the mobile app as a product demands constant and meaningful user engagement that translates to growth and retention — which ultimately leads to revenue that can have a lasting impact on your business as a whole.

From working with companies that have run experiments in over 1 billion mobile devices, Apptimize has discovered companies that iterate rapidly grow on average two times faster than their counterparts that don't.

Everything matters in a mobile app feature eco system. Each user touchpoint impacts product growth — every button, feature, user flow, checkout experience, font, and CTA has a lasting impact.

In the second half of this ebook, we will walk through the *what* and *why* of in-app A/B testing, and how it can have a lasting impact on your product's evolution.

II. What Is In-App A/B Testing?

Gavin Were, Director of Google Play Solutions breaks down in-app A/B testing in such a beautiful and simple way:

> *A/B testing is a controlled experimentation method that compares two or more variants so a hypothesis may be confirmed or refuted. The test isolates the specific test variants from the rest of the system to generate reliable results. A/B testing is most effective when performed in a live environment when the test population is unaware the test is running.*

At Apptimize, we really believe it's that simple. If you have a product-focused hypotheses, A/B testing — when implemented and executed correctly in your product management toolbox — is an incredibly powerful way to validate those assumptions through a series of actionable experiments.

Let's start by reviewing a few terms around A/B testing:

Experiments
Every in-app experiment or A/B test will include a control and typically two variants, an A variant and a B variant. The control will be your the original version of the app while each variant will represent a change made to the app.

Goal
For every experiment, you will need to identify the goal, which is an event or combination of events, that measure the success of an experiment. For example, your goal could be to increase the number of conversions on the subscription page of your app.

Hypothesis
A hypothesis is your prediction of how the event or goal will be impacted when you change certain features of the app.

Population

The users of your app who could be participants in the experiment. Depending on the type of experiment, you can decide which segment or types of users to include. Regardless of whether you target particular users or include any users, it's important to randomize their selection in in the experiment's population to avoid bias in the results.

Participant

The user from the experiment's population who actually participated in the test. The sample size is the minimum number of participants your experiment would require in order for your results to be considered statistically significant.

Statistical Significance

95% statistical significance is the scientific standard. This means that there is a 95% chance that the actual conversion rate for your variant is better than the actual conversion rate for your control. Since statistical significance can change over time based, experiments should run for the number of days it takes for the minimum sample size to be reached and statistical significance level to stabilize.

Lift

After you run your experiment, you will use the results to measure how the variant performed compared to the control or original. The lift is the percentage difference in conversion rate between your control version and the variants.

III. Five Steps to In-App A/B Testing

1.   Identify the Hypothesis You Want to Test

Just as within the realm of science, a good hypothesis is basically summed up as an educated guess. In other words, if you conduct an experiment, what is your expected outcome? If you change the color of your CTA button, will it drive more conversions, or repel users from engagement? As a product manager, these are the types of questions you are aiming to answer. In other words, what levers can you pull to ensure that you are growing engagement and retention across your mobile app?

> **PRO TIP**
>
> Your most active users will usually indicate the areas they would like to see improve. You can mine customer feedback, from both a quantitative and qualitative standpoint, to discover features to test.

2. Integrate an A/B Testing Platform

While there are several in-app A/B testing platforms on the market, not all are created equal. You'll need to find an A/B testing tool that easily integrates with your product and user segmentation metrics, while enabling scalability as the needs of your mobile app product become more demanding. For instance, if your team has varying degrees of mobile development knowledge, a quality A/B testing platform will allow you to conduct experiments — integrated with powerful third-party mobile analytics tools like Amplitude, Firebase, and more — to track real-time events without writing a single, additional line of code.

3. Run an Experiment

This is where the you take all of your hunches and feed them into your in-app testing platform to validate their impact on your product. Let's look at a simple example of a new navigation feature A/B test:

Hypothesis: Moving in-app navigation drawer to the bottom of the screen will increase conversions and engagement.

Test A: Current navigation positioned as a drop-down menu at the top of the user's screen

Test B: Feature update has moved the navigation drawer to the bottom of the screen

4. Draw Conclusions

Now it's time to look at the data to draw some meaningful conclusions about your hypothesis. With a powerful A/B testing tool, you will be able to see how that new

feature impacted your actual users in real time. It's easy to view negative conclusions as failure. At Apptimize, we view these negative results as just important as success. Why?

Because you have eliminated the wrong assumptions, and now you're further along on the path to driving more in-app engagement.

5. Take Action

At the end of the day, data does not lie. Whatever the result of your A/B test will end every debate about new features and updates. As you begin to mine valuable insights from your in-app A/B testing platform, you will start your journey to adding user-validated value to your product roadmap.

The results may validate your assumptions that the feature being tested should become permanent. In that case, the next steps would be presenting the findings of the experiment to put the feature on the product roadmap. In some scenarios, it might mean expanding the experiment to include other segments before drawing a conclusion.

IV. Why In-App A/B Testing?

Stand Out in a Crowded Marketplace

The obvious upside of the rapid, mobile app adoption phenomenon is that the market is massive. By 2020, mobile apps are expected to generate almost $189 billion via app stores, and in-app revenue generating tactics (native advertising, in-app purchases, etc).

The challenge of this mobile revolution is that the marketplace for that $189 billion revenue opportunity is crowded. As of 2018 there are over 2 million apps in the iOS app store, and more than 3 million in the Google Play store. On top of that, the average smartphone user has more than 100 mobile apps installed on their phone at one time.

That same user engages with 9 of those apps every day, and an average of 30 apps each month, according to TechCrunch. Not to mention that your ideal-fit users are likely testing your competitor's apps while they are testing your product on the same device.

Capitalizing on your next, big market opportunity requires that you meet the needs of your users by custom-tailoring experiences for each audience segment (more on this later).

Practically, this means delivering the right mobile app experiences to the right users at precisely the right time.

Boost User Retention

As is often the case, user growth is only one piece of the puzzle. Afterall, if you're boasting massive user growth and none of your users are regularly engaged, are your new features you spent months planning and iterating on having a real business impact?

User retention is among the most common problems mobile apps are tasked with solving. According to Localytics, 70% of new app users churn in 90 days. What's more is that their 2017 industry-wide research indicated that the global average retention rate was a mere 20%. From an A/B testing perspective, you can make a direct impact on this KPI by testing how and when you engage with your mobile app users.

Research shows that the majority of mobile app users go dormant within the first week of using your product. This is a perfect time to start testing onboarding flows, "AHA Moments", and other engagement tactics.

Drive a Culture of Data-Driven Experimentation

The principle is simple: if you equip your team members with powerful data to make smarter product development choices, it will infect your culture. In other words, your team will adopt an always-be-experimenting mindset. Executing on this principle over time is a lot more complex.

It all starts with access. According to a recent TechCrunch article on the building blocks of building a data-driven culture, Warby Parker's former Head of Analytics, Carl Anderson says, "Data-driven organizations tend to be very inclusive and provide access wherever the data can help. (...) It means assessing the needs of individuals, not just the analysts and key decision makers, but across the whole organization, out to the front-line of operations."

A data-driven approach to mobile growth not only lets you communicate priorities between teams, but also helps you influence strategic direction. Findings from experiments will help you let your leadership understand where the opportunities for growth lie.

PRO TIP

SplitMetrics indicates that A/B testing for visual elements of your app can result in a <u>19% to 26% increase</u> in conversions.

In summary, in-app A/B testing allows you to fine-tune user engagement in real time to turn your users into loyal, long-term app users.

Determine Which Features Are Worth Building

We've all been there—meetings where conversations are circular rather than progressing toward a clear direction. It may be because some voices or opinions are heard more than others. Understandably, whenever there is a new mobile app feature or product, stakes are usually high. This is where A/B testing can reduce noise surrounding which features are must-haves over nice-to-haves. Alternately, when it comes to new product launches, having an "always testing" mentality will help with early adoption and likelihood of a sticky product.

KEY TAKEAWAYS

1. The mobile app growth and revenue opportunity is massive, but the market is crowded.

2. In-app A/B testing allows you to deliver amazing in-app experiences to the right users at precisely the right time.

3. Amplify in-app user engagement by A/B testing key points of your user experience to serve your precious audience the best experience possible.

4. A/B testing can help product teams determine which features are priority and the results provide a means for them to get the rest of the organization onboard.

In-App Testing and Optimization Best Practices

1. Onboarding
2. Mobile-First Experience
3. Call to Action (CTA) Testing
4. Increasing Subscriptions
5. Monetization
6. Retention
7. Feature Discovery
8. Checkout Flow

In the mobile industry, optimization is king.

The mobile app market is one of constant change — methodologies, technologies, and user preferences are all in constant flux. Most fluid of all? Rather than mapping out the perfect product, the top apps are always striving for improvement and staying nimble enough to recognize shifts in consumer demands to change and adapt accordingly. How do they do this? Through optimization.

It's important to remember that optimization isn't only about investing heavily in building the slickest feature sets and functionality components. It's often about getting the most out of what you already have. That's why the process of mobile app optimization is so cost-effective — it focuses on tweaking your already-in-place processes.

In other words, you don't need to spend huge amounts of time and money. Simply use what you learn from user data to improve your product. To help you get started, we'll run through some experimentation ideas as it relates to different use cases.

I. Onboarding

Depending on who you ask, onboarding is the most critical part of your app users' experience. Unfortunately, there is no one-size-fits-all approach to onboarding, so you'll need to experiment with varying approaches to getting your users up to speed as quickly as possible.

Having a good onboarding flow makes it easy for your user to start using the app and helps increase usage, thereby reducing likelihood of churn.

Onboarding can involve the following:

- Welcoming the user and showing them how to get started either by registering, logging into their account, or setting up their preferences
- Educating the user on how the app works and key features to pay attention to
- Recommending the easiest ways for them to start engaging

Let's take a look at one experiment around the onboarding flow for an app for a telecom provider.

Virgin Mobile UAE's Sign Up Experiment

Virgin Mobile launched the first-ever telecom service in the United Arab Emirates in 2017. This was met with a great deal of excitement and complexity, as Virgin Mobile UAE was only the second brand Under Emirates Integrated Telecommunications Company (EITC), which essentially meant that they had to leverage economies of scale in order deliver value to mobile users in Dubai.

The challenge for Virgin Mobile UAE was just as unique as the city of Dubai. For example, users could use the mobile app to choose their number, customize their plan, and get their SIM card delivered to their location in an hour or less.

The unique challenge was around user-flow and conversion. For instance, Dubai-based users spend fortunes on license plates for their cars, and auctions for cool phone numbers for millions of dollars. Virgin's initial assumption is that this would make the choose your own number feature highly valuable. However, the number selection step was having the highest drop off in the flow by a large margin. The team looked to testing to better understand their users' preferences.
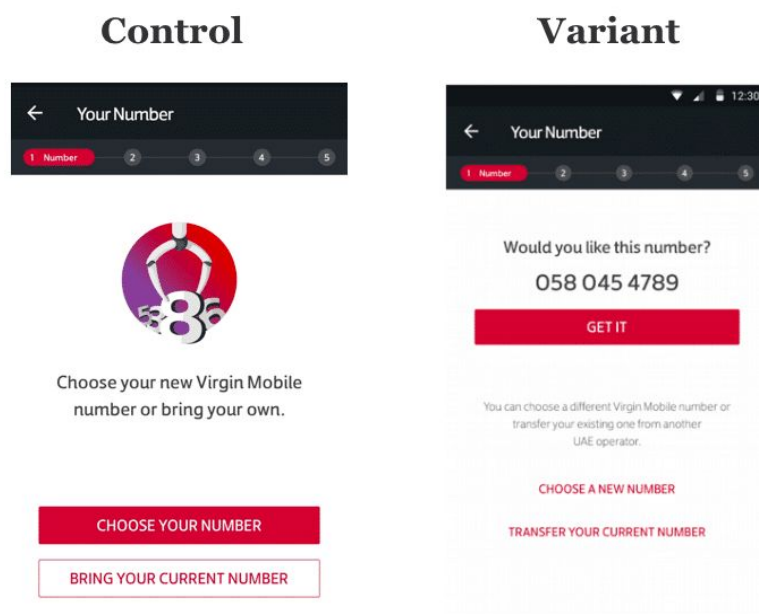
Virgin had the idea to randomize number assignments to their users, with an option to change later as needed. This allowed space for indifferent users to not be affected by choice paralysis and would be more likely to convert.

The prediction was that at least 5% more users would continue to the next step: registration.

In the test, Virgin asked the control group's users to select between choosing a new number or transferring their existing number.

The variant had both options at the bottom, but the most prominent element of the screen was showing them a random number assigned for them, with a big CTA to move them to the next screen.

The result is that the variant group with the random number got 9% more users to the registration step. When we later compared the week before the test to the one after, the drop off rate had gone down by almost 18%.

Here are three best practices to note when onboarding new users:

1. **Pre-populating Where Possible**

   By suggesting a mobile number, Virgin Mobile reduced friction for the user as they signed up. A user may not be ready to commit to a username, number or settings. Offer to do the creative heavy-lifting for them and let them know it can be changed later. This will give them the chance to explore the app in the current session.

2. **Highlight the Value of App**

   Even if you have a customer that is active on another channel, don't assume they know the best ways to leverage the mobile app. Provide some reasons as to how the app will simplify or enrich their current ways of doing something, from communicating with their close ones or booking their next hotel stay. For this part, it's better to follow the K.I.S.S. principle and keeping it short and simple. Try to only illustrate one concept per screen.

3. **Guided Walkthrough**

   You may not require much walkthrough if your app has a truly intuitive UI. However, guiding your app users through the main features and functionality of the app can accelerate their adoption. You may have unique features specific to your app that you also want to showcase.

II. Mobile-First Experience

As apps become the dominant point of purchase for many businesses, product managers have to craft an experience specific to mobile users. After all, translating desktop experiences to mobile doesn't work. You're dealing with less screen real estate on apps that may require you to rework the user navigation.

How Delivery Hero Boosted Food Order Conversion by 4.5%

Delivery Hero is a leading global online food delivery marketplace in 40 countries, spanning five continents. One of their main KPIs was to increase order conversions to boost revenue growth within their mobile app. Up to that point they had received a bit of negative customer feedback about the length of menu pages, and were seeing a high drop-off rate among new users.

Delivery Hero tested their hypothesis that switching to an accordion-style menu — eliminating the scroll experience — would lead to higher conversion to checkout and ultimately to more orders.
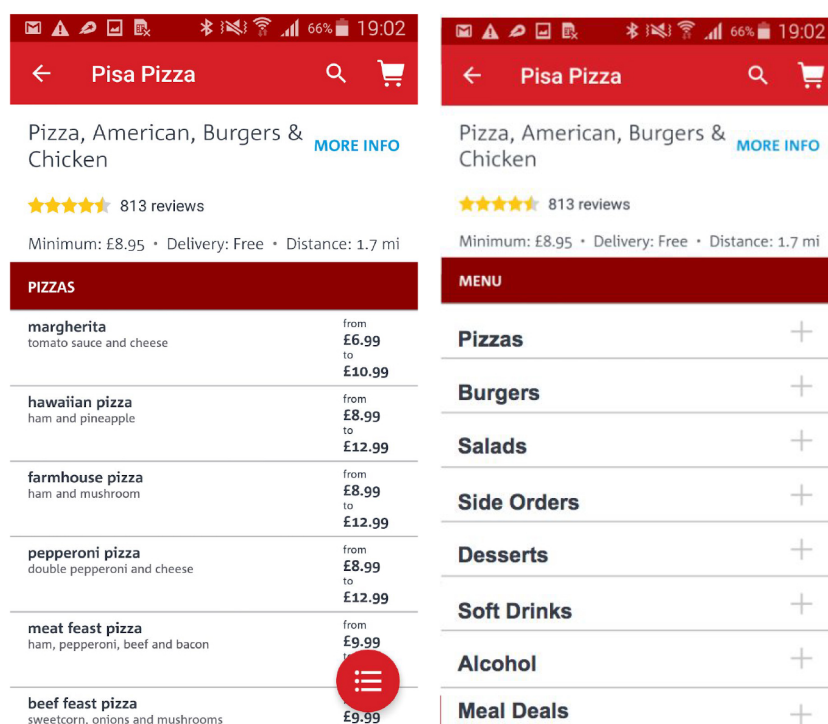
Using Code Block within the Apptimize platform, Delivery Hero ran an A/B test on their menu page to convert more users to checkout. The control was the original menu and the variant was the condensed, accordion menu style.

As a result, they saw a 4.5% relative increase in click through rates and order conversions with the accordion-style menu.

III. Call to Action (CTA) Testing

Not all in-app A/B tests have to be complex, multi-screen product offering tests. In some cases, small, incremental UX updates can have a lasting and measurable impact.

One example of this is your Call to Action (CTA). While it may not seem to carry the same weight, it can result in big revenue and/or gains in engagement — and there are a wide range of CTA elements to test.

You can test everything from the CTA button color, font style and weight to CTA copy, placement on the screen, the size of the button, and more. Remember, don't be afraid to be delighted by testing elements that don't follow convention, common sense, or dare we say, brand. Here are three best practices to note when testing CTAs:

1. **These Are Not The CTAs You're Looking For**
   It's not just what you're changing or adding, but sometimes it's about what the user doesn't see that helps boost conversions. Consider minimizing distractions to help the user focus on the primary CTA. Try hiding buttons or links that may clutter the screen.

2. **Context Matters**
   If you present an "Upgrade Now" CTA without articulating the benefits of the more expensive plan, it would be easy to see why conversion would suffer. Try to make the benefit more descriptive and personalized. For example, if you were doing a test for a media app, go beyond stating that the user will "receive unlimited access to articles" upon upgrading. Instead, you could test more detailed text that lets them know that they will "get unlimited access to over 10,000 travel articles".

3. **Go Bigger**
   A simple yet effective test could be increasing the size of the button or CTA text. When dealing with limited screen size, try experimenting with different widths.

III. Increasing Subscriptions

Anyone who is in the product management business for mobile apps loses sleep over subscription optimization. This is especially true for product managers who are managing apps that must be monetized through subscriptions. While there are a lot of important KPIs to concern yourself with, optimizing subscription growth is likely top of mind most of the time.

Take the GPS-enabled running tracker Runtastic, for example. They launched a Dynamic Variable A/B test for their Android and iOS apps. The original variant featured a promotional statement, while the test variant included a real user review along with a 5-star rating.

The user review variant produced a 44% increase in paid subscriptions for Android users and no significant change for iOS users. Based on the results of this test, Runtastic only updated their Android paywall screen.
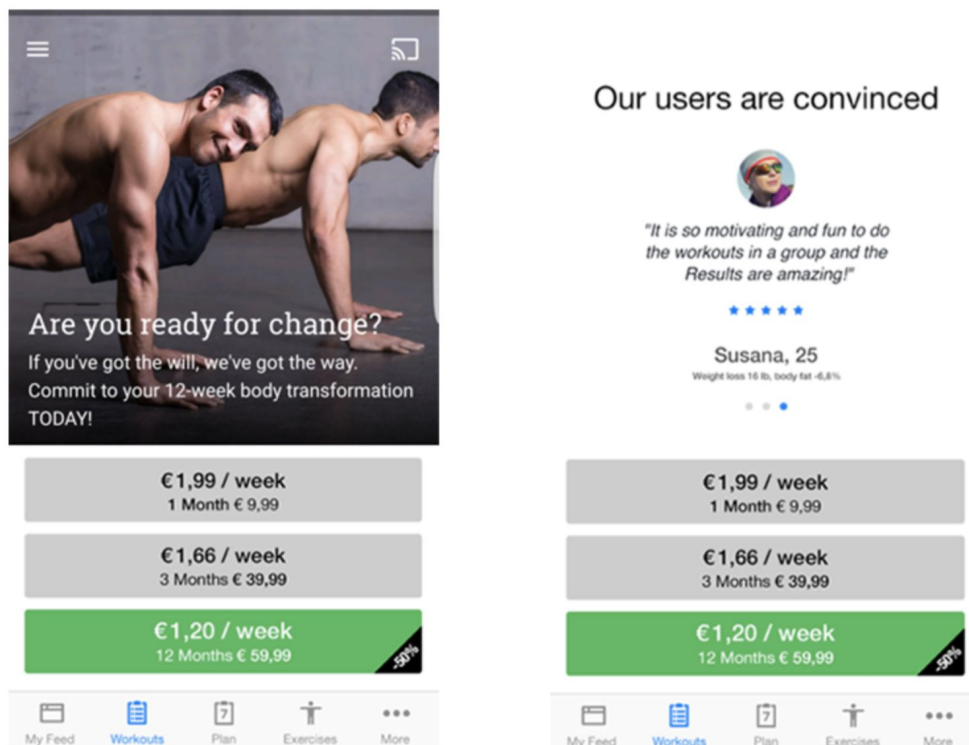
IV. In-App Purchases vs. Subscription Revenue

It can be challenging to prove a monetization strategy. Should you try in-app purchases or build recurring revenue through subscriptions? These are great questions that A/B testing can answer.

Busuu Optimizes Conversion Rate After Switching to Subscriptions

Busuu, based in London, has language learning apps used by over 75 million users worldwide. The apps started out offering in-app purchases to language aficionados. Users could then pay to unlock different languages. After seeing analytics pointing to freemium, subscription-based as the top grossing apps, the team at busuu decided to make the switch over to a subscription model.

They started offering monthly, 6-monthly and yearly plans, expecting to see revenue increase as subscriptions brought in users with a higher lifetime value and recurring revenue. However, after launching a subscription-based app, they were initially disappointed by what they saw.

The conversion rate of users actually decreased to a staggering 75%.

However, Antoine Sakho, Busuu's Head of Product, used mobile A/B testing prove that the subscription model would work.

His team first defined the formula to calculate subscription revenue:

Subscription Revenue = Number of Active Subscribers x Average Lifetime Value of Subscriber

Antoine further broke down the equation: Number of Installs, Conversion Rate, Average Order Value and Renewal Rates that would optimize the overall subscription revenue number for busuu. He then outlined a series of experiments that would increase those values.

To increase purchase conversion rate, he wanted to test two strategies:

1. Increasing paywall views through tactics such as content locking and signposting
2. Improving payment funnel through tactics like discounting and product marketing

To influence Average Order Value, he would attempt the following approaches:

1. Shifting product mix through making longer plans the default
2. Increasing prices using price elasticity testing

Test 1: Content Locking

The team tested restricting access to all languages to Premium users only.

Hypothesis

Hardcore free power users who learn several languages at a time would upgrade to continue learning.

Result

They experienced 83% conversion rate increase for the power user participants (around 20% of our user base learned >1 language) – one of the strongest they've seen through hundreds of experiments!

Test 2: Discounting

Busuu started experimenting with offering 50% discounts on 12-months plans only instead of 30%.

Hypothesis

They have virtually 0 cost per marginal unit sold – they could literally discount to 90% so they gave it a try.
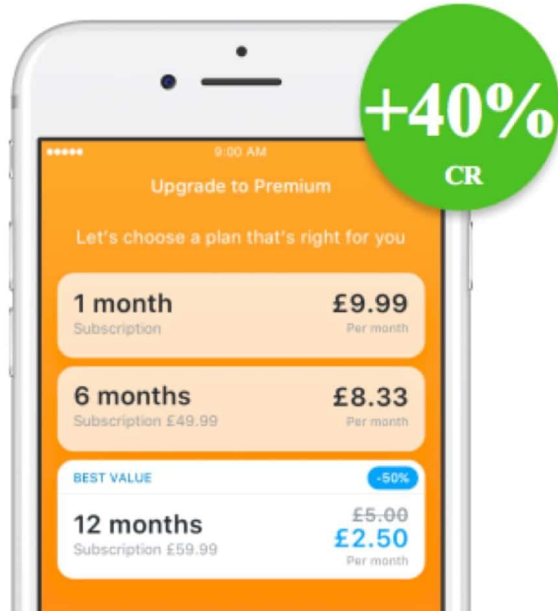
Result

They saw a 40% increase in conversion and 88% increase in bookings, as users went for longer plans. This is because an increased discount made longer plans look more affordable.

Test 3: Price Testing

One experiment they ran focused on incentivising users to choose the yearly plan by breaking down the yearly price.

Hypothesis

The yearly price had already been broken down to its monthly equivalent a couple of years ago – that is, instead of showing $60/year, they show $5/month above the total, a very common practice to anchor customers to the lower price and make yearly plans comparatively more attractive. Just from this, they saw a 12% increase in purchase of annual plans.

Lesson Learned

The more you break down prices to more granular time scales, the more the "savings" from longer to shorter plans appear to be smaller, e.g. 5£/month on yearly plan or 10£/month on a monthly plan VS 0.16£/day on yearly plan vs 0.33£/day on monthly plan.

As the savings difference appears much smaller, it changes the trade off between savings and flexibility of cancellation and pushes users to go for shorter plans, reducing overall revenue. Make sure you test your price breakdown!

Test 4: Help, Suspension & Discount

Antoine's team also decreased cancellations by testing multi-step flows that addressed possible reasons for cancellation.

Hypothesis

Prevent users from cancelling by providing a multi-step flow with multiple winback tactics

Test Flow

As users go through the cancellation flow, they are presented with:

- A help screen which inquires whether the user might just need some help with the service
- If the user goes ahead with the cancellation, another screen offering them a discount if they stay
- If the user goes ahead with the cancellation, another screen asking them about the reason for their cancellation (from which Busuu gathered really good data on churn reasons). Then the flow branches:

  - If the user chooses "the free option is enough for me" they are presented with one last screen reminding them of the benefits of a premium membership and what they will lose if they cancel
  - If the user chooses "I want to change my subscription" – busuu realized some users cancelled because they wanted to switch plans to longer ones, so they presented them with the option to do so
  - If the user chooses "I am too busy" busuu offers them the ability to pause the subscription
  - If the user still continues with the cancellation, busuu finally presents them with a confirmation screen and a button, which if clicked, will end their subscription

Results

Through this flow they saved nearly 30% of cancellations from happening.

V. Retention

User retention is an ever-moving target. A study by Appcues indicates that mobile apps only have 21% retention on day one, and that quickly dips off by the end of the first week. In your users' early stages, it's critical to show your app's inherent value early and often.

This is best achieved by helping your audience develop habits within your app's experience flow right out of the gate.

Implement a surprise and delight strategy by engaging with new users right where they live—on their mobile devices and in relevant communities for educational and engagement purposes.

Check out chapter 8 for more information on tried and true mobile retention strategies.

VI. Feature Discovery

Regardless of the problem your app is trying to solve, new users downloaded your app to meet a very specific need. A good feature discovery flow within your app gets your assumptions out of your users' way, and lets them accomplish the task at hand as quickly as possible.

How the Social Media Triumvirate — Facebook, Twitter and LinkedIn — Use Tool Tips for Feature Discovery

In-App Messaging at Facebook

Twitter's GIF Helpers
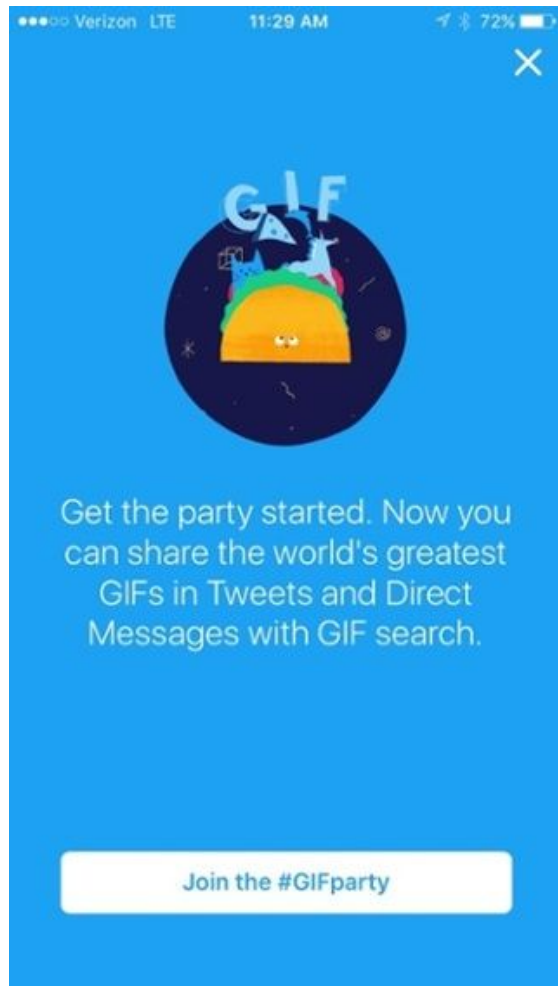
VII. Checkout Flow

In the retail and eCommerce worlds, the smartphone checkout experience can be big business. According to Recode, 2017's Black Friday saw almost $3 billion in overall purchases, with 27% of sales and almost half of all traffic came from mobile phones.

Simply put, it matters how seamless it is for users to move through your retail app's checkout experience.

When it comes to optimizing your checkout flow for conversions, what better example is there other than the monsters of eCommerce, Amazon. In other words, your checkout experience should make people go from "wanting" to "buying" in 30 seconds. This means enticing while eliminating barriers.

This will often involve experimenting to identify your most common barriers that prevent shoppers from moving quickly through your checkout flow.

Checkout Flow Tests at a glance

Sample test 1
Test A: Offer Product Recommendations
Test B: Discount code offer

Sample test 2
Test A: Offer an in-app coupon to clients to be redeemed through the app
Test B: Offer the same coupon with an option to redeem both in-app and in-store

Sample test 3
Test A: Send a digital coupon to half of your loyal clients over email
Test B: Send the same digital coupon to the other half of your loyal clients with the option to clip and save the coupon in-app

KAYAK Increased Checkout Conversions by Promoting Security

Kayak has become one of the biggest and most-recognized names in online travel. The company's large user base has allowed them to test and optimize nearly every aspect of the Kayak mobile app.

Among the features the Kayak team tested was removing their buyer security assurance during checkout. Despite the company's solid reputation in the travel space, Kayak recognized that mobile payments were fairly new for most people and may cause worries about the safety of the information shared through the app.

There's a line of reasoning, however, that says that such assurances only *remind* customers of risks they wouldn't have thought of otherwise. So Kayak experimented with removing the security assurance from their flow and tracked conversions.
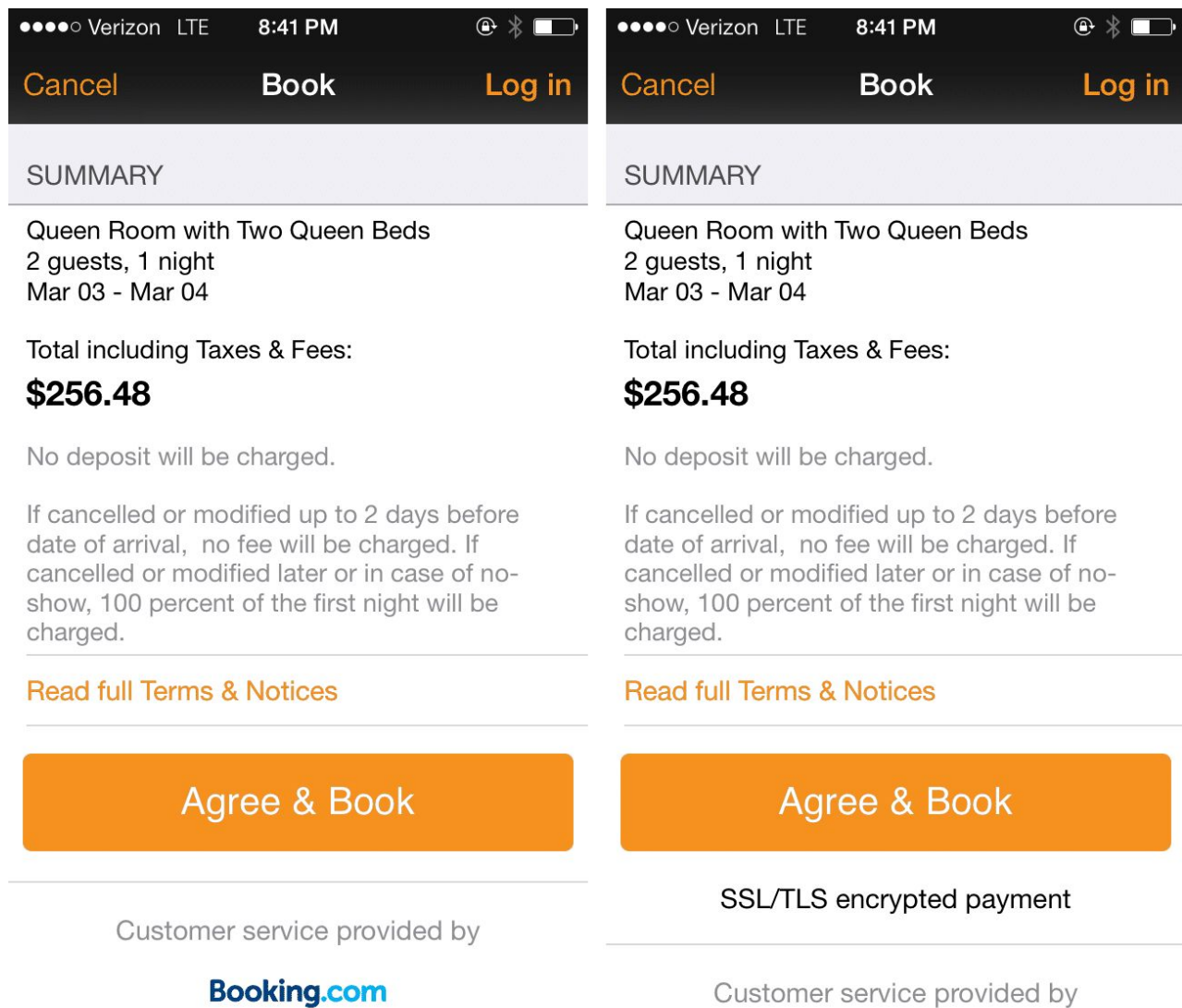
Though most people probably don't know what an "SSL/TLS encrypted payment" is without looking it up, Vinayak Ranade, Director of Engineering for Mobile at Kayak noted that "when we removed the messaging, people tended to book less."

Letting people know that their information is safe with your app can boost buyer confidence and app sales by eliminating any doubts from the user's mind.

KEY TAKEAWAYS

1. Experimentation requires some boldness to try and test new, unorthodox UX ideas. In other words, don't be afraid to experiment with onboarding methods that are a little strange and counter intuitive. You may be pleasantly surprised to see a significant uptick in conversions.

2. When in doubt, get of your user's way. The job of your app's UI is to make it second nature for your customers to navigate and gain the most value possible out of every feature and in-app experience. The catch is that you will need to experiment constantly to evolve to a friction-free mobile app.

3. If you aren't focused on delivering personalized experiences for your users, you are no longer competitive.

Building vs. Buying Your A/B Testing Solution

1. Overview
2. Internal Resources
3. Accessibility
4. Cost
5. Innovation
6. Security

I. Overview

At this point, you probably have already come to the conclusion that in A/B testing and experimentation is a winning strategy for creating amazing mobile user experiences. You can use this powerful user data to create user flows that directly impact revenue, retention and engagement growth. When it comes to sourcing your in-app A/B experimentation software solution, it all boils down to one question: do you build it or do you buy the solution?

There are pros and cons to having an in-house or third-party Software-as-a-Service (SaaS) solution. In this section, we will simply breakdown some essentials to consider when answering the build-or-buy question.

II. Resources

Do you have the internal engineering resources to build a custom software solution? This is an important question to answer. You may have internal stakeholders that make the case that tech giants like Google and Netflix have their own internal customization tools. The only problem with that assertion is that they are Google and Netflix. They have no shortage of star power at their disposal. In fact, few brands have "extra" engineering talent to throw at a custom, internal A/B experimentation tool.

Most organizations are simply hiring new engineering talent to keep up with growth demands placed on their product. In fact, in most cases making the simplest changes to a product can result in late nights on the development side of your organization.

To truly scale and grow an in-app A/B testing program, most organizations must rely on dedicated, third-party tools to achieve their business goals.

III. Accessibility

Perhaps the biggest problem with in-house software is that not everyone within the organization has access. A/B testing at its best a democratic, transparent process where multiple teams have access to the same data to make informed product decisions.

For example, without building in an intuitive, plain-English results dashboard, if someone on your Marketing team wants to analyze the impact of an A/B test, they may need to understand in-depth statistics to evaluate the results well. Many home grown A/B testing solutions don't have a dashboard to display results, so someone in analytics has to write SQL to pull data, posing a barrier between the end user and impactful data.

Without a system optimized for efficiency, product managers will be limited in their efficiency and velocity — whether it's launching an experiment or interpreting the results. Given that the results of an experiment have meaningful impacts on business KPIs, this technical constraint can be a
serious roadblock in your growth.

On the surface, building your own experimentation tool might seem like the right choice. But when you zoom in on an organizational level, it can slow the agile scalability work flows that many early-to-middle stage technology companies need to hit all of their business goals.

IV. Cost

Unfortunately, the cost of building your own experimentation platform is not just limited to upfront development costs. If that were the case, it would make a lot more sense for more smaller organizations to build their own.

The more costly portion of the "build-your-own-tool" equation comes down to maintenance. In fact, around ¾ of your total cost of ownership (TCO) is related to maintenance. This includes everything from managing servers to regulatory data compliance to managing and fixing bugs once the software is deployed on your own servers.

You incur all of those future costs when you ship a "light-weight" custom A/B testing framework, because the implicit expectation is that you will fix, adapt and evolve the framework as the business grows. Beyond the considerations listed above, organizations also need to consider the cost of infrastructure (included in the costs of investing in a SaaS system).

V. Innovation

Lastly, you need to consider just how quickly you need to innovate and iterate on your own product. Even if you have the extra engineering talent and budget to allocate to building your own platform, you still need to consider the long term effects of slowing down your innovation process. Your rate of learning and innovation is determined by how quickly you can experiment. If every experiment you run requires an engineer to write some custom code, you will likely run fewer experiments.

We have found that in-house solutions are often built for a specific use case and are ultimately limiting as the experimentation roadmap develops. Without years of knowledge built up through practice and observation, it's hard to come up with an end product that will fit nearly all possible edge cases.

VI. Security

Software security and reliability seem like no-brainers when building your own in-app experimentation platform, but they are also the most difficult and expensive to execute on. Everyone knows that their in-house applications need to handle user data securely and effectively. But do you have the internal engineering resources to dedicate to data security? According to Michelle Drolet, trusted data security veteran, 58 data records are stolen every second — that amounts to about 5 million stolen data records a day.

It goes without saying that there is significant financial risk with less-than-secure applications — especially those used for internal purposes. The Poneman Institute's 2017 Data Breach Study reveals that the average cost of a stolen data record is about $141. In the United States alone, the average cost of a single data breach is over $7 million.

In other words, it doesn't take a rocket scientist to put together that data security is essential for any application. Beyond the threat of lost data is the actual, day-to-day cost of developing and maintaining in-app security measures across your internal experimentation platform. This means that in addition to your "extra" engineering talent you'll need to build the actual software, will likely need a Data Security or a Security Intelligence engineer to ensure that all internal user data, as well as external user data (used for experimentation purposes) is secure.

Mobile Retention 101

1. Gather User Feedback Early and Often
2. Identify and Eliminate Friction
3. Build Better Usability Habits
4. Test Every Release
5. Repeat

I. Gather User Feedback Early and Often

Unless there is something inherently broken inside your app, the root of your churn issues is likely rooted in the disconnect between what you think your users need, and what they actually want.

Poor UI decisions, CTA typos, and distracting pop-ups could all be relatively small problems with quick and easy fixes that could improve retention.

This is why it's essential to have a mechanism for collecting and acting on customer feedback at every possible touchpoint within your app. Luckily, there are many tools out there that make it quick and easy to gather actionable user insights in real time. Here are some of the best customer feedback solutions that you can integrate on the backend of your app:

Apptentive

AskNicely

Delighted.io

GetFeedback

SurveyMonkey

II. Identify and Eliminate Friction

Friction is mobile retention's worst enemy. Even if you have the functions of the app are amazing, everything can fall flat for users if the UX is terrible. Terrible UX is at the root of all friction within your app, and friction is anything makes it harder for users to move from point A to point B in your app with ease.

HotelTonight is the leading mobile-only solution for last minute hotel bookings, with over 20 million app downloads across 1,700 markets in 36 countries. While they are far ahead of their competition when it comes to solving critical UX challenges for their customers, they wanted to streamline the checkout flow further to increase conversions.

Their hypothesis? Eliminate the mandatory account-creation screen during checkout to increase bookings — reducing friction.

The test was fairly simple. HotelTonight used Apptimize Dynamic Variables to test the elimination of the account setup screen from the checkout flow. The control in the experiment had the usual mandatory account setup screen. The variant simply asked users for a name and email on the Order Summary screen without a mandatory password creation field.

By removing superfluous UX elements, HotelTonight increased bookings by 15%. Amanda Richardson, HotelTonight's VP of Product details the experience: "Instead of only focusing on what you can add, you should also focus on testing what you can remove. Sometimes the best way to convert is to just eliminate."

Identifying and eliminating friction takes some detective work. For example, say you have an e-commerce mobile app. Currently, users have to create an account to make a purchase. Your product team hypothesizes that allowing users to checkout as a guest might drive more conversions.

In most cases, this involves performing many A/B tests to ensure your are night hiding your app's features, but building habit-forming experiences that aid your users in taking advantage of your high-value app features.

III. Build Better Usability Habits

Every product manager wants users to visit their app habitually. Unfortunately, habits aren't formed overnight. Making every app interaction habitual starts and ends with engagement. This means that your app has to make an appearance every users' day-to-day activities. .

We like to call this the surprise and delight strategy. By engaging with your users early and often you can create a sense of anticipation of your engagements with them at every touch point. Here are three major ways to start building better app usability habits with your customers:

- **Push**. Push should be used as an extension of your app. It extends your app's utility outside of your UI.
- **Text**. Texting is very personal, so you have to be careful not to use it needlessly. It is great to send time-sensitive updates such as balances or appointment confirmations, but not to shamelessly promote your product.
- **Social**. Engaging in a community is the best way to spread awareness about your app and subtly remind users of your product every day. Engage users consistently in places where they already hang out. Then a request to check out new feature won't seem so jarring.

IV. Test Every Release

To build for their users, product managers attempt to think from their users' perspective. Because of their proximity to the product, however, that usually proves impossible. The whole product team has to operate under the assumption that their product is useful—and a filter of skepticism is near-impossible to superimpose on top of that.

That's why you need to bring real user input into your development process to get validation on the features you're building. Use Apptimize's feature flags to validate something as basic as the idea behind a feature, or a nuance as small as the type of font you use.

For example, say you have an e-commerce app like Target's. You've just launched a new store locator feature, and placed it at the top of your mobile app. instead of launching the store locator feature to all your mobile users, you could use a feature flag to roll out the store locator only to users who live within 10 miles of a Target store. That way, you can test the feature on the users most likely to use it, before rolling it out to everyone else.

V. Make Retention Repeatable

The goal for all mobile apps is to not only get users to stick around, but to grow in value over time. That means you want your users upgrade, or become an evangelist for your app. In both cases, you'll have users that don't just benefit from your app—they'll be invested in its success. You'll grow regardless of how much you spend on acquiring new customers. This is great news for the product manager.

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Final Thoughts

Thank you for taking time to look through this book. We believe that by following our recommendations, you can A/B test like a pro — a skill that is becoming more and more relevant across many disciplines.

App developers claim that app optimization has dramatically changed in recent years. It is no longer enough to put keywords in an iTunes Keyword Field and use rough and ready screenshots to optimize an application. Instead, you should complement your strategy with thoughtful analysis of store elements and in-app actions, reputation management and consistent testing and optimization.

App developers follow new rules — and there's no wonder, both new startups and flourishing enterprises aspire to make the most of their marketing budgets by optimizing product page elements and in-app flow.

Boosting conversion while spending less and less on Customer Acquisition Costs (CAC) sounds like a dream. Smart A/B testing can help lower CAC, while maximizing your application's earning power. . To maximize conversions across every aspect of your app (from in-app UX elements to the store page itself)=you should master the art of mobile A/B testing.

1. Avoid building up new user acquisition channels until you are sure your app page converts.
2. Start with a mature hypothesis based on customer surveys and competitor research.
3. Identify elements that cause friction in your acquisition and retention flow. Are there issues stunting your conversion rate and user growth? Answering these questions are key to successful experimentation.
4. Know that A/B testing is an ongoing process that should include a successive series of tests.
5. Choose traffic channels and target audience wisely.

Split-testing not only boosts store and in-app performance on both paid and organic traffic, it also becomes a source of core product data which should support every rapid growth strategy.   **Happy A/B testing!**

Thank you for reading the book!

We'd love if you share your knowledge

with your friends and colleagues!

Learn more about A/B testing

with SplitMetrics at SplitMetrics.com