the Math of the App Business

A guide to the simple equation behind the business of mobile apps.

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Introduction
Welcome to the business of apps

It should be abundantly clear by now that it's not enough to just think up a good idea for an app, build and ship it in order to be successful. The question, then, is:

> **What can you focus on to make sure you're prioritizing the right goals and tasks and making progress on a regular basis?**

Simplifying and focusing your **app**roach requires understanding the math behind your app business. When you understand the core drivers of your business, it's much easier to measure your progress and to identify when you need to make a change in order to achieve your goals.

Over the past year, the Apptentive team has worked closely with developers on the iOS, Android and Mac OS X platforms to understand the core drivers of the emerging app business.

As more software purchases are made by consumers and large brands embrace the importance of being on consumer handheld devices, some common themes have emerged that give us confidence in our understanding of the overall app business landscape.

We hope that by sharing what we've learned with you and being concrete about actions you can take to improve your business, we'll help the entire ecosystem of developers grow.

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Start with the math and go from there

The app business has a simple equation.

Over the past year, we've been fortunate to learn a lot about the metrics and measurements that app developers are focused on in order to determine how their apps are doing. While each app has unique activities that lend themselves to differing metrics, we kept coming back to a few consistent items that make the most sense when measuring the business, regardless of the app. The items are:

- Installs
- The percentage of Installs that have been retained as active users on a monthly basis
- The monthly active users
- The monthly average revenue per user

Understanding these consistent data points enables us to say with confidence that the app business does, in fact, have a very simple equation. That equation is:

$$\text{Installs} \times \text{Monthly Retention \%} = \text{Monthly Active Users}$$

$$\text{Monthly Active Users} \times \text{Monthly Average Revenue Per User} = \text{Revenue}$$

The beauty of this equation lies in its simplicity. When making decisions about your work you are able to quickly assess if you're moving the needle on any of the components.

As we work with developers on how they can impact this equation, we find ourselves returning to the equation on a regular basis in order to track progress. Importantly, successful developers are now routinely working against this equation when thinking about their product roadmap, features and their customer feedback. Categorizing your work in terms of the impact and results you anticipate driving is a very clear way to ensure that the tasks that are most important are getting done.

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In our Appendix you'll find an example of a simple tracking worksheet that some developers use to map the equation to work items. Feel free to use it if it's helpful for you and to share with others.

Impacting the math of your app's business

Now that we've got an understanding of the key elements in the app business's equation, the question becomes:

> **How do I impact each of these elements?**

The good news is that we've learned a lot about each of these elements, their inputs and what you can do to really improve them.

Let's start with the starting point of the equation: **the installs.**

Installs:
The paths that consumers take

There are 2 common paths that consumers take to installing your app

The consumer interaction that leads to the decision to download your app has 2 common paths:

- **Discovery**
- **Referral**

Referral (~30%)	Discovery (>65%)

INSTALLATIONS

Discovery is by far the most common route for consumers to lead to an install of your app. Currently, more than 65% of all app downloads are the result of consumers navigating through the store in search of apps that fit their needs. A lot of this discovery happens through perusing the category and featured lists, which explains why so many developers are focused on getting their apps featured. Some of this discovery occurs through Search, but our studies indicate this is much less common than simple tap-based navigation.

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Referral, on the other hand, is what happens when a trusted source (someone's friend, an app review site, an influential blogger or journalist) points your app to consumers and influences them to visit your app and download it.

The difference in behavior between these two paths is an important distinction to make when thinking about how to influence the installation numbers for your business.

Consumers who follow the referral path are generally visiting your app's detail page in the app store with the intent to install your app. They've already been convinced by someone they trust to take a look at your app and give it a try.

Discovery-driven consumers, on the other hand, are engaging in the age-old practice of window-shopping – they're browsing through the app store and evaluating apps.

Let's break down the differences between the two installation paths in more detail and talk about how to maximize your opportunity for both.

The Discovery path: are people converting when they find your app page?

They key thing for app developers to understand about the discovery path is that your app details page has a conversion rate.

What's that you say? You didn't think about the conversion rate? You assumed that most people who saw your app's details page were installing your app?

That's understandable—most developers don't think about this piece of the equation and even fewer think critically about how they can truly impact the conversion rate.

View Details Page

Install (<33%)
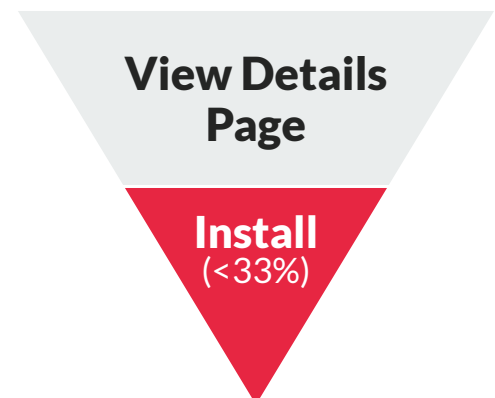
Part of the problem in today's app stores is the lack of insight into the views of your app's details page and the resulting activity. We are hopeful that this lack of data will be addressed over time.

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Regardless of if more data is forthcoming from the app stores, the end results of your efforts to improve your conversion rate are shown in your installation volume. Your efforts to improve your conversion rate will have a direct impact on your installations.

It's absolutely critical that you understand that the majority of the time, when someone looks at your app's page in the app store, they're choosing to NOT INSTALL your app.

Our studies of activity around app details pages and work with various third party app stores gives us two pieces of unique data that you should understand:

- For free apps, fewer than **1 in 3 views** of the app detail pages result in a download.
- For paid apps, fewer than **1 in 10 views** of the app detail pages results in a purchase

The reality is this:

> **whether your app is free or not, most people choose to pass on your app.**

**The decision points for a discovery consumer**
The good news is that you can meaningfully impact the conversion ratio because there are 3 decision points for a consumer who is in discovery mode:

- Your app's description
- Your app's screenshots
- The consumer ratings and reviews for your app

Experimenting with your **app's description**, from the way you describe what the app does to discussing recent updates all play a hand in swaying a consumer's decision to install your app. Well-written copy, with an emphasis on benefits and the consumer's use cases will serve you well.

It's also important that you optimize the layout of your app's description in order to optimize the readability. Long blocks of text that run together are much tougher to read than sections that are broken up with line breaks and that use Unicode characters for bullets, checkmarks and the like.

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Compare the 2 below:
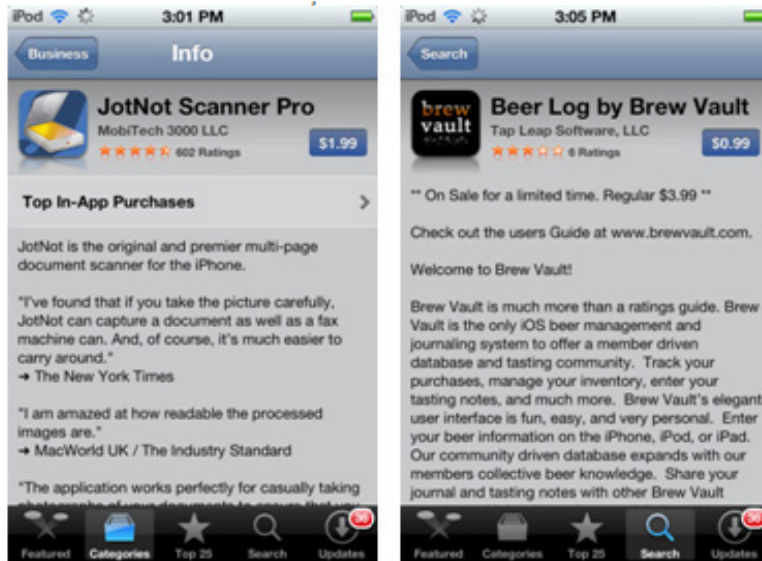
We recommend making sure that you've viewed your app's description on the phone, tablet and web and revise it so that it presents well in every situation. It's not easy, but it's worth the effort! See details about the limitations on characters and "above the fold" behavior in various environments in our Appendix.

The **screenshots** can make the words you share much more real for a consumer and give them a sense of what to expect on their screen. We highly recommend experimenting with the screenshots and descriptions and measuring the impact on your app's installation rates.

The silver bullet in driving downloads and purchases of your app are, however, the ratings and reviews. Specifically, the **overall ratings volume and the most recent reviews** you've received are important indicators to your potential customers.

This appears to be because the ratings and reviews are social proof about your app. Excellent ratings or significant complaints are much more reliable indicators for the average consumer. A review from another customer is much more convincing that what the app developer has to say. 15 years of reviews on Amazon, Yelp and the like have taught us to trust our fellow consumers more than anything else.

In our experience, modifying your app's descriptions and screenshots are important activities, but they're dwarfed by the influence that ratings and reviews have on your conversion rates. Again, the mainstream app stores don't share enough data about this activity, but we've used information from the developers we work with and some third-party app stores to assess a "Share of Influence" that we think is roughly accurate.

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The data underscores the importance having excellent ratings and reviews to tell your story to potential consumers:

Influence Share

- Ratings & Reviews — 75%
- Description — 15%
- Screenshots — 10%
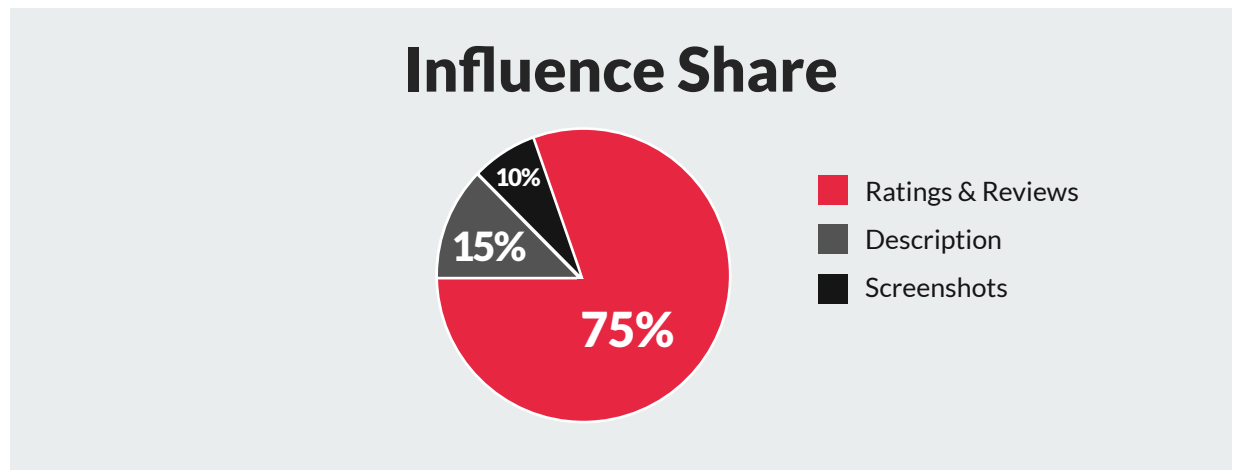
The Referral path: create evangelists and prosper

The referral component of apps is talked about often because it's used to describe why an app like Angry Birds or Draw Something got to be so popular, but that's the exception rather than the rule. Very few apps are fortunate to become part of mainstream culture but many apps are important to a loyal and loving audience.

If you've got an app that's live and has gotten some traction, it's likely that you've garnered at least some initial fans. You can see it when you're at dinner with a group of friends and someone pulls out their phone and shows off the latest app they've discovered. It's happening when people are tweeting about your app and how it managed to save them a ton of time or money. Every loyal app customer is a potential salesperson for you.

Instead of waiting for your app customers to get to a point where they're sharing your app with others, wouldn't it be great if you could move customers to that point? It turns out that there are some simple but powerful ways to trigger emotional connections with the people using your apps that enable you to stand out from the crowd.

The first thing that you can do is to think about what in your app is shareable. Our friends at Chewsy make it incredibly easy to share reviews of dishes with their friends through Facebook and Twitter, even going so far as to pre-write the reviews. It's brilliant because it takes some of the work out of the process and it's connected to activity that many people are naturally interested in sharing.

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In addition to creating hooks to share activity from your app, you can create hooks to truly engage on a personal level with your app customers. Making it easy to give feedback and then responding to each customer has an amazing impact on the customer. Your dialog with them creates an emotional connection, helping them understand that there are people behind the app who care about their opinions and experiences.

Companies like Zappos and Nordstrom have understood this for years and now you can replicate this kind of experience in your app. Importantly, this activity is very rare – when was the last time you had a meaningful engagement with a company that made software? The customers you converse with are much more likely to talk about you to their friends and to share your app, because you've connected with them and communicated that you care about their experience. Apps that engage with their customers are seeing much higher rates of referral-based downloads, just by listening.

Retention:
Engage, listen and keep more customers

As the good folks at Flurry have pointed out, the retention problem facing most app developers is a much bigger issue than the discovery problem. Winning a download is excellent, but for every 100 downloads today, only 4 of those consumers will still be using your app a year from now. The drop off is exceptionally steep, with more than 60% of the initial customers giving up on the app in the first month.

There are several important steps to take in thinking about the retention equation. The first is that you need to measure it. We highly recommend instituting some form of metrics and management in your app, whether it's using Google Analytics, Flurry, Kontagent or building your own analytics, you can quickly understand at an aggregate level what's going on after someone installs your app.

Measurement is a core step to take in the process, but measuring doesn't actually impact the retention equation. In order to impact the equation, you need to be focused on updating and refining your app on a regular basis. As you learn about how people are using your app, what they expect from it and what they'd like to see in order to improve it, you have to listen to the feedback and iterate on your product.

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Updates: a core retention activity

We're seeing developers who are active about modifying and updating their apps be more successful on a regular basis. This is because the updates mechanism creates an opportunity to re-engage with customers who might have forgotten about your app or who gave up on it. Each update serves as a reminder of your existence.

Additionally, regularly updating your app communicates to your app customers that you are regularly investing in their experience. You don't want to go over board with updates (we've seen apps trying to update every few days or every week) because the take rate on your app updates does send signals to the app stores about your activity. You want to find the balance between your app seeming like it's dead and updating so aggressively that very few people have the most recent version.

Creating a customer database for regular outreach

The most challenging part of the app stores is that the relationship with customers is by default theirs, instead of yours. You can change this, however – by having optional or required logins in your app, it's possible to create a database of your app customers. We recommend making the logins optional and working to provide clear benefits to your customers for logging in – like saved progress, personalization and activity streams that are specific to app activities.

The login system you create should give benefits to your app's customers, first. However, in creating a reason to login, you can get the benefit of knowing more about your app's customers, including a way to contact them, like an e-mail address. Once you've created a customer database, you can utilize the database in order to connect with your customers on a regular basis, engaging them on a regular basis to tell them about updates to the app, tell them about other apps in your portfolio and share news and information. Because many app customers stop using your app in the first month, creating an external channel to communicate with your app customers gives you a powerful re-engagement channel. Simply reminding them of your presence can lead to a significant increase in the retention rate. More than that, however, a regular communication with your app customers about new features and examples of how people are using your app is enough to dramatically change your retention patterns.

The helpful waiter leads to repeat business

Proactive in-app communications, whether they're tutorial-like in nature or the answering of customer inquiries change the nature of the customer's interaction with your app. Instead of just interacting with software, the app customer is interacting with a real person. At Apptentive, we sometimes refer to this as the "helpful waiter" approach – when you're at a restaurant and

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your waiter is attentive and checks in with you occasionally, you feel good about the level of care taken by the business. Similarly, a proactive approach towards asking the consumer about their experience produces a similar outcome, which encourages the consumer to use your app more often due to the establishment of an emotional connection.

Monetize:
Research and personalize

Research and understand your customer base more deeply

More downloads and more active users are certainly requirements for a successful app. The ultimate goal, for most app developers, however, is to make a business out of the app.

The key to getting smart about making a business out of your apps is to do research with your loyal app customers, to determine how you could expand your engagement with them through the creation of other apps they'd be interested in and to get more personalized. Some key questions are:

- **What will people pay for in your app? Is it more content, additional levels, greater service or a specific product set?**

- **If you're utilizing ads, do you know if your ad strategy is annoying people or is welcomed?**

- **What other associated apps can you build for your most loyal fans and app customers?**

The emerging business models for apps are presenting us with new opportunities to build a business, but flying blind and guessing is a dangerous way to uncover the answers to your monetization questions. Instead of copying others or just throwing things against the wall with your customers, take a proactive approach to learning more about how you can succeed. Running targeted surveys to your customers is a great step to get smarter about customer needs.

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Personalize your offerings based upon customer segments

The best apps are the ones that offer personalized experiences. The more deeply you understand the various segments of your customer base, the more you can tailor the paths which your customers take within your app. For example, some customers are more likely to make in-app purchases than others. Other customers are more likely to purchase paid versions of your apps in favor of not seeing ads. When your app is a gateway to your existing commerce channels, establishing differences in behavior and desire can ensure that the few moments a day a customer spends with your app are focused on the right products and services. Whether you're selling virtual goods or real services, tailored presentations can be the difference between average revenues and extraordinary profits.

If you've created a customer database and understand the needs and desires of the segments, it's much easier to program differing experiences. With sophisticated and targeted communications capabilities, it's possible to capitalize on these differences and to match the results of your research to the capabilities you've built. The best apps provide distinct and personalized experiences.

Conclusion:
Break down the app equation and build a business

As you build your apps and grow your business, make sure that you know the equation that impacts your success and are truly focused on every component of it. If you keep focused on maximizing your installs, retaining more them and better monetizing your audience, you'll succeed over time. The equation might be simple, but the work is not. It requires continued investment, commitment and evaluation in order to move the needle each and every piece of the equation in order to build a sustainable app business. Fortunately, the number of potential app customers is growing dramatically every day, so the potential audience for your app, which is a number you can't control, is growing rapidly every month.

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Appendix:
Worksheets and Resources

The App Math Worksheet – Weekly Task Lists

Item	Task(s)	Owner
Installs – Discovery		
Installs – Referral		
Retention – Customer Conversations		
Retention – App Updates		
ARPU – Purchase Options		
ARPU – Customer Research		
ARPU – Personalization		

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Appendix:
Worksheets and Resources

App Description Guidelines

Environment	Initial View	Before the Fold
iTunes App Store – iPhone/iPod Touch	13 lines – 689 characters max	NA (full description shown)
iTunes App Store – Web	13 lines – 689 characters max	NA (full description shown)
iTunes App Store – Desktop Client	NA	3 lines – 498 characters max
Android Market – Android Phone	2 lines – 92 characters max	6 lines – 276 characters max
Android Market – Web	NA	10 lines – 910 characters max
Amazon App Store – Android Phone	3 lines – 129 characters max	5 lines – 215 characters max
Amazon App Store – Web	No limits	No meaningful limits
iTunes App Store – iPad	NA	5 lines – 380 characters max
Windows Marketplace - Web	No meaningful limits – 100 character line width	No meaningful limits – 100 character line width

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