
Freemium Software: A Guide for Startups

By Jules Maltz and Daniel Barney

With \$4 billion of committed capital, Institutional Venture Partners (IVP) is a premier later-stage venture capital and growth equity firm in the United States. The partnership recently raised IVP XIV, a \$1 billion later-stage fund focused on investments in rapidly growing technology and media companies. Founded in 1980, IVP has invested in over 300 companies, 93 of which have gone public. IVP is one of the top performing firms in the industry and has a 32-year IRR of 43.2%. IVP specializes in venture growth investments, industry rollups, founder liquidity transactions, and select public market investments.

Over the last several months, there's been an intense debate about the viability of freemium business models. For some, freemium is a [costly trap](#), a business model that sacrifices revenues and forces a startup to support freeloaders who will never become paying customers. For others, freemium is the [future of business](#), the logical conclusion of a world in which the cost of bandwidth, storage, and information processing approaches zero. Both sides agree that the model is extremely powerful. As Rob Walling of HitTail notes in a recent [Wall Street Journal article](#), freemium is like a Samurai sword, “unless you're a master at using it, you can cut your arm off.”

While we're not Samurai sword fighters at [IVP](#), we believe that freemium is massively disruptive and needs to be understood. We've spent the last several months interviewing freemium software leaders including 37signals, Dropbox¹, Evernote, GitHub, HootSuite, New Relic, SurveyMonkey, Weebly, and Zendesk.² With the help of these companies, we've put together the following six lessons for freemium software businesses. Use them wisely!

1) START WITH THE PRODUCT

Over the course of our interviews, one point came up again and again: make sure your #1 priority is your product. While designing a quality product is important for every startup, it is crucial and particularly challenging when building a freemium company. The perfect freemium product will market itself, acquire new users (both free and paid), onboard users, and automate customer service, all with little or no human intervention and minimal expense. This is only possible with a well-designed product that users truly love.

Typical freemium companies convert between 1% and 10% of users into eventual paying customers. As a result, it's important that a freemium product has both (a) low [marginal costs](#) and (b) minimal sales and marketing expenses. Because the vast majority of users don't pay, a freemium company will struggle if its product is expensive to market, deliver or support. Your product needs to sell itself

¹Dropbox is an IVP portfolio company.

²For the sake of simplicity, we've focused on software companies that seek to convert free users to paying customers, rather than those subsidized by ad-supported models.

and attract loyal users based purely on its own merits and without a large marketing budget. For a user, the product has to be simple and “just work.” This doesn’t mean it shouldn’t be technically complex or challenging behind the scenes - it just can’t feel that way to the user.

Furthermore, the simplicity and quality of your product must be consistent across both free and paid offerings. Many freemium companies fail because they provide a free “gimmicky” product that provides little value with the hope that users will convert to the paid version. In reality, offering users a sub-par product makes users less (not more) likely to become paying customers, defeating the purpose of having a freemium model in the first place. The best freemium companies provide real value to both free users and paid customers, and spend the majority of their time making their free product even better.

Bottom line: you can’t attract free users or paid customers unless you build a great product. Once you’ve designed and built a world-class product, it’s time to get to Know Your Customer and understand whether freemium is right for them...

2) **KNOW YOUR CUSTOMER: Is Freemium Right for Them?**

Freemium, like subscription, perpetual license, or service-based pricing models, is just a tool among many that helps your customers buy your product. Your first job is to understand your customers’ pain and build a product to solve it. Once you’ve done that, you can start asking questions about how they want to buy your product and figure out if freemium is the right way to go.

A couple of questions to answer when deciding if freemium will be attractive to your customers:

1. ***How complex is your product?:*** If you’re in a market where your customers are asking for pilots, RFPs, RFIs, or other strange acronyms, there’s a good chance that your product is too complex for freemium. For freemium models to work, your customers need to be able to understand and use your product quickly, without long integration periods. If your customers expect hands-on training or support from the start, freemium probably isn’t the right model.
2. ***Are your customers attracted by free?:*** What would you say if a stranger offered you free babysitting? Or, if you saw a free, dirty sofa on the street corner? Chances are you say no to lots of free things every day because you’ve learned that free is never really free. Sometimes things are so mission critical (e.g. babysitting, Lasik surgery, etc.) that you actually prefer to pay for them. Other times, the cost in time and/or effort of using a free product is too high to outweigh the benefits.

Once you’re convinced freemium makes sense for your customers, it’s time to Understand the Value of Free Users and decide if freemium makes sense for your business...

3) **UNDERSTAND THE VALUE OF FREE USERS: Is Freemium Right for You?**

Free users are only worthwhile if they provide value to your business. Often the most alluring (but dangerous) aspect of freemium is the relative ease of acquiring free users. What entrepreneur doesn’t want to see 100K, 1M, or 100M people around the world using her product? But if these users don’t ever lead to paid customers (directly or indirectly), they can become an expensive burden that slowly bankrupts a company. For your freemium model to work, free users must fit into one of the two categories below:

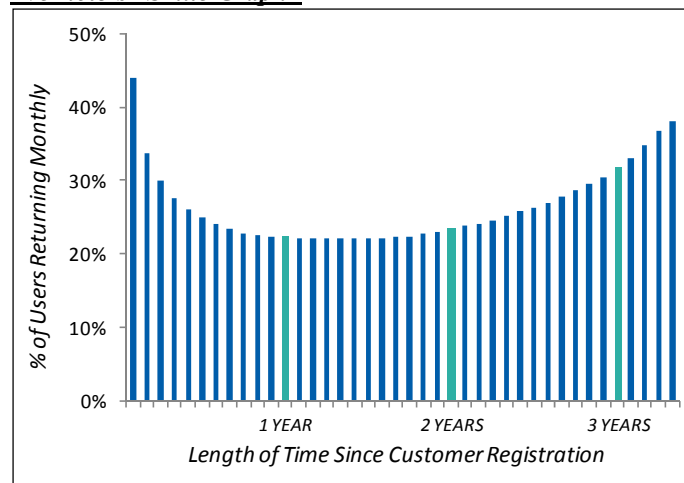
1. **Free users who convert into paid customers:**

These users don't pay you anything today, but based on a good understanding of your cohort data (see Lesson #5), you can predict that a good portion of them will convert to paying customers.

Key Product Attribute: Users derive increasing value from your product over time.

Example Company: Evernote. On Day 1, a new Evernote user has no stored content. The only thing she can do when using the product is create new content. But as this user slowly builds up a library of notes, web clippings, etc., she has more reasons to return to the product and interact in different ways with this historical data. Three years in, the average Evernote user is receiving significantly more value from the product than on Day 1 and it's more likely that she will return. While most businesses show declining usage over time, Evernote actually has **negative churn**, with usage increasing after the first year (see their "Smile Graph" chart below). As users derive increasing value from the free product, some eventually convert to paid customers and deliver meaningful revenue to Evernote.

Evernote's "Smile Graph"



2. **Free users who attract paying customers:**

These users don't pay you anything today and may never pay you. However, through their loyal and active usage of your product, they attract other paid customers. In many ways, this type of user can be viewed as another marketing channel, with an associated expense and a measureable ROI.

Key Product Attribute: Virality

Example Company: SurveyMonkey. Online surveys are a great example of a viral product. A free user who sends out dozens of surveys is marketing SurveyMonkey to hundreds of potential customers. With the right conversion rate, this marketing program can be a very efficient paid customer acquisition channel (even if the original user never becomes a paying customer).

To succeed as a freemium company, your product needs to either deliver increased value over time (resulting in direct conversion) or virality (to attract new customers). A few companies are lucky to have both. In the case of Dropbox and GitHub, a free user both recruits new users through file sharing (or public repository sharing) and also may convert to a customer as their storage (or private sharing) needs grow. These dynamics make for ideal freemium products.

Once you are sure your free users are adding value to your business, it's time to Make Sure the Math Works...

4) MAKE SURE THE MATH WORKS

Freemium fundamentally disrupts the economics of your business – which can be both good and bad. Even if you're confident that you are adding free users for the right reasons, understanding the economics and ensuring they work in your favor are fundamental to making sure the model will help your business thrive. The two most important analyses you need to review are as follows:

1. **Market Size:** Freemium only works when you're going after a huge market, which is why the most successful freemium companies like Dropbox and Evernote offer solutions targeted at large, horizontal markets. By pricing something of value at zero, you've anchored your paid product price to a low number, making it hard to charge a significant amount. You've also cannibalized potential customers by offering them a free alternative. Because a large percentage of users are free, it often takes millions of users to build a sizeable number of paying customers. Most freemium companies have customer conversion rates of between 1% and 10% (with the average around 2% to 4%). A typical customer also rarely pays more than a few hundred dollars per year. So if you want to build a \$100M annual revenue company, this implies that you likely need to reach many millions of users (see example below).³ If your market isn't that big, you shouldn't be building a freemium company.

<u>How many users do I need?</u>	
Annual Revenue Target	\$100,000,000
Annual Recurring Price Per Customer	<u>\$100</u>
Implied Paid Customers	1,000,000
Lifetime conversion %	<u>3%</u>
Implied Free Users	<u>33,333,333</u>

2. **Freemium ROI:** In addition to going after a large market, it's also important that the return you get from converting users to paying customers exceeds the costs of servicing all users. As mentioned above, freemium only works when you have a product with low marginal costs, meaning that it's relatively cheap to service the next incremental user (which is why software businesses are ideal for freemium). Products with high marginal costs, such as hardware devices or where significant customer service or customer acquisition costs are involved, typically don't work as freemium businesses. By comparing the cost of servicing free users to the revenue you receive from customer conversion, you can calculate your freemium ROI (see the hypothetical example below).

³This model assumes no customer churn. Churn increases the free users needed or requires a higher lifetime conversion percentage.

What's my Freemium ROI?

<u>Expenses:</u>		<u>Comments</u>
A. Annual Cost Per User	\$2.00	Includes all variable costs associated with serving users (customer service, marketing, bandwidth/hosting, etc.)
<u>Revenues</u>		
B. Conversion % (1-year)	3.0%	3% of free users convert to paid annually
C. Viral Coefficient (1-year)	50.0%	Every 2 free users virally attract 1 new free user
D. Annual Recurring Revenue Per Customer	\$70.00	Average price for paying customer
E. Expected Recurring Revenue Per Free User	\$3.15	=B* (1+C)*D
Freemium ROI (1-year)	57.5%	=(E/A)-1

As discussed in Lesson #3, you can expect to generate revenue from free customers if they either (a) convert to paying customers (Conversion %) or (b) attract other users (Viral Coefficient). If freemium is right for you, your resulting 1-year ROI should be meaningfully positive – ideally over 50% for most startups.⁴

Optimizing these key economic drivers is one of the most difficult aspects of building a successful freemium business. Determining product pricing and where to set the cutoff between free and paid products are the decisions that will have the highest impact on conversion, virality, revenue and ultimately, ROI. Initially, these decisions must be based on guesswork and extensive trial and error. However, with a solid understanding of freemium math and exhaustive measurement of your cohorts (covered in Lesson #5), it's possible to arrive at the price point and feature or usage limit that maximizes ROI and total profitability.

5) MEASURE: LOVE YOUR COHORTS

As investors, we love businesses that can provide us with loads of user [cohort](#) data. Why? Because cohort data reveals both the current health and the future potential of a company. By grouping users into cohorts (based on a standard sign-up period such as a month or a week), a freemium business can measure trends in user acquisition, engagement, conversion, and retention.

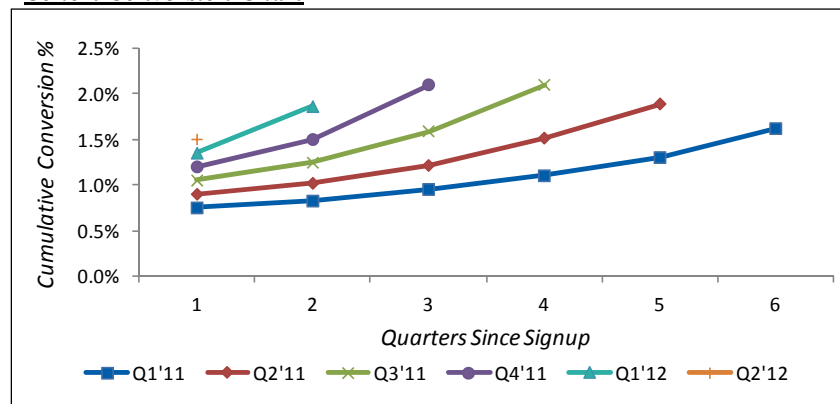
Cohort analyses are particularly important for freemium businesses because the time between signup and ultimate conversion can be long. In traditional software license models, a customer pays money to receive software immediately – and the transaction is (mostly) over. But in freemium businesses, a free user may join several years before paying a cent. The only way a freemium company can evaluate whether conversion is on schedule is by tracking cohort events along the way. Just as a winemaker tastes wine from the barrel to make sure each vintage is progressing appropriately, a freemium executive should track her cohorts carefully to make sure her business is ripening.

A company that closely monitors and understands its cohorts gains two important benefits:

1. **Insight into Conversion and Retention:** Cohort metrics provide business insights that can be invaluable when making product and pricing decisions. One of the most common freemium cohort analyses is tracking cumulative conversion rates over time (see sample chart below). Ideally, a freemium business should see rising cumulative conversion (less churn) over time, as well as improvements in the conversion metrics for each successive cohort.

⁴In some cases you can have a negative 1-year ROI to increase market share, assuming the multi-year ROI is still substantially positive. However, this can be an expensive strategy that is best employed by more mature businesses with stable and predictable metrics.

Cohort Conversion Chart



Time-based cohort data can also be helpful in tracking other key metrics including:

- What typical behaviors do users exhibit 3 months after signup? 1 year? 3 years?
- What is a free / paid user's lifetime value?
- Are users acquired via different channels converting at different rates?
- How do product revisions change cohort behavior?
- How do pricing changes affect usage or conversion?

2. **Visibility:** With robust cohort data, a freemium business becomes extremely predictable as it matures. (And there's nothing CEOs, venture capitalists, and, eventually, public market investors like better than predictability). In a given period, a freemium business generates revenue from three sources:

- Premium customers who converted in prior periods and continue to pay
- Free users acquired in previous periods who convert for the first time
- New users acquired in the current period who instantly convert

Armed with historical cohort data, a freemium business will go into a quarter with a good sense of both how many premium customers will continue to pay and how many free users will convert to customers, leaving new customers as the only uncertain source of revenue. This makes freemium even more predictable than [SaaS](#) businesses. For more details on the predictability of freemium, see Jules' blog post on the topic: "[If you like SaaS, try Freemium!](#)"

6) BEYOND FREEMIUM

Although freemium can be extremely scalable and profitable, it shouldn't be a model set in stone. Many of the most successful software companies have moved beyond freemium and adjusted their businesses to meet customer demand, often leveraging multiple strategies at once. They've embraced one or both of the following principles:

1. **Sales is not the Enemy:** While many freemium companies succeed in building easy-to-use products that automatically convert users to customers, they often struggle with the role of sales in their organizations. As companies such as Dropbox, New Relic, and HootSuite achieve significant enterprise penetration, they discover that customers want to sign enterprise-wide deals and speak with someone in sales. Don't worry, this is a good thing!

While many freemium companies have relatively small sales organizations, the smart ones remember [Lesson #2: Know Your Customer](#). If customers want to buy your product in a different way, it's ok to adjust your sales model. Freemium companies can build strong sales organizations *within* a product-focused culture. They also have a huge advantage on their non-freemium counterparts since they have thousands, or even millions, of high-quality leads (users) who already love the product. For example, Dropbox's freemium user base serves as a great set of potential customers for its Teams (enterprise) product, which is not in itself a freemium service.

2. **Free Trials are Free Too:** Additionally, there are a set of companies, including 37signals and Zendesk, that take advantage of the benefits of freemium without offering a perpetually free product. These companies believe that all users who are getting value from their products ought to eventually pay. However, by offering a free trial, an intuitive product, and simple pricing, they get the benefits of a product that sells itself. Like freemium companies, these businesses employ a [high velocity sales](#) model that requires a product-focused culture. They may sacrifice market share (because they reach fewer users than freemium competitors), but they still build profitable, fast-growing companies.

CONCLUSION

While freemium is certainly not the right model for every company, when used wisely, it can be an extremely powerful tool. We've already seen numerous companies, including the nine startups that we interviewed, generate significant revenue and profit from freemium or high velocity selling. We believe that just as [Salesforce](#) grew to a multi-billion dollar revenue company by pioneering a SaaS model, we'll see a generation of successful freemium companies build lasting, substantial businesses.

But before you start the next great freemium company, remember that all startups should begin by creating a world-class product that solves an important pain point for users. If you should decide that the freemium model is the right fit for your business, the team here at [IVP](#) hopes the preceding lessons will help along the way. Good luck!

About the Authors

[Jules Maltz](#) is a General Partner at IVP and focuses on later-stage venture investments in rapidly-growing Internet and software companies. Jules led IVP's investments in Buddy Media (CRM), Dropbox and WhaleShark and was actively involved in investments including Marketo, Twitter, Spiceworks, Ngmoco (DeNA) and Yext. Jules is originally from Eugene, OR, and despite being a Stanford GSB graduate, remains a die-hard Oregon Ducks fan. Follow him on twitter [@julesmaltz](#).

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Thank you to the executives at 37signals, Dropbox, Evernote, GitHub, HootSuite, New Relic, SurveyMonkey, Weebly, and Zendesk for generously spending their time educating us about freemium. If you have any thoughts/advice/comments/input don't hesitate [to drop us a line](#).