

The Ultimate (SaaS) Churn Rate Cheat Sheet

This is an in-depth followup to [The Ultimate SaaS Metrics Cheat Sheet](#).

What is Churn Rate?

The rate at which you are losing customers or revenue through subscription cancellations.

Why is it so important?

If it's too high your churn rate will have a highly negative impact on your business and is an indicator that you should make some changes. Much has been written about the perils of having a high churn rate so we'll not focus on the why in this cheat sheet.

Calculating Churn

There are two main types of churn, customer churn and revenue churn.

B2B

- Customer churn rate

$$\text{Customer churn rate} = \frac{\text{Number of customers who churned in period (excluding any customers who both joined \& churned in the period)}}{\text{Total number of customers at start of period}}$$

- Monthly recurring revenue (MRR) churn rate

$$\text{MRR churn rate} = \frac{\text{SUM of churn \& contraction MRR - SUM of expansion \& reactivation MRR}}{\text{MRR at start of period}}$$

* When calculating churn rate it's important not to mix subscriptions with significantly different billing periods. E.g. don't mix annual plans in with monthly plan.

B2C

While most SaaS is B2B there is a significant B2C contingent. Steven H. Noble at Shopify and Devin Brady at Recurly have both blogged about the need for a churn calculation more suited for B2C (links to these articles are included in the References overleaf).

- Customer churn

Iterating through each day in the selected period (e.g. month/quarter) we calculate as follows:

$$\text{SUM}(1 - \frac{\text{\#_active_customers_at_end_of_day}}{\text{\#_active_customers_at_the_start_of_day}})$$

This gives us our Customer churn rate for the given period.

- MRR churn

For each day we calculate the total MRR at the start of the day.

We then see how much of that MRR is still present at the end of the day, ignoring any expansions, contractions and new customers.





Iterating through each day in the selected period (e.g. month/quarter) we calculate as follows:

$$\text{SUM}(1 - \frac{\text{total_mrr_at_end_of_day}}{\text{total_mrr_in_the_beginning}})$$

This gives us our MRR churn rate for the given period.

Breaking out churn

Not all Churn is created equal, these are the four main types of Churn we've identified:

-  Pro-active churn: the user clicked cancel.
-  Passive churn (aka reactive churn): the user didn't bother to update their credit card info.
-  Happy churn: Happy churners are common in certain types of businesses. Customers who finished with using your product for their campaign (or similar short term use case), so cancelled and may buy again in the future. One way to identify happy churners is to look at what % of them reactivate at a later date, or to simply ask them why they cancelled.
-  Churn that wasn't really churn: Some companies (often those not offering a free trial) have 30-day money back guarantees or similar. It's useful to be able to separate out this type of churn as there's quite a different dynamic going on and they're not usually representative of a customer who's been a subscriber for several months and then decides to cancel.

Intelligently segmenting the different types of churn is something we're always working hard on at ChartMogul.

Get all your SaaS metrics with one-click, right from your **Stripe**, **Braintree**, **Recurly** or **Chargify** account.

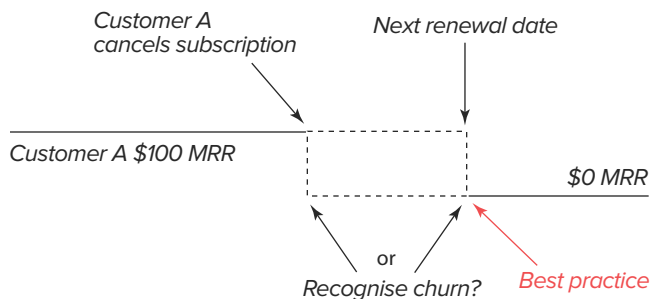
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When to recognise churn

Companies typically offer one or both of these cancellation options.

- Cancel immediately
- Cancel at the end of billing period

You should decide how you want to recognise churn at your company. For revenue recognition we believe that it's a best practice (unless you are also issuing a refund) to recognise the churn at the end of the paid-up period in both scenarios. For the purpose of understanding user behaviour looking at when a user clicks cancel is more useful.



What is a healthy churn rate?

Some level of churn is unavoidable, but at what level does it become a problem? It really depends on the type of business you're running.

B2B enterprise-y companies tend to have the lowest churn rates, deals tend to be annual or even multi-year and buyers are not price sensitive (and are not spending their own money). Jason Lemkin shared that EchoSign had annual negative MRR churn of -10% to -30% (including offset for cancellations and downgrades). Tomasz Tunguz reports on New Relic's and Zendesk's MRR churn rates also at -14% and -20% respectively.

References

- Lincoln Murphy - <http://sixteenventures.com/saas-churn-rate>
Jason M. Lemkin - <http://www.quora.com/What-is-a-reasonable-churn-rate-for-a-subscription-business>
GrooveHQ - <https://www.groovehq.com/blog/saas-conversion-survey-results>
Tomasz Tunguz - <http://tomtunguz.com/negative-churn/>
KissMetrics - <https://blog.kissmetrics.com/modeling-churn/>
Shopify - <http://www.shopify.com/technology/4018382-defining-churn-rate-no-really-this-actually-requires-an-entire-blog-post>
Recurly - blog.recurly.com/2014/08/better-way-to-calculate-your-churn-rate

In SMB SaaS churn tends to be much higher, results from GrooveHQ's SaaS small business survey showed an average churn rate of 3.2% monthly (annualised that is 32% annual churn = $100 * (1 - (1 - 0.032)^{12})$). It's unclear from Groove's blog post if they're measuring customer churn or revenue churn but either way it's not good. If it's customer churn these companies will need to be adding new customers at a rate of 32% per year just to break even on the customer count they had at the start of the year.

At the end of the day revenue churn (MRR churn) is a more important measure in most cases, it's not so problematic if you lose a few smaller customers if your larger customers are all expanding like crazy.

When not to use churn

If you have a limited number of customers on annual plans it's better to look at retention rate rather than churn for annual subscriptions until you have a large enough number of these customers up for renewal in any given month.

This all sounds like a lot of work!

At ChartMogul we spend a huge amount of our time working with SaaS companies and thinking about how to calculate churn accurately so you don't have to. With one-click you ChartMogul generates accurate churn measurements for your business.

You can also use cohort analysis to see how churn rates evolve over the lifespan of a group (cohort) of customers who started paying in the same time period. More on Cohort Analysis in

The Ultimate Cohort Analysis Cheat Sheet

<https://chartmogul.com/blog/2015/02/the-ultimate-cohort-analysis-cheat-sheet/>