The Ultimate SaaS Metrics Cheat Sheet

Monthly Recurring Revenue (MRR)

The most important metric a subscription business needs to calculate. MRR is a calculation of your normalised (amortized), monthly subscription revenue.

With a monthly subscription the MRR is simply the price paid each month for the subscription.
If customers are paying for more than one month up front (e.g. 12 months) you simply divide the amount paid for the subscription by the number of months in the subscription period.

⊙ You should exclude one-time payments and metered charges. Deduct any discounts prior to calculation and convert any foreign currency subscriptions into your primary currency.

Annualized Run Rate (ARR)

MRR x 12

MRR Movements

⭐ New business MRR - Only the MRR at the moment a lead converts into a paid customer (for the first time) is counted.

⬆ Expansion MRR - Any increase in the MRR of an existing customer, e.g. an increase in quantity, upgrade to a higher plan, adding a 2nd subscription, or a discount expiring.

⬇ Contraction MRR - Any decrease in MRR. e.g. a decrease in quantity, downgrade to a lower plan, or a discount being added.

❌ Churn MRR - The MRR at the time a customer cancels (or fails to renew) their subscription (and they don't have any other active subscriptions).

🔄 Reactivation MRR - When a previously churned customer moves back onto a paid plan.

Average Revenue Per Account (ARPA)
(aka ARPU or ARPC)

Simply the average MRR across your active customers.

The SUM of all your customers' MRR / number of customers

⊙ If a customer has multiple subscriptions these should be combined and counted as 1 customer before the ARPA is calculated.

Customer Churn Rate

The rate at which your customers are cancelling their subscriptions.

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

⊙ When calculating churn rate it's important not to mix subscriptions with significantly different billing periods, e.g. monthly & annual plans. For younger startups renewal rate (page 2) can be a more meaningful metric to gauge the attrition of annual plans.

MRR Churn Rate

The rate at which you are losing MRR through downgrades and cancellations.

$$\text{MRR churn rate} = \frac{\text{SUM of Churn \& Contraction MRR - SUM of Expansion \& Reactivation MRR}}{\text{MRR at start of period}}$$

Customer Lifetime Value (LTV)

An estimate of the total subscription value of an average customer. Useful for determining how much to spend on customer acquisition (CAC - page 2).

This can be calculated as:

$$LTV = ARPA \times \sum_{n=0}^{\text{\# of months to examine}} (1 - \text{Customer churn rate})^{\wedge} n$$

For practical purposes you can more simply estimate it as follows:

$$LTV = \frac{ARPA}{\text{Customer churn}}$$

⊙ The output of the first formula will trend to the same result as the simplified formula, so it's ok in most cases to use the simplification. Both of these formulas only give a rough estimate of your LTV (churn doesn't happen linearly and expansion & contraction isn't correctly accounted for).

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Average Sale Price (ASP)

The average MRR of new customers at the moment they convert to a paid account.

ASP is useful for measuring the effectiveness of your sales team at driving new customer deal sizes higher.

The SUM of all New business MRR in a period / the number of new customers in the same period

Customer Renewal Rate

(aka Retention Rate) The rate at which customers renew their subscriptions.

$$\text{Customer Renewal Rate} = \frac{\text{\# of customers who renewed their contract}}{\text{Total number of contracts up for renewal}}$$

MRR Renewal Rate

Similar to Customer Renewal Rate but here we look at the rate at which MRR is being renewed.

$$\text{MRR Renewal Rate} = \frac{\text{MRR of renewed subscriptions}}{\text{Total MRR of subscriptions up for renewal}}$$

- ◉ Renewal rate can be a more meaningful metric than churn where there is a limited set of data to examine.

Customer Acquisition Cost (CAC)

An estimate of the cost to acquire a customer.

$$CAC = \frac{\text{Sum of all sales \& marketing expenses}}{\text{No of new customers added}}$$

- ◉ Calculating CAC usually only makes sense once you have reached a certain scale.

* Much credit due to David Skok (www.forentrepreneurs.com), Christoph Janz (www.theangelvc.net) and Tomasz Tunguz (tomtunguz.com) - their fantastic blogs heavily influenced this cheat sheet.

Cohorts

Cohort analyses are a powerful tool to help you understand how your subscriptions evolve over time.

- ◉ **Example 1 - Churn analysis**

    Take all new customers who convert in a given time period (usually a month around 6-12 months in the past) and see what happens to them over a period of time (usually 6-12 months).

% of churned customers in lifetime month (relative to previous month)

	0	1	2	3	4	5	6
Jun 2014	2.50%	0.80%	5.00%	2.12%	1.35%	0.40%	1.04%
Jul 2014	0.00%	1.50%	4.09%	3.65%	1.04%	1.43%	
Aug 2014	1.22%	4.69%	5.60%	4.23%	2.15%		
Sep 2014	2.40%	5.66%	5.40%	3.54%			
Oct 2014	3.50%	2.67%	7.23%				
Nov 2014	1.65%	2.56%					
Dec 2014	1.34%						
	2.50%	2.98%	5.46%	3.39%	1.51%	0.92%	1.04%

In this example months 1-3 have higher churn before easing to around 1%

- ◉ **Example 2 - Impact of negative churn**

    While Example 1 is the more common way to visualise a cohort there are other (more readable) options. Here each bar shows the MRR growth from customers added in each month of 2014. This cohort visualisation shows the power of having 'negative churn' (aka SaaS nirvana).

Account value by Cohort at 5% negative churn
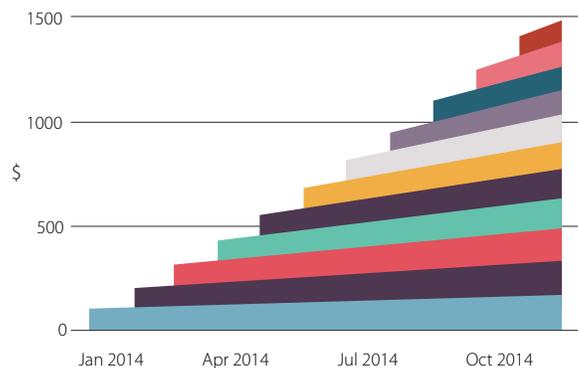
- ◉ These examples make sense if you only include monthly subscriptions. Mixing in annual subscriptions will skew your results.

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