

Forecasting Subscription Revenue To Maximize Customer Value



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Overview

The subscription business model is not new. In fact, it has enjoyed long-term use as a viable business model to sell everything from newspapers and magazines to home telephone and cable services.

Today, however, the subscription and recurring revenue model has emerged as one of the hottest business trends due to the breadth of product and service offerings now available via this business model. Everything from music to movies to Software-as-a-Service (SaaS) offerings are now based on this ubiquitous model where customers subscribe to products, content, or services on a recurring payment plan.

In this paper, we will examine how to forecast revenues in a subscription and recurring revenue business model and what metrics should be measured and monitored for maximum success.

Subscription model advantages

The advantages of a subscription-based business model are clear to both customers and companies.

When customers subscribe to a product, content, or service, there is generally an expectation that they will continue their subscription. This, of course, puts the onus on the company to continue providing services, products, or content to satisfy the customer's expectations.

When a company is able to develop an offering that meets this sort of ongoing expectation of its customers, it is ripe for a subscription model and the long-term success that can follow.

As a result of this apparent "win-win" customer-company perspective, businesses are more often being configured around a subscription business model.

For customers, a subscription offering allows for:

- Lower upfront access costs compared to purchasing a product or service outright
- Lower risk when making the subscription decision due to the ability to cancel over time
- Improved anticipation of future offerings, new content and new capabilities

For businesses, a subscription offering allows for:

- A one-time purchase to be converted into a continuous stream of related product sales
- An opportunity for improved customer engagement and retention, potentially leading to greater long-term customer revenues
- A steady stream of predictable, recurring revenue, which is highly valued in capital markets

A subscription-based business model varies from a traditional business model in a number of key ways:

- In traditional purchases, customers make a one-time commitment and gain access to an existing product or service at a fixed point in time. Subscriptions are an ongoing commitment by a customer to access current and future products, content, and services.
- Subscriptions are based on customers providing a stream of payments over time. Traditional purchases typically only have one upfront payment, potentially followed by an annual maintenance fee that may be a small fraction of the value of the overall purchase.
- Traditional purchases transfer ownership or a use license to the customer. A subscription provides the customer with access to a service, typically without a transfer of ownership or need for a license.
- Subscriptions can be cancelled, which ends the ongoing commercial relationship between the customer and the company, although the company can attempt to re-establish the relationship with special offers. In traditional purchases, the risk of cancellation comes in the form of returns, warranties, and guarantees

Forecasting new subscribers

There are several levers that feed into the determination of subscription revenue. Since many new subscription services are based on a monthly payment schedule, this will be the basis for the illustrative calculations provided in this white paper. However, subscription revenues may be collected in other periods (e.g., annual or weekly subscriptions).

Understanding the subscriber “funnel,” along with all new subscriber channels and their conversion rates is critical for forecasting subscription revenues. The key with forecasting new subscribers is to align your marketing and sales activities with the assumptions for new subscribers in your forecast model.

To forecast the addition of new subscribers, you must understand all marketing and sales channels and their historic conversion rates. For new channels or programs, you will need to build conversion models based on assumptions from similar programs, third-party data, or simply logical assumptions where there are no other points of reference.

Consider using historic conversion rates from clicks or views of advertisements, free trials, coupon offers, website views, search engine marketing (SEM – paid search), “organic” (unpaid search) traffic from search sites, and other internal (e.g., newsletters) or external channels (e.g., partner co-marketing), and direct selling activities such as inside sales, trade shows, or outbound sales calls. There should be a logical, mathematical correlation between the marketing plan and the forecast growth in the subscriber base.

An example of conversion forecasting would be as follows: Your company sends out a weekly email to a distribution list of 10,000 prospects who have signed up for your newsletter over the past five years. Historically this list has converted 10 “leads” per outbound email, and historically those 10 leads have turned into three direct sales calls for your sales force, of which one deal closes for an average price of \$4,000. So that’s \$4,000 revenue per week or \$208,000 per year. That takes you from marketing program to leads to customer conversion for one program.

Now take that baseline into the future with an assumption that you will be “renting” 100,000 prospect email names to broaden your reach over the coming year, and that this list will convert less effectively, perhaps adding one additional conversion per week at the same average price. Great, now do this for every channel and

product and take into account new programs, increases and decreases in budgets, etc., changes in program effectiveness (conversion rates) and that becomes the basis for your top-line forecast, as well as providing insight into the program costs you will entail to drive a specified level of revenue.

Estimating the Average Revenue Per User/customer (ARPU)

ARPU is the average revenue per user, of income received by the company offering subscription services for each customer per unit of time (typically either a month or a year). For example, if a cell phone service company has one subscription product driving \$2.5M revenue per month from 10,000 customers, the ARPU for the product is \$25 per month. ARPU is an important indicator for tracking sources of revenue and growth. Upselling customers to higher levels or incremental subscription offerings is an important part of the subscription business model which in the forecast can result in a growing level of ARPU for each period. Taking the same example, if the phone company adds a product with a 10% “take rate” from existing customers at

an incremental \$10/month, that would increase revenue by $\$10 \times 10\% = \$1/\text{month}$, boosting ARPU to \$26/month/customer.

Also consider the impact of any special trial offers. Trial offers may allow for a free or nominal price subscription period. The ARPU is typically calculated by taking all the revenue generated for a period of time and dividing by the number of subscriptions. However, by excluding any subscriptions provided on a trial or non-paying basis, the Average Revenue Per Paying User (ARPPU) may provide a more accurate measure of forecasted revenues. What really matters is understanding ARPU per product and expected conversion rates, changes in ARPU, and churn rates over the forecast period.

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Churn rate

When customers elect to cancel their subscription, this results in customer loss, or “churn.” The customer churn rate is a key performance indicator (KPI) for any subscription-based business, as it indicates how well a business is meeting the expectations of and delivering value to its customers. A low churn rate indicates a lot of happy customers and typically is associated with a company that is delivering high value. High churn rates mean that customers are cancelling their subscriptions quickly and indicate a failure by the company to fulfill on its customer value proposition. To drive net growth, you have to first overcome your churn, and then grow further.

There are two primary categories of churn to consider in making a forecast of this assumption. First and foremost, there is voluntary churn where a customer cancels his or her subscription. A second type of churn occurs when the subscription is discontinued because the payment method failed.

You can calculate churn rate by comparing the number of customers who cancel during the month to the number of customers at the beginning of the month.

Churn rate (%)

=

Lost customers / Customers beginning of month

Lost customers can sometimes be “hidden” when a business is in high growth mode and adding new subscribers at a faster rate than it is losing them. By calculating and benchmarking the churn rate, a company can evaluate its operating and retention performance.

For example, a company with 100 subscribers at the beginning of the month that loses 15 during the month to cancellations has a churn rate of 15% for the month. Net retention rate is a key metric determinant in capital markets for the attribution of enterprise value.

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Net retention rate (NRR)

Net retention measures how well a company does at retaining the customer revenues period over period (year over year or month over month converted to an annual rate). Customer revenues can be enhanced through upselling or lost through churn.

If your customer revenues were \$100 a year ago and those same customers were yielding \$95 today, then your net retention rate would be 95%. Strong companies with premium valuation multiples will achieve net retention ratios greater than 110%. How can you be above

100%? Remember that NRR measures the same customers' revenue year over year. So even if you lost customers, you can still expand at the remaining customers. If you dropped from 10 to 98 customers in your measured set, but revenue went from \$342M to \$377M, you have a NRR of 110%. A net retention rate in excess of 100% is only possible when the company does both a good job of retaining its subscription base of customers, and is also upselling its existing subscribers new products and services, allowing for revenue growth.

Net retention measures how well a company does at retaining the customer revenues period over period (year over year or month over month converted to an annual rate).

Forecasting subscription revenue

If a company has a corporate performance management (CPM) application that can

forecast revenue, the inputs will be as previously described:

1. Average revenue per user
2. New subscribers
3. Churn rate

If you are forecasting subscription revenue and key metrics using a spreadsheet, you will need to manually

determine revenue and key metrics using the following four-step process.

Step 1 Calculate your subscriber base

The first step is to prepare a continuity schedule of subscribers.

Subscribers, beginning of period
 + New subscribers
 - Subscriber cancellations
 = Subscribers, end of period

The subscriber base for calculating your monthly revenue will be equal to your subscribers at the beginning of the period PLUS your

new subscribers. Subscriber cancellations will typically only impact revenue for the month following the cancellation of a subscription.

There are typically three different streams of revenue to consider as you prepare this continuity schedule:

1. Revenue from existing customer subscriptions
2. Revenue from future renewal subscriptions
3. Revenue from new subscriptions

The following figure illustrates this calculation:

	Month 1	Month 2	Month 3
A Subscribers, beginning of month	95	190	278
B New subscribers	100	100	100
C Cancelled subscriptions	-5	-12	-18
D Subscribers, end of month	190	278	360
E Subscription revenue base (A + B)	195	290	378

STEP 1 {

Step 2 Multiply by average revenue per user

In the second step, the product of the subscription revenue base multiplied by the ARPU will determine forecasted monthly subscription revenue.

This is typically referred to as the monthly recurring revenue (MRR) and is a key financial metric for evaluating any subscription-based business.

Step 2 adds this part of the calculation to the subscription base from Step 1.

		Month 1	Month 2	Month 3	
STEP 1	A	Subscribers, beginning of month	95	190	278
	B	New subscribers	100	100	100
	C	Cancelled subscriptions	-5	-12	-18
	D	Subscribers, end of month	190	278	360
	E	Subscription revenue base (A + B)	195	290	378
STEP 2	F	Average Revenue Per User (ARPU)	\$ 25.00	\$ 25.00	\$ 25.00
	G	Monthly Recurring Revenue (MRR) (E x F)	\$ 4,875	\$ 7,250	\$ 9,450

Step 3 Determine the churn rate

As discussed earlier, understanding the churn rate is a key success

indicator. Using the information provided in Step 1, the churn rate

for the hypothetical example can now be determined in Step 3.

STEP 2	F	Average Revenue Per User (ARPU)	\$ 25.00	\$ 25.00	\$ 25.00
	G	Monthly Recurring Revenue (MRR) (E x F)	\$ 4,875	\$ 7,250	\$ 9,450
STEP 3	H	Churn rate (C ÷ A)	5%	6%	6%

Knowing your churn rate allows you to forecast the projected average lifetime of a customer

relationship. This is determined by taking your churn rate and dividing it into one to determine

how many months your average customer is expected to sustain their subscription.

Projected lifetime (months) = 1 / monthly churn rate

This can now be included in our hypothetical example.

STEP 3	H	Churn rate (C ÷ A)	5%	6%	6%
	I	Projected Lifetime (months) (1 ÷ H)	19.0	15.8	15.4

Step 4 Value customer relationship over time

Knowing the projected lifetime of the customer subscription helps to determine the projected average customer lifetime value (ACLV) using the ARPU.

Average customer lifetime value (ACLV) = Projected lifetime x ARPU
 -OR-
 Average customer lifetime value (ACLV) = ARPU / Churn %

The following figure includes the final calculation of ACLV.

		Month 1	Month 2	Month 3	
STEP 1	A	Subscribers, beginning of month	95	190	278
	B	New subscribers	100	100	100
	C	Cancelled subscriptions	-5	-12	-18
	D	Subscribers, end of month	190	278	360
	E	Subscription revenue base (A + B)	195	290	378
STEP 2	F	Average Revenue Per User (ARPU)	\$ 25.00	\$ 25.00	\$ 25.00
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STEP 3	H	Churn rate (C ÷ A)	5%	6%	6%
	I	Projected Lifetime (months) (1 ÷ H)	19.0	15.8	15.4
STEP 4	J	Average Customer Lifetime Value (ACLTV) (I x F) or (F ÷ H)	\$ 475.00	\$ 395.83	\$ 386.11

Refinements beyond the basic

This four-step process can provide a high level estimate of forecasted revenues; however, as the subscription business model matures, so too will the sophistication of revenue forecasting.

MRR is the key metric in the subscription-based business model and understanding its growth and decline month-over-month helps identify key revenue trends. Changes in MRR can be broken out between the churn rate and the expansion/cancellation of additional services. Some subscription business models emphasize the expansion of revenues with existing customers and may even tolerate the loss of customers if they are successful at growing the ARPU at a faster rate. So, as the forecasting process gets more sophisticated, the analyst will need

to consider forecasting the ARPU the further along a customer gets with their contract.

A separate but related issue is that not all customer behaviors are uniform throughout their expected contract life. Not only might the ARPU change through time, but so might the churn rate. To more accurately develop your revenue forecast to accommodate these factors, the model can forecast revenue using “cohorts.”

A cohort is typically a group of customers that subscribes in a particular month. As the business gains experience with tracking the performance within cohorts, more precise estimates of changes in customer counts and ARPU can be developed. These will require expanded tables from those presented above, as each cohort would be separately tracked throughout the forecast period.

Conclusion

The subscription business model provides companies that offer an enduring value proposition a way to remain connected with customers and help derive a sustainable revenue stream. Forecasting subscription revenues and understanding the impact of churn on forecasted revenues helps a company understand its

customer acquisition channels, programs and conversion rates, all leading to an understanding of customer acquisition costs and capabilities. This in turn allows companies to seek out strategies that maximize long-term customer value through a better understanding of the core drivers of their business model.

Knowing the value of a customer relationship is a helpful way of managing and planning your customer acquisition costs. For a subscription business to be sustainable, your ACLV must exceed your CAC and leave sufficient funds available to cover operating costs and generate a profit margin.

Companies should focus efforts on achieving efficient and profitable growth by establishing metrics, such as the MRR, churn rate, ALTV and growth efficiency index, to help manage sales, marketing, and operating activities, as well as productivity.

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