

SaaS Financial Modeling: A High-Level Overview

How to build a financial model for a Software as a Service (SaaS) company, as well as calculating key metrics that SaaS companies and analysts monitor

Written by
[Jeff Schmidt](#)

Reviewed by
[Kelly Bailey](#)

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What is SaaS?



SaaS (Software as a Service) is a software distribution model in which companies create applications and clients subscribe to them. The software applications are hosted by a vendor and made available to clients over the internet.



Help

The SaaS distribution model is different from the more traditional model of purchasing software one time and having access to it indefinitely.

Under the SaaS model, instead of installing and maintaining software, clients simply access it via the web, freeing them from maintaining it in-house. As long as clients are subscribed to a SaaS application, they will typically receive new software features as part of the subscription. Again, this is different from the traditional model, where many improvements require the purchase of a newer version.

The SaaS business model results in more stable and recurring revenue compared to the more traditional model of one-time purchases. This recurring-revenue dynamic has led to many software companies switching to the SaaS business model. As an example, Microsoft used to sell its Office product on a one-time basis. However, while Office can still be purchased, Microsoft relies more on its Microsoft 365 subscription. Other SaaS companies include Salesforce, Atlassian, and Dropbox, among many others.

Key Highlights

SaaS (Software as a Service) is a software distribution model where companies create applications, and clients subscribe to these applications. The SaaS business model results in more stable and recurring revenue, compared to the more traditional model of one-time purchases.

SaaS financial models must account for industry-specific metrics, including recurring revenue, customer acquisition costs, and customer churn rates.

Other key performance indicators include customer lifetime value, burn rate, and the Rule of 40.

Key Characteristics of the SaaS Industry

Subscription-based pricing: As mentioned previously, the SaaS model is based on recurring subscriptions from clients.

Cloud-hosted applications: SaaS software applications may be hosted in the cloud or at least have significant cloud-based functionality.

Increased accessibility: Because of the cloud-based functionality, users can access software from various devices as long as they have an internet connection. This is crucial as many businesses have transitioned to work-from-home or a hybrid work schedule.

Regular updates: One of the major benefits of SaaS is that SaaS businesses will regularly update software, and these updates are typically included in the cost of the subscription so there's no incremental cost to clients.

Enhanced scalability: Given the increased accessibility and regular updates, SaaS providers help businesses accommodate changing needs and conditions via greater flexibility.

What is a SaaS Financial Model?

A SaaS financial model is simply a spreadsheet, usually built in Microsoft Excel, which forecasts a SaaS company's financial performance into the future. The forecast is typically based on the company's historical performance and assumptions about the future, and requires preparing an income statement, balance sheet, cash flow statement, various supporting schedules, as well as outputs of key performance indicators ([KPIs](#)).

SaaS financial models must account for industry-specific metrics and aspects, including recurring revenue, customer acquisition costs, and customer churn rates. SaaS financial models are powerful tools for decision-making, helping stakeholders understand the financial health, [valuation](#), and growth potential of a SaaS business.

SaaS Financial Model Components

Fundamentally, SaaS financial models follow the same basic format and structure as most other industries in that these models will contain the three core financial statements: the income statement, the balance sheet, and the cash flow statement.

Key considerations when building this type of financial model include:

Revenue Projections: The SaaS model needs to account for the recurring revenue from subscriptions and may be broken down by different customer segments or pricing tiers. Other revenues may be generated from one-time setup fees or professional and training services.

Cost Structure: Any model needs to consider both the direct costs of delivering the service (for example, data center capacity and hosting and [direct labor](#)), as well as other operating expenses such as sales, marketing, research and development, and administrative expenses.

Key Performance Indicators: Specific SaaS metrics include Monthly Recurring Revenue ([MRR](#)) and Annual Recurring Revenue ([ARR](#)), Customer Lifetime Value ([LTV](#)), and Customer Acquisition Cost (CAC). Additionally, the model should quantify customer retention and churn rates, which are crucial for understanding the sustainability and growth of the business.

 Corporate Finance Institute						
Metrics						
	2017F	2018F	2019F	2020F	2021F	2022F
% MRR Churn Rate	2%	2%	2%	2%	2%	2%
Lifetime value (LTV)	4,093	4,108	4,119	4,127	4,133	4,138
Customer acquisition cost (CAC)	758	790	839	898	966	1,041
LTV : CAC ratio	5.4x	5.2x	4.9x	4.6x	4.3x	4.0x
Months to recover customer acquisition costs	9.26	9.62	10.18	10.88	11.69	12.58

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Importance of SaaS Financial Models in Corporate Finance

SaaS financial models play a crucial role in various aspects of corporate finance:

Performance Monitoring: By performing [variance analysis](#), stakeholders can identify areas of overperformance or underperformance, allowing for necessary changes to operations.

Budgeting: Financial models are used for setting realistic budgets and forecasts, as well as helping determine the proper allocation of resources across different departments and initiatives. Models can also be set up to calculate different scenarios, such as a change in customer churn rate.

Valuation: SaaS companies are often valued on metrics like sales or annual recurring revenue. A detailed financial model can help justify a company's valuation on revenues, as opposed to more traditional valuations based on [cash flows](#) or [earnings](#).

Fundraising or Exit Planning: A well-constructed financial model is critical when seeking investment or planning an [exit strategy](#). The model should show a clear picture of how the company plans to use funds and generate returns. For founders or investors planning an exit, a robust financial model is necessary for demonstrating the company's potential to prospective investors.

Step-by-Step Guide to Building a SaaS Financial Model

Like any model, creating a robust SaaS financial model requires a deep understanding of the business model and attention to detail. Below is an overview of creating a robust SaaS model.

1. Revenues: Revenue modeling is one of the most important aspects of any SaaS financial model. Proper revenue modeling should include the following considerations:

Define customer segments: The customer base should be broken down into relevant segments like industry, geography, pricing tier, etc. However, keep in mind that at a certain level of granularity, there is little additional benefit to better decision-making or more accurate analysis and modeling.

Project new customer acquisitions: Revenue will naturally increase the more new customers the SaaS company can add so this needs to be factored in the revenue forecast. However, keep in mind that adding new customers is usually driven by sales and marketing efforts, so those costs might increase as well.

Forecast expansion revenue: In addition to adding new customers, a SaaS company may be able to increase revenue by enticing existing customers to purchase additional products by upselling or [cross-selling](#).

Model churn: Estimate the rate at which customers cancel their subscriptions. The churn rate is usually expressed as a monthly or

annual percentage of existing customers.

Average revenue per account ([ARPA](#)): Once the number of customers is forecast, the analyst should then apply an appropriate average revenue per account (or per user) to calculate the dollar revenue amounts.

Calculate recurring revenue: After estimating all of the above, the model can then calculate the monthly recurring revenue (MRR) or annual recurring revenue (ARR) over time. The formula is as follows (substitute MRR for ARR as needed):

$$\text{Ending ARR} = \text{Beginning ARR} + \text{New ARR} + \text{Expansion ARR} - \text{Churned ARR}$$

Forecast other revenue: Most SaaS companies will generate other revenue from setup fees or professional services.

2. Expenses: Accurately forecasting expenses is crucial for understanding the profitability and cash needs of the business.

Cost of sales (COS): The cost of sales for SaaS companies typically includes hosting costs, and customer support, along with any other direct costs associated with delivering the service.

Customer acquisition costs: Customer acquisition costs include salaries for sales and marketing professionals, as well as advertising spend.

Research and development: SaaS companies are always innovating so it's important to fully understand the costs associated with product development, including engineering and related expenses.

General and administrative: Administrative costs include expenses for finance, human resources, office space, and other [overhead](#) costs.

3. Cash Flow: Cash flow projections are critical for SaaS companies, especially given the often significant gap between customer acquisition costs and realized revenue.

Building a [cash flow statement](#) normally starts with operating cash flow. Net income from the income statement is adjusted, along with changes in [working capital](#), to calculate operating cash flow.

Any [capital expenditures](#) (CapEx) the company makes is a cash outflow and is considered an investing activity on the cash flow statement. Having said that, CapEx is generally lower for SaaS companies (relative to many other industries and businesses).

Any financing activities must also be considered. This would include capital raises in the form of debt or equity (or repayments or repurchases of each as well).

Combine all cash inflows and outflows to calculate the company's cash position.

Tools and Software for Creating SaaS Financial Models

While most financial models are built using spreadsheet software, there are also other tools that can streamline the modeling process:

1. **Microsoft Excel and Google Sheets:** These remain the most widely used tools due to their flexibility and broad familiarity. Given their flexibility, they're excellent for custom models. However, they require a strong understanding of financial modeling principles and formula construction and may be prone to user or data error.
2. **Specialized SaaS Modeling Tools:** Platforms like PlanGuru, Workday, or Anaplan offer pre-built templates and features specifically designed for SaaS businesses.
3. **Visualization Tools:** Software such as [Tableau](#) or [Power BI](#) can be used alongside a financial model to create compelling visual representations of data and KPIs.

SaaS Industry Key Performance Indicators

SaaS businesses have a unique set of metrics and KPIs that are important to understanding a company's financial health and growth prospects. Some of the most important include:

Monthly Recurring Revenue (MRR) and Annual Recurring Revenue (ARR): These represent the predictable, recurring revenue generated by the subscription business.

Customer Acquisition Cost (CAC): The total cost of acquiring a new customer, including marketing and sales expenses.

Customer Lifetime Value (LTV): Although this can be calculated in a few different ways, this metric represents the total gross margin a SaaS business can expect from a single customer over the life of the customer's subscription.

LTV to CAC Ratio: This measures the return on investment on customer acquisition costs. A healthy LTV/CAC [ratio](#) is typically 3:1 or higher.

Churn Rate: This is the rate at which customers cancel their subscriptions, usually expressed as a percentage of the customer base.

Net Revenue Retention (NRR): This metric shows the revenue retained from existing customers over time, including the impact of customer churn, downgrades, and upsells.

[Gross Margin](#): The percentage of revenue retained after accounting for the direct costs of providing the service.

[Burn Rate](#): The rate at which a company is losing cash, which is particularly important for startups that are not yet consistently profitable or cash-flow positive.

Rule of 40: The Rule of 40 is a "back-of-the envelope" calculation that says a SaaS company's revenue growth plus its profit margin should equal 40% or more.

The above metrics should be prominently featured in the financial model and used to drive key insights and decision-making.

Additionally, accurate SaaS forecasting requires clarity on [bookings vs billings in SaaS](#), as these metrics influence pipeline visibility and cash flow projections.

Challenges and Best Practices in SaaS Financial Modeling

Building and maintaining a robust and accurate SaaS financial model comes with many challenges.

Forecasting Accuracy: Predicting future performance, especially for early-stage companies or in rapidly changing markets, can be exceptionally difficult.

Complexity: SaaS models, like many financial models, can become very complex, making them difficult to understand, maintain, and update.

Balancing Complexity with Usability: While more detail might provide better insights, it can also make the model unwieldy and more difficult to use.

To address these challenges, consider the following best practices:

Regularly review and update the model, eliminating unnecessary and cumbersome detail.

Create the ability to run multiple [scenarios](#) to account for uncertainty.

Use [sensitivity analysis](#) to identify which inputs have the biggest impact on KPIs. These inputs should then be heavily scrutinized, given their influence.

Clearly document assumptions and calculations to make the model easier to understand and audit.

Build the model in a [modular](#) fashion, allowing for easier updates and modifications.

Final Thoughts on the Evolving Landscape of SaaS and Corporate Finance

The SaaS industry continues to thrive and evolve rapidly, presenting both opportunities and challenges for financial modeling and corporate finance.

Shift to Product-Led Growth: Many SaaS companies are adopting product-led growth strategies, where the product itself drives user acquisition, conversion, and expansion. This trend is impacting traditional sales and marketing models, requiring adjustments in how to forecast customer acquisition and growth.

AI and Machine Learning Integration: As SaaS companies increasingly incorporate AI and machine learning into their products, financial models may need to account for different cost structures and the potential for rapid scaling.

Usage-Based Pricing: More SaaS companies are adopting usage-based pricing models, which can complicate revenue forecasting but may lead to better alignment with customer value.

Remote Work Impact: The shift towards remote, or hybrid, work has accelerated the adoption of SaaS tools, potentially leading to changes in customer acquisition costs and churn rates.

Blockchain and Decentralized Finance: The potential integration of blockchain technology and decentralized finance (DeFi) principles into SaaS business models could lead to new revenue streams and financial structures that will need to be considered when creating a financial model.

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Additional Resources

Thank you for reading CFI's guide on SaaS Financial Models. To keep advancing your career and skills, the following CFI resources will be useful:

[Average Revenue Per Account \(ARPA\)](#)

[CAC Payback Period](#)

[Customer Acquisition Cost](#)

[SaaS Quick Ratio](#)

[Financial Modeling Interview Questions](#)

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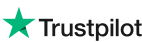
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