

A white paper from OPEXEngine on key financial metrics for building high performance, valuable tech companies.

Software & SaaS Financial Metrics and Key Benchmarks

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Introduction

Managing the growth of a software business, whether selling traditional on-premises software or SaaS, is far more likely to be successful when management is metrics-driven and has good visibility into all the key performance indicators described in this paper. With greater visibility and analysis of these metrics, companies are better able to make good decisions about efficient and productive resource investments resulting in strong revenue growth rates and high valuations. The metrics and data in this paper are derived from research by OPEXEngine, which has worked with hundreds of software and SaaS companies since 2006 to benchmark their KPIs and performance in detail.

Traditional Software versus SaaS – Different Metrics

The software industry has evolved into a number of different business models each with their own set of performance metrics. Traditional software companies typically focus their business modeling on financial metrics such as recognized revenues, operating expenses and profits. Recognized revenues and bookings are viewed as the key metrics to track current and future sales performance. This model usually has **fewer moving parts** to calculate business performance than subscription businesses and as a result, fewer key performance indicators (KPIs).

In the traditional software model, quarterly performance can be volatile, and the sales departments in these companies drive the P&L results. The sales organization usually owns the revenue forecast which is based on predicting the probability of closing new sales. The forecast accuracy is dependent on the quality of sales' estimates of whether or not contracts will close in the period.

A recurring revenue software business, or Software as a Service (SaaS) business, usually tracks a number of financial AND non-financial operating metrics. A valuable SaaS business is a high growth business that continually adds and keeps subscribers, a process which is not easily captured through traditional, point-in-time financial metrics.

The moving pieces of the SaaS model include: recurring revenues, subscriber numbers, growth rates, revenue per customer, the cost of acquiring new customers, the cost of maintaining existing customers, and the cost of a scalable hosting platform.

SaaS revenues are slow in building, with cash outflow far outpacing cash inflow in the early stages. Once a SaaS business is established and takes off, it can grow very quickly as new revenue builds onto recurring revenues, requiring efficient and scalable systems in place to track all the moving pieces. With efficient systems in place providing managers good visibility into the business, companies can increase investments in growth, while identifying points of weakness to focus on and improve performance. And because in a SaaS business, each part of the business is dependent on every other part's performance, managers need to have visibility into the overall picture, typically through business systems which track performance metrics.

The forecast in a subscription business is based primarily on **recurring revenues, minus some level of customer churn, plus new subscription growth rates**, which can be estimated from past performance. The CFO of a SaaS company with the majority of revenues coming from recurring revenues will be able to predict quarterly and annual revenues with a great deal of accuracy. If a company knows its existing recurring revenues, and historical churn rates, as well as indicators of new subscriptions, then the forecast is fairly predictable and is not impacted in the short term by big, new deals coming in at the end of the quarter, or the loss of big customers. The result is greater predictability and insight into future performance, which is a large part of what makes the SaaS model so valuable.

Perpetual License Model	SaaS Model
Less visibility	More predictive
Forecast owned by Sales; sales-driven P&L	Forecast owned by Finance; model-driven P&L
Fewer moving parts, fast moving levers	More moving parts, slow building business
Value of customer relationship drops off after 1 st sale	Maintaining customer relationship is key: renewals and upselling
Customer chooses and pays for all IT to run the software	Vendor runs and maintains all software and hardware to deliver SaaS offering

The Critical Metrics of a SaaS Growth Model

The most important metrics to track right from the start of a SaaS business fall into four primary categories:

1. Revenue metrics
2. Customer metrics
3. Cost, Expense and Profitability metrics
4. Cash

Revenue Metrics:

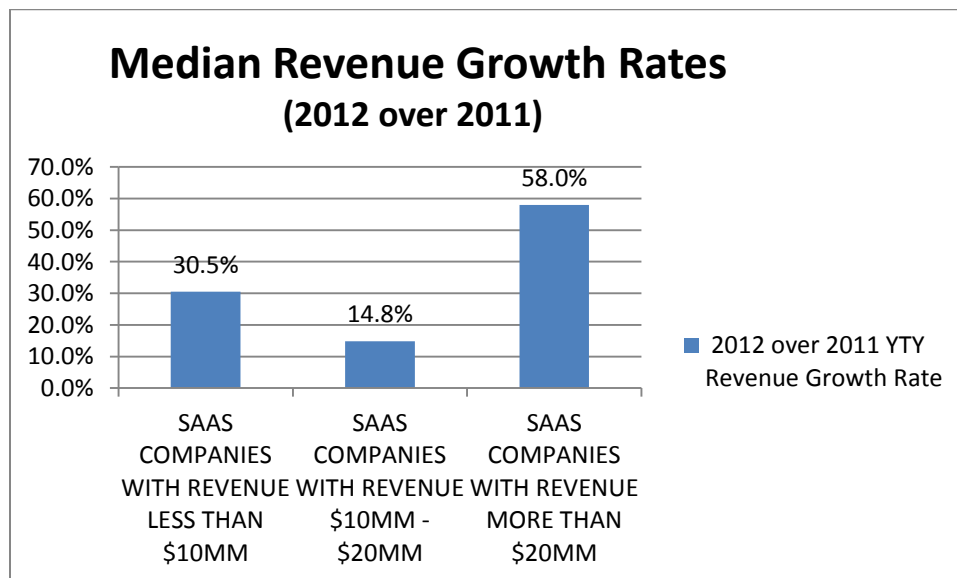
- **Contracted Monthly or contracted annual recurring revenues (CMRR or CARR)**
- **Revenue growth rate**
- **Revenue per User or Subscriber (RPU), can be looked at as a monthly or annual metric**

Contracted Monthly Recurring Revenues (CMRR)

Contracted monthly or annual recurring revenues (CMRR) is generally considered the most important revenue metric for a SaaS business as it shows the predictable, recurring revenue components of a SaaS business. The difference between CMRR and monthly recurring revenue (MRR) is that CMRR typically tracks revenue which is contracted indefinitely, whereas MRR may include short-term recurring revenues that are not contracted long-term and thus may distort the view into on-going, future revenues. However, CMRR and MRR are not defined by GAAP or an industry standards organization, so each company may define these metrics somewhat differently than the next company. Be cautious when benchmarking without understanding others' definition of CMRR and MRR.

Revenue Growth Rates

Private SaaS companies have shown a consistent trend, on average, of revenue growth rates increasing, sometimes dramatically, as companies pass through the start-up phase after reaching about \$15million. This strong growth surge results partially from recurring revenue momentum, but can also be attributed to increased investment in sales and marketing as cash flows stabilize and many venture backed firms take significant additional investment to support sales and marketing expansion. Revenue growth rates continue to be the leading indicators of company value for both public and private SaaS companies.



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RPU or revenue per subscriber is a measure of the revenue generated per subscriber. This metric allows for the analysis of a company's revenues and growth at a per user level, and on an individual basis, can be used to segment profitable from unprofitable customers.

Customer Metrics:

➤ Cost of Customer Acquisition (COCA)

- **Customer Lifetime Value (CLV)**
- **Cost of Customer Maintenance**
- **Churn by Customer and by Dollar Value**
- **Customer Segmentation**

Cost of Customer Acquisition (COCA) and Customer Lifetime Value (CLV) are two of the most critical SaaS metrics in determining whether a SaaS business is building a profitable business or not. COCA includes all sales and marketing expense aimed at bringing on new customers. In small and mid-sized companies, COCA is typically calculated as all sales and marketing expenses from a previous quarter (or whatever time period roughly represents the average sales cycle) divided by the number of new customers in a quarter. Customer Lifetime Value (CLV) is the amount of profit a customer is calculated to deliver to the company over the lifetime of the customer relationship. The simple formula for calculating CLV is:

$$\text{CLV} = \frac{\text{Monthly RPU} * \text{Gross Margin}}{\text{Churn}}$$

CLV is extremely powerful in helping to understand how much a company can profitably spend to acquire and retain customers, as well as to segment profitable from unprofitable customer groups.

In general, these metrics are less meaningful when looked at in isolation and most meaningful in relationship to each other. For example, a high COCA may be fine if CLV is also very high, whereas a high COCA and lower CLV would clearly be an unprofitable business. Looking at one without the other only gives half the picture.

Cost of Maintaining a Customer usually includes the recurring cost of all engineering, support, account management, customer service, and billing activities plus all physical infrastructure and systems required to maintain a current customer. This metric is typically expressed per customer, so the calculation would be:

<p>Average Cost of Maintaining a Customer =</p> <p>The recurring cost of engineering, support, account management, customer service, and billing activities, plus all physical infrastructure and systems required to maintain a current customer</p> <hr style="border: 0.5px solid black;"/> <p style="text-align: center;">All current customers</p>
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The above describes the type of expenses involved in maintaining a subscriber, but there is no one definition of all the items to include and each company needs to identify all these inputs early on and track regularly. Because a SaaS business is dependent on recurring revenues and customer renewals, new projects or systems aimed at maintaining the subscriber base will be undertaken from time to time and it is critical to make sure those expenses are added to the tracking of this metric.

Churn or Renewal Rates

A subscription company with a high churn rate is fundamentally less valuable than one with a long customer life. The higher the churn rate, the slower the growth. OPEXEngine tracks renewal rates for subscription-based products by two metrics: **customer renewal rate and dollar value renewal rate**. Ideally, SaaS companies target a renewal rate in the 90+% range, and typically, the dollar renewal rate is higher than the net customer renewal rate, due to expansion and upselling.

REVENUE CHURN: An example of calculating net revenue churn in monthly recurring revenue is:

$$\frac{(\text{CMRR at beginning of month minus CMRR at end of month}) \text{ minus upsell to existing customers}}{\text{CMRR at beginning of month}}$$

CUSTOMER CHURN: Churn can be determined by either the gross number of subscribers lost in a period, or by the net change in subscribers. For example:

Gross churn
10 subscribers lost
100 subscribers = 10% churn

OR

Net churn
10 subscribers lost
(100 original subscribers + 5 new subscribers) = 9.5% churn

Churn rates may vary by different customer groups, so it is important to segment customers by a variety of profiles, for example, by industry, size of company, deal size (whether large deals are more or less likely to churn than small deals), by length of subscription, among other segmentation definitions.

In general, the benchmarks show that:

- early stage companies have higher churn rates than bigger SaaS companies; and
- SaaS companies selling a low priced product (lower average deal size), regardless of size, have a higher churn rate than companies selling higher priced, enterprise type software subscriptions.

Typically, enterprise type sales have a longer sales cycle which tends to correlate with lower churn once the customer has made the decision to enter into a subscription relationship with the vendor. Both the vendor and enterprise customer have invested a greater amount of time and resource into the relationship, hence, there is less churn. Enterprise SaaS applications tend to be integrated with complex, internal operations and other systems and in this way are more “sticky” and difficult to displace.

Critical Cost, Expense and Profitability Metrics:

- **Cost of Revenue**
- **Sales and Marketing Expense**

Key cost, expense and profitability metrics include the cost of products, cost of services, hosting expense, gross margins on products and services, sales and marketing expense, as well as R&D and G&A expense. Some of the most critical metrics to track are the overall cost of revenue, which for SaaS companies includes the hosting and monitoring of the application, as well as sales and marketing expenditures which drive customer acquisition and revenue growth.

Total Cost of Revenue

Cost of Products: All direct expenses related to making or acquiring products that have been sold, including all compensation associated with product management and administration, plus direct overhead for the production of software or SaaS products, including hosting and monitoring of the application.

Cost of Services: All expense associated with delivering services for the company, including all compensation associated with services management and administration, professional services and consulting delivery, education and training, as well as customer support.

OPEXEngine has found that early-stage SaaS companies have reduced the cost of revenue from over 50% of revenue a few years ago to a range roughly from almost 40% to just under 30% as revenues increase.

	SaaS Companies < \$10M	SaaS Companies \$10M - \$20M	SaaS Companies \$20M - \$50M
Average Recognized Revenue	\$6,263,747	\$15,003,561	\$40,808,762
Cost of Revenue as a % of Revenue	36.7%	34.0%	28.1%

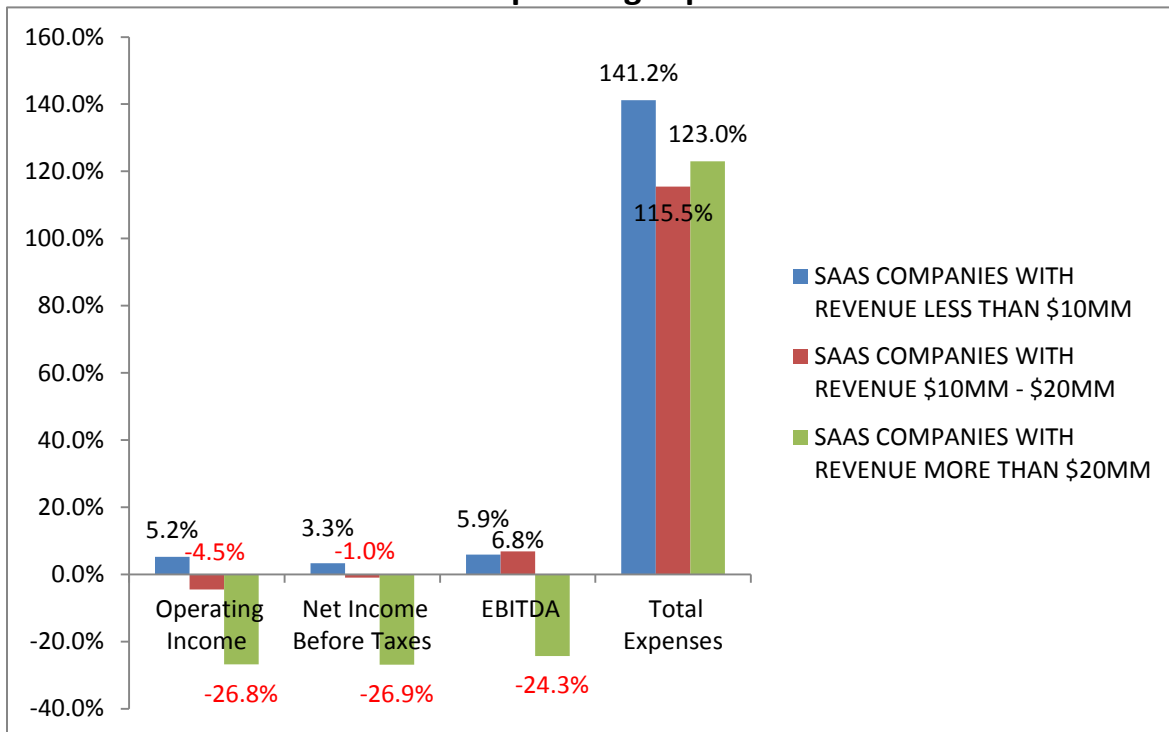
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Sales and Marketing Expense from Early Stage to Public Company

SaaS companies typically spend more in Sales and Marketing than a traditional software company because the SaaS model is all about acquiring and retaining customers. In addition, public SaaS companies tend to maintain higher spending rates in sales and marketing rather than reducing the percentage of revenues spent as was the case previously with traditional, on-premises software companies. Successful public SaaS companies are spending in the range of 45-55% of revenues on Sales and Marketing to continue to achieve high growth rates.

In the 2012 benchmarking, for private SaaS companies over \$20 million, we saw an average expense as a percent of revenue of 41.3%. In the benchmark of 26 public SaaS companies with revenues under \$300million, the average for sales and marketing expense was 35%, with a range of individual companies from 20% to 63%.

Private SaaS Profit and Operating Expense as a % of Revenue



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Cash

SaaS companies typically eat up cash quickly in the early days. The key cash metric to track is:

➤ Net Cash from Operations

SaaS companies need to model the time it takes to get to cash flow break-even and understand their capital requirements to get there. Expenses, such as customer acquisition costs, are paid

up front, while revenues come in small increments on a monthly, quarterly or annual basis for the term of the subscription. As more customers are added, the company multiplies the full customer acquisition expense but only adds incremental revenue. Companies can speed up getting to cash flow break even by moving from monthly billing to annual billing.

Visibility into the Business

Accurate and real time visibility through an automated financial system into a software or SaaS company's financial and operational data is critical to track the key performance indicators discussed in this paper. The ability to compile the data across the organization and benchmark it in an automated fashion allows a company to scale operations quickly and efficiently. With the data in hand, companies have greater predictability and a better ability to forecast revenues, expenses and cash flow than ever before. In addition, benchmarking these metrics can provide "early warning" signals internally about performance problems which may be corrected, once identified, to get back on track. This is especially true in the SaaS world where executives rely on careful monitoring and benchmarking of the KPIs specific to SaaS, including the many non-financial operating metrics. These non-financial, but critical operating metrics would be especially difficult to track accurately manually or with simple spreadsheet tools.

The most successful software and SaaS companies today utilize real time visibility and benchmarking of their operations to make efficient management decisions and resource allocations, as well as providing greater predictability of business performance. Comparisons with peer companies allow management teams to quickly identify problem areas, set targets for improvements and to further support areas of the business that are already over-achieving against peers. This in turn drives the strong revenue growth which underpins highly valued companies.

OPEXEngine

About OPEXEngine

OPEXEngine works with high technology companies to develop comprehensive operating benchmarks to drive growth and efficient use of resources. We document trends in expense allocation, revenue growth, personnel, customer, R&D and financial metrics, and then analyze the results to deliver detailed assessment of a company's business model and productivity performance against peers. All individual client data is confidential and secure, and published only as part of blinded, aggregate benchmarks. Participating companies receive individualized benchmarking reports showing performance against their closest peers by revenues, business models, average deal sizes, and other characteristics.

The annual software and SaaS benchmarking survey runs typically from February through April every year. To learn more, go to: www.opexengine.com or call at: 617-674-4218.