

# Four actions for subscription software companies to improve performance and valuations

```
import ...
public final class LocationUtils {
    // ...
    * Parse Point from it's String
    * @param locationString - String
    * @return org.springframework.data
    // ...
    public static Point parseLocation(String locationString) {
        Preconditions.checkNotNull(locationString);
        Preconditions.checkNotNull(locationString);
        locationString = locationString.trim();

        if (locationString.contains(", ")) {
            locationString = locationString.substring(0, locationString.indexOf(", "));
        }

        if (locationString.contains(" ")) {
            locationString = locationString.trim();
        }

        String[] location = locationString.split(" ");
        Preconditions.checkNotNull(location);
        double lat = Double.parseDouble(location[0]);
        double lon = Double.parseDouble(location[1]);

        return new Point(lat, lon);
    }
}
```

```
@Override
public void DefaultCommunityService() {
    CommunityRepository communityRepository,
    CommunityRepository regularCommunityRepository,
    CommunityService communityService,
    DefaultCommunityStrategy strategy
} {
    this.communityRepository = communityRepository;
    this.regularCommunityRepository = regularCommunityRepository;
    this.communityService = communityService;
    this.strategy = strategy;
}

@Override
public void findById(CollectionCommunity communities) {
    if (communities.isEmpty()) {
        CollectionCommunity documents = communities
            .stream()
            .map(community -> community.getId())
            .collect(Collectors.toList());
        communityRepository.findByIdIn(documents);
    } else {
        ListCommunity documents = communities;
    }
}

@Override
public CollectionCommunity search(CollectionCommunity query) {
    ListCommunity documents = strategy.findById(query);
    if (documents.isEmpty()) {
        ListCommunity documents = documents.stream().map(document -> document.getId())
            .collect(Collectors.toList());
        ListCommunity documents = communityRepository.findByIdIn(documents);
    }
    return documents;
}
```



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# Better subscription performance measurements can help generate higher valuations

After a decade of substantial growth, software-as-a-service (SaaS) and other recurring revenue businesses in the technology sector continue to gain popularity. Yet, measuring the success of these businesses remains challenging and may be a limiting factor to future success.

Ernst & Young LLP (EY US) has evaluated hundreds of software companies across a range of verticals to identify data quality issues in advance of M&A processes or to increase confidence in internal key performance indicators (KPIs). EY US has also built a proprietary database of formulas, definitions, calculations and methodologies used for all reported KPIs. By addressing data issues holistically, clients have been able to improve operating performance and exit valuations. EY US helps executive management teams and boards develop a better understanding of their business operations by deploying KPI diligence and by using predictive modeling.

The result can be improved customer retention, increased “up-sell” and “cross-sell” pricing improvements, and more rapid cash collection cycles through company-wide acceptance and consistency in KPI measurement and tracking.

# SaaS KPIs lessons learned

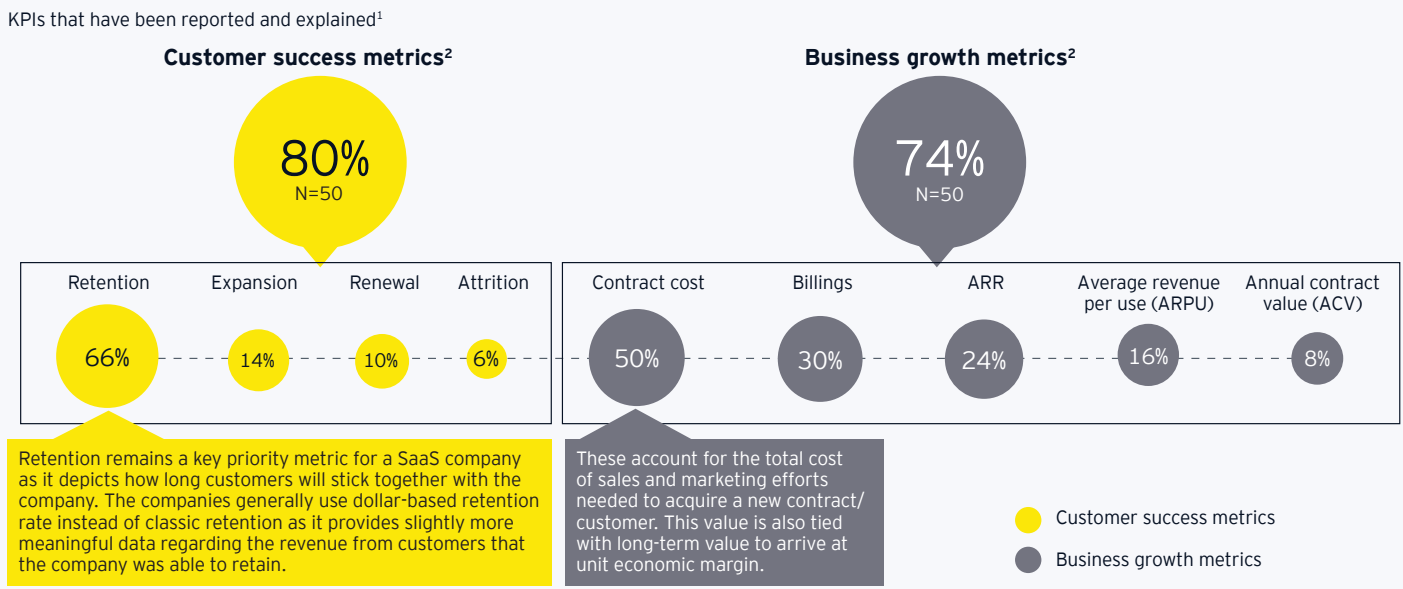
## Some KPIs are more prominently reported than others

Dozens of metrics can fall under the KPI umbrella for an enterprise SaaS company, but on average companies report just four to five metrics externally. These include retention, expansion, renewals and attrition. Retention rate is the most reported KPI, with 66% of SaaS companies reporting it as a key metric used for analyzing performance.<sup>1</sup> Other key metrics, like annual recurring revenue (ARR), annual contract revenue (ACR), renewals, and attrition are less reported. Companies that are transitioning to SaaS tend to not define and report KPIs as frequently as fully transitioned or legacy SaaS companies (see Figure 1).

## Calculation methodology and time frame considered are often different

Because the same KPIs can be measured using various methods or variables, the outcomes can vary significantly. It is important to understand the underlying approach used for measurement, as further variations can occur from up-sells, down-sells, price increases in contracts, customer cohorts and time frames considered. Metrics, such as ARR, can vary substantially due to adjustments regarding cancellations, add-ons, upgrades and short duration of contracts. Even a small difference in a reported figure can have a significant impact on forecasted revenues and, thus, greatly impact valuation.

**Figure 1:** SaaS players are primarily inclined toward measuring the dollar retention rate to assess the revenue retained from the prior-period customers



Notes: <sup>1</sup> N=50; % has been calculated by dividing the number of companies that reported and explained a particular KPI by the total number of companies analyzed.  
<sup>2</sup> The % calculation is mutually exclusive of each other, as one company usually reports more than one KPI.

Source: Capital IQ, Company filings and Investor presentations, EY US analysis

1. EY US research, KPIs for top 50 publicly listed enterprise SaaS companies capturing the formula, definitions, key differences in calculation, and methodologies used.





## Infrequent disclosures and disclosures without explanations due to inaccurate data collection can reduce usefulness

Many companies disclose KPIs in their S-1 filing and investor decks but do not report them in their subsequent annual and quarterly filings. These inconsistencies raise questions concerning whether the company stopped reporting certain KPIs due to performance declines or measurement challenges and raises questions about whether those companies stopped tracking them as well.

## Data systems are often not accurately set up to report metrics and do not reflect current business conditions, resulting in inconsistent benchmarking

A lack of data integrity due to multiple disparate systems and responsibility split between multiple business functions are major impediments to accurate forecasting. Additionally, many teams are accustomed to using point-in-time variables for regular financial and operational reporting. However, SaaS KPI calculations often require data gathered over time. Additional inconsistencies can arise based upon a lack of internal understanding when inputting data points. Changes in offerings and the organizational structure of the business (e.g., integration of acquired businesses, replacement of legacy subscription products with SaaS offerings, reorganizations), can also make reporting more difficult, since executives need to make sure that KPIs and underlying data are updated to reflect these changes.



# Four actions companies can take to improve KPI tracking and reporting

- 1 Understand the currently reported KPIs and where data comes from within the organization. Continuously test data integrity and achieve uniformity in calculations and methodology. Use data to make more informed decisions and forecasts. Reporting can be done in a uniform and consistent manner.
- 2 Re-evaluate which KPIs make sense as indicators of future success for your specific business. Focus on metrics that reflect the current and future state of the business. In the past, reporting may have focused on revenue from a “point-in-time” perspective. Executives may want to focus on future revenues and indicate how the business will perform over time, as well as the changing nature of the business.
- 3 Gather internal consensus on common KPI definitions, meanings and implications for different departments. Obtain alignment of stakeholders across applicable functions with clear strategy and internal goals. Make sure KPIs are relevant and actionable by your organization. Operational alignment leads to better ability to influence business performance and outcomes.
- 4 Consider board and investor expectations of KPI definitions. Enterprise SaaS KPIs tend to drive valuation, and as a result, government regulators are increasingly focusing on top-line KPIs and other operating metrics. An unbiased examination of the data sources, calculations and industry-specific leading practices can increase confidence when using and presenting KPIs.





# Conclusion: benefits of getting it right

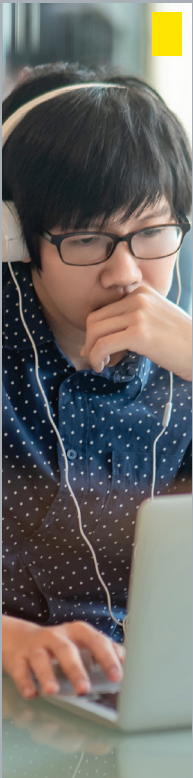
There can be meaningful benefits for SaaS companies that track and measure progress correctly. Tracking KPIs aligned with actual business performance can help companies articulate their success stories and lead to increased valuations and smoother internal operations.

Internal benchmarking can also help with pricing decisions through better customer segmentation and understanding of willingness to pay, early identification of “at risk” customers for improvement in retention, ability to identify and act on cross-sell and up-sell opportunities, and better alignment of sales

incentives to desired outcomes – all of which may lead to better top-line performance.

Your company’s KPIs are inherently unique to your business. The definitions and calculations involve significant judgment and may lack direct benchmarks. For SaaS executives, having accurate data and measuring the right KPIs is essential for understanding the performance of the business and optimizing future performance.

EY US works with many software companies to help redefine how they track and measure performance. Examples include:



**Internal KPI evaluation for enterprise software firm with ARR of \$2b+:** A large enterprise software company had difficulty reporting actionable KPI metrics across its broad product portfolio, especially as customer preferences moved from perpetual licenses to SaaS. EY US identified and addressed key systems issues and data gaps across databases and improved customer data management and product linkages to enable a clearer view of renewals by the customer and product family. EY US supported renewals and customer success teams in identifying key factors that drive customers to renew to better focus customer outreach and retention efforts. This led to cleansed bookings and renewal data that changed the KPI reporting from an internal sales metric to a more industry-accepted renewal rate financial metric. The KPIs were eventually leveraged to generate a successful exit to a strategic buyer at 10x the earnings before interest, taxes, depreciation and amortization multiple.



**Exit preparation for private equity-backed diversified technology firm with ARR of \$100m+:** A medium-sized technology firm wanted to carve out its cybersecurity business, but roll-ups of multiple companies made identification of recurring revenues challenging, and ad hoc billing practices made determination of base contract values difficult. EY US led an effort to update annual and monthly recurring revenue calculations using a combination of optical character recognition contract review and machine learning to identify the recurring revenue base. EY US also enabled the carve-out and supported sales process by addressing data anomalies to provide a cleansed database, reconciling within 1% of audited generally accepted accounting revenue and development of analytics dashboards. This led to a defensible improved retention rate that was 600 basis points higher than the latest management reporting, resulting in significant improvement in the exit valuation.



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