Update Partners
SaaS vs Perpetual:
TASTES GREAT OR LESS FILLING?
INTRODUCTION

Miller Lite’s long-running “Great Taste...Less Filling!” advertising campaign was ranked by Advertising Age magazine as the 8th-best advertising campaign in history. In the prime of the campaign, television commercials typically portrayed a Miller Lite drinker noting its great taste followed by another who observed that it was less filling. This usually led to a parody of Wild West saloon fights in which every patron got involved in the dispute for no real reason, though in this case it was always a shouting match, and blows were never thrown.

– Wikipedia, “Miller Lite” entry

While no blows have yet been thrown, the simmering debate in the software industry about the better business model feels a bit like an old Miller Lite commercial. On one side of the saloon stand the shouting fans of “Software as a Service” (SaaS), the upstart business model and today’s market darling. On the other side are the vocal supporters of the “Perpetual License plus Maintenance” model (License model), the tried and true stalwart that has generated an enormous amount of success and wealth for the past three decades.

At Updata, we think both sides are right, advocating two sides of the same coin: the compelling investment merits of the software industry, one of the greatest business opportunities of all time. Neither model will displace the other, but both will apply in different customer use cases and market segments, and both will co-exist for some time. In this white paper we make the case for the common and consistent investment attributes of both SaaS and the License model, and we also highlight important differences for entrepreneurs, executives, and investors to understand.

THE TWO MODELS

The License Model. When software is purchased under a License model contract, the business customer obtains the right to use the software product in perpetuity (or indefinitely), in exchange for a one time, upfront fee. The contract also includes an annual maintenance component, priced as a percentage of the upfront license fee, which allows the customer to receive software updates and support for that specific product. The customer is responsible for purchasing and maintaining the hardware on which the software is installed, as well as setting policies and procedures regarding, for example, program and data access, administration and security. The License model has been around for a long time, and it is still the primary model in enterprise software, driving the sales contracts of industry leaders such as Oracle, SAP, and VMware.

The SaaS Model. Although it is a more recent development, much has already been written on SaaS, including our own work. In the SaaS model a customer commits to a term limited contract, most often either one or three years, which provides the right to use the software product during that time period. In a SaaS model, the customer typically accesses the software via a web browser and the vendor hosts and manages the
systems on which the software is installed according to service level agreements. Maintenance is included as a part of the contract. At the end of the contract period, the customer has the option to renew. While SaaS is often described as a “subscription,” that term could be misleading as it implies a monthly billing model (e.g., you subscribe to Netflix and are billed monthly), whereas in most SaaS contracts, billing takes place upfront. While variations of SaaS have been around for some time, the term received widespread attention with the IPO of Salesforce.com, and now drives the sales contracts of new industry leaders such as Netsuite, ServiceNow, and many recent IPOs.

SIMILARITIES

SaaS and License model companies share many of the attributes which make the software industry so attractive from a business and investor point of view. As one software industry veteran once noted to us: in what other business can you invent something once (a string of code) for a very low cost and sell it an infinite number of times almost anywhere in the world at margins approaching 100%? That exuberance is broadly reflected in the market, with three of the top ten most highly valued businesses – Microsoft, Google, and IBM – either directly selling or indirectly differentiating themselves based primarily on software.

Predictable, Recurring Revenues. Predictable, recurring revenue is highly regarded by many investors and management teams, and it is one of the great strengths of the software industry generally. The SaaS model generates predictability through the ratable revenue recognition of its contracts over their stated term (e.g., a one year contract is recognized 1/12 per month). From that perspective, virtually all SaaS revenues can be considered recurring. In the License model, the major portion of a contract, the license fee, is recognized as revenue upfront. Each contract, however, also comes with a powerful recurring revenue stream in the form of maintenance. Maintenance contracts are typically priced at 20% of the initial license value are renewed throughout the duration of the product life with renewal rates in the 90% or higher range. Since each maintenance contract has a stated and fixed term, maintenance revenue is also recognized ratably over the contract period. The larger proportions of recurring revenues in the SaaS model has driven keen interest in SaaS companies and a corresponding increase in SaaS market valuations.

High Gross Margin. Both models generate very high gross margins – particularly when compared to other industries. As illustrated below in a comparison of sector leaders, the License model generates gross margins in the range of 80 - 90%, as there is little real cost of goods sold other than distribution of the software code and costs associated with implementation software revenue. SaaS gross margins are also high, typically in the 60% – 80% range. The slightly lower SaaS margins can be explained by the fact that a SaaS software vendor incurs real service costs – the expense of hosting the software on its servers (including bandwidth, hardware, software, personnel and redundancy) and complying with service level agreements.
**Figure 1: Gross Margin Analysis - Industry Leaders**

**Gross Margin**

**Technology**

*Perpetual License Software*
- CA Technologies: 86%
- Oracle: 83%
- SAP: 70%
- VMware: 84%

*Saas Software*
- Salesforce: 78%
- NetSuite: 69%
- Service Now: 65%
- Workday: 58%

**Other Technology**
- Amazon: 25%
- Apple: 44%
- HP: 23%
- Intel: 58%
- Cisco: 59%
- Dell: 21%

**Other Large Cap**
- Exxon: 29%
- Johnson & Johnson: 69%
- GE: 26%
- Walmart: 24%

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**Note:** Gross margin from most recent fiscal year

Source: Company filings

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**Difficulties**

The differences in the customer use cases, risks, and benefits of SaaS versus License model deployments have been widely discussed, and we concur with the view that some customer segments are better suited for each model. Below, we focus our analysis on some of the notable economic differences between the two models.

**Recurring Revenues vs. Recurring Cash Flows.** From an investor standpoint, recurring revenues typically imply recurring cash flows. However, in comparing the SaaS model and License model, the major difference is an accounting difference – not a cash flow difference.

In the License model, customers are billed at the time of sale for a new license or an annual maintenance contract, with the cash collected shortly thereafter. License revenue, the largest share of total revenues, is recorded in the quarter in which the contract is signed. Revenue from maintenance contracts, a smaller percentage of total revenue, is recorded over the life of the contract. This combination means recognized revenue in the License model is a very close proxy to real cash flow, leading investors to focus on license revenue growth in the period as the most telling sign of business health.

In a typical SaaS model, cash is collected at the time of sale, but revenue is recognized ratably over the term of the contract.
the contract. This leads to a high degree of accounting predictability, but a larger mismatch between the collection of cash and the recognition of revenue. For example, in a $100,000 annual SaaS contract, $100,000 in cash is collected at the time of sale, and 1/12 of $100,000 is recorded as revenue each month. Therefore, a SaaS business could meet revenue forecasts in a period as it ratably reports previously signed contracts, but have signed few new contracts and, therefore, have generated little real cash flow. It also leads to a mismatch of cash and the payment of expenses as a vendor’s obligations – costs of hosting and service level agreements – continue well after a payment has been received.

Revenue Growth vs. Customer Growth. Following from the above, in the License model a company’s ability to sign new contracts is immediately visible in reported license revenue. If the company fails to sell enough licenses, it will miss the quarterly revenue projection; if the reported topline miss is expected to be large, the company may even have to pre-announce. In the SaaS model, this cycle and information flow is more challenging. Because revenue is ratable, in-period revenue is a roll-up of contracts signed in prior periods as well as new contracts signed in the current period. Therefore, a business could “make” a revenue projection in a quarter, but fail to sell enough contracts in the period to generate the future revenues it will need to hit plan. Conversely, a business could “miss” revenue in a quarter, but have a strong level of contract signings in the last week of the quarter which would not be fully reported, but would positively impact future performance.

Further, in a License model business, new license and maintenance are reported separately – investors can gauge the health of the business by focusing on new license sales versus maintenance renewals. In a SaaS business, the single “subscription revenue” line item incorporates new business along with renewals making the visibility of new customers, the lifeflows of any growth business, versus renewal of old customers more opaque.

Gross Margins and Cash Flows. As described earlier, there is a 10% – 20% difference in the gross margins of License model businesses and SaaS businesses due to the services component of SaaS. Unless a SaaS company can operate with a meaningfully more efficient operating cost structure than its License model counterpart, this differential will flow through to impact bottom line cash flow.

While we believe the SaaS model can be highly efficient, the jury is still out on what its steady state operating and EBITDA margins will be as today’s SaaS companies are incurring significant operating expenses to support customer acquisition programs and the infrastructure needed to maintain growth rates. For example, in a comparison of operating expenses between the new sales force automation leader Salesforce.com – a SaaS model business, and the former leader Siebel Systems – a License model business, there is a large differential in cost structures.
Figure 2: Salesforce.com vs. Siebel Systems – Operating Costs Comparison

<table>
<thead>
<tr>
<th></th>
<th>Salesforce.com (000's)</th>
<th>% of Total Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue</td>
<td>$3,050,195</td>
<td></td>
</tr>
<tr>
<td>S&amp;M</td>
<td>1,614,026</td>
<td>53%</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>429,479</td>
<td>14%</td>
</tr>
<tr>
<td>G&amp;A</td>
<td>433,821</td>
<td>14%</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>$2,477,326</td>
<td>81%</td>
</tr>
</tbody>
</table>

Note: As of last fiscal year

<table>
<thead>
<tr>
<th></th>
<th>Siebel Systems (000's)</th>
<th>% of Total Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenue</td>
<td>$1,339,793</td>
<td></td>
</tr>
<tr>
<td>S&amp;M</td>
<td>337,690</td>
<td>25%</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>299,051</td>
<td>22%</td>
</tr>
<tr>
<td>G&amp;A</td>
<td>104,541</td>
<td>8%</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>$741,282</td>
<td>55%</td>
</tr>
</tbody>
</table>

Note: As of last public 10-K, December 2004

There is also a short term cash differential in the way contracts are structured and priced. In the License model, a customer is buying long term rights to the software code, which leads to a higher sale price (and higher cash flow) than a SaaS contract which is limited to a certain term. A one year SaaS subscription typically ranges between 25% - 50% of the price of a comparable License model sale, depending on the discount offered by the software vendor.

INVESTOR CONSIDERATIONS

From an investor standpoint, these similarities and differences suggest a few focus points.

Revenue, Bookings & Billings. SaaS investors should and do focus on in period billings and bookings, which paint a more accurate picture of performance than accounting revenues. Bookings is defined as business booked in a certain period (and is not impacted by when the revenue is recognized or the customer is invoiced). Billings is defined as business invoiced during the period.

As shown in Figure 3, if a customer signed a $1,500,000 two year contract to be billed annually, all $1,500,000 would be classified as booked during the period in which the contract was signed, while billings would be $750,000 in year one and $750,000 in year two.

Defining these metrics from the financial statements, we can derive the following simple equations:

\[
\text{Billings} = \text{Revenue} + \Delta \text{Deferred Revenue}
\]

\[
\text{Bookings} = \text{Billings} + \Delta \text{Off-Balance Sheet Deferred Revenue}
\]

In this equation, off-balance sheet deferred revenue is business which was booked during the period, but not billed, and is the equivalent of contractual backlog. However, off-balance sheet deferred revenue is often not reported by individual companies; therefore, many investors consider billings to be an acceptable proxy for bookings.

To demonstrate how these metrics can vary and be potentially misleading when examined in isolation, see the
illustration below of a fictional SaaS provider's accounting for two individual contracts: a one year, $1,500,000 contract (billed upfront) signed on the first day of Quarter 1, and a one year, $2,000,000 contract (billed upfront) signed on the first day of Quarter 2. As you can see, while revenue tells a takes a sizeable jump, billings is a better indication of cash in the door and bookings is a more appropriate representation of business growth.

Investors have also focused on Annual Contract Value (ACV) and Total Contract Value (TCV), the former reflecting one year contracts and the latter reflecting one year and multi year contracts. While we agree this distinction is important, we believe it is better to focus on billings which reflects cash collection, regardless of the contract term. Put another way, the receipt of upfront cash on a three year contract is equally attractive as cash paid upfront on a one year contract, both are money in the bank that can be used to drive future growth.

### Figure 3: Fictional SaaS Provider - Revenue vs. Billings vs. Bookings

<table>
<thead>
<tr>
<th></th>
<th>Q1</th>
<th>Q2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contract 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognized Revenue</td>
<td>$375,000</td>
<td>$375,000</td>
</tr>
<tr>
<td>Billings</td>
<td>$1,500,000</td>
<td>--</td>
</tr>
<tr>
<td>Bookings</td>
<td>$1,500,000</td>
<td>--</td>
</tr>
<tr>
<td><strong>Contract 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognized Revenue</td>
<td>--</td>
<td>$500,000</td>
</tr>
<tr>
<td>Billings</td>
<td>--</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Bookings</td>
<td>--</td>
<td>$2,000,000</td>
</tr>
<tr>
<td><strong>Total Company</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognized Revenue</td>
<td>$375,000</td>
<td>$875,000</td>
</tr>
<tr>
<td>% Growth</td>
<td></td>
<td>133%</td>
</tr>
<tr>
<td>Billings</td>
<td>$1,500,000</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>% Growth</td>
<td></td>
<td>33%</td>
</tr>
<tr>
<td>Bookings</td>
<td>$1,500,000</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>% Growth</td>
<td></td>
<td>33%</td>
</tr>
</tbody>
</table>

**Lifetime Valuation Metrics.** Customer Lifetime Value, or the Lifetime Value Model, is a calculation that has become a widely used new metric in the industry. It provides a unit economics framework for a single customer by aggregating the future revenues from that customer based on an assumption regarding future renewals (the renewal rate and the number of years the customer will use the product). Note that this calculation is not based on signed contract value but anticipated future signings.

At varying levels of sophistication, this metric has primarily been applied to
SaaS businesses. However, it can also be applied to License model businesses in two ways: first, a maintenance contract has characteristics very comparable to a SaaS contract; and, second, perpetual licenses generate a future sale or “renewal” like opportunity through increased adoption, which leads to follow-on license sales, and technological advances, which lead to product upgrades and new perpetual license sales.

One of the primary challenges of the lifetime value model is how to determine the lifetime of a product given rapid changes in technology. On the one hand, Microsoft has delivered a major new operating system approximately every 3 years (e.g., Windows 3.0 in 1990, Windows NT in 1993, Windows 95 in 1995, Windows 98 in 1998, Windows XP in 2001, Windows Vista in 2006, Windows 7 in 2009, Windows 8 in 2012), requiring a new perpetual license with each new release. On the other hand, there are a large number of legacy maintenance software products still in use and continuing to generate substantial annual maintenance renewals.

In the tables below, we illustrate the customer lifetime value for each model based on certain assumptions, including a seven year customer lifetime. The License model example assumes a customer purchases a $100,000 contract for an enterprise software product in which 80%, or $80,000, is attributed to license revenue and 20% is attributed to maintenance. For the next several years, the customer renews his maintenance contract and pays a $20,000 maintenance fee. In year five, the customer buys the newer version of the application and the cycle begins again.

The SaaS example assumes the same enterprise product is purchased as a service; therefore, it is sold at a lower price point (at a range of 25% - 50% of the License model pricing, as reviewed earlier) to account for its limited term. For the next several years the customer continues with the service at the same price.

Both models provide attractive customer lifetime value outcomes, with the SaaS model providing higher or lower value depending on how deeply it is discounted versus a comparable perpetual sale.

![Figure 4: License Model Customer Lifetime Value](image)

![Figure 5: SaaS Customer Lifetime Value](image)

Adjusted Customer Lifetime Value. The customer lifetime value framework can also be combined with a simple discounted cash flow analysis for another perspective. To keep the
analysis simple, we assume the operating expenses in the License model and SaaS models are comparable once the companies reach a steady state – both spend a significant percent of revenue on sales & marketing, both have comparable R&D expenditures to keep pace with change and drive innovation, and both have comparable G&A expense. We therefore focus on the differential in cost of goods sold and gross margin. However, as shown earlier, this may be a favorable assumption regarding SaaS margins. We assume an 85% gross margin in the License model example and a 65% gross margin in the SaaS example, and we discount both at a 20% cost of capital given the expense of equity for a private company and the risk in the models.

As shown in the examples, while the business models are comparable over a lifetime value of expected revenues (figures 3 and 4 above), the License model contributes a higher DCF value after factoring in its higher gross margin, (figures 6 and 7 below), and it would contribute a much higher DCF value if operating expense differentials were also factored in.

**Figure 6: License Model Adjusted Customer Lifetime Value**

![License Model Adjusted Customer Lifetime Value](image)

**Figure 7: SaaS Adjusted Customer Lifetime Value**

![SaaS Adjusted Customer Lifetime Value](image)

**Market Valuations.** While the SaaS model and License model share a number of powerful similarities, the market is currently reflecting a meaningful valuation differential. We believe this differential ultimately should settle in a range that correlates to growth rate versus business model, and that today’s differential may be explained in part by the higher growth currently demonstrated by SaaS businesses when compared to some of their License model peers. Current market valuations may also be pricing in an expectation of future M&A activity. SaaS offerings have proven to be particularly attractive to customers in the small-medium business segment, which have historically been difficult markets for enterprise software vendors to penetrate. In an effort to capture part of this emerging business segment, which did not previously have the capabilities needed to run resource heavy enterprise software solutions, industry incumbents have shown they are willing to pay healthy premiums for SaaS companies, creating an environment of robust M&A activity.
CONCLUSION

While fans of SaaS argue it “tastes great” and supporters of the License model believe it is “less filling,” both sides make the case for the highly attractive characteristics of the software industry, one of the greatest business and investment opportunities of all time. At Updata we have and will continue to invest in both types of business models and focus primarily on the strength of the solution itself versus how it is sold. We believe the two business models will not replace or displace each other, but peacefully coexist and are another sign of the dynamic, innovative and growing global software industry.