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RESEARCH NOTE

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TO:	Catalyst Investors
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SUBJECT:	**How to Analyze a Cloud Computing Business**

How to analyze a cloud computing business

The cloud computing market is one of the most exciting growth areas in technology today. Versus traditional enterprise technology, cloud computing reduces costs, increases accessibility and can even improve functionality for end users of all sizes. Cloud computing and its relative software-as-a-service ("SaaS") are important target sectors for us at Catalyst Investors. We have reviewed more than 100 of these companies over the years and have invested in several, including UK-based MessageLabs, which was acquired by Symantec in 2008 in one of the largest SaaS acquisitions to date. As an investor in these sectors I hope to encourage a movement toward a standard method of reporting and analyzing the financial performance of SaaS companies. I believe that potential investors would better understand the performance metrics and potential ROIs of the SaaS sector if its metrics were comparable to those of mobile telephony instead of those of the general technology sector.

SaaS companies are typically run by technology industry executives – folks used to hardware or software license revenue models in which the customer pays up front for products. SaaS companies, however, are recurring revenue businesses, akin to a communications business like mobile telephony or cable television. In a communications business, the company makes a large upfront investment in a network and in sales and marketing to win customers that spread their payments out over several years. Net income is usually a meaningless number for communications companies until they became very large, thus they are usually valued on the basis of earnings before interest, taxes, depreciation and amortization or "EBITDA".

For SaaS companies, however, much of the investment in the product platform is expensed as research and development rather than "below the EBITDA line" as capital expenditures, which makes even EBITDA a meaningless concept. While SaaS companies may take longer to reach strongly positive EBITDA than traditional technology businesses, the stable nature of its recurring, long-term cash flow stream should be valued more highly than hardware or license sale revenue. **SaaS analysts have thus relied on revenue multiples to assess the valuation of individual companies.**

While we believe that the high revenue multiples of the industry are largely justified, a revenue multiple is a rather blunt instrument with which to compare companies that may offer vastly different products to vastly different end markets. When valuing a SaaS company, important drivers are intangible factors such as market opportunity and competitive positioning. When assessing tangible performance, however, the key creator of ROI is the spread between the lifetime stream of profits per customer ("**Lifetime Recurring Gross Profit**") and the up-front cost of winning and installing that customer ("**Cost of Acquisition**").

Lifetime Recurring Gross Profit. The recurring gross profit in turn has three components: average revenue per user ("**ARPU**"); the variable "**cost of delivery**" and the annual attrition rate or "**churn**".

> **ARPU** should be based only on recurring revenue. Any sort of non-recurring revenue like set-up fees or professional services revenue should be excluded. The ARPU is calculated as period recurring revenue divided by the average number of customers during the period.**Cost of**
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> **Delivery** is the direct cost of providing the recurring revenue, such as the technology platform, engineering staff, data center costs, transaction processing fees and ongoing customer or technical support. Customer support is often buried in the general and administrative line of a company's income statement. I firmly believe that this is a mistake and that customer support should either be broken out as a separate line item, or at least included in cost of sales. Another item that is often buried in general and administrative is bad debt expense, which should either be deducted directly from revenue or at the very least be included in cost of sales. The cost of sales related to non-recurring revenue like professional services, customer set up, up-front customization or equipment sales should be broken out separately and not included in cost of delivery.
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> **Churn** is ARPU less cost of delivery which yields the recurring gross profit per period. This helps determine the length of the lifetime stream of profits. For example, if a SaaS company has an annual attrition rate of 20%, the average customer lasts five years (or 60 months).
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> Recurring gross profit per year times the customer lifetime in years yields the lifetime recurring gross profit.

Cost of Acquisition is calculated by taking the sales and marketing expense and any up-front per customer capital investment divided by the gross number of new customer additions ("gross adds"). Gross adds are not reduced by the number of churned customers and are thus not the same as net new subscribers or net adds. Sales and marketing costs should be inclusive of all variable sales and marketing costs, including sales personnel. If applicable, cost of acquisition could be reduced by the gross profit on non-recurring revenue. Non-recurring revenue like set up fees, equipment sales and professional services, are reduced by the costs associated with those revenues like the customer support cost of boarding new customers, the cost of equipment resold and professional service staff costs to get the gross profit of non-recurring revenue. If equipment is provided to the customer on a subsidized basis, such costs should be added to the cost of acquisition.

Return on Investment is the result of the lifetime recurring gross profit per customer divided by the cost of acquisition. To the extent that per customer ROI comfortably exceeds the company's cost of capital, it makes sense to keep investing in sales and marketing until the ROI no longer comfortably exceeds the cost of capital. It is easy to sit back and enjoy a high ROI, but an overly high ROI is usually a sign of missed opportunity.

Other Costs of a SaaS business that do not get included in the ROI calculation are development costs and general and administrative expense. Most SaaS companies have development costs in the range of
10% of revenue. As companies grow their top line they have the ability to invest more in product development, which can position them ahead of their smaller competitors with regard to their product feature set. General and administrative expense should consist primarily of corporate overhead expense (executive, finance, HR, real estate etc.) and should decline as a percent of revenue over time. Smaller companies often have overhead expenses of 20-30% of revenue, while larger SaaS companies can see such expense decline to less than 10%. Ideally, you'd like to see a company get to the point that cost of sales, customer support, development and overhead total only 50% of revenue, with the remaining 50% of revenue to be allocated between sales and marketing and EBITDA.

I welcome suggestions and ideas on how to tweak this methodology. Overall, however, I feel that to the extent SaaS companies and their investors start thinking of the performance of their businesses in the manner I have described above, the industry can optimize its return on capital invested and provide greater transparency to the investment community.