2014 SaaS Operating Metrics & Valuation Benchmarking Study

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River Cities Overview

River Cities first encountered the SaaS model with its EVault investment in 2001. Since then, we've invested more than $65M in 13 portfolio companies and have had five successful liquidity events, including two IPOs. The focus of our SaaS investment strategy is backing progressive management teams in companies that offer business to business solutions architected on a single-instance, multi-tenant infrastructure with a critical mass of customers in a large market. Investment candidates demonstrate attractive gross margins, strong customer renewals and efficient customer acquisition models.

As a firm, River Cities invests in world-class management teams – backing progressive, proven leaders in the markets of information technology and healthcare. A consistent, cohesive team has honed its strategy over four prior funds with compelling performance. River Cities seeks to be a business partner first and a capital provider second, investing significant human capital to leverage its domain expertise and a network of thought leaders assembled over the last 20 years. With more than $500M of capital raised and a consistent track record of success, River Cities has established itself as a preferred source of growth capital. We are actively seeking new investments for our $200M Fund V. With initial investments in the $5M - $15M range, River Cities offers entrepreneurs the flexibility to raise an appropriate amount of growth capital for the company's stage of development.

River Cities SaaS Successes

iSqFt Acquired by GenStar Capital GENSTAR CAPITAL, LLC	EVAULT Acquired by Seagate $185M Seagate We turn on ideas	mxLOGIC Acquired by McAfee, Inc. $170M McAfee Proven Security	SPS commerce IPO Market Cap* $1,029M NASDAQ SPSC	sciQuest IPO Market Cap* $421M NASDAQ SQI

*Market Cap as of 11/11/14

Active River Cities SaaS Investments

Continuity CONTROL	Compliance management system for community banks and credit unions
SIM Partners Driven by Technology, Measured by Success.	Multi-location entreprise brand management
	Logistics payment solutions
KnowledgeTree	Sales team document management
>ifbyphone	Voice-based marketing automation
perfectserve	Clinical communications service for hospitals and physician practices

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Introduction

Summary of Key Findings

Below is a summary of key findings from the report:

- Analysts estimate the SaaS market will top $21.3B in 2015, up from $14.3B in 2012 and $16.7B in 2013.
- Through September 30, 2014, 66 pure-play SaaS vendors have gone public, 39 of which happened in the last three years; 51 remain in the public market. Of the 66 companies, 52 provide horizontal solutions; 14 are vertically focused.
- Public SaaS companies are maturing but still relatively small. Only one company is achieving revenue in excess of $1B (Salesforce.com at more than $4B). Most of the other companies generate sub-$500M in revenue. Only 13 companies report more than $250M in revenue and 16 generate less than $100M.
- Revenue multiples remain the primary valuation metric for SaaS investments. Not surprisingly, investors continue to prioritize revenue growth over free cash flow in an effort to drive shareholder value. Only 30% of companies who went public in the last three years had positive EBITDA at the time of their IPO; prior to 2011, that number was 74%. The average public SaaS company is valued at 6.2 times revenue as of September 30, 2014.
- Compelling SaaS market momentum coupled with solid returns from early SaaS investors has drawn more private institutional capital to the sector. In 2003 (two years after River Cities' first SaaS investment in EVault), 548 investment firms invested $1.7B of private equity in 200 rounds of funding in SaaS companies. In 2013, 2,700 PE firms (nearly five times the number of firms actively investing in SaaS in 2003) invested $8.4B across 1,400 financing rounds.
- Companies that went public prior to 2011 raised an average of $65M before going public while SaaS companies that went public post-2011 raised an average of $93M. Furthermore, the companies that went public after 2011 are raising capital at later stages (the majority of capital being raised post $50M in revenue), the proceeds of which are increasingly used to provide liquidity for shareholders in addition to funding growth.
- Highly correlated to the above mentioned dynamic of large private equity financings in later stage SaaS companies is that SaaS company management teams and private equity investors are waiting longer before going public, resulting in more mature companies at IPO. Prior to 2007, companies took about 6.5 years to go public. Post-2011 companies are taking around 11 years before going public.
- While companies today are raising more money, they are not necessarily growing faster. Growth rates at the time of IPO for companies who went public in the last three years declined to levels below growth rates of companies that went public before 2011, even though they raised on average $25M more capital. Increasingly, proceeds from these financings are either being utilized less efficiently and/or going to fund liquidity for shareholders instead of funding initiatives to drive growth.
- Sales and marketing expense as a percentage of revenue tends to be significantly lower for vertical SaaS companies than for horizontal companies. As an example, vertically focused SaaS companies with revenues in the $15M - $30M revenue range spent on average 42% of their revenue on sales and marketing. In contrast, horizontal focused SaaS companies spent on average 60% (or 18% more than the horizontal-focused companies) of their revenue on sales and marketing.

Introduction

Summary of Key Findings Continued

- Well-performing SaaS companies achieve payback on sales and marketing investments in less than 24 months, with better companies reaching payback in under 12 months. When generating between $5M - $15M, post-2011 IPO companies had a longer payback at 29 months than companies who went public pre-2011 at only 22 months. Post-2011 companies had a longer payback time again when generating $30M - $50M in revenue with a payback of 26 months compared to the 22 months for the pre-2011 IPO companies.
- To better understand the unit economics of a SaaS business, two important metrics come into play: Lifetime value of a typical customer (LTV) and the cost to acquire a typical customer (CAC). The best SaaS businesses have an LTV to CAC ratio higher than 3x.
- In many regards, it's never been easier to launch a SaaS company. The percentage of revenue committed to R&D for early post-2011 IPO companies is about 20% less than it was for pre-2011 SaaS IPO companies. At scale, we see more of a reversion to the mean as typical R&D percentages of revenue remain around the 16% to 17% mark.
- Early-stage companies tend to spend more as a percentage of revenue on R&D than they do later in their development. Companies with less than $5M in revenue are spending 60% of revenue on R&D – while the percentage decreases to only 17% by the time the company reaches $30M - $50M in revenue. Once companies achieve scale, between $30M - $50M in revenue, more than half spent less than 20% of revenue on research and development.

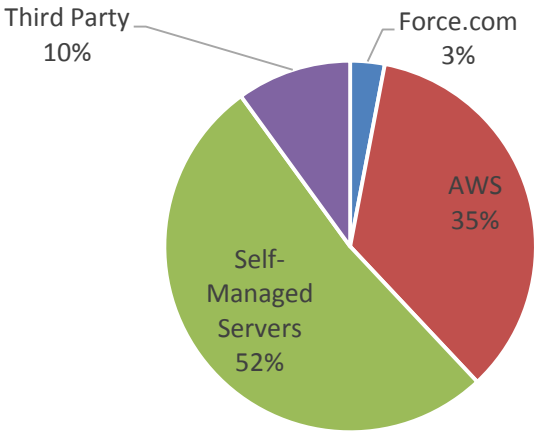
SaaS Introduction

Software-as-a-service (SaaS) has revolutionized the software world with perks of high adoption rates, low implementation costs, ease of upgrades and an ability to scale almost infinitely. Demand for SaaS is driven by the need for customers to reduce IT-related costs, decrease deployment times and foster innovation. Another popular benefit is that most customers pay a subscription along the way, eliminating hefty upfront software license fees. All in all, the SaaS model extends more flexibility to customers, which is critical in an environment with economic uncertainty, changing workplaces and escalating expectations.

In terms of pricing, maturation of cloud infrastructure will continue to lower the cost of SaaS deployments, further fueling growth. Today, about half of private SaaS companies primarily rely upon self-managed servers to deliver their solution. With the commoditization of hosting though, many companies are beginning to shift to third-party delivery like Amazon Web Services. According to the 2014 Pacific Crest Private SaaS Company Survey, 35% of private SaaS companies currently utilize AWS.

Another trend taking hold in the market is "verticalization" of solution providers as customers demonstrate a willingness to pay a premium for solutions tailored to their departmental or industry vertical needs.

Delivery of SaaS Applications



Source: 2014 Pacific Crest Private SaaS Company Survey

Areas of particular growth for SaaS continue to be CRM solutions, which are growing three times the other average enterprise software categories.

As compared to the early days of SaaS, when smaller and mid-market companies drove adoption, today, 76% of enterprises report having a formal cloud strategy and 84% of new software is delivered via the SaaS model, according to Siemer and Associates. Enterprises are facing a growing need to cater to mobile employees by enabling collaboration beyond the firewall, so SaaS solutions that offer remote access to work-enabling data will be of interest to large enterprises.

Enterprise-focused SaaS providers benefit from the ability to achieve scale with less sales and marketing spend, but that is partially offset by higher R&D costs needed to integrate and operate in a more complex and secure infrastructure as compared to the SMB environment. While this transition to enterprise typically can increase the length of the sales cycle, it is certainly a more efficient sales strategy with greater upsell potential. More enterprise sales can also mean lower churn rates as switching solutions within an enterprise is far more difficult than moving to new solutions within an SMB.

The SaaS model continues to be characterized as the "industry darling." The market is expected to top $21.3B in 2015, up from $14.3B in 2012 and $16.7B in 2013, according to Siemer and Associates. IDC forecasts continued growth of 25%+ CAGR for the near future.

Study Overview

This study considers operating metrics from 66 public SaaS companies during their developmental period (pre-$50M in revenue). Key operating metrics for the subject companies were collected for the period ended 2001-2014. Data was collected from public companies' S-1 filings in an effort to compare relative operating metrics at a comparable stage of development to that of our portfolio companies. For example, Salesforce.com, a $4B company, was analyzed in the 2001-2003 time frame when it had revenues between $5M and $96M.

From that data, we identify target operating benchmarks for best of breed SaaS companies including capital efficiency, revenue growth, gross margins, sales and marketing efficiency, research and development expenditure, general and administrative expenditure, capital expenditures and EBITDA margins.
This report is meant to offer entrepreneurs insight into River Cities' perspective and experience gained from more than 13 years of supporting SaaS entrepreneurs.

Company Profiles

With rapid adoption of the SaaS business model and institutional public equity interest in the market, the number of public SaaS companies has more than doubled to 66 since our previous report in 2011. Salesforce.com is the largest, generating approximately $4B in 2013 revenue. Revenue scale drops substantially when considering the rest of the universe, most of which are generating less than $500M in trailing 12-months revenue. The following tables profile 66 best-of-breed SaaS companies, out of which 52 are providing horizontal solutions; while the remaining 14 are vertically focused.

Exhibit 1A: Public Company Profiles: Vertical Solutions

Public Comps.	Ticker	Application
2U	TWOU	Solutions for nonprofit colleges and universities
AthenaHealth	ATHN	Business services for physician practices
BlackBoard^	BBBB	Online teaching and learning system
Castlight	CSLT	Price transparency tool to contain healthcare costs
Convio^	CNVO	CRM for Non Profit Organizations
DealerTrack	TRAK	Data solutions
Fleetmatics	FLTX	GPS fleet management solutions
OpenTable^	OPEN	Restaurant reservation solutions
Opower	OPWR	Energy efficiency solutions
Q2 Holdings	QTWO	Banking solutions to fin. institutions
RealPage	RP	Multifamily property management
SPS Commerce*	**SPSC**	**Supply chain integration platform**
Textura	TXTR	Collaboration solutions for the construction industry
Veeva	VEEV	Content management, collaboration and CRM

*River Cities Previous Portfolio Company
^Acquired

Exhibit 1B: Public Company Profiles: Horizontal Solutions

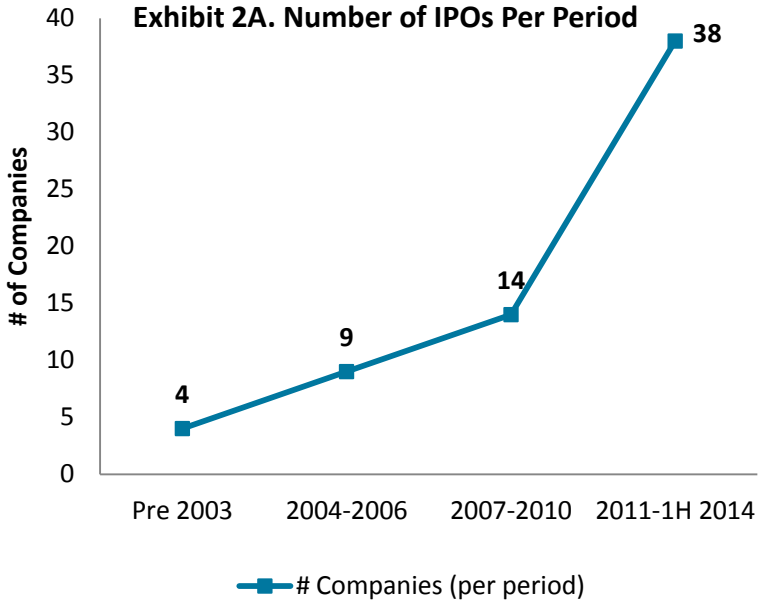
Public Comps.	Ticker	Application
Amber Road	AMBR	Global trade management
BazaarVoice	BV	Social commerce solutions
Benefitfocus	BNFT	Benefit education and administration
Brightcove	BCOV	Publishing and distributing platform
Callidus Software	CALD	Solutions for sales professionals
Carbonite	CARB	Online backup solutions
ChannelAdvisor	ECOM	Ecommerce management solutions
Concur	CNQR	Employee spend management solutions
Constant Contact	CTCT	E-mail marketing and online survey solutions
Cornerstone OnDemand	CSOD	Enterprise training and development
Covisint	COVS	Collaboration and workflow solutions
Cvent	CVT	Enterprise event management platform
Demandtec^	DMAN	Consumer demand management solutions
Demandware	DWRE	Ecommerce solutions
E2open	EOPN	Supply chain management
Eloqua^	ELOQ	Marketing and Revenue performance management
ExactTarget^	ET	Digital marketing solutions
HubSpot^^	HUBS	Inbound marketing solution
Five9	FIVN	Solutions for contact centers
InContact	SAAS	Contact management solutions
Intralinks	IL	Collaboration and workflow solutions
Jive	JIVE	Collaboration and workflow solutions
Kenexa^	KNXA	Recruitment software & services
Liveperson	LPSN	Online ecommerce interaction
LogMeIn	LOGM	Remote connectivity solutions
Marin Software	MRIN	Digital advertising management platform
Marketo	MKTO	Customer relationship management
NetSuite	N	Integrated business mgmt. application suites
Omniture^	OMTR	Business optimization software
Paycom Software	PAYC	Employee lifecycle management
Paylocity	PCTY	Payrol processing and administration
ProofPoint	PFPT	Data security solutions
Qlik Technologies	QLIK	Self-service business intelligence platform
Qualys	QLYS	Security and compliance solutions
Rally Software	RALY	Software development solutions
Responsys^	MKTG	Automated marketing campaigns
RightNow^	RNOW	Customer relationship management
RingCentral	RNG	Business phone solutions
Salary.com^	SLRY	Compensation management solutions
Salesforce	CRM	Customer relationship management
SciQuest*	**SQI**	**Supplier management and procurement automation**
ServiceNow	NOW	Enterprise IT automation suite
Success Factors^	SFSF	Performance and talent mgmt. software solutions
Synchronoss Technologies	SNCR	Personal cloud solutions for connected devices
Tableau	DATA	Business analytics platform
Taleo^	TLEO	Talent management software solutions
Tangoe	TNGO	Communications management platform
Ultimate Software	ULTI	Human resources, payroll and talent mgmt
Vocus^	VOCS	Software for public relations management
WageWorks	WAGE	Provider of tax-advantaged programs
Workday	WDAY	Business optimization software
Zendesk	ZEN	Customer services platform

*River Cities Previous Portfolio Company
^Acquired

Capital Efficiency

Public Comps. IPO Statistics & Funding

The SaaS industry has grown rapidly over the last ten years – exploding since 2011. At the time River Cities published its first study in 2009, we reported only 17 public SaaS companies. In our 2011 report, eight additional companies were included. For this 2014 report, we have added 41 additional SaaS companies that are/were publically traded. Out of the 66 companies, 15 have been acquired and 51 active public SaaS companies remain. Exhibit 2A highlights the pace of SaaS IPO's in the past decade and how it has accelerated in the past few years.



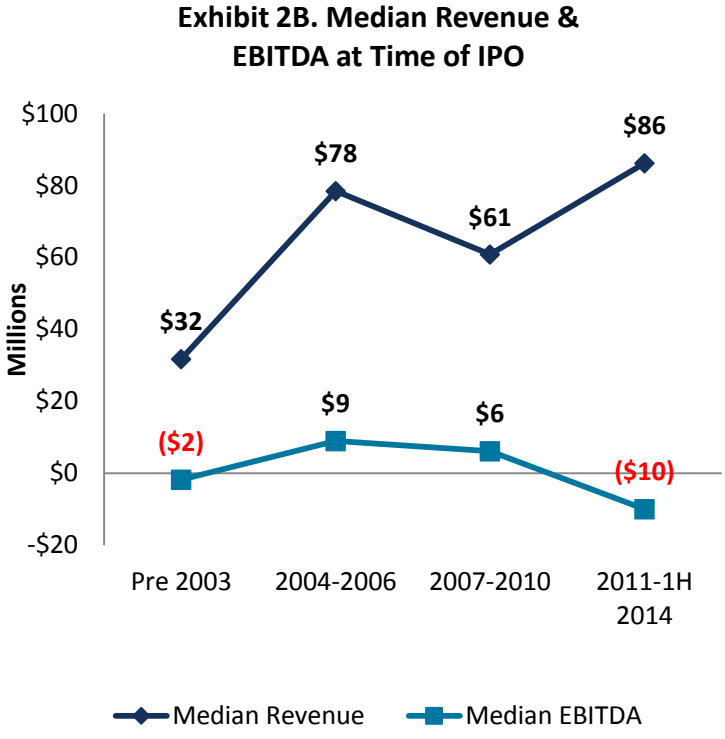
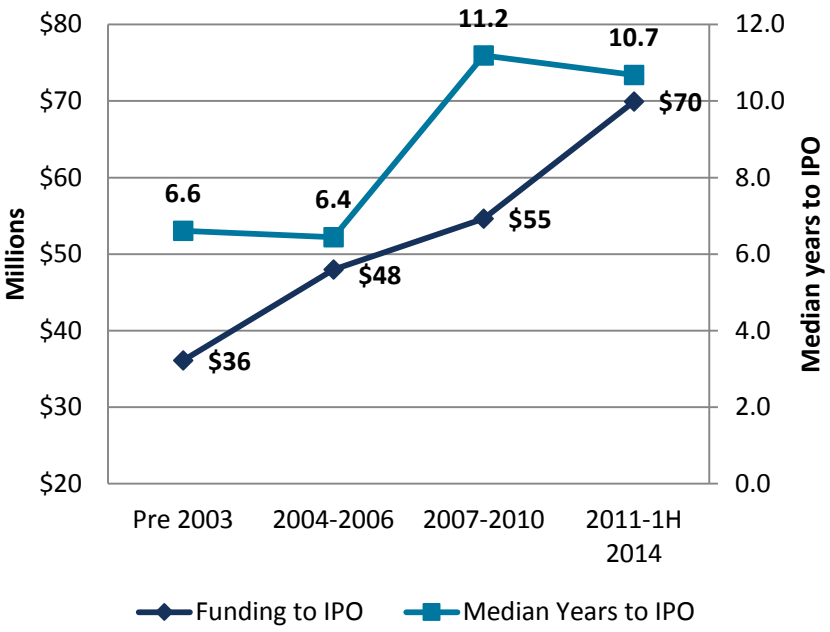


Exhibit 2B highlights how the key IPO-related metrics have trended over the past decade. Out of the 39 companies that raised public equity in the past three years, all but two had TTM revenues of at least $50M at IPO. Of those 39 companies, Castlight was the smallest with just $13M in revenue; ExactTarget was the largest with $207M in TTM revenue.

Interestingly, only 14 of the 39 (or 29%) SaaS companies that went public in the past three years had positive EBITDA at the time of their IPO. For comparison, 20 out of 27 (or 74%) companies that went public prior to 2011 had positive EBITDA. We attribute this phenomenon to the notion that public equity investors have recognized the SaaS market opportunity and accepted the belief that market leaders with fast-growing companies will be rewarded with premium valuations, even at the expense of near-term profitability.

Capital Efficiency Continued

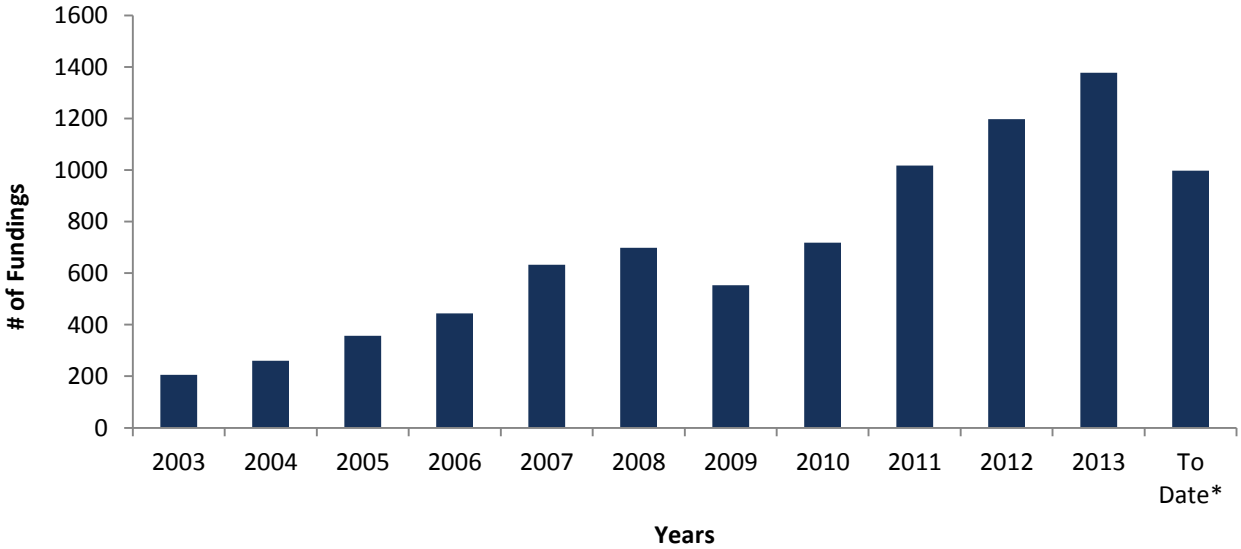
Exhibit 2C. Median Funding and Years to IPO



As seen in Exhibit 2C, the median years to IPO indicates that the best performing SaaS companies typically take around 10 years from the date the company is founded to the date they go public. The pre-IPO equity funding raised for the 66 SaaS companies over the past decade has almost doubled from $36M for the four companies that went public prior to 2003, to $70M for the 39 companies that went public in the last three years.

The increased funding to IPO is resultant of several factors. First, the availability of capital for SaaS companies has skyrocketed over the last 10 years, given attractive sector returns enjoyed by early SaaS investors. Specifically, in 2003, two yeas after River Cities' first SaaS investment in EVault (and when SaaS initially started being tracked as a sector), only 548 PE/VC firms invested a total $1.7B across 200 rounds of funding in SaaS companies. Exhibit 2D shows that number climbed in 2013 to $8.4B in nearly 1,400 financing rounds from 2,700 investment firms, five times the number of active SaaS investors in 2003. As of September 2014, $9.2B had been invested in SaaS companies to date. Today, nearly every venture/growth equity investor focused on Information Technology is targeting the SaaS model and shying away from the traditional on-premise software model.

2D. Number of VC Funding Rounds in SaaS Companies

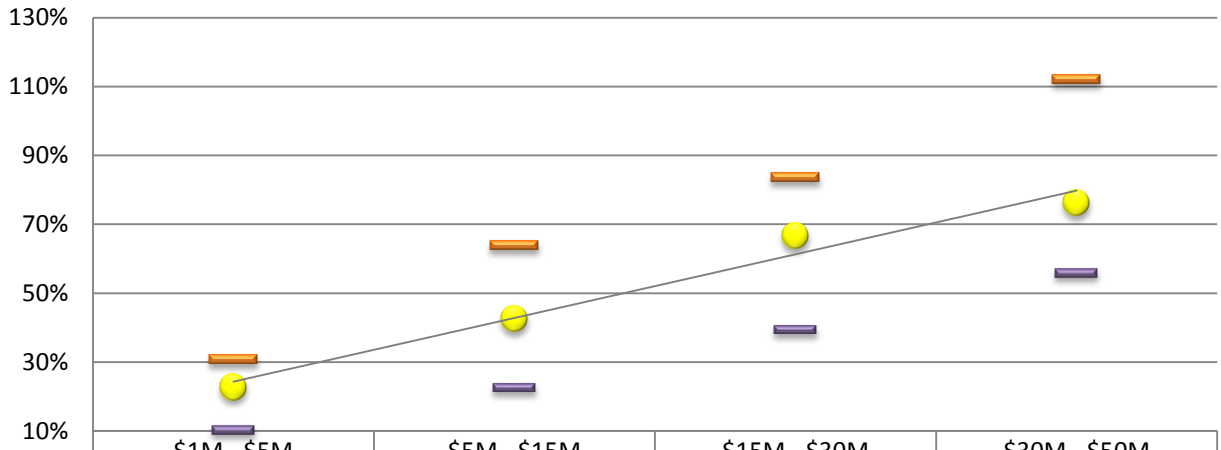


Source: S&P Capital IQ
Note*: 2014 data through 9/25/2014

Cumulative Capital Efficiency

Exhibit 3A highlights a simple efficiency ratio, which demonstrates the capital efficiency of a business by measuring a company's TTM revenue relative to the total amount of capital raised pre-IPO up to $50M in revenue. The ratio divides TTM revenue by the cumulative debt and equity raised for all of the 66 public companies. A 200% ratio, for example, suggests that a company generated in TTM revenue twice the total debt and equity that it raised.

Exhibit 3A: Cumulative Capital Efficiency (%)



	$1M - $5M	$5M - $15M	$15M - $30M	$30M - $50M
High	959%	391%	728%	374%
Third Quartile	31%	64%	84%	112%
Median	23%	43%	67%	76%
First Quartile	10%	23%	40%	56%
Low	2%	7%	11%	16%

Note: If more than one data point was available, a range is used.

In general, the capital efficiency increases as these now-public SaaS companies scale. Companies with less than $5M in revenue stayed within the 10% - 31% capital efficiency range. By the time these companies reached $30M - $50M in revenue, capital efficiency increased to 56% - 112%, proving that as companies scale, they are able to fund their own growth through organic means. The median capital efficiency at the time of IPO was 123%, indicating that these companies achieve significant leverage by the time they go public. 68% of the companies achieved capital efficiency over 100% at the time of IPO.

Cumulative Capital Efficiency Continued

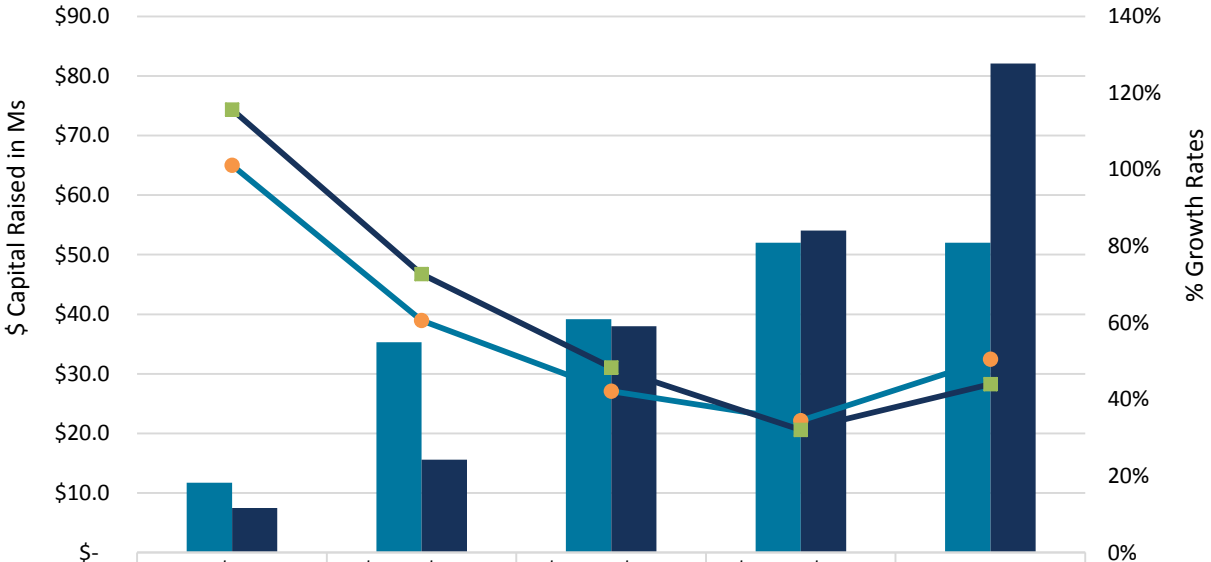
Exhibit 3B measures the growth rates and capital raised of companies that went public prior to 2011 to those that went public since 2011.

While companies are raising nearly the same amount of capital (~$50M) to get to $30M - $50M in revenue, companies that went public since 2011 are reaching $15M in revenue with about 50% of the cumulative equity as those that went public before 2011. Despite raising less capital, companies that went public since 2011 are also showing moderately higher growth rates through $30M in revenue.

However, exhibit 3B highlights that growth rates at the time of an IPO for companies who went public in the last three years (even though they raised on average $25M more capital) declined to levels below growth rates of companies that went public before 2011. More and more, proceeds from these financings are either being utilized less efficiently and/or going to fund liquidity for shareholders instead of to initiatives to drive growth. We suspect that the big discrepancy in funding between companies pre-2011 and today comes into play with the notion of a large pre-IPO rounds, which are increasingly providing liquidity as part of a secondary transaction.

We suspect that this trend of large pre-IPO financings will continue and so too will the drag on a company's capital efficiency.

3B. Growth Rates vs. Capital Raised

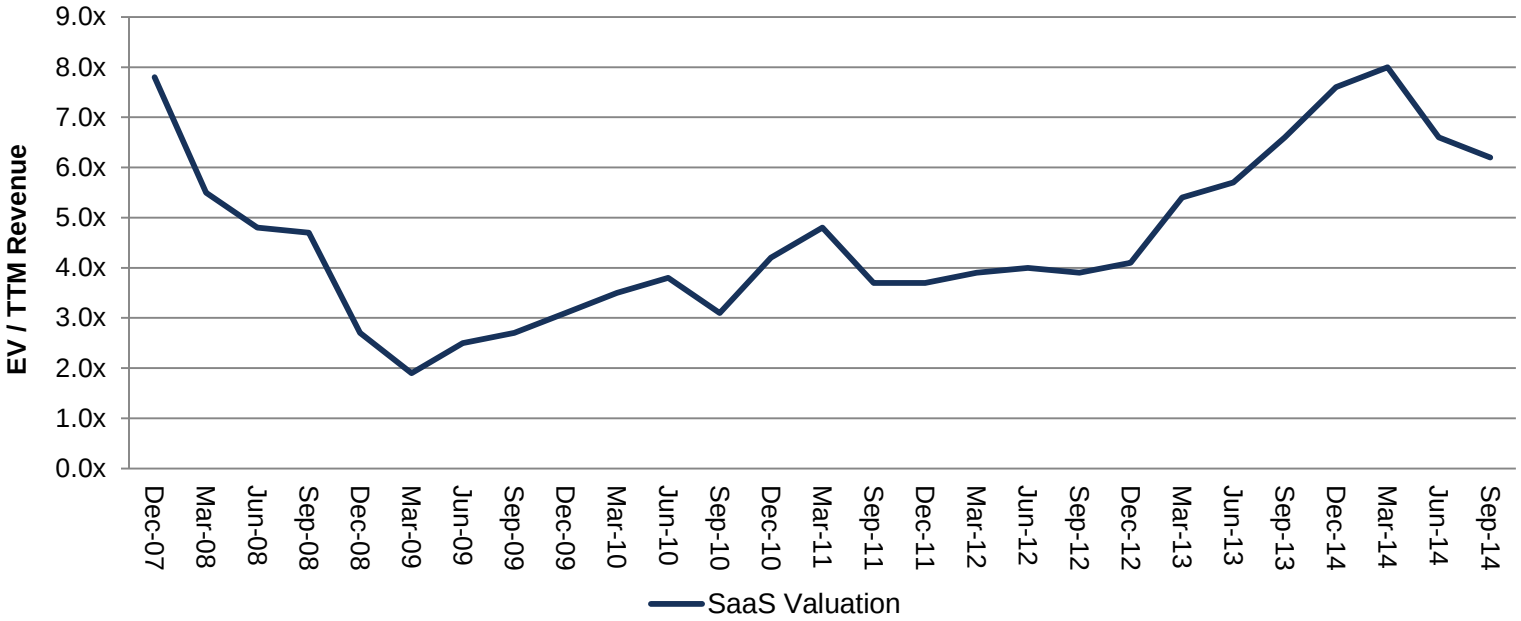


	< $5M	$5M - $15M	$15M - $30M	$30M - $50M	Pre-IPO
Pre-2011 Median Capital Raised	$11.7	$35.3	$39.2	$52.0	$52.0
Post-2011 Median Capital Raised	$7.5	$15.6	$38.0	$54.1	$82.1
Pre-2011 4-Year Growth Rates	101%	61%	42%	34%	51%
Post-2011 4-Year Growth Rates	116%	73%	48%	32%	44%

Increasingly, larger institutional fund investors are coming down market looking for investments in earlier stage companies. Given the relative size of these funds, their strategy typically entails funding companies with $30M+ initial investments. However, most of these companies are sub-$30M in revenue and often times can't efficiently support a use of funds in the $25M - $100M range. Although this trend appears to have some momentum for the foreseeable future, we suspect that long-term, this friction won't end well for either the funds or entrepreneurs. As depicted in Exhibit 3B, companies are raising larger rounds of capital, though it isn't necessarily resulting in quicker or more efficient growth for sub-$30M SaaS companies.

Valuation Metrics

Exhibit 4A: Median Public Company Revenue Multiples Since Q4'07



Source: Software Equity Group

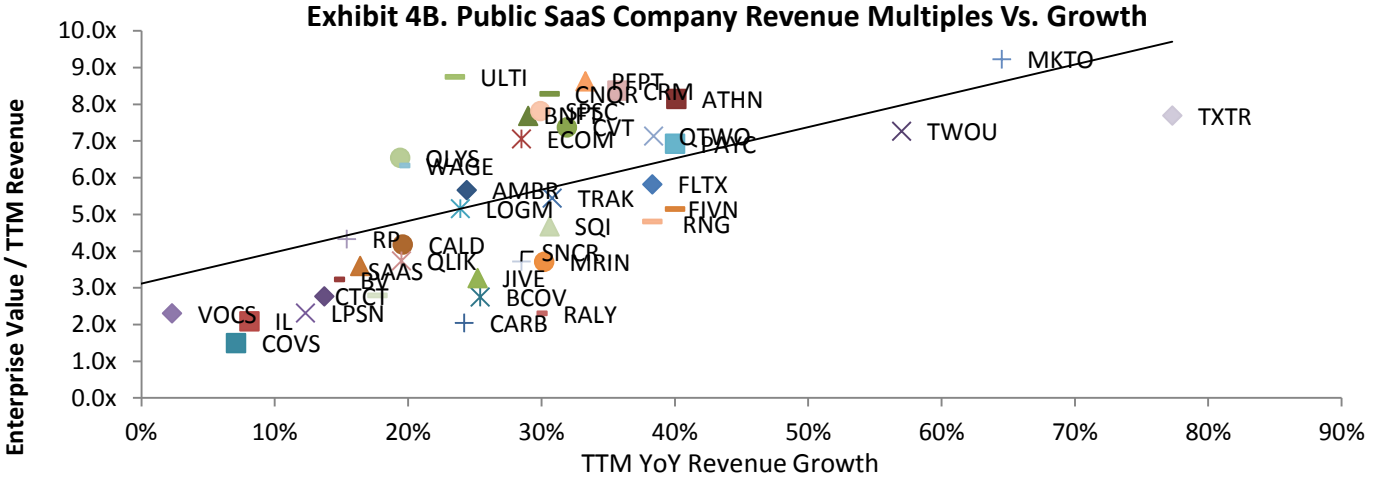
Exhibit 4A highlights that public market SaaS valuations peaked in 2007, bottomed out in 2009 around the recession and have been steadily on the rise, increasing near highs last seen in 2007. Given SaaS growth rates are close to three to five times those of traditional public software companies, SaaS multiples trade at a premium over traditional public software companies, which tend to be valued in the two to three times TTM revenue range. For reference, Software Equity Group (SEG) reports that as of Q1 '14, traditional on-premise software companies are trading around 2.3 times TTM revenue.

To a certain degree, the surge in SaaS valuations over the past few years can be attributed to the cyclical nature of broader stock market indexes. It remains to be seen if SaaS companies can sustain these high valuations or if the recent dip is indicative of lower valuations to come.

In our 2011 study, we reported that 18 of the 23 active public companies had positive EBITDA and were trading at valuations of approximately 48x EBITDA. In contrast as of June 2014, only 24 out of the 51 active public SaaS vendors were generating positive EBITDA, collectively these companies were trading at valuations of approximately 59 times EBITDA.

Valuation Metrics

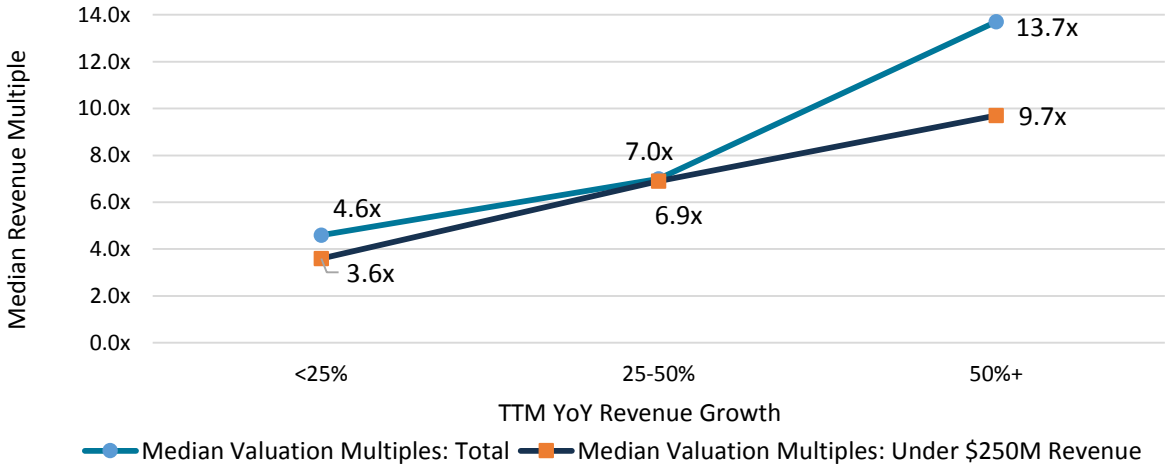
Exhibit 4B. Public SaaS Company Revenue Multiples Vs. Growth



Source: S&P Capital IQ Enterprise Value Data as of 4/11/2014
Note: Excludes all companies with EV / revenue multiples greater than 10.0x (DWRE, N, NOW, DATA, WDAY, VEEV, CSLT, OPEN, N, DATA, ZEN)

Regardless of the economic environment, several factors impact SaaS company valuations, the dominant consideration being revenue growth. Exhibit 4B and 4C show that public companies delivering stronger revenue growth are generally rewarded with higher valuation multiples. As seen in Exhibit 4C, 10 of the 52 public SaaS vendors who achieved year-over-year growth greater than 50% in Q1'14 averaged an EV / revenue multiple of a staggering 13.7x. On the other hand, the 19 companies with growth rates less than 25% averaged more realistic EV / revenue multiples of 4.6x.

4C. YOY Growth Vs. Valuation Multiples



Source: S&P Capital IQ Enterprise Value Data as of 4/11/2014. Note: Excludes Castlight Health, which has EV/Revenue of 66.0x

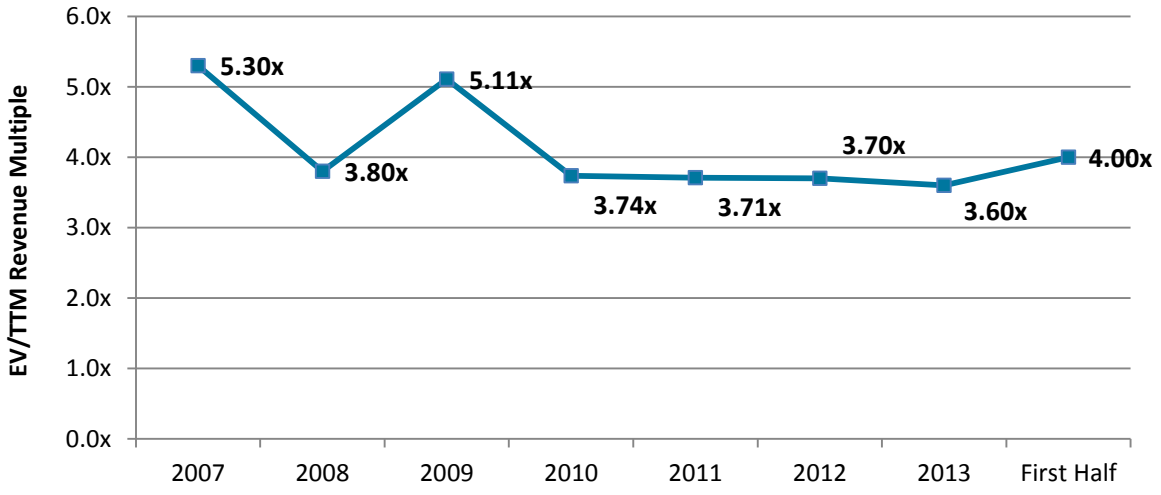
Of course it is worth noting, though, that private company valuations are discounted to public valuations for various reasons including both scale and liquidity. In an effort to isolate the scale discount and to provide more realistic valuation expectations for private companies, Exhibit 4C shows typical multiples for companies with under $250M in revenue. Companies with growth rates below 25% tend to see revenue multiples under 4.0x. Higher growth companies in the 25% - 50% range are offered high valuations, with a median of 6.9x; above 50% growth-rate companies are seeing valuations around 9.0x revenue.

While current valuation drivers are most correlated with revenue growth, as the SaaS sector begins to mature, other important considerations such as gross margins, customer acquisition costs, churn rates, pricing power (e.g. switching costs, up-selling opportunities) and free cash-flow margins will ultimately drive value.

SaaS Merger and Acquisitions Valuation Metrics

An even larger discount applies for market liquidity, profit measurement, capital structure, risk profile, etc. To better gauge more realistic valuation expectations for private companies, we turn our attention to SaaS M&A trends.

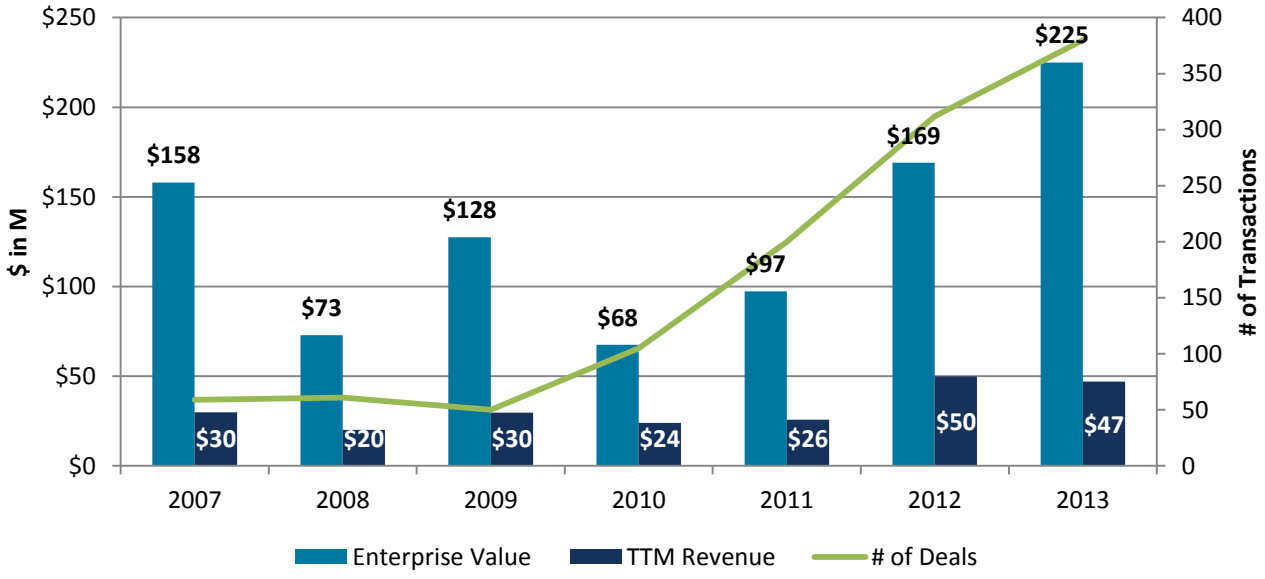
5A. Median EV/TTM Revenue Multiple



Source: Software Equity Group Software Industry Financial Report

As shown in Exhibit 5A, M&A valuation multiples peaked in 2007 at 5.3x and declined to 3.7x in 2010. Revenue multiples have only just recently begun to swing back upwards to pre-2008 highs, with the median H1, 2014 revenue multiple being 4.0x. Note, however, that this is only a self-reported universe of transactions and that a majority of smaller, less-successful outcomes do not report deal statistics, suggesting the true median revenue multiples are likely lower.

5B. Median Enterprise Value & TTM Revenue



Source: Software Equity Group Software Industry Financial Report

When looking at the above universe of transactions, while on the rise, it is clear that the median enterprise value at exit is still below $250M. As noted by the green line, the rate of M&A transactions has also increased since 2009. Lastly, inherent in the above data is that most successful exits are happening at a time when the companies achieve scale between $30M - $50M in revenue.

Key Operating Metrics

To assist entrepreneurs with their corporate finance initiatives during their development stage, this section benchmarks key operating metrics, including revenue growth, gross margins, sales & marketing investment, research & development spend, general & administrative expenses, capital expenditure and EBITDA margins from the 66 public SaaS providers when they were generating sub- $50M in revenue.

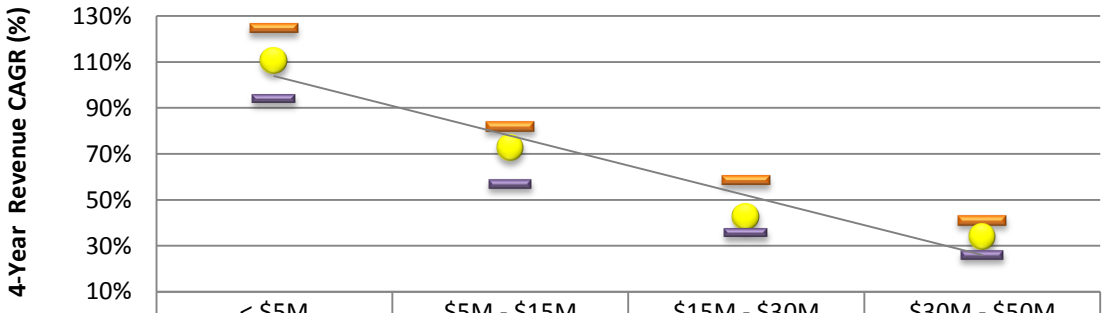
Revenue Growth

As noted earlier, revenue growth is one of the most important considerations when valuing SaaS companies. Because RCCF's investment strategy focuses on investing in growth-stage companies, we analyzed the revenue CAGR for a four-year period starting from the year in which the companies (now public) were generating sub-$5M, $5M - $15M, $15M - $30M and $30M - $50M in revenue. As an example, we looked at Salesforce.com for the four years following the year they posted $5.4M in TTM revenue. The company generated an impressive 139% CAGR to achieve TTM revenue of $176M four years later. Similarly, Salesforce achieved an impressive 93% CAGR to achieve $310M in TTM revenue following the four years when it had posted $22M in TTM revenue.

Exhibit 6 highlights that more than half of the 22 SaaS companies included in this data range achieved greater than 100% CAGR over four years immediately following the year in which they posted sub-$5M in TTM revenue. Of course the law of small numbers is in effect at this stage of development and it's obviously much harder to sustain these growth rates as companies scale. The median four-year CAGR drops to 73% when considering the four years immediately following the year in which these companies achieved greater than $5M but less than $15M in TTM revenue. The median further drops to 43% when considering the four-year period immediately following the year when these companies achieved greater than $15M in revenue but less than $30M in TTM revenue. Between $30M and $50M in revenue, companies demonstrate the lowest level of growth, a median 34%, with the fastest growing company in this range achieving 62% growth over this four-year period.

Public SaaS companies took an average of six years to achieve greater than $100M in revenue from the year in which they posted sub-$5M in TTM revenue. Salesforce and DealerTrack were the top performers by taking only four years to exceed $100M in TTM revenue. Meanwhile, Concur, Ultimate Software and Vocus each took 11 years to achieve revenue greater than $100M.

Exhibit 6. Four-Year Revenue CAGR (%)

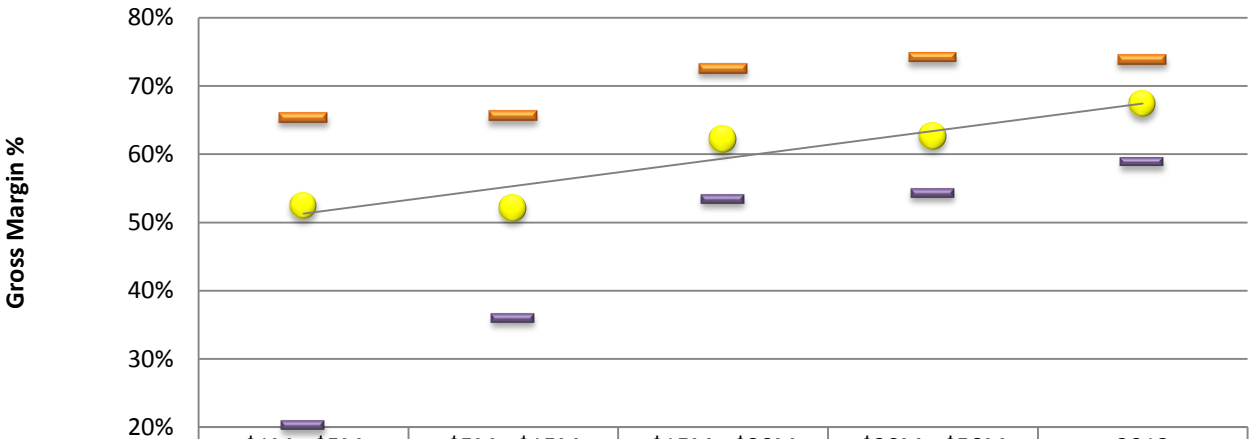


	< $5M	$5M - $15M	$15M - $30M	$30M - $50M
High	208%	156%	117%	62%
Top Quartile	125%	82%	59%	41%
Median	111%	73%	43%	34%
Lower Quartile	94%	57%	36%	26%
Low	44%	25%	20%	11%
Count	22	38	41	29

Gross Margins

SaaS vendors get the most operating leverage by deploying a single-instance, multi-tenant architecture, which means they manage one codebase across an entire installed customer base. Cost savings include shared hardware and software as well as maintenance costs, which are significantly lower due to the ease of deployment. Software upgrades or bug fixes are deployed against one instance for thousands of customers as opposed to supporting thousands of instances.

Exhibit 7A. Gross Margins

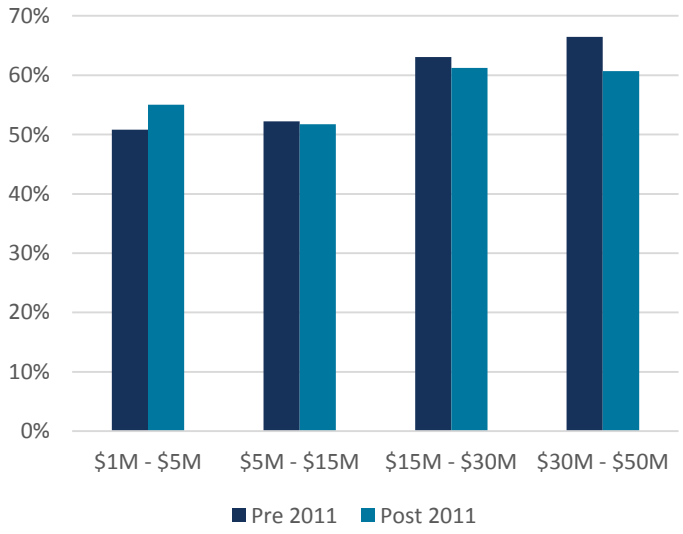


	$1M - $5M	$5M - $15M	$15M - $30M	$30M - $50M	2013
High	99%	94%	94%	96%	92%
Third Quartile	65%	66%	73%	74%	74%
Median	52%	52%	62%	63%	67%
First Quartile	20%	36%	53%	54%	59%
Low	-91%	-77%	19%	32%	-33%

Note: If more than one data point was available, a range is used.

Typically, SaaS companies' gross margins range from 50% - 75%. Obviously, as the installed base grows, so too does the ability to share fixed infrastructure costs such as datacenters, hosting and the like over more clients. The above exhibit demonstrates that sub-$5M SaaS companies typically generate gross margins in the 20% - 65% range and those consistently grow to more than 50% once companies exceed $15M in TTM revenue. The top quartile companies achieve gross margins greater than 70% once they achieve $15M or greater in revenue.

Exhibit 7B: Gross Margin Across Time

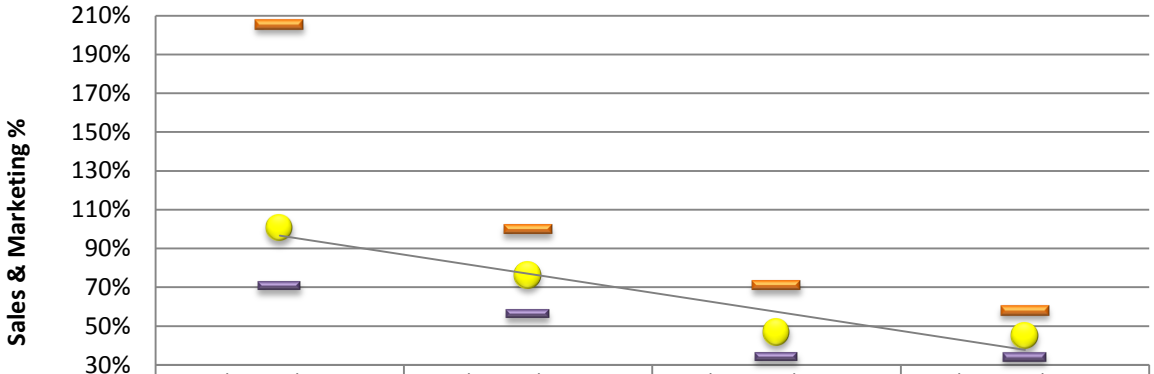


As shown in exhibit 7B, gross margins have decreased slightly over time for public SaaS companies with more than $5M in revenue. At $30M - $50M in revenue, pre-2011 IPO companies had a median gross margin of 66%, only slightly higher than post-2011 IPO companies, which reported 61% margins. This can likely be attributed to the increased percentage of revenue stemming from services in post-2011 companies, bringing down the overall gross margin. Being that valuations have increased rapidly since 2010 while gross margins have decreased slightly across time, there does not currently seem to be a strong correlation between gross margins and valuation multiples.

Sales and Marketing Effectiveness

Particular attention in this study is given to identifying important sales and marketing operating metrics that help assess a company's efficiency and effectiveness. Sales and marketing is typically the largest and, as seen below, most widely variable expense component of a SaaS company's cost structure.

Exhibit 8A. Sales & Marketing as a % of Revenue



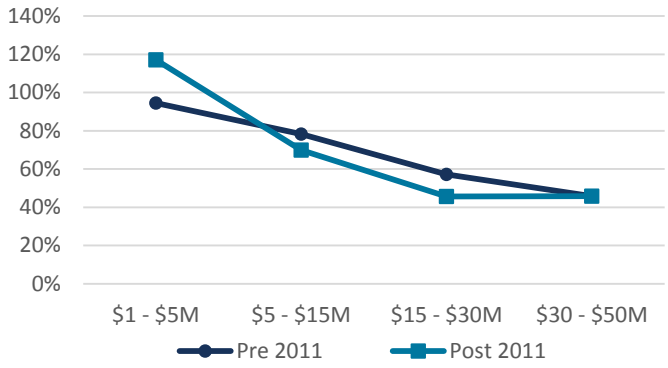
	$1M - $5M	$5M - $15M	$15M - $30M	$30M - $50M
High	509%	260%	152%	117%
Third Quartile	205%	100%	71%	58%
Median	101%	76%	47%	45%
First Quartile	71%	57%	34%	34%
Low	44%	23%	15%	17%

Note: If more than one data point was available, a range is used.

Sales and marketing expenses range from just 17% all the way to 117% of revenue for companies between $30M - $50M in revenue. With scale, the sales and marketing metrics improve: Companies with under $5M in revenue tend to spend 71% - 205% of those dollars sales and marketing. By the time the companies grow to $30M, the percentage of revenue dedicated to sales and marketing drops to 34% - 58%.

Sales and marketing expenses as a percentage of revenue have remained relatively consistent across time, as seen in Exhibit 8B. Companies that went public post-2011 did spend 23% more of revenue on sales and marketing when generating less than $5M in revenue, while pre-2011 companies spent slightly more when generating between $5M - $30M. Between $30M - $50M in revenue, the percentage of revenue dedicated to sales and marketing seems to remain consistent across time at 46%.

Exhibit 8B: S&M as a % of Revenue Across Time



As with all cost components, the relative percentages of revenue are dependent on multiple factors. First, the stage of a company's development. As one would expect, the sales and marketing percentage typically declines as businesses grow their top line. Second, is the average selling price ("ASP"). Higher ASPs tend to be highly correlated with fewer customers, which results in lower relative sales and marketing percentages at given revenue levels. Third, the accounting treatment employed by a company will also impact sales and marketing percentages. Most companies amortize commissions over the life of a contract. However, several companies expense their commissions upfront. Lastly, a direct sales model will demonstrate higher sales and marketing percentages than those with indirect channels.

Sales and Marketing Observations for Horizontal vs. Vertical focused SaaS Companies

Sales and marketing expense as a percentage of revenue tends to be significantly lower for vertical SaaS companies than for horizontal companies. Having a more refined market allows vertical SaaS companies to reach customers more efficiently. In addition, deep industry knowledge results in best-of-breed products and more effective marketing. In contrast, horizontal-software providers need to sell across multiple verticals, and marketing messages are typically more broad-based resulting in higher spend.

As an example, vertically focused SaaS companies with revenues in the $15M - $30M revenue range spent on average 42% of their revenue on sales and marketing. In contrast, horizontal focused SaaS companies spent on average 60% (or 18% more than the horizontal-focused companies) of their revenue on sales and marketing. Note that later in this report, we will share how the above dynamic results in better sales and marketing efficiency for the vertically-focused companies.

Renewal and Churn Rates

Renewal rate measures retention of customers and revenue. It is a critical metric for SaaS companies as it directly impacts growth rate and churn impact is even more profound as SaaS companies scale. As an example, a $50M SaaS company with 20% churn can add an impressive $20M of new business and still achieve only 20% growth, whereas if it had only 5% churn, the growth rate escalates to 35%.

Better performing private SaaS companies typically achieve customer renewal rates north of 85% and revenue renewal rates close to 100%, depending on the business model. As a general rule, SaaS providers selling into the enterprise market typically experience less churn than those selling into the SMB market. As an example, Workday is selling to the enterprise customer with an average deal size of $680k and has a renewal rate of more than 95%. Conversely, a company like Constant Contact that sells email marketing solutions to SMBs with an average deal size of $454, has a renewal rate of less than 80%. This is predominantly due to the fact that enterprise SaaS solutions inherently have more tentacles into the IT infrastructure than do SMB solutions, which also tend to go out of business more frequently.

For enterprise-focused providers, its worth noting that IT departments are increasingly consolidating relationships with third-party vendors, so a provider's ability to expand its service offerings and act as a unified platform for multiple services will significantly help companies achieve attractive renewal rates.

Measuring Churn

There are a variety of ways churn can be measured and analyzed. Below we detail a couple of approaches:

Rolling 12-Month Basis

The rolling 12-month basis calculates annual churn by annualizing each month's dollar churn. Monthly dollar churn is calculated by dividing the current monthly dollar churn as a % of the previous month's revenue. As an example, in January 2013, the business lost $4,261 of revenue equating to 0.9% monthly churn.

To calculate annualized churn as of December 31, 2013, we annualize the monthly dollar churn through December 31, 2013 and divide it by total TTM revenue as of December 31, 2013. For example, in January 2013 the business lost $4,261 in revenue or $51,132 ($4,261 X 12) of annualized revenue as of December 2013. Similarly in February 2013, the business churned $4,531 in monthly revenue, annualized to $49,841 ($4,531 X 11) of revenue lost as of December 31, 2013. In summary, the business churned $367,723 in annualized revenue since January 2013, amounting to an annualized churn rate of 5.1%.

Period	Billed Revenue	Monthly Churn $	Monthly Churn %	Annualized Churn	
Dec-12	$500,000				
Jan-13	$515,236	$4,261	0.9%	$51,132	
Feb-13	$530,693	$4,531	0.9%	$49,841	
Mar-13	$541,307	$4,185	0.8%	$41,850	
Apr-13	$568,372	$4,956	0.9%	$44,604	
May-13	$608,158	$5,687	1.0%	$45,496	
Jun-13	$632,485	$3,256	0.5%	$22,792	
Jul-13	$645,134	$4,778	0.8%	$28,668	
Aug-13	$651,586	$6,850	1.1%	$34,250	
Sep-13	$648,328	$4,489	0.7%	$17,956	
Oct-13	$667,778	$5,458	0.8%	$16,374	
Nov-13	$681,133	$4,158	0.6%	$8,316	
Dec-13		$6,444	0.9%	$6,444	
	$7,190,210	**$59,053**	**0.8%**	**$367,723**	**5.1%**

Cohort Analysis

Analyzing churn through a cohort analysis (with each cohort being the group of customers who launched in the same month) helps understand churn on an even deeper level. This can be best illustrated with the help of an example:

12-Month MRR Cohort Analysis

Month	New MRR	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13
Jan-13	$3,363	$3,296	$3,230	$3,165	$3,102	$3,040	$2,979	$2,919	$2,861	$2,804	$2,748	$2,693	$2,639
Feb-13	$2,880		$2,837	$2,795	$2,753	$2,711	$2,671	$2,631	$2,591	$2,552	$2,514	$2,476	$2,439
Mar-13	$3,946			$3,906	$3,867	$3,829	$3,790	$3,752	$3,715	$3,678	$3,641	$3,605	$3,568
Apr-13	$4,139				$4,119	$4,098	$4,078	$4,057	$4,037	$4,017	$3,997	$3,977	$3,957
May-13	$2,941					$2,956	$2,971	$2,985	$3,000	$3,015	$3,030	$3,046	$3,061
Jun-13	$2,891						$2,934	$2,978	$3,023	$3,068	$3,114	$3,161	$3,209
Jul-13	$3,832							$3,909	$3,987	$4,067	$4,148	$4,231	$4,316
Aug-13	$5,576								$5,716	$5,859	$6,005	$6,155	$6,309
Sep-13	$8,047									$8,289	$8,537	$8,793	$9,057
Oct-13	$3,871										$4,025	$4,186	$4,354
Nov-13	$4,142											$4,328	$4,523
Dec-13	$7,041												$7,393
		$3,296	**$6,067**	**$9,866**	**$13,841**	**$16,634**	**$19,423**	**$23,232**	**$28,930**	**$37,349**	**$41,760**	**$46,651**	**$54,824**

% of Retained MRR in Lifetime Month

	1	2	3	4	5	6	7	8	9	10	11	12
Jan-13	98.00%	96.04%	94.12%	92.24%	90.39%	88.58%	86.81%	85.08%	83.37%	81.71%	80.07%	78.47%
Feb-13	98.50%	97.02%	95.57%	94.13%	92.72%	91.33%	89.96%	88.61%	87.28%	85.97%	84.68%	
Mar-13	99.00%	98.01%	97.03%	96.06%	95.10%	94.15%	93.21%	92.27%	91.35%	90.44%		
Apr-13	99.50%	99.00%	98.51%	98.01%	97.52%	97.04%	96.55%	96.07%	95.59%			
May-13	100.50%	101.00%	101.51%	102.02%	102.53%	103.04%	103.55%	104.07%				
Jun-13	101.50%	103.02%	104.57%	106.14%	107.73%	109.34%	110.98%					
Jul-13	102.00%	104.04%	106.12%	108.24%	110.41%	112.62%						
Aug-13	102.50%	105.06%	107.69%	110.38%	113.14%							
Sep-13	103.00%	106.09%	109.27%	112.55%								
Oct-13	104.00%	108.16%	112.49%									
Nov-13	104.50%	109.20%										
Dec-13	105.00%											
	101.97%	**103.07%**	**103.77%**	**103.92%**	**102.03%**	**99.40%**	**96.42%**	**93.18%**	**89.89%**	**86.29%**	**82.20%**	**78.47%**

Note: Data is hypothetical.

The above graph depicts cohort MRR and how it grows or churns over time. In this analysis, the business added $3,363 of new MRR in January 2013 and retained ~79% of it by the end of 12 months. In contrast, in June 2013 the business added $2,891 of new MRR which grew to $3,209 representing 11% expansion within a six-month period. Such analysis can be helpful in analyzing how churn varies across time and how churn is changing with newer customers.

Often times SaaS companies lose a big portion of their churned customers in the first few months due to lack of adoption. Once the customers start using the product more, churn stabilizes at a lower level. This should signal the company to focus on the account management and support function in the initial months of a new customer to make it as easy as possible for them to adopt the solution. This analysis also helps track growth within existing customers by way of increased number of seats or subscribing to more functionality, etc.

Exhibit 9. Select Special Metrics

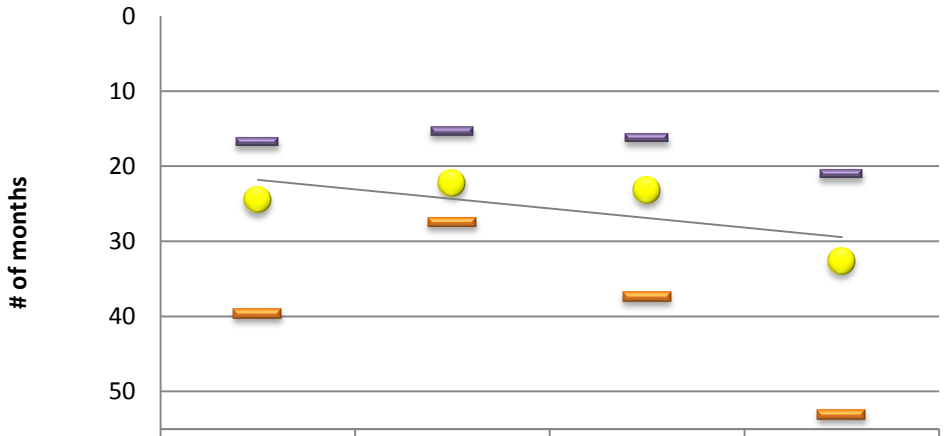
Public Comps.	# of Customers	Renewal Rates	Annual Deal Size
BazaarVoice	2,000	88%	$80,148
BlackBoard		92%	
Brightcove	6,397	96%	$13,817
Callidus Software	1,170	90%	
Carbonite	1,100,000+		
ChannelAdvisor	2,135	>90%	$25,135
Concur	15,000	>95%	$29,322
Constant Contact	555,000	75%	$454
Convio		90%+	
Cornerstone OnDemand		90%	
DealerTrack	19,067	86-88%	$20,395
Demandtec		low 80%s	
Demandware	151	95%	$526,325
E2open	306		
Fleetmatics	18,000	>100%	$7,083
HubSpot	11,624	89%	$8,823
Intralinks	90,000	96%	$2,407
Jive	800	83%	$142,083
Kenexa		80-85%	
Liveperson	8,500	>90%	$18,519
LogMeIn			
Marin Software	542	>100%	$109,901
Marketo	2,300	>90%	$25,396
NetSuite	16,000	<90%	$19,302
RealPage	8,400	>90%	$38,354
Responsys	416	93-97%	$394,247
Salesforce	104,000	95%	$29,329
SciQuest	428	90%	$158,773
ServceNow	1,512		$161,185
SPS Commerce	50,000		$1,542
Tangoe	1,080	100%	$143,067
Ultimate Software	2,500	95%	$132,907
Vocus	16,494		$10,488
Workday	400	95%	$684,143

Source: The 2013 Stifel SaaS Handbook; HubSpot S-1 Filing

Return on Sales and Marketing Investment

Well-performing SaaS companies achieve payback on sales and marketing investments in less than 24 months. Essentially, 24-month payback equates to a 50% ROI on the sales and marketing investment; a 12-month payback represents 100% ROI. Payback is simply calculated by taking sales and marketing spend for a defined period and dividing it by the respective period's incremental gross margin. By measuring payback on gross margin (vs. revenue), this calculation takes into consideration the company's churn rates. Payback metrics tell us how many months are required for a company to break even on their sales and marketing investment.

Exhibit 10A. Payback on Sales and Marketing (Months)



	$5M - $15M	$15M - $15M	$30M - $50M	2013
High	9416	55	102	9416
Third Quartile	40	27	37	53
Median	24	22	23	33
First Quartile	17	15	16	21
Low	7	6	6	9

Note: If more than one data point was available, a range is used.

Believing that a one to two year payback on sales and marketing investment is attractive, River Cities advises companies to accelerate their sales and marketing spend when they are achieving those results. Above two years, companies should consider alternate spend initiatives to drive more efficient growth.

Between $30M - $50M in TTM revenue, sales and marketing payback for public companies tends to range from 16-37 months for the majority of companies.

From $5M up to $50M in revenue, the median months until payback on sales and marketing ranged only from 22-24 months. In 2013, though, the median months to payback increased to 33, which seems to indicate a trend of less efficient sales and marketing spend by SaaS companies likely influenced by increased capital entering the market.

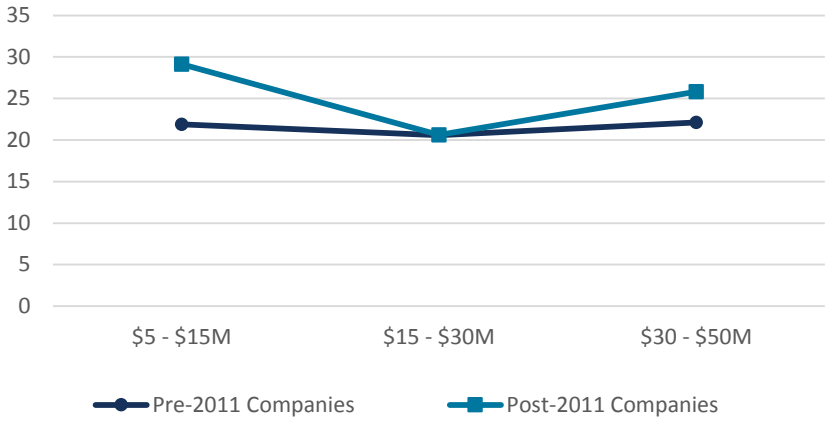
As mentioned earlier, vertically-focused companies tend to see more efficient results on their sales and marketing spend than horizontally-focused companies. As an example, some of the industry's most efficient performers include AthenaHealth (healthcare), Veeva (life sciences) and Textura (construction), which see payback on sales and marketing spend of six months, seven - nine months and seven - 11 months, respectively when generating below $50M in revenue.

Return on Sales and Marketing Investment Continued

As shown in Exhibit 10B, when generating $5M - $50M, SaaS companies that entered the public market post-2011 generally had a longer payback on sales and marketing than the pre-2011 companies, indicating less efficient sales and marketing spend.

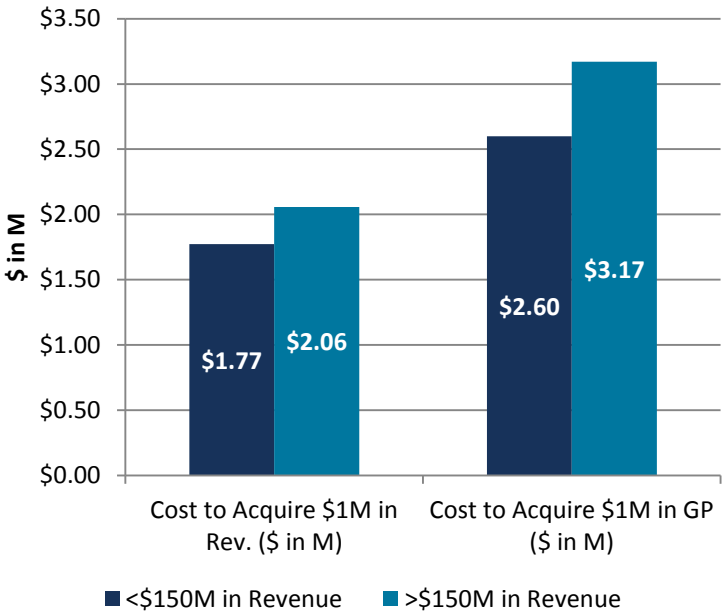
Exhibit 10C highlights the cost to acquire $1M in revenue and gross profit in 2013 by size, giving an insight into the recent sales and marketing effectiveness of the active SaaS companies. Note that we have included acquisitions in the cost of sales and marketing.

Exhibit 10B. Payback on Sales and Marketing Across Time (in months)



In general, as SaaS companies scale their revenue it becomes harder to grow efficiently. Once SaaS companies achieve critical mass of trailing twelve month revenue, these companies typically start to look at adjacent markets or expand their offerings to sustain top-line growth, which in turn implies more spending. Companies with more than $150M in revenue tend to spend about 15% - 20% more relative to companies that had sub-$150M in revenue.

Exhibit 10C. Cost to Acquire $1M in Revenue and GP in 2013 by Size



In River Cities' 2011 SaaS Benchmarking, we reported the median cost to acquire revenue had gone down in the one year period from $1.87M in 2010 to $1.75M in 2011, suggesting SaaS companies are getting more sophisticated in regards to selectively deploying sales and marketing resources. The median cost to acquire $1M in gross profit in 2010 was $2.6M, which equates to approximately 31 months of payback on sales and marketing. For 2013, we reported a median of $2.7M, suggesting that this metric has remained somewhat consistent over the past few years. As stated earlier in this report, gross margins have decreased slightly over time, which could explain why the cost to acquire revenue has gone down, but the cost to acquire gross profit has actually increased slightly.

Return on Sales and Marketing Investment Continued

Another increasingly accepted way to understand the unit economics of a SaaS business is to look at the lifetime value of a typical customer (LTV) and the cost to acquire that customer (CAC).

It is best to illustrate this metric with an example. Let's say a SaaS business has the following metrics:

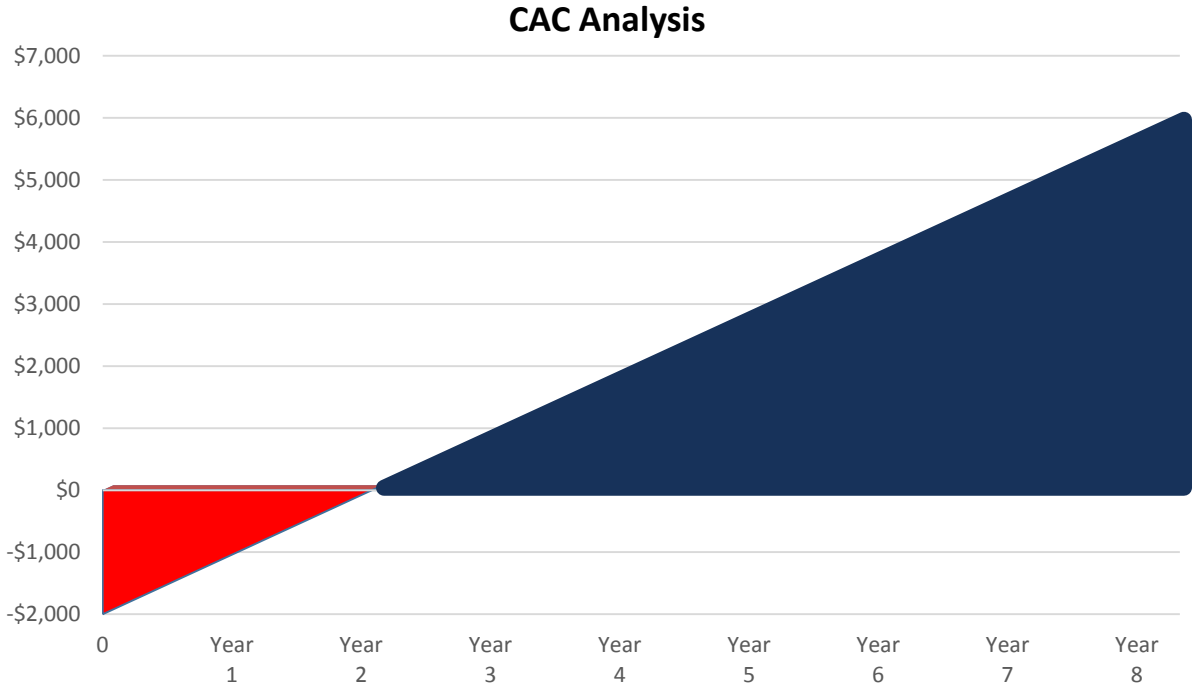
Sales and marketing cost:	$200k a month
New customers added every month:	100
Average Revenue per Account:	$100
Monthly Churn:	1%

Formulas

Customer Acquisition Cost = Total sales and marketing cost / # of new customers acquired
LTV = Average recurring per account (ARPU) / Churn
LTV (adjusted for gross margin) = Average gross margin per account / Churn
CAC Ratio = LTV / CAC

In the above example, CAC equates to $2,000 ($200,000 / 100), Lifetime value (LTV) of a customer amounts to $10,000 ($100 / 0.01) and LTV adjusted for gross margin equates to $8,000 ($80 / 0.01). Finally, the CAC ratio is calculated by dividing LTV by CAC or $8,000 divided by $2,000 resulting in a CAC ratio of 4x. The ratio between CAC and LTV helps understand whether or not a company is making more profit from customers than it costs to acquire them. Solid performing SaaS businesses have an LTV to CAC ratio higher than 3x, at scale.

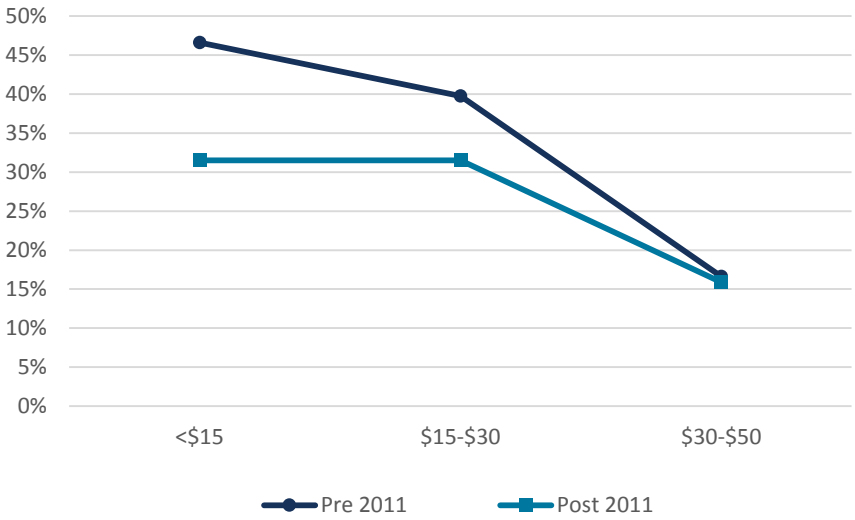
The graphic below depicts the above example and the relationship between LTV and CAC. As you can see, immediately upon acquiring a customer, the business is in the red having spent $2,000 to acquire that customer. As the customer starts generating $80 in gross margin each month, the business achieves break even in 25 months and later turns profitable from that customer until they decide not to renew (churn).



Research & Development

In many regards, it's never been easier to technologically launch a SaaS company. Its no longer necessary to invest the upfront capital to buy servers, hardware or software. Cloud hosting services and open source software have significantly reduced the necessary upfront capital to achieve early proof points and market feedback for a company's value proposition.

Exhibit 11A: R&D as a % of Revenue Across Time

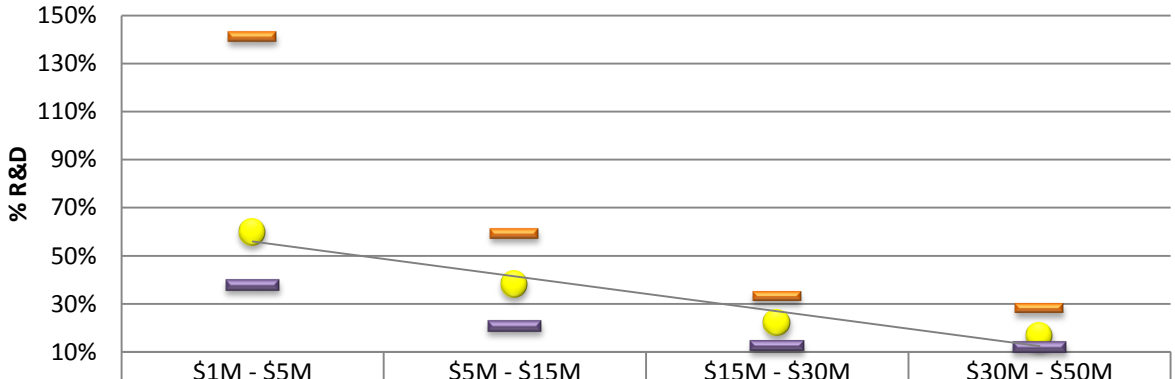


As such, we are seeing the amount of capital committed to R&D decline, especially in the early stages of a company's development. Pre-2011 IPO companies dedicated about 20% of revenue more toward R&D, especially in the companies' infancy. At scale, we see more of a reversion to the mean as typical R&D percentages of revenue remain around the 16% - 17% mark.

Several other factors influence a company's commitment to R&D including stage of development, level of technical complexity and management's technical competency.

Highly-technical and high-priced solutions with fewer customers on average require relatively higher R&D expenses. As to be expected and as seen in Exhibit 11B below, early-stage companies tend to spend more as a percentage of revenue than they do later in their development. Companies with less than $5M in revenue are spending 60% (median) on R&D – while the percentage decreases to only 17% (median) by the time the company reaches $30M - $50M in revenue. Once companies achieve scale, between $30M - $50M in revenue, more than half spent less than 20% of revenue on research and development.

Exhibit 11B: Research & Development as a % of Revenue

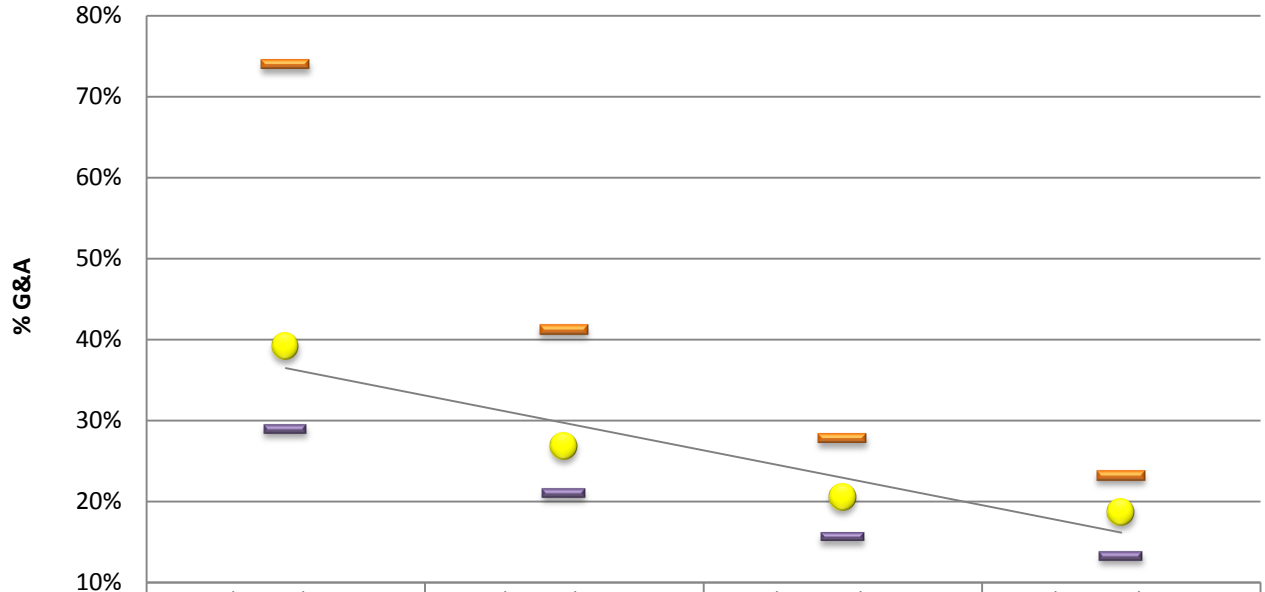


	$1M - $5M	$5M - $15M	$15M - $30M	$30M - $50M
High	448%	404%	119%	68%
Third Quartile	141%	59%	33%	28%
Median	60%	38%	22%	17%
First Quartile	38%	21%	13%	12%
Low	18%	4%	2%	2%

Note: If more than one data point was available, a range is used.

General & Administrative

Exhibit 12A: General & Administrative as a % of Revenue



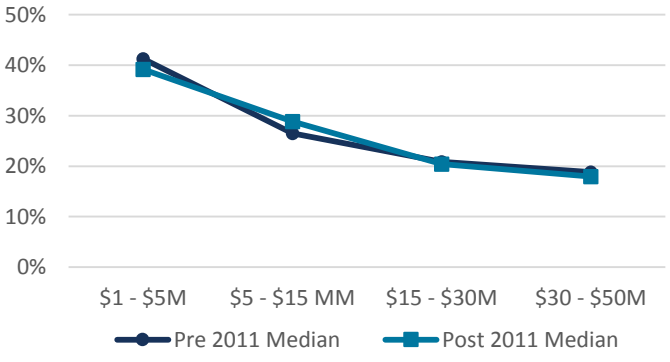
	$1M - $5M	$5M - $15M	$15M - $30M	$30M - $50M
High	268%	86%	51%	66%
Third Quartile	74%	41%	28%	23%
Median	39%	27%	21%	19%
First Quartile	29%	21%	16%	13%
Low	14%	5%	9%	7%

Note: If more than one data point was available, a range is used.

Below $5M in revenue, a quarter of public SaaS companies spend more than 74% of their revenue on G&A. Typically, these companies raised meaningful capital from institutional investors and recruited a high-quality executive team. As an example, Netsuite raised $50M in capital even before it achieved $5M in revenue and spent more than 100% of its revenue on G&A.

As SaaS vendors grow to $15M and higher in TTM revenue, they tend to commit approximately 15% - 30% of their revenue to general and administrative resources. In the $30M - $50M revenue range, more than two-thirds of the companies spent less than 25% of revenue on G&A, proving that SaaS companies get excellent operating leverage.

Exhibit 12B: G&A as a % of Revenue Across Time



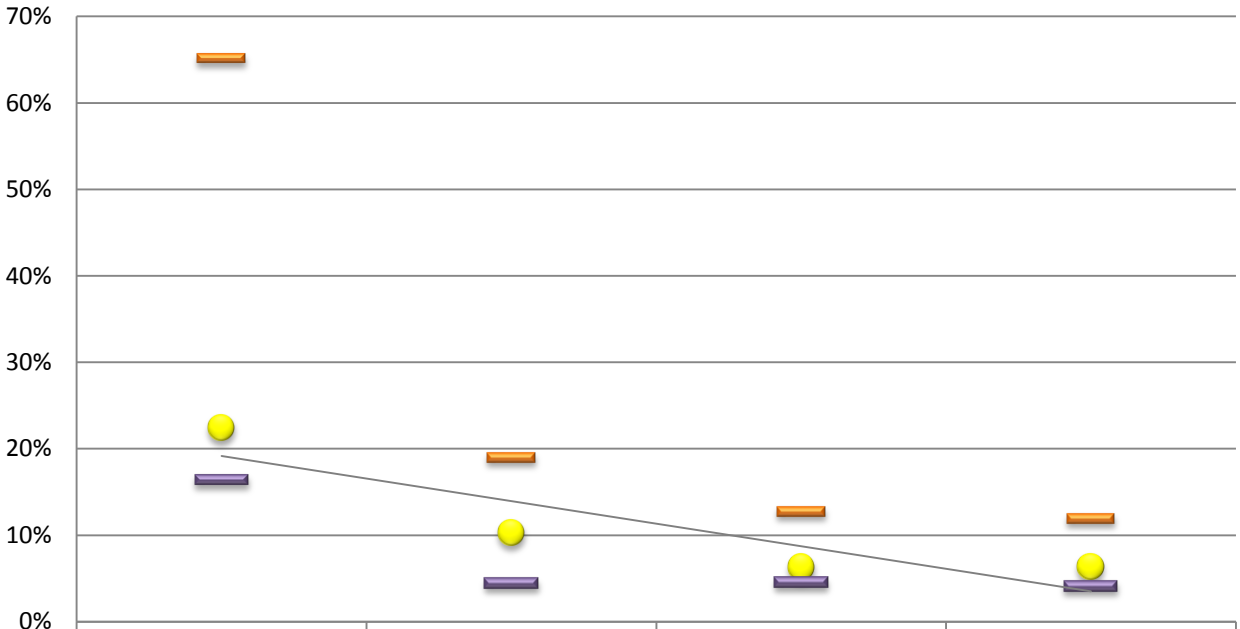
As shown in Exhibit 12B, the percentage of revenue dedicated to general and administrative costs has remained consistent across time for all revenue ranges shown, suggesting that this metric has standardized for best-of-breed SaaS companies.

Capital Expenditure

While about half of private SaaS companies primarily rely upon self-managed servers to deliver their solution today, many companies are beginning to shift to third-party delivery, especially Amazon Web Services (AWS). Today, 35% of private SaaS companies currently utilize AWS, which helps to lower capital expenses.

Capital expenditure as a percentage of revenue decreases with scale. Once SaaS companies achieve revenue north of $30M and a critical mass of customers, most companies spent less than 6% of revenue on capital expenses; 15 of these 44 companies spent less than 5% and only six companies spent more than 20%.

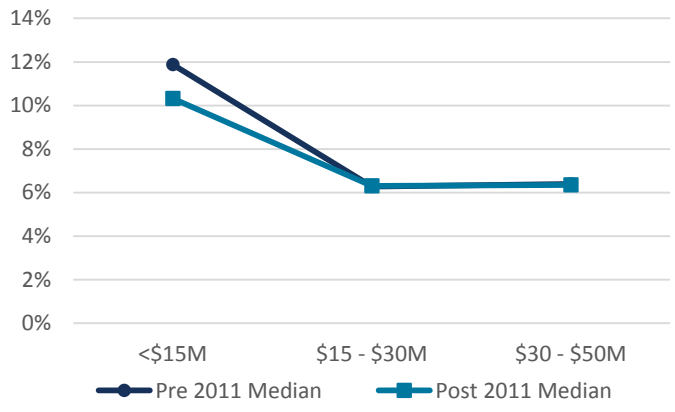
Exhibit 13A: Capital Expenditure as a % of Revenue



	$1M - $5M	$5M - $15M	$15M - $30M	$30M - $50M
High	108%	61%	72%	44%
Third Quartile	65%	19%	13%	12%
Median	22%	10%	6%	6%
First Quartile	16%	4%	5%	4%
Low	10%	1%	1%	1%

Note: If more than one data point was available, a range is used.

Exhibit 13B: Cap Ex as a % of Revenue Across Time



As shown in Exhibit 13B, pre-2011 IPO companies spent slightly more as a percentage of revenue when generating less than $15M. This is likely to be attributed to the uptick in companies now utilizing less expensive options like AWS early on, driving down necessary startup costs. As companies scale past $15M in revenue, the capital expenses remained consistent for pre- and post-2011 companies.

Profitability

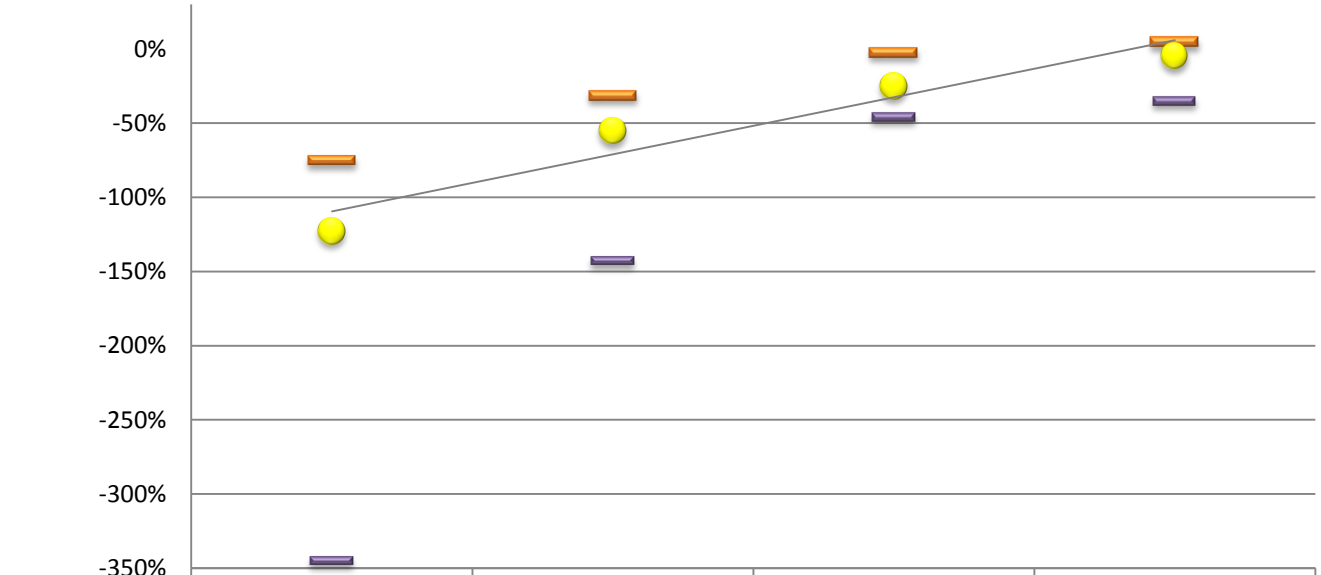
Not surprisingly, given the attractive industry opportunities ahead, most companies aggressively reinvest cash into sales and marketing to fuel top-line growth at the expense of near-term profitability. Only 19 out of 48 public companies included in this data achieved positive EBITDA margins under $50M in revenue. And at the time of IPO, still 30 out of the 66 SaaS companies reported negative EBITDA margins. The balance of the 35 companies at IPO reported a median 22% EBITDA margin.

Liveperson was the fastest to reach EBITDA positive operations when it had just $6.2M in revenue. Conversely, Success Factors didn't reach EBITDA positive operations until 2009 when it had revenues of $153M. Part of Liveperson's achievement can be explained by relatively slow, but by no means low, CAGR of 44% from $12M to $52M in four years, relative to the average CAGR for public SaaS companies of 67%. Considering Liveperson's efficient payback on sales and marketing spend (<24 months), a case could be made that the company would have driven more value by increasing spend on sales and marketing at the expense of profitability, especially if the company maintained valuation multiples in excess of 2x TTM revenue, much less its 4x revenue multiple today.

Looking at recent trends shows that companies who went public pre-2011 reported higher EBITDA margins both when generating $30M - $50M revenue range (median -4%) and at the time of IPO (10%). Post-2011 companies saw a median of -14% EBITDA margins both at the $30M - $50M revenue range and at time of IPO.

Interestingly, in Q2, 2014, more than half of the active public vendors still had negative TTM EBITDA with the median for all companies being -2% (down 1% from Q1), highlighting the notion of growth at the expense of profitability.

Exhibit 14: Adjusted EBITDA Margins



	$1M - $5M	$5M - $15M	$15M - $30M	$30M - $50M
High	-36%	20%	69%	20%
Third Quartile	-75%	-31%	-2%	5%
Median	-123%	-55%	-25%	-5%
First Quartile	-345%	-143%	-46%	-35%
Low	-951%	-476%	-156%	-118%

Note: If more than one data point was available, a range is used.

Conclusion

Proceed with Caution

The wave of SaaS adoption continues, as wide-spread acceptance leads to more utilization from both SMBs and large enterprises. While maturing, the SaaS market is still estimated to nearly double over the next few years.

The market momentum and solid returns experienced by early SaaS investors have drawn more institutional capital down market. The number of PE/VC firms investing in SaaS companies has skyrocketed by five times since 2003 and the number of dollars has risen from just $1.7B in 2003 to $8.4B of private equity invested in 2013.

These larger rounds of funding in earlier stage companies do not appear to be driving more efficient, faster growth at individual companies. Increasingly, proceeds from these financings are either being utilized less efficiently and/or going to fund liquidity for shareholders instead of funding initiatives to drive growth.

While more capital inflow into the sector has been a positive force for the broad SaaS industry, the availability of capital may outpace entrepreneurs' ability to efficiently put that capital to work. In terms of corporate finance strategies, we caution entrepreneurs from the allure of raising too much capital before the company can efficiently and effectively deploy those funds. Management teams need to carefully choose their investment partners and ensure the appropriate proof points are in place to effectively drive growth with new capital. Absent those considerations, management and investors may be misaligned and that friction rarely ends well for either party.

River Cities' thought leadership, portfolio company experience and SaaS investment success provide the firm with a unique perspective around strategic issues faced by SaaS companies. Continued focus on the firm's knowledgebase further supports River Cities' efforts to quickly assess prospective SaaS portfolio companies as well as make solid fact-based recommendations to existing portfolio companies.

Sources

- S&P Capital IQ
- Gartner Says Cloud Computing Will Become the Bulk of New IT Spend by 2016 October 2013
- 451 Group Cloud Computing Monitor and Forecasting 2014
- Boston Consulting Group: Profiting from the Cloud: How to Master Software as a Service June 2013
- Forrester Research Five Trends That Will Change SaaS Sourcing November 2011
- International Data Corp. 2014 Predictions
- The 2013 Stifel SaaS Handbook
- Siemer & Associates Saas Industry Report 2013
- Saas State of the Industry Presentation At Small Business Summit 2014 by Bjoern Lasse Herrmann from Compass
- ForEntrepreneurs SaaS Metrics 2.0 – A Guide to Measuring and Improving What Matters January 2013
- Pacific Crest's 2014 Private SaaS Company Survey
- SEG SaaS Benchmarking Reports
- North Bridge Venture Partners and Gigaom Research 2014 Future of Cloud Computing Survey

Full data for the public company exhibits is available upon request. For more information on our SaaS experience or investment strategy, please contact:

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