



Bessemer's Top 10 Laws of Cloud Computing

The new principles of "Clouconomics"

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Bessemer Venture Partners (BVP) is a global venture capital firm with offices in Silicon Valley, Cambridge, Mass., New York, Mumbai and Herzliya, Israel. BVP delivers the broadest platform in venture capital spanning across industries, geographies, generations and stages of company growth. From Staples to Skype, VeriSign to Yelp, LinkedIn to Pinterest, BVP has helped incubate and support companies that have anchored tidal shifts in the economy. More than 100 BVP-funded companies have gone public on exchanges in North America, Europe, and Asia. Bessemer Venture Partners has been a leading investor in Cloud Computing for more than 12 years, supporting early pioneers in this high-growth market including Postini, Cyota, Trigo, and VeriSign. BVP's current cloud portfolio is one of the largest in the venture capital industry and includes leading public and private companies such as Box, Broadsoft (BSFT), Cornerstone On-Demand (CSOD), DocuSign, Eloqua (ELOQ), LifeLock (LOCK), LinkedIn (LNKD), Shopify, Twilio, and Wix. For more information, please visit www.bvp.com/cloud.

At Bessemer Venture Partners, we have had the privilege of working closely with over 50 of the leading Cloud Computing companies over more than a dozen years. We continue to fundamentally believe that the emergence of Cloud Computing – and its three core components of Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS), and Infrastructure-as-a-Service (IaaS) – is completely changing the landscape of the multi-billion dollar software industry.

We first presented Bessemer's Top 10 Laws for Being "SaaS-y" for internal discussion at our annual Cloud/SaaS CEO Summit almost five years ago, and were overwhelmed by requests to share the content more broadly. We decided to not only share the insights and the discussion openly, but to treat this as an active dialogue with ongoing updates to reflect the collective learning of the cloud community. This update is the most extensive we have ever undertaken, and includes many changes and several entirely new concepts for this publication.

This work is literally the result of thousands of conversations that the partners of Bessemer have participated in with cloud executives, including our past and current portfolio companies, as well as other leading public and private cloud companies. We have been fortunate to be investors in many of the early cloud winners - such as LinkedIn (LNKD), Cornerstone OnDemand (CSOD), Broadsoft (BSFT), Eloqua (ELOQ), Lifelock (LOCK), Postini (Acq: Google), Netli (Acq: Akamai), Trigo (Acq: IBM), Keynote (KEYN), Cyota (Acq: RSA), and Verisign (Acq:SYMC) - and continue to actively invest behind one of the largest cloud portfolios in the venture capital industry. We don't claim to be brilliant on these topics ourselves, but we do believe this full community – and thus the content - represents the leading thinking from true cloud experts.

Periods of tremendous transformation create tremendous opportunity, and we consider ourselves privileged to be working with many of the great entrepreneurs who are currently creating the next giants of the "software" industry. We welcome your thoughts and feedback at cloudvc@bvp.com and also invite you to visit the Cloud Computing section of our website at www.bvp.com/cloud.



Drink Your Own Champagne

Drink it, live it, love the cloud. Use your own product, and that of your customers, partners, and peers. To understand the cloud revolution, you have to be a part of it. You need to understand the issues, challenges, and opportunities with cloud deployments – starting with your own. If you have a product that touches end users, then end users within your company should be power users of the product. You should all become experts in the strengths and weaknesses of your product, and be able to discuss customer issues and roadmap priorities in some detail. Most of our cloud portfolio companies are power users of their own products and even those of their competitors.

Similarly, you should leverage the cloud for your internal systems. This will not only give you a direct understanding of the customer experience and best-of-breed strategies of cloud businesses, but it will free up your technical resources and balance sheet to focus on your core product and customers. Although your technical team may be great

The Bessemer Cloudscape
Top 300 Cloud Computing Companies

Software as-a-Service
END USERS

Marketing Analytics Google Analytics, GINZA METRICS, Simply Measured, CLICOTALE, searchmetrics, HubSpot, COVARI, convertro, SEO MOZ, VOCUS, Keybroker, BRIGHT EDGE, WotStream	Enterprise Social Media hootsuite, hearst social, vitrue, SOCIALCAST, Yammer, gigya, chatter, Lithium, WILDFIRE, radian6, Zuberance, BUDDY MEDIA, ELOQUA	Marketing Demand Generation KENSHOO, VerticalResponse, ELOQUA, unbounce, Constant Contact, Marketo, ExactTarget, iContact, Bronco, vocus, bize, Silverpop, CampaignMonitor, Infusionsoft, XYDO, contact, responsys, MailChimp, Marin	Human Resources workday, Cornerstone, LinkedIn, bamboohr, BULLHORN, saba, upmo, EPICOR, HALOGEN, echospan, Ultimate Software, selectminds, Taleo, SuccessFactors, SAP, ByDesign, REPLICATION, Lumesse
Finance & Accounting Intacct, stotpro, NETSUITE, aria, kyriba, BILL.com, FRESHBOOKS, rasoos, Expensify, COUPA, uora, Adaptive Planning, Chargify, ncur, inuit, QM ERP, WOVE, truaxis, Avalara, expenscloud, RECURLY, FINANCIAL FORCE.COM	CRM SUGARCRM, NETSUITE, salesforce.com, InsideView, satisfaction, liveops, SurveyMonkey, MEDALLIA, nmbie, clearslide, RightNow, xactly, SW, Steelwedge, PARALLER, zendesk, uservoice, LIVEPERSON, Tarketools, Microsoft	Vertical CoreCloud, MINDBODY, SERVICE MEX, PointClickCare, OPPOWER, YARDI, galster, navicure, superderivatives, RPX, KINNSER, DealerTrack, ppfoko, WebPT, Aweris, ooxtime, MediAnalytics, Veeva, clob, DEALER.COM	Document Management box, Dropbox, Scribd, SugarSync, EchoSign, sendthisfile, WordPress, Drupal, yousendit, CARBONITE, DocuSign, CloudApp, bitcasa, mozy, Alfresco, watchdog, bitcasa, mozy, ShareFile, backupify, slideshare, PAPERKIT
Business Intelligence mixpanel, Rosslyn Analytics, SUMIFULL, SpatialKey, birst, visier, INSIGHT SQUARED, Cloud9, EdgeSpring, SAP Business Objects, GoodData, JALPERSON, Kontagent, BI OnDemand, pivotlink, LATTICE ENGINES, kogntio, pimbrio, RPX, Datasent, bime, C	Collaboration box, 37signals, TeamViewer, Atlassian, skype, jive, moxie, FOMO, Google Apps, PODIO, Teambox, COLLABNET, RingCentral, GFI, clarizen, liquid, Zimbra, sonyte, thinking phone networks, asana, Cisco, webex, LogMeIn, Office 365, GoToMeeting, huddle	Retail & E-Commerce RPLY, shopify, BIG Commerce, RSI, DELIVERYAGENT, PowerReviews, ONESTOP, Magento, volusion, Bazaavoice, VeriSign, yodle	

Platform as-a-Service
DEVELOPERS & IT

heroku, SendGrid, Madlogic, AppAssure, cloudshore, BIG SPACES, actionio, acquia, CLOUD FOUNDRY, Boomr, jonrain, APPRIIO, CloudBees, cloudkick, Parse, Expect Labs, github, CloudFlare, openstack, zapier, dotcloud, bmccloud, twilio, CLUIR, aster data, RALLY, SOASTA, splunk, JULY, MarkLogic, Simply Measured, force.com, v2, Qrmp, CloudPassage, snoplog, New Relic, xeround, CloudLock, Cloud IDE, stripe, logic, erian, boundary, Simplified, okta, AppDynamics, Zerto, appfog, ALERTLOGIC, RAPID7, Skytap, standingcloud, Acronis, silver, DEB PHOX, abiauo, SCALIX, appio, DynamicOps, kapow, veeam, MulaSoft, service now, Source

amazon.com, rackspace, redhat, piston, nebula, SOFTLAYER, CITRIX, CloudPassage, actifio, hp, ORACLE, EUCALYPTUS, nimbus, vmware, Joyent, Parallels, terremark, nicira

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at setting up email servers and voice systems, they are far too valuable to your organization to waste their time on such rote tasks. Your cost of capital is also likely very high, making upfront hardware and license costs unnecessarily expensive for a young company. By pushing as much as possible into the cloud, you avoid management headaches and make these expenses variable. We highlight many of the best-of-breed offerings by category in Bessemer's Cloudscape, and there are dozens more emerging monthly.

Cloud businesses should also leverage PaaS and IaaS whenever possible for core product development. There has been a massive change in the consumer internet world over the last few years, with the vast majority of new internet websites and applications now using cloud environments such as Amazon Web Services as the foundation of their development from the first day. We believe that quality of service and portability issues are rapidly resolving themselves at a level that will be suitable for enterprise deployments, and a similar migration will occur within the software and Software-as-a-Service worlds over the coming years. There has also been an explosion of cloud based PaaS services that are part of the "developer citizenry" revolution, giving application developers access to a long list of powerful APIs that can be quickly integrated into product offerings, and purchased on a consumption basis with little or no upfront commitment.



Michael Tessler
CEO, Broadsoft (NASDAQ:BSFT)

"We enable telephony services delivered from 'the cloud,' and every employee is a power user of our communication services. This way everyone in our company is an expert on the product and can easily understand a user's needs, from the veteran sales executive to a new customer account manager."



Build for the Doer, Build Employee Software

Employees are now powerful customers themselves, and not just through their managers. We're witnessing the "Consumerization of Software," so focus on ease of use for SaaS, and "developer citizenry" for PaaS and IaaS.

The gig is up. Pandora's box is open. Your customers all now know that software doesn't have to suck anymore. They use rich internet applications including Facebook and Skype to communicate with their friends; they use LinkedIn to manage their business networks, Google or Wikipedia to find accurate online content, Yelp to find restaurants, and Travelocity to book flights. Your potential customers are now looking for similar "cheap and cheerful" products in an open revolt against the years of oppression by the likes of SAP and Oracle. You should therefore beg, borrow, and follow: take inspiration from the best online products you can find and leverage the fact that you're naturally smaller and more nimble than the incumbents to provide the best user experience imaginable.

Whether it's a "Freemium" model, a hybrid sales model with a heavy inside corporate sales element, or even an enter-



*David Patrick
CEO, Apperian*

“Our goal is to provide a platform for enterprise mobile teams to be successful. We try to hide all of the complexity around issues such as security, role based provisioning, and scalability, and just let them provide great mobile applications to their end users.”

prise sales focus with products that delight the user, building for the end user in SaaS will drive adoption and thus monetization. Products will now see rapid adoption by virtue of being intuitive and dynamic as opposed to being confusing and complex. Customers no longer require you to capture every use case or business need in your product, and they’re willing to forgo considerable flexibility in return for rapid on-boarding, progressive discovery, and context-sensitive help.

Individual employees and mid-level managers can now take out their corporate credit card and expense products, and are becoming direct consumers in the process. The best possible way to land a large enterprise customer is to call up the CIO and say “we’re excited by how much you like our product and we’re happy to note that we now have several hundred users of our product within your corporation. We wondered if you were interested in rolling these into an enterprise license with the administrative dashboard, integration to your other systems, coordinated billing, provisioning and security?” Many cloud companies are doing this with great success.

Although this is finally becoming more widely accepted as a best practice, we must still emphasize the importance of building **a single instance, multi-tenant product, with a single version of code** in production. “Just say no!” to on-premises deployments. Multi-instance, single tenant offerings should only apply to legacy software companies moving to a dedicated hosting model because they don’t have the luxury of an architectural redesign. Of course it is possible to use virtualization to provide multiple instances, but this hybrid strategy will make your engineering team much more expensive and much less nimble. You also want to leverage your core infrastructure as much as possible, even when expanding internationally. This generally means investing early in backup and disaster recovery, but if you’re managing your own datacenter, avoid a second production facility as long as possible (at least past \$2M CMRR).

We’ve also started to see unprecedented levels of developer empowerment within organizations, meaning that PaaS and IaaS vendors that focus on killer offerings for the end developer are being discovered and embraced at fantastic rates. Let the developers make your decisions, and understand that they will be making the decisions for your customers. Build and use clean APIs, and promote your offerings through user conferences, hackathons and developer evangelists to spread the message.



*Jeff Lawson
CEO, Twilio*

“We now enjoy an active community of over 100,000 developers behind a pretty straightforward philosophy: Make a Hero out of your Doers. Empower them to get stuff done by building great products leveraging our communication platform. Make it easy to use, transparently priced, and above all, no shenanigans!”

#3

Death of the suite; long live best-of-breed and even best-of-feature

For most of the last two decades, major software vendors such as SAP, Oracle, PeopleSoft, Microsoft, JDA, and others have pushed the concept of an “integrated” software suite on the market. With Cloud Computing, the pendulum is swinging back forcefully in favor of best-of-breed applications.

The high level message from suite vendors to prospective customers was the idea that purchasing all of your primary business software from a single vendor had significant benefits to the end customer in the form of system interoperability, consistent architecture, common look and feel of applications for end users, and deeper vendor commitment. There was some real appeal in this positioning, and in the 1990’s the client-server applications and infrastructure stacks from these vendors were state-of-the-art, so customers embraced these “integrated” solutions en masse.

Unfortunately however, there were some real downsides associated with selecting a suite strategy, because no single vendor was a leader in every application category. As a result, the customer was often forced to accept second tier applications for many of their business needs. In companies where the finance team drove the evaluation, Oracle was thrust upon other departments which then suffered through weak HR, operations, and CRM. If Human Resources drove the decision, they would buy PeopleSoft (which apparently wasn’t as often, because Oracle won), and if the company was in Germany or deep in manufacturing, then SAP was often the preferred choice. Of course superior best-of-breed options were often available in many of the functional areas, but the suite vendors did their best to spread fear, uncertainty, and doubt (F.U.D.) into the market around these offerings and integrations between systems were often quite painful.

Therefore, for the better part of the last two decades the job of the CTO in major corporations has centered around this complex decision of where and when to use a suite versus best-of-breed solutions. Should they buy a suite, with easier integration but limited functionality, or best-of-breed, with optimal performance but higher integration costs? This decision was made even more complex by the horror stories from many large corporations attempting to integrate large suite offerings across their companies with staggering costs and implementation times. Software licenses frequently ran into the millions of dollars (or tens of millions!), professional services would ultimately be another ~3x the software license costs, and the more you customized and configured the product to fit your needs, the more expensive it would be and the harder it would be to implement the next version. Many companies publicly disclosed spending upwards of \$100M and 5+ years attempting to deploy systems, often cancelling the entire project midway through and throwing it away or trying to unwind the initiative, leaving a trail of fired IT executives along the way.

A large part of the momentum around Cloud Computing today is because IT departments now realize they can avoid



Rob Reid
CEO, Intacct

“With a suite, if the vendor falls behind you are locked into subpar business performance. With best-in-class, if a solution falls behind you can always replace it, and achieve optimal performance. The Cloud allows open and seamless integration so our customers often work with Salesforce.com for CRM, Cornerstone OnDemand for HR, and Eloqua for Marketing and pick Intacct as the very best Finance and Accounting solution available.”

many of these implementation headaches and functionality shortcomings, and instead get the best of both worlds by working with best-of-breed vendors. Cloud Computing provides the opportunity to leverage best-of-breed application offerings, with the standardization and pre-integration of many of the applications and APIs. You can pick the world's best application for every need, every user, and every business case. You can deploy exactly the number of seats you need, where and when you need them.

Since the internet is the common underlying infrastructure, deployments can now be done in days or weeks, and service ratios are a small fraction of the software subscription costs. This means that with Cloud Computing, the pendulum is swinging back to best-of-breed, and away from integrated suites. Better APIs are now allowing users and developers to literally leverage only the best product services, including the ultimate consumerization of software down to the "best-of-feature" level. This fragmentation means more choices and more pricing transparency for end users and application developers alike.

Of course, a handful of vendors are working hard to also create a generation of SaaS suites as well, and some will likely emerge to have success. But for the foreseeable future, these companies won't claim to address all (or even most) of the application needs of an enterprise, but will instead carve out multiple vertical slices for an enterprise and then highlight preferred ecosystem partners to fill the gaps. Workday is having considerable success running a focused version of the "PeopleSoft for SaaS" strategy for very large enterprises, NetSuite has carved out market share in the mid market, and even the narrowly-named Salesforce.com is now responding aggressively by building out several new functional clouds. However it is now easier than ever to compete as a best-of-breed business.

What does this mean for cloud entrepreneurs? The entire software landscape is now open. It's the great land rush. It's noon on April 22, 1889 in Oklahoma and the gun just went off. Now's your chance to plant your flag and claim a valuable plot of land in the software landscape, while the incumbents are giving it away.



Dr. Jonathan Golovin
CEO, Retail Solutions

"The CPG industry is undergoing a massive change as social, mobile, location services and personalization change their ability to interact with shoppers and consumers. The cloud offers our clients the ability to immediately leverage the RSi offerings, to gain business value with focused applications that leverage massive data sets and gain access to the most relevant and up to date information on mobile devices to drive both savings and increased sales."

#4

Grow or Die

In technology, very few things remain constant. As a result, you either grow up to become a dominant company in your category, or get passed by and killed off by someone who does accomplish this goal. Not surprisingly, growth rate is often the biggest driver of valuation multiples in both private and public markets. Investors, employees, and partners aren't buying into your current company as much as they are investing into some future version of your business, and growth rate determines the size of the business, at that future period.

The power of compounding numbers is straightforward but still surprising, when you consider that a \$1M business that grows 100% each year will be a \$1B revenue business within 10 years, whereas the same business growing at 10% per year will reach less than \$2.6M in revenue a decade later. Both growth rates may sound interesting against GDP growth, but in technology, that's the difference between life-changing wealth for a core management team and a wasted decade.

As a senior executive of a cloud business, you will likely want investors to pay you a huge valuation based on current financial metrics, and you will need to convince prospective employees to walk away from rich cash compensation packages from others in exchange for the potential upside of options for your stock. How do you do this? Present a credible plan for capital efficient hyper-growth.



Al Lieb
CEO, ClearSlide

"Growth really is the lifeblood of any startup. If your product can drive increased revenues for your customers, it becomes highly viral. The "Land and Expand" sales model works well for us, because once a few sales reps start closing deals faster with ClearSlide, the rest of their team quickly follows."

For a business growing 300+% a year – as many of our early investments often do – the discussions are much easier because time is an easy variable. Valuation gap? No problem, just wait a few months and the business will grow into it. Even if you make an investment and later believe you are off on "fair" valuation by 50%, all other things being equal, you will still grow through the gap in just over a quarter. Similarly for the entrepreneur, there is massive value in deploying capital and resources of an investor against the plan to get leverage from the investments earlier. If you can bring capital into the business earlier – even if it's at a lower valuation – and steepen the slope of the growth line to get the compounding effects of deploying the capital, then the dilution will quickly pay for itself over time.

Related to high level growth are many more detailed metrics that you'll want to understand including areas of acceleration and deceleration in the business and cohort performance over time. In technology, you're either getting bigger or you're getting smaller. Growth, and ways to efficiently accelerate the rate of growth, should always be top of mind for your entire team.



Aaron Levie
CEO, Box

"At Box, we discovered that the market for cloud-based content management and collaboration was far larger than any of the analysts or existing players had recognized; because cloud solutions are instantly available to businesses of all sizes and all geographies, and new mobile devices and platforms enable every worker to bring technology into the workplace, opportunities today are 10x larger than traditional enterprise software startups. The corollary to this re-sizing, of course, is that you must grow rapidly for a sustained period to win in your market."

#5

Play moneyball in the cloud, and check the scoreboard with the 5 Cs of Cloud Finance

Consumer internet companies like Google and Amazon were built on deep consumer data and analytics. Complex manufacturing businesses like Intel measure production inefficiencies down to the particle level. Elite athletes and sports teams measure performance in excruciating detail to try to highlight areas for improvement and competition from other industries and fields, you have to have a set of metrics in place before you can track and then predictably improve upon them.

Although enterprise software companies have long organized themselves around a clear set of business metrics – including bookings, maintenance & support fees, and revenue – the new software economy of Cloud Computing is just starting to converge on its own set of metrics. After surveying hundreds of leading public and private Cloud Computing companies, 5 key “C” metrics now rise above the others as essential top level performance indicators: CMRR, Cash Flow, CAC, CLTV, and Churn. We recommend EVERY cloud business track and report on these as a starting point, plus additional metrics that are relevant to your teams and functions as appropriate.

1. CMRR, ARR, & ARRR – Committed Monthly Recurring Revenue, Annual Recurring Revenue, and Annual Run Rate Revenue.

Many 1st generation cloud businesses turned to TCV (Total Contract Value) or ACV (Annual Contract Value) as their top level metric as a carry-over from the legacy software world of tracking “bookings.” In the Cloud Computing world, these metrics can be easily manipulated and are often misleading, and therefore we recommend much more focused metrics around the recurring revenue in a normalized time period.

TCV and ACV are flawed for many reasons, most notably with regard to duration and services. For very late stage companies (like Salesforce.com) with standard contract terms and service ratios, these metrics can still be workable, but for highly dynamic private companies they can be highly misleading.

If your renewal rates are strong, then contract duration isn’t a major variable, whereas cash collection and the size of the monthly subscription will massively impact your business (see points on Cash Flow and Churn in the following section). Therefore, a focus on TCV has a tendency to encourage sales professionals to focus on longer term (often multi-year) deals to push up TCV, instead of pushing on the more important elements of monthly subscription value and cash pre-payments. ACV does help to reduce this over-emphasis on duration by just focusing on the first year of the deal, but shares the second major flaw that TCV is also burdened with, which is an over-emphasis on services revenue as part of the “contract value.”

To be very blunt with our perspective: professional services revenue is bad for cloud businesses in most cases. It’s low gross margin revenue that slows down your implementations and can only scale in proportion to your services



Tobias Lütke
CEO, Shopify

“The beautiful thing about running an online business is that you have almost unlimited data about your customers and your business. We have a primary set of metrics, but are then constantly running analyses in areas like churn, CAC, CLTV, and cohort performance to find new insights into the business. In our offices we have big screens hanging everywhere which share these numbers with the entire company.”

headcount. For these and many other reasons, Wall Street investors and your customers hate to see a large mix of services revenue in cloud businesses. You should focus your product development, sales, and client success teams on reducing the implementation friction, time, and cost as much as possible. In most cases, you shouldn't reward your sales team on "contract value" by giving them quota relief and commissions against services revenue.

To address these concerns, many cloud businesses now focus on Monthly Recurring Revenue (MRR), which represent the combined value of all of the recognized recurring subscription revenue on a monthly basis. We recommend companies actually take this a step further and track the forward view of Committed Monthly Recurring Revenue (CMRR) as the primary internal business metric. MRR is a great base metric, but CMRR is more insightful because it includes all MRR, plus signed contracts currently committed and going into production, and minus "churn," which is the MRR that is no longer committed from customers that have turned off the service, or are anticipated to do so in the future.

To prove the point - here are two deal options, which would you pick?

Deal A: 6 month prepaid contract; renews monthly; \$10k monthly subscription; \$10k services. (TCV: \$70k, ACV: \$130k, CMRR: \$10k)

Deal B: 3 year contract; 3 months prepaid; \$5k monthly subscription; \$80k services. (TCV: \$195k, ACV: \$140k, CMRR: \$5k)

Despite lower TCV and ACV, Clouddynamics says you should pick Deal A every time. Deal A will gross ~\$370k of revenue over 3 years, whereas Deal B will only gross ~\$260k. Deal A will also likely be much higher gross margin given the lower services ratio. In fact, there are only two reasons to even consider Deal B and they are related to Churn Risk and Cash Flow, but we also attempt to correct those misconceptions later in this paper. In almost every case, CMRR is the single most effective metric.

For businesses that don't operate with long term contracts – such as PaaS businesses with monthly or consumption based contract terms – "Committed" is the calculated MRR at that instant (as committed to by the CFO, VPS, and CEO combined) based on the current customers in production with their existing consumption levels adjusted for seasonality or known usage trends. This is meant to be the best true baseline number of expected product/subscription/usage revenue for the month, without adding any new customers, upselling any new products, or expanding usage beyond the current footprint, but subtracting out all known churn.

This single metric gives you the purest forward view of the "steady state" revenue of the business based on all the known information today. The monthly focus also tends to drive many positive behavioral changes within a team including a monthly sales and development cadence, better sales compensation plan and cash flow alignment, reduced customer price sensitivity, and heightened awareness around small MRR changes. Many leading cloud companies therefore use CMRR as the basis for everything from the financial model to the sales commission plan. **This is the single most important metric for a cloud business to monitor**, as the change in CMRR provides the clearest visibility into the health of any cloud business.

For external purposes, you will likely want to highlight slightly different versions of these metrics: the Annual Recurring Revenue (ARR) and Annual Run Rate Revenue (ARRR). ARR is simply the currently recognized portion of this

monthly revenue, multiplied by twelve. ARRR is the ARR, plus any non-recurring revenue related to items such as professional services, transactions, and implementations. These external “vanity” metrics can help drive home the run rate scale of your business, especially when used to describe the forward business model. Your current CMRR may be \$1.75M and projected to grow to \$2.17M at year end, so for external audiences you may get maximum impact by summarizing the business plan by saying: “As we exit this year our Annual Run Rate Revenue (ARRR) should cross \$30M, which includes \$26M of Annual Recurring Revenue (ARR).”

2. Cash Flow - Start with Gross Burn Rate and Net Burn Rate, then hopefully turn to Free Cash Flow over time.

CMRR gives you a great sense for the revenue health of the business, but can very often be disconnected from the “cash health” of the business. As any scrappy entrepreneur will tell you, a business will live or die based on its cash management in the early days, and therefore detailed cash metrics are also needed.

Gross and Net Burn Rate (cash flow) metrics are critical for cloud businesses because the working capital requirements are higher and the payment terms are often back end weighted. Gross Burn Rate is all of the expenses paid for in the month including debt and finance charges. Net Burn Rate is simply all cash received during the month minus all the expenses, which nets out to the cash burned in the month. These numbers are obviously lumpy based on the timing of collections and payables, so many companies further refine this by adding a “rolling 3 month average” Burn Rate set of metrics. Cloud businesses typically show significant positive Free Cash Flow (FCF) long before they turn GAAP EBIT positive, so hopefully you will be able to flip your Burn Rate (negative cash flow) metric to a positive one as you grow, and start tracking FCF instead.

By tracking your CMRR and Burn Rate you have a very good sense for the steady-state health of the business. At any point you can divide your monthly Net Burn Rate into your cash balance to understand your “months of runway,” which many of our CEOs monitor routinely. You should always have a variety of insurance plans – which we strongly recommend you discuss as a Board and keep updated – that could include cuts in the business to quickly reach cash flow breakeven. One of the great benefits of these cloud businesses is the recurring nature of the revenue streams, which means that you can very easily model and predict the steps you would need to take to instantly bring the Gross Burn Rate of the business in line with the CMRR, so that you glide into a Net Burn Rate of zero as your working capital catches up. Many of our companies with extremely aggressive growth plans and high burn rates talk openly about their “insurance” or “rip cord” plans, where they can always freeze hiring, slow marketing spend or make targeted cuts if their cost of capital spikes or their sales metrics deteriorate, and still work back to breakeven.

3. CAC – Customer Acquisition Cost Payback Period.

The CAC Payback is a statement in months, of the time to fully pay back your sales and marketing investment. This is worthy of much more detail and therefore broken out further in Law #6 later in this paper.

4. CLTV – Customer Lifetime Value.

Understand your Customer Lifetime Value (CLTV), because a profitable business rests on the shoulders of profitable customers.

CLTV is the net present value of the recurring profit streams of a given customer less the acquisition cost. Part of the attraction of Cloud Computing business models is that once you have repaid the initial Customer Acquisition

Costs (CAC), the cash flow and profit streams from customers can be quite attractive. However, whereas the CAC ratio can at least ensure that you recover your incremental sales and marketing costs on each customer, it still doesn't tell you if these customers are highly profitable over time. To measure this, many customers have modified the consumer internet concept of lifetime value, into a similar cloud CLTV metric.

To simplify the calculation, let's assume that a customer generates \$10,000 of annual recurring revenue for a company with a CAC Payback ratio of 12 months, a 70% Gross Margin and 10% each of R&D and G&A costs. The \$10,000 of revenue will generate \$7,000 of gross margin and \$5,000 of profit each year (\$7,000 less \$1,000 of R&D and \$1,000 of G&A costs). Over 5 years, this customer will generate \$25,000 of profit (5 years x \$5,000/year). A CAC Payback ratio of 12 months means a \$7,000 upfront acquisition cost, making the CLTV equal to $\$25,000 - \$7,000 = \$18,000$. Obviously if the retention period is longer, and/or you benefit from net positive CMRR renewal rates that actually grow your average customer relationship over time, these numbers can be much larger.

For those who may choose to get more analytical, this is equivalent to $(\$18,000/5) = \$3,600$ of annualized profit or 36% profit margin. The calculation can be refined with a better allocation of the S&M costs (the parts used to support current customers) and by discounting the profit streams (in this example, a 15% discount rate would reduce the CLTV to \$12,300 or 25% annualized profit margin). It's also worth noting that for young companies, it may be more of an art than a science to estimate the lifetime of the customer as your churn data is still limited, but we'd conservatively take 3-4 years for SMB customers, and 5-7 years for enterprise customers.

5. Churn & Renewal Rates – Logo Churn, CMRR Churn, and CMRR Renewed.

It's very difficult and expensive to grow subscription businesses if you have moderate customer churn-- and prohibitive if your churn is high. As detailed financial models of CLTV and Free Cash Flow demonstrate, the single biggest driver of long term profitability for your cloud business (and thus valuation) is the renewal rate of your customers.

Whereas the largest legacy enterprise software companies literally made tens of billions of dollars over the last decade with "shelf-ware" projects that never got fully implemented, project failure is not an option for cloud businesses or the customer will simply turn you off, regardless of the contract terms. This is another reason not to overly focus your team on long term contracts, because it creates a false sense of customer lock-in regarding your unhappy customers, and may leave money on the table from lost upsell opportunities with your happiest customers. Over time when you have successfully realized most of the upsell potential of your accounts and have built in deep ties to the account, you may want to push for longer term contracts for predictability (which Wall Street does still value), but this shouldn't come at the expense of CMRR.

Cloud executives need to track renewal rates in detail to capture "logos lost" (lost customers) as well as the percentages of CMRR renewed and lost. The standard approach is three key sub-metrics, all related to this concept of renewal rate:

Logo Churn %: This is a percentage calculation of all your customer names ("logos") that have churned over the measured time period. If you started the year with 500 customers and 460 of them were still paying customers at some level at the end of the year, then you have churn of 40 customers and your annual Logo Churn is 8% (40/500).



Michael Fertik
CEO, Reputation.com

"We are constantly looking at our dashboard of metrics to tune the performance of our business. These metrics give us a common framework as we steadily find ways to reduce CAC and Churn, while increasing CMRR and CLTV."

(Note: As with all renewal metrics, you exclude all new customers signed during the time period. They'll be captured in your next renewal report.)

CMRR Churn %: This is a percentage calculation of all your customer CMRR that has been lost over the measured time period. If you started the year with \$500k of CMRR for your same 500 customers, and the 40 customers that churned represented \$30k of CMRR at the start of the year, then your Base CMRR Churn Rate is 6% annually (\$30k of starting CMRR churned/\$500k of starting CMRR).

CMRR Renewal %: This is a percentage calculation of the total CMRR of your renewed customers at the end of the year, divided by the total CMRR of your existing customers at the beginning of the year. Of your 460 renewed customers, if they have been upsold on new products and grown in their usage of the product during the year to the point where their CMRR equals \$550k in total, then your Total CMRR Renewal Rate is 110% (\$550k end of year CMRR just from customers who were on board at the start of the year/\$500k CMRR of all customers at start of year).

The top performing cloud companies can enjoy annual Logo Churn rates below 7% and CMRR Churn rates below 5% - with most of the churn due to death (bankruptcies) or marriage (acquisitions) - and CMRR Renewal rates well above 110% due to upsells into this installed base.



*Sarah Friar
CFO, Square*

"I've enjoyed working with the Bessemer team for over four years on the 5 C's of cloud finance, back from my days at Goldman Sachs when we utilized some of these CLTV models in our valuation work and at Salesforce.com when we used some of these metrics for our own performance and to evaluate the performance of our acquisitions. I'm a big believer that if it's worth doing, it's worth measuring with a clear set of metrics, and we're embracing many of these same CAC and CLTV concepts at Square as well."

Your specific business is likely to have additional "key" metrics that are worthy of showcasing on the top level executive dashboard, but we have found these five to be pretty universal across the vast majority of cloud businesses. You will find yourself reviewing them at different frequency levels: CMRR, Cash Flow, and Churn tend to be highly dynamic and thus daily or weekly metrics, whereas CAC and CLTV are more strategic and thus longer term in their nature.

Many of our top performing cloud CEOs have modeled their executive team objectives and bonus plans around a subset of these metrics exclusively (typically CMRR growth, Churn, and Cash Flow) and we would encourage you to consider doing the same. As you approach being a public company you will likely chose to keep these metrics internal only and will instead add in "Street Metrics" including GAAP Revenue, Gross Margin, and EBITDA.

Finally, with these metrics in place, use them to drive your rolling financial budgets and forecasts. Although you will likely want to keep your annual "Board Plan" of record locked down for the year, you should get in the habit of revising and sharing your business forecasts monthly or quarterly. Some executives may come to a Q3 meeting and simply publish their second half Board Plan as their forecast, but that suggests the company hasn't learned anything in the 6-9 months since that budget was originally drafted. There may only be slight variations in expenses, CMRR, or cash flows, but get in the habit early of revising forecasts and using that as another way of sharing the positive and negative trends of the business. In return, a collaborative Board of Directors should view the forecasts as rough projections and not overreact to information shared. You don't want your first attempts at forecasting to be as you get ready for your IPO roadshow.



Build the Revenue Engine, and only invest aggressively if you have a short CAC Payback Period

Hyper-growth is the goal of most aggressive cloud CEO's, but how do you know if your sales and marketing investments are ultimately "profitable?" The answer to this question can be found through measuring your Customer Acquisition Costs (CAC) and the CAC Payback Period. When we introduced a similar concept of a CAC Ratio five years ago the response was extremely positive, so we have included it again, but with a significant simplification based on real world feedback from dozens of companies. The CAC Payback Period is now a statement in months, of the time to fully pay back your sales and marketing investment. This single number is the key to determining your level of sales and marketing investment.

$$\text{CAC Payback Period (Months)} = \frac{\text{Total Sales \& Marketing Costs of Prior Quarter}}{\text{New CMRR Added in Prior Quarter} \times \text{Gross Margin\% of the Business}}$$

It can be calculated simply by dividing the sales and marketing costs of the previous time period (typically a month or a quarter) excluding any account management costs attributed to your "farmer" organization, divided by the new CMRR gross margin added during the same time period (forget the effect of churn and upsells for now).

$$11 \text{ Months} = \frac{\$770,000}{\$100,000 \times 70\%}$$

As an example, if your company added \$100k of CMRR in a quarter with 70% gross margins, the denominator would be \$70k. If your fully burdened quarterly sales and marketing costs were \$770k then that would be the numerator. The CAC Payback Period would equal an encouraging 11 months.

For SMB customers with higher churn rates and thus shorter monetization windows, CAC Payback Periods of 6-18 months are typically needed, whereas enterprise businesses with high upsells and long retention periods may be able to subsidize payback periods of 24-36 months in some cases. A CAC Payback Period of 36+ months is typically a cause for concern and suggests you may want to slam on the brakes until you can improve sales efficiency, whereas a Payback Period of under 6 months means you should invest more money immediately and step on the gas (and please call Bessemer immediately because we want to fund you!) as your customers are likely very profitable within the first year.

It's also worth noting that many companies also chose to track a dollar based average CAC per customer, yielding conclusions such as "last quarter our Customer Acquisition Cost was \$12,500 in the SMB space and \$45,000 in the mid market." The CAC Payback Period and customer averages typically work very well for growth stage businesses, but for earlier stage businesses you likely also need to use some rules of thumb around sales rep performance because it can be very difficult to isolate the financial impact when including executive team involvement and early friendly customers.

Freemium or heavy “land and expand” businesses may also find that just measuring the CAC Payback of their initial deals understates the leverage in their model. In those cases you may choose to do a blended CAC and include upsell MRR as well as account management costs in the formula, or focus on the medium-term value of the customer contracts rather than just the initial subscription amount, by including all CMRR growth and all sales and marketing costs including account management.

Years ago, Bessemer was fortunate to invest behind Mark Leslie at Veritas, and as a result our firm became big believers in the Sales Learning Curve (SLC), a concept Mark helped pioneer. The core concept is that software organizations often fail because they staff up their sales efforts too quickly, before the sales model has been refined. This concept is even more critical for cloud businesses, given the large upfront investment required to acquire customers. Ramping up too quickly will burn precious cash reserve and may fool the product team into missing some critical elements of the real product market fit that will be important to go big over time. This typically means you should hire sales reps slowly up front, only focus on your core geography until your business starts to scale considerably, and separate your “hunters” and “farmers” as you start to ramp.

For an enterprise-oriented direct sales business, it typically takes at least \$300,000 CMRR to climb the Sales Learning Curve. You should tune your model before you scale, which typically means stopping at three field sales reps until you hit at least \$300,000 CMRR or at least two of your reps are making their ~\$100,000 CMRR quotas. For companies with hybrid inside sales models or freemium offerings, the quotas can be lower but the attainment hurdles are similar. You know you can profitably scale sales when a couple of sales reps are at an annualized run rate to sign annual contract values (CMRR x 12 months) equal to twice their fully-burdened cost of sales. In this case, fully-burdened is not just the salary, bonus, and benefits of the sales rep, but also allocations for sales engineering support, executive support, marketing expense, and professional service expenses associated with securing the customer.



Russell Glass
CEO, Bizo

“As an online B2B marketing business, sales and marketing efficiency is our lifeblood. We have to be able to justify the ROI on each incremental marketing dollar our customers spend with us, so the performance metrics are very important. We have also managed to run the business near cashflow breakeven since the very early days, so every new sales hire is expected to return a multiple back to the business.”

For a direct, enterprise sales business model, these thresholds are likely to be around \$80,000-100,000 CMRR (approx. \$1-1.2M annualized), and for tele-sales models, this may scale down to \$60,000-75,000 MRR (\$720,000-900,000 annualized). It is usually time to accelerate sales hiring when at least two out of three sales reps are hitting quotas at these numbers, and the business has achieved some scale to suggest that the processes are repeatable- at least \$300,000 of CMRR. The “repeatable” aspect is critical: too often companies scale their sales forces aggressively after their first senior rep is getting traction in the market and then quickly realize that the new hires struggle to sign their first deal because they don’t have three VP’s and the CEO alongside them.

You should also separate your “hunters” and “farmers” and pay them all on CMRR growth. As soon as you have climbed the Sales Learning Curve and have a sizeable customer base, you should supplement your sales force with renewal-oriented account managers. When a cloud company starts to hit the sales inflection point, it is important to keep the new business reps (the “hunters”) busy with finding new deals, while a team of account managers (the “farmers”) tends to the established customers. The new account team should be paid on new CMRR with a standard deal structure (such as a one

year deal, with quarterly pre-payments), and incentives for more favorable cash flow terms (such as multi-year pre-payments). You should think of account management as a sales function, and that group should be compensated in a similar fashion – but modeled on your CMRR and churn assumptions instead of a new CMRR sales quota. You’ll typically find that the compensation plans are weighted more heavily to base (~75-80%) with less bonus upside, whereas standard “hunter” compensation plans are typically 50% base and 50% commission at quota.

To create a repeatable sales process, focus is also critical, which typically means that you should restrict yourself to your core market. If you’re based in North America with a direct sales model (in person and/or tele-sales), prove your business in North America first. Channels are hard in Cloud Computing in general, and if you can’t sell it yourself then it’s unlikely others will be able to sell it more effectively for you. Only after reaching \$1M in CMRR should you invest heavily in channels or international expansion. If you’re a freemium business or enjoy viral adoption more broadly, you may want to consider regional marketing and/or support resources in other regions earlier in the life of your business, but avoid becoming over extended before nailing your home markets. You can think of this as a “bowling pin” strategy on a geographic basis, or good military strategy by avoiding concurrent wars on multiple fronts; it’s also good business strategy for Cloud Computing.

Finally, do not confuse any of this with a message to build your business slowly or to under-invest in sales or marketing. In fact, it’s quite the opposite. The 5 C’s of Cloud Finance and the Sales Learning Curve are tools to help you know when and how to invest aggressively to maximize the business’ long term value creation with the least dilution for you as the executive team. If the metrics are strong, you will be able to finance the business at very attractive terms. You will actually be destroying value if you don’t invest behind success when the ROI is strong.



Make online sales and marketing a core competency

You’re a cloud business, so by definition, your sales prospects are all online. Savvy online sales and marketing is a core competency (sometimes the only one) of every successful cloud business.

Numerous studies show that your customers are now doing most of their primary research online, and this should not surprise you. As a consumer, you wouldn’t imagine buying a car, making an offer on a home, planning a vacation, or completing other large purchases without doing some research online. The same is now true for executives at your target customers. You should therefore be aggressive in marketing to them online.

This is a clear example where business-to-business (B2B) marketers need to learn from their business-to-consumer (B2C) counterparts. The most innovative B2C companies



Amir Ashkenazi
CEO, Adap.tv

“We’re still in the very early days of the online advertising revolution and the flood of dollars continue to move to online display, video, mobile, and social at rapid rates. Your prospects are online, so your marketing and sales efforts should be as well.”



Joe Payne
CEO, Eloqua
(NASDAQ:ELOQ)

"More and more of the modern buying process is happening before an actual conversation with a sales rep ever takes place. Modern marketing is increasingly about Revenue Performance Management, and reading the digital body language of your prospects, often before they even reveal themselves."

are lead generation machines, leveraging social media marketing, search engine optimization (SEO), viral marketing, search engine marketing (SEM), email marketing, and other technically-advanced methods. Yet many B2B companies don't have a clue. The incumbent technology leaders like IBM, Oracle, and SAP have done very little in online marketing, and thus have given their smaller challengers a huge opportunity. Whether they use an automated product like Eloqua or a team of marketing analysts and spreadsheets, online marketing and demand generation is a "must have" for cloud companies.

In this new era, the creative elements of marketing are becoming secondary and quant jocks and analytical wizards are starting to take over the CMO and VP Marketing positions. At the marketing executive's fingertips should be detailed reports showing pipeline sources, costs per lead, funnel conversion rates by stage, costs per acquisition by source and campaign, effectiveness by channel, and so on. If you are the CEO or a Board member, you should review these reports closely and make them the basis for assessing marketing effectiveness and performance.

The most advanced marketing executives are also starting to embrace social media and to do multimodal attribution analyses. Customer and prospect conversations are no longer defined by website text, email messages, and sales discussions. Twitter, Facebook, LinkedIn, Pinterest, blogs, and dozens of other social media tools constantly facilitate discussions about your market, your competitors, and likely your company and product. You need to get into position to monitor and help define these discussions, and the savviest marketing teams will use this to their considerable advantage.

A strong head of online marketing will also be able to give you detailed demand generation forecasts based on different budget levels. It's important to understand the natural limits of organic traffic as well as the slope of the supply curve for each of your various paid lead sources. Your blended cost per lead may be very attractive, but if a large portion is organic/free traffic and your marginal cost of an incremental paid lead is quite high, then you may not be able to scale marketing spend in an efficient manner. If SEM is a lead source, you should study the quantity and pricing of your main keywords and do burst testing to validate the assumptions before dramatically increasing budgets. If these data are good, highlight them to your prospective investors. We love to find businesses with 6 month CAC paybacks and the capacity to absorb 10x more marketing spending. If it's bad, you don't need to highlight it – but you better understand those limits and how you can address them over time.



Jeff Zwelling
CEO, Convertro

"The Cloud Computing world is just starting to apply the lessons learned from the consumer internet market and really change the game through aggressive online lead generation. Proper channel attribution is critical to optimizing the right mix for your online marketing spend."

On the softer side of marketing, it's grade school all over again and you want your company to run with the cool kids. Ecosystem matters now more than ever, and the right partnerships can really elevate your company and your brand through positive associations. Try to align yourself with the best-of-breed leader in each of the adjacent segments to you and partner with them, host hackathons together, use each others' products, and cross promote as much as possible. However, don't overthink the relationships and try to force channel deals too early in the life of your company. Informal co-selling and referral deals are much less effort and typically result in equal effectiveness in the early stages. Therefore, it is still the case that most cloud businesses have to be comfortable with the fact that they will live or die by their ability to sell directly.

#8

The most important part of Software-as-a-Service isn't "Software" it's "Service"

The only acceptable reason to lose a customer is death (bankruptcy) or marriage (acquisition). Every cloud company is in the service business, and therefore your customer service can be the difference between failure (churn)

and huge success via high retention and upsells. Reliable delivery of your core service is a necessary but not sufficient condition for delighted customers. How you handle yourself in challenging or unique situations will truly define how they view you as a partner and a vendor.



Todd Davis
CEO, LifeLock
(NYSE:LOCK)

"Our business is all about trust and protecting your personal identity. We proactively monitor our member's identities. If you are a LifeLock member and your identity is ever stolen, we are there to help and provide the support you need for your recovery."

On the positive side, when they experience a massive business spike are you able to handle it flawlessly and without interruption or hiccups? When your customers launch new products or enjoy huge spikes in demand, are you able to stay at least one step ahead of them at all points? Unfortunately, there are also disaster scenarios to watch out for, such as system bottlenecks that weren't properly load tested. There are painful examples where a customer received national TV coverage and experienced a flood of customer interest, only to have one key component of the customer facing system collapse under the load. Even business processes can break down, as we have seen with fatal examples of cloud companies actually intentionally capping the usage of their customers during these periods of hyper growth for fear of fraud, payables exposure, or system abuse. Simple communication can usually quickly solve these problems, but account management and support processes without proper escalation protocols can often amplify these breakdowns, and result in immediate account churn and vocal ex-customer detractors in the market.

There are also service events that are significant negative events for you and your customers, but can be turned into positives if handled correctly. Outages are the most notable, but bumpy product upgrades, faulty product configurations, and weak



*Jim Franklin
CEO, SendGrid*

"One of the things we do right is offer 24/7 support - even if you're not a SendGrid customer. We just feel it's the best way to help companies in a bind. Whether their email infrastructure is falling over or they are struggling with deliverability, we are here to help without obligation. The level of trust this creates is incredible and has been a key ingredient of our success."

integrations can all create similar issues. Amazon Web Services (AWS) is a fantastic IaaS platform, but has experienced several very public outages in its availability zones with very direct impact on customers.

When some of the AWS availability zones failed for four days in April 2011, hundreds of very visible web companies ranging from Reddit to *The New York Times* were taken down entirely. Yet many AWS clients on these same availability zones – including Netflix, Twilio, Bizo, and SmugMug – were relatively unaffected because they had designed around the AWS architectural shortcomings with added controls in their own products.

Hundreds of articles have now been written on this single outage and the different ways companies handled the issue (just google “high scalability aws outage big list”), and the important thing is to realize that each crisis is also an opportunity. Several sites that were taken down by the outage appeared frozen and confused, and provided almost no communication or transparency back to their users. As a

result they endured thousands of negative emails, tweets, and comments during the painful down days, and lost significant customer loyalty in the process. In contrast, the most advanced of the sites that were down during this period became very transparent with their customers/users about the issues and timelines, and in many cases, actually created workarounds that allowed them to bring their sites and systems back online in other AWS zones or on other platforms, long before AWS themselves had fixed the issues.

Even more impressive, however, were the sites like Twilio that had anticipated the issues and stayed up, and then went on to publish a blog post and take press calls to share their learnings and explain the best practices to others. This not only helped to build significant credibility with their enterprise customers, but also helped attract even more smart developers who were like-minded. Salesforce.com responded to their own outage issues with an entire customer portal on www.trust.salesforce.com that is a model for late stage companies to follow, and simple, transparent and honest communication with your customers in the early stages is enough to work magic.

It's common knowledge in the cloud world, but still important to mention that these “silver lining” opportunities seldom exist in the case of data loss or leakage. It is essential that cloud companies treat backup, disaster recovery, and security as a priority. System or security failures that result in a loss of customer data, will very often be fatal to the relationship and in extreme cases, to your company. How you handle these business challenges can either further endear you to your customers or send them running into the arms of your competitors.

In terms of business and team management, as the “service” functions of your company continue to grow, you will likely want to (need to) separate client success, account management, and professional services.

Client success is the front line of customer support, and should be focused on resolving customer issues and driving broad adoption and happy users. Account management is tasked with managing the ongoing sales part of the relationship, including renewals, upsells, and expansion. These are the “farmers” in your organization who are sales executives at their core, but longer term relationship thinkers who will invest in the long term goals and objectives of your customers over time and help them use your products to get there. Professional services groups are getting smaller in modern cloud companies – and even non-existent in some – but can still play a vital role in customer onboarding, configurations, and integrations when needed. The goals and objectives of these three functions are very different, and the skill sets of the top performers in these functions are typically very different, so it is likely a cloud company will want to split these functions out into 2 or 3 different organizational groups as you scale from 50 to 100+ people and can afford to hire specialists.

Each of these functions should work with the technical team to enable proactive monitoring of the product for likely churn or upsell opportunities. You can easily check who logs into your product, how often, what they do inside the product, and what results they achieved. So now you need to track the key usage metrics and measures, and create internal dashboards to know which customers are getting the most value (potential upsell candidates) and which are likely to churn (time to intervene proactively). As you get more insight into the issues, you may want to consider techniques like expanded online training or even unlimited subscription-based training (as many leading SaaS companies are now doing) to drive adoption and awareness. Cloud businesses can also learn from their consumer internet peers, by taking advantage of their web application architecture to analyze detailed customer usage data, use a/b test variations, iterate on small details of a page or a feature, and evolve the product each and every day.

Given the growth of Employee Software and the fact that many customer orders are starting very small and growing very large over time, you may find that upsells from account management become more critical to your long term business model than the initial sale itself.

If, after all your efforts to satisfy the customer, you find that you still face a churn situation and they want to transition off your product, recognize that it doesn't need to be binary. Some of our most creative SaaS portfolio companies have started offering archiving services for their customers where they offer a very limited use (typically read only), single user license at ~20% of the prior MRR. This offering has many positive results often including ongoing high margin revenue for the company, a slower migration plan due to the lack of a hard cutover date, an easier migration path back if the customer ultimately regrets their decision to churn, and higher satisfaction among former customers as well as current customers.



Culture is key as you build your dream team

Bessemer has enjoyed the privilege of backing hundreds of companies throughout our rich history, and the one single determinant of success above all else is the quality of the team and how well they work together. This not only applies at the early stages when we may first get to work with a founding team, but also to the extended team that they hire as the company grows. Success as a private company is all about navigating evolving markets and complex partner, customer, and competitive dynamics. Therefore we cannot emphasize enough how important it is for you to hire superstar talent at every level and for every position. With this in mind, it is also encouraged to reject candidates for the reason of “not a cultural fit.” Oracle, Google, and Apple are all great companies, but with very different cultures. They all enjoyed success due to their ability to hire specific employees that could be successful in those organizations. Not surprisingly, we often hear our companies talk specifically about the companies they want to target for candidates based on having similar corporate cultures, and ones they intend to avoid.

In terms of the other elements of talent management, three personality traits that we see our best CEO’s repeatedly screen for are: 1) a clear pattern of success 2) a will to win and 3) self critical and accepting of failure. In terms of success, it often doesn’t matter as much where the candidate is coming from previously as that they have been a part of success. This often includes the obvious (Salesforce.com, VMWare, etc.) but increasingly includes success in other industries or fields such as Google, NASA, Cal, sports, or the military.

The second element is all about personality and drive. Startups require a special breed of talent that wants to tackle the hardest problems with very limited resources, and have fun in the process. It’s a “run through walls,” “take the hills,” and “will to win” drive that is tough to teach and tough to fake, but is magic when present in talented employees. The third element is humility to admit mistakes, accept input, and change direction, because startup executives will face failure many times along the path to success.

Talent management isn’t just at the point of hire, but is ongoing. Most people agree that “A players” hire “A players,” and 5 excellent engineers can beat a really good team of 50. Yet many still compromise. We let that marginal person stick around, because we figure having someone in the job is better than having no one. Most of us have been tired of the long search so we decide to settle for the best candidate we’ve met, or let an exec hide an under-performer on his or her team because he’s liked by everyone and tries hard. Read Jack Welch’s book, look at the data from Cornerstone OnDemand, or talk to a CEO who has ever had to do a layoff, and they’ll all tell you that firing the bottom 10% of the company will actually make you stronger and increase your output. Tech markets are very efficient with talent and small companies don’t allow really weak performers to hide for long, but the same principles apply.



Keith Krach
CEO, DocuSign

“Building a world class high performance team is my favorite part of being a CEO – and my most important role as a leader. The company with the best people wins. Creating a lasting, high-growth company requires that we surround ourselves with people better than us, align our team to an inspiring vision, and constantly raise the standard so we keep getting better and better.”



*Anne Berkowitch
CEO, Select Minds*

“Team building is a critical part of our company, as well as our product. Culture is central to recruiting - particularly in driving referrals - and can even be powerful when looking to rehire past employees from your alumni network.”

Similarly, everyone involved with the company is part of the extended team. You should approach adding an advisor, a BOD member, or an investor with the same rigor that you do other members of your core executive staff. Ask questions and check references to make sure the person is going to bring real expertise to the discussion, relationships and perspective that are additive, and a style that is a strong fit with the team. Of course economics are always a part of these decisions as well, but focus on the person first and then making sure it’s a “fair” deal. You aren’t going to build a dominant company by selecting second tier executives and advisors in order to save money on their compensation packages, or by selecting second tier investors for a little less dilution.

For young and/or first time CEO’s, one of the most powerful things you can do to add experience to the management team is to mix in experienced external hires with young and aggressive startup operators. The extreme examples of this are 20-something founders like Mark Zuckerberg at Facebook and Aaron Levie at Box who have both done a fantastic job of hiring extremely experienced executives while still preserving the energy and culture of a hot startup.

Team is the single most important factor in determining whether or not we want to invest in a company, because our history shows that it’s the single most important determinant of company success.

#10

Cash is (still) king – Clondonomics requires that you focus on cash flow above operating profits, and plan your fuel stops very carefully



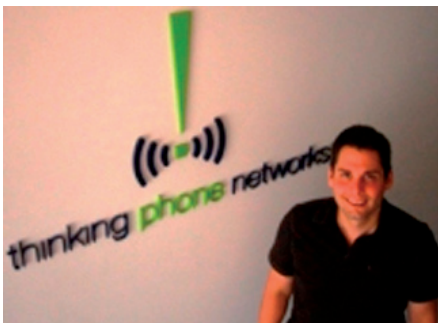
Greg Becker
CEO, Silicon Valley Bank

"We believe we're still in the early days of the Cloud Computing revolution, and are eager to bank the future leaders of this next wave. We are big supporters of Bessemer's cloud metrics and laws, and have actually developed specialized lending products designed around them. We have already loaned tens of millions of dollars to Bessemer companies behind these metrics, often in cases where other banks couldn't be competitive because they still focused on legacy software metrics."

The cash flow characteristics of a cloud business are wonderful in the long term, but can be lousy in the short term. Cloud companies require you to fund research, development, sales and marketing up front in return for a multi-year stream of revenue. This typically demands enough investment capital (over stages) to fund 4+ years of runway before a company can achieve positive cash flow (GAAP profit is even longer). Imagine you are flying a private plane from Silicon Valley to Wall Street (which sometimes is the figurative or literal goal), and you need to stop a couple of times for fuel (investment capital) for the trip. It is critically important that you plan your equity and debt financing events in advance to maximize value and minimize dilution.

Understanding the cash flows of your business – including Gross and Net Burn Rate – is critical to survival in the early days and critical to your dominance in the long term. There have been many promising cloud startups that stepped on the gas too early and were wiped out as a result. Always model the business with a comfortable cash cushion and recognize that most cloud businesses paradoxically consume more short-term cash as growth accelerates. As a business, it is critical to weigh forward investments carefully. Cloud businesses typically require multiple rounds of investment and a good amount of capital. For example, it took \$126M for NetSuite to go public, \$61M for Salesforce.com, \$41M for Eloqua, and \$45M for Cornerstone OnDemand.

We are now seeing a second generation of cloud businesses that have the potential to be more efficient than many of their predecessors by leveraging Platform-as-a-Service (PaaS) and Infrastructure-as-a-Service (IaaS) to out-source more and shift many startup costs to variable models. However, even in most of these cases, significant



Steven Kokinos
CEO, ThinkingPhones

"We were able to grow ThinkingPhones into a profitable business off of some very modest friends and family capital years ago. However, our CAC and CLTV metrics were good and our market is massive, so we decided to raise money from Bessemer to really lean into the business to seize the full opportunity."

capital will still be required to build a dominant cloud business. If you plan these stages thoughtfully, you will be able to minimize dilution by progressively decreasing your cost of capital, mixing seed capital with venture capital and possibly debt before attracting public market investors. With the increased sophistication of debt and equity providers in the cloud space, we are now seeing multiples of CMRR (and similar subscription measures) as the primary valuation metric.

It is worth noting that many businesses are not natural candidates for venture capital and should look to other sources of capital for early funding. Friends, family members, former co-workers, and strategic partners are all time-tested pools of friendly startup capital. Venture capital firms can be extremely valuable as partners in your business, but are really only a fit for opportunities where the team is “swinging big” and have the potential to be billion dollar businesses at some point.

Although we place a great emphasis on the risk of underestimating the cash cushion needed to build a large cloud business, another great risk is that of *underinvestment* in the business. Trust your metrics and your dashboard and invest behind success. If your cloud metrics show strength and your unit economics are meaningfully positive, then it would actually be irresponsible to not invest aggressively in growth. The Cloud Computing market is no longer a secret and the competitive dynamics continue to heat up quickly. If customers love your product and the financials make sense – it’s time to run after the opportunity aggressively to grab the full market potential, or someone else will!

If this sounds like your business, please reach out to us at Bessemer as we’d love to be your partner and join you for the path ahead.



Adam Miller
CEO, Cornerstone
OnDemand
(NASDAQ:CSOD)

“In the early days, our company was literally financed on our personal credit cards so I tracked our cash position on a daily basis. Bringing on Bessemer as an investor allowed us to then accelerate our business and take it to the next level. But even to this day as a \$1B+ public company, old habits die hard; cash is still king.”

BONUS

You can ignore one or two of these rules, but no more. Great companies innovate, but pick your battles!

You might be reading this and saying to yourself, “But wait – we’ve got a great channel partner that is going to take us to the moon!” or “I took an early chance in Europe and it’s now driving the majority of growth for my entire business.” To which we would say “good for you.” Nothing is absolute, and we certainly believe it is possible to ignore one or two of these core tenets and still succeed. In fact, several of the companies we have worked with have also chosen to break one of these laws at some point in their lifecycles with success.

If you find yourself questioning several of these 10 Laws however, it’s probably time to step back and take a hard look at your business. As former Cloud CEOs and investors ourselves, we have learned the hard way that much of the battle is just learning from the mistakes of those who went before us. In our analysis of hundreds of cloud businesses, we encountered several successful companies that were on the borderline with one or two of these laws, but none that successfully challenged several of them.

We hope that you can benefit from some of these best practices we’ve learned through the years and these “laws” can help you run your cloud business more effectively. If you have thoughts, edits, or additions, please send them over to cloudvc@bvp.com as we always welcome new input!



Larry Ellison*
CEO, Oracle
(NASDAQ:ORCL)

“I thought the cloud was just water vapor until I read Bessemer’s 10 Laws of Cloud Computing. I now realize that I may have been insensitive and a bit closed-minded in my criticisms. Armed with this secret playbook, I can now destroy SAP’s entire legacy software business with a single press of a button from my island fortress in Hawaii, while still surfing Pinterest with my left hand.”

**[Ok, we made that one up. But he might be thinking it!]*

The Ask

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