Software-as-a-Service Success
The Top Ten Dos and Don’ts of SaaS

The Top Ten Dos of SaaS Success

1. Choose a Large Market
There are many roadblocks that can get in the way of building a successful software-as-a-service business, but one that can kill your prospects before you even get off the starting block is the size of your available target market. In SaaS, volume is king!

In the long run, profitability is achieved only when the business delivers on the promise of lower total cost of ownership (TCO) with sufficiently large customer volume to cover high infrastructure fixed costs with low margin, cheap subscriptions.

\[ \text{profit} = \text{volume} \times (\text{subscription price} - \text{variable costs [acquisition, support, etc]}) - \text{fixed cost} \]

Don’t write a single line of code before asking this question: “Is my market really big enough?” You would be surprised at the number of vendors jumping on the SaaS bandwagon without a real handle on the size of the market they hope to capture, or the impact market size will have on their ability to deliver their service profitably.

In the short run, you will need to achieve a strong growth trajectory while keeping acquisition costs in check. The best way to do this is to cherry pick your customers, focusing only on those that have the highest need and are the easiest to reach. Given that most of the Global Fortune 1000 IT departments are still trying to swallow the alphabet soup of enterprise software they have purchased over the last twenty years (ERP, CRM, BI, RDBMS, WMS, RFID, ASP, .NET, J2EE, etc.), you are unlikely to make much headway with this group as early adopters without a very compelling value proposition. For this reason, most B2B SaaS vendors have been honing in on the small to medium-sized business market (SMBs) and small, independent departments within larger companies. However, SMBs do not comprise a uniform market by any measure, as both need and requirements can vary dramatically across SMB segments.

Perhaps you aspire to launch an altogether new killer application—something really Web 2.0. Even in this case, it is critical that your target market be accessible and the unmet need be very strong to ensure rapid adoption. If your audience is too hard to reach or they are just not interested enough to take action, then your available market may be too small to achieve your growth and profitability goals even when your potential market appears gigantic.
2. Create a Hub on the Web

Software-as-a-service providers are by definition Web publishers. Traditional Web publishers, whether their business is news, games, e-commerce, or a simple blog, are obsessed with increasing site traffic and converting it to registered users. On the Web, there is one and only one source of site traffic: links.

Links from search results, links from search ads, links from banner ads, links from websites, links from blogs, links from feeds, links from widgets, links from bookmarks, links from toolbars—links, links, links. If you want to drive traffic to your site, then you must become a nexus of incoming, high quality links from sources that are relevant to your business, and most importantly relevant to your prospects’ needs. There is nothing else as cheap or as effective at generating online demand.

Clicking on a link is often the first step in the online purchase process. Understanding and improving your Web presence is as important as improving your sales pipeline close ratios (more important if you are a startup), because you have to get the leads in order to close them. What is your link strategy?

Links come in two categories: paid/transient and free/permanent. The more free links you have, the fewer paid links you need. Most SaaS vendors instinctively turn to paid search (SEM) to generate site traffic. They also apply search engine optimization (SEO) techniques to refine the keywords on their websites, but only obscure keywords are useful without high PageRank, and high PageRank requires (that’s right, you guessed it) links.

Link opportunities abound and arise naturally from your online business, but you have to be conscious of their critical importance to capitalize on them. What Web properties, be they commerce or community, form the basis of your potential online network? Make a list. On the commerce side, it might include search engines, trade publications, events, associations, directories, and even your own product. On the community side, the list might include customers, partners, investors, employees, colleagues, blogs, widgets, social networks and media sharing sites. Once you have the list, make a plan. Reach out in a manner that generates content and conversation that will be of interest to your prospects, and provides that essential call to action—a link.

3. Accelerate Organic Growth

Succeeding in software-as-a-service requires a paradigm shift from push to pull revenue generation. Lower annual subscription revenue per customer and much lower cash up front create intense pressure to decrease average customer acquisition cost. This fact implies an unpleasant loss of control over the sales process and a commensurate need to focus more keenly on facilitating purchase over hard selling.

With the customer firmly in control, the role of sales and marketing switches from chemist to catalyst—from driving revenue to accelerating organic growth. Accelerating organic growth means stimulating demand and facilitating purchase by understanding and leveraging your prospect’s natural buying behavior. SaaS business managers should continually ask themselves the simple question: “How can I
get more prospects to find my product, evaluate my product and buy my product over the Web even if no one shows up for work in the morning?”

The secret enabling organic growth is to eliminate purchase barriers and to respond on-demand with the information necessary to motivate the prospect to take the next step in the buying process. Being at the right place at the right time requires up-front investment in so-called free marketing tactics, e.g., SEO, public relations, blogging, social marketing, video, automated nurturing, newsletters, case studies, interactive demos, product trial, etc., so that content is ready and waiting to be served up when needed. In reality these activities are not free; they are simply free at the time of use, shifting the economics of revenue generation from direct, variable sales and marketing costs to indirect, fixed costs. In fact, this characteristic provides a convenient economic definition of organic growth:

\[
\text{organic growth} = \text{revenue generated with (near) zero marginal acquisition cost}
\]

No advertising, no outbound marketing campaigns, no sales calls, no technical inquiries, and no manual order processing. This financial viewpoint clearly highlights the primary benefit of accelerating organic growth: operating leverage. Increasing organic revenue decreases the average acquisition cost per deal and increases overall profitability. Moreover, accelerating organic growth and lowering marginal acquisition cost systematically expands your available market by allowing you to sell profitably on the outer reaches of the long tail.

4. Craft a Compelling Story
In his book All Marketers are Liars, Seth Godin asserts that people don’t buy products, they buy stories. Stories they tell themselves to rationalize the decision to buy, and stories they tell themselves after to feel good about their actions. There are few things scarier to a marketer than relying on organic growth and word-of-mouth to drive demand and inbound leads. Telling a great story is one of the few elements of online demand generation over which you can truly exercise a great deal of control. This opportunity should not be squandered. Great stories should be the foundation of your online marketing plan, because on the Web you have a) even less time to get people’s attention, b) tons of low cost, cool multi-media options to deliver your story and c) built-in automation to spread your content virally provided that it is genuinely interesting and entertaining. And, if you want your message to stick and fuel offline word-of-mouth once your prospect has closed her browser, it had better be a memorable one.

You might think that in this era of search ad headlines with 25 character limits that telling a story with many variations and nuances is both hard and irrelevant, but this is not true. Great stories have legs and can be recast, repurposed, reinterpreted and remembered—all while returning to a common theme that forms the essence of your brand. It is worth emphasizing here that your stories need to be great, not just good, and definitely not just good enough. Two strong examples from completely opposite ends of the Internet spectrum are Salesforce.com and Twitter. Both stories begin with a really simple idea “No software” and “What are you doing?” respectively. But, the variations on these simple themes are endless. For Twitter, the story unwinds like a fractal into an incredibly detailed tapestry spun by its
own community of users all tweeting away about what they are doing. In the case of Salesforce.com, the story was crafted and delivered with the consistency and skill of a presidential campaign directed squarely at the incumbent, enterprise software.

If you want to generate organic demand, site traffic and leads. If you want to create viral video that will get millions of hits on YouTube. Start by crafting a great story and the rest will follow with a lot less work and machination.

5. Build the Business into the Product

Because B2B SaaS roots lay in office and enterprise software, which have traditionally been delivered on a CD, i.e., like any offline commodity that is physically separate from the business itself, the opportunity to change the game by building your business into the product is one of the most overlooked by SaaS vendors. When you move your software product online into a software-as-a-service delivery model, it enables you to connect the product directly to your customers out on the Web and directly to your internal systems across your firewall, thus allowing you to reengineer your fundamental business processes by building them out from your product.

A great role model for building the business into the product is one of the earliest Internet success stories: Amazon.com. Although most of what you can buy at Amazon is a physical product, the fact that it gets shipped to you is almost an afterthought—you could achieve the same purpose by ordering through a direct mail catalog. What you are really buying when you shop at Amazon is convenience and credibility, and these benefits derive from features of Amazon’s software-as-a-service: Amazon.com. The features include affiliate referrals, product search, offers, recommendations, one-click checkout, order management, support and nurturing. More specifically, Amazon.com automation facilitates the purchase process. Amazon’s affiliate programs spread points of entry (links!) all over the Web, and when you reach Amazon.com, you are naturally led through every stage of the purchase cycle. As a Web-based business, you have the same opportunity to facilitate purchase, service, support, etc. through automation that you build out from your product—driving up revenue, and driving down costs.

Chances are that your business is different from Amazon’s in some fundamental ways, e.g., target customers, product complexity, community involvement, etc. and you will need to tailor your approach to your market. However, the study of other successful Web businesses regardless of their nature offers powerful analogies that you can apply to your own business. For example, crowd-sourcing has become a very popular approach to international translations, but Amazon was building automation to crowd-sourcing the decision stage of the book purchase process ten years ago by encouraging customers to create reviews and top ten lists.

6. Reach across the Firewall

Anyone old enough to remember the reengineering craze of the early nineties may recall that this was a monumental shift in thinking about how to apply new technology to business centered on redesigning business processes for order-of-magnitude gains in productivity. The basic ideas were codified in the
book: Reengineering the Corporation by Michael Hammer and James Champy. Brainstorming and out-of-the-box thinking were the order of the day, because creativity was the key ingredient to realizing the potential gains. However, creativity has not been the mantra of the SaaS revolution, the mantra of SaaS has been lowering TCO (total cost of ownership). Basically, take what is already done, make it multi-tenant, deliver it over the Web, aggregate customers and offer it for less. While this is a great business proposition for customers, it places SaaS vendors squarely into highly-competitive, price-sensitive commodity markets.

If you want to differentiate your offering, you must look beyond the client-server application that you are replacing and enable order of magnitude productivity gains in core business processes by connecting your SaaS offering to the rest of the Web. These opportunities tend to arise less from internal processes (the traditional realm of enterprise software), than they do from internal-external and purely-external processes. While 90’s style reengineering was about employee productivity gains, SaaS and cloud-based reengineering will center on order of magnitude productivity gains in prospect, customer, partner, community, and computer-to-computer interaction derived from integration, network effects, user-generated content, and on-demand processing and data.

The poster child for this concept is Google AdWords, easily the most successful B2B application on the Web. Google AdWords is rarely classified as a software-as-a-service, because it doesn’t look like a traditional enterprise client-server application, such as CRM or ERP. However, it completely revolutionized the core business process of demand generation for many companies by reaching across the firewall. In this sense, it is no different from an on-demand email marketing tool, which most people have no difficulty labeling as SaaS.

If you think outside-the-box, or rather outside-the-firewall, do you see opportunities to reach out across the Web to your prospects, your customers, your customers’ prospects, your partners and your partners’ customers? Can you envision entirely new killer applications that completely redesign a core business process for order-of-magnitude gains in productivity? If you can, then you have taken the first step toward breaking out of the mainstream SaaS hard life of low cost-based competition to the Web world of innovation, differentiation and competitive advantage.

7. Monetize Creatively
It has taken almost a decade for the software industry to absorb all the ramifications of moving from perpetual license pricing to SaaS subscription pricing. The longer payback period for investors, the headaches of high acquisition costs, and the upfront pre-revenue investments in infrastructure being just a few of the issues with which SaaS entrepreneurs and VCs have had to wrestle.

So, why go out on a limb looking for new revenue and higher margins by experimenting with even more unconventional monetization models? Won’t this just make a bad situation worse? To temporarily borrow a well known trademark, the reason is simple: it’s the network. If there is a common theme emerging from this short list of dos and don’ts then this is it. It’s the network. It’s the Web.
SaaS is not software. New business value arises from the characteristic that your software-as-a-service offering, unlike licensed software, can become a network hub that can connect any business entity, user or system it touches to any other: your prospects, your customers, your partners, your customers’ customers, your customers’ vendors, your customers’ partners’ customers, and so on all the way out to the edges of the Web. Given that value is created by the network, it follows that new network-based monetization opportunities are also created. Here is a quick (and very incomplete) list of new monetization opportunities open to software-as-a-service businesses.

Network-enabled services
- Advertising
- Syndication (content/applications/data)
- Benchmarking and market intelligence
- Integration
- Cloud services
- Marketplaces

Revenue models beyond subscriptions
- Referral fees
- Transaction fees
- Consumption-based pricing
- Performance-based pricing
- Reseller margin
- Revenue sharing

The monetization opportunities open to you will depend on many factors, including the nature of your business, the attitudes of your customers and the sophistication of your product. But most importantly, it will depend on your own creativity.

8. Enable Mass Customization
Henry Ford once said: “Any customer can have a car painted any color that he wants so long as it is black.” Then, in 1923 Alfred Sloan of General Motors came along changed the rules of the game by offering a tremendous variety of colors and models. Because, it turns out that even the most apparently uniform markets have customers with unique requirements. But, GM didn’t do it one customer at a time. GM redesigned its manufacturing line with the required flexibility to produce a multitude of models and colors without compromising the inherent economies of scale of Ford’s assembly line innovation—a practice that has evolved into the modern concepts of flexible manufacturing and mass customization.

The primary enabler of mass customization is the elimination of setup costs. Setup costs occur from the labor, time and tooling it takes to switch a production line from one product to the other. High setup costs encourage long production runs to cover the expense incurred in switching over. By reducing them, production runs can be shortened. If set up costs are completely eliminated, production runs can
be reduced to a single unit. That I, you can make the variations A, A1, A2, ... AN of a product (GM colors and models) for the same costs as making N units of A (Ford Model Ts). If you apply this idea to enterprise software, taking each customer installation as a unit and the associated, customer-specific implementation, configuration, customization, and ongoing maintenance time and effort as the setup costs, then the roadblocks to mass customization in SaaS become clear: eliminate, automate and generally squeeze the cost out of your ability to handle unique customer requirements without compromising your fundamental cost advantage.

Your customers will have unique requirements. This is a fact. This business need implies an architectural requirement that is as essential to software-as-a-service business success as system security and a scalable, single-instance, multi-tenant design. It requires automated deployment that consumes minimal resources, extensive, easy-to-use, self-service configuration and complete interoperability built on open, standards-based APIs. It cannot be off-loaded to VARS or customers. This shifts the costs downstream and undermines competitive advantage, because from the customer’s perspective, total cost of ownership is not reduced relative to installed software.

9. Open Up to the Cloud

Everyone is talking about computing on the cloud. Technology marketers are scrambling to ride the wave and recast their SaaS applications as cloud computing. But, don’t let the hype blind you to the very real, disruptive technology shift that is occurring, or to the concrete steps necessary to take advantage of it—and not get trampled by it. Software interacts with three things: people, hardware and other software. The SaaS revolution has been about reducing costs by aggregating remote and dispersed groups of people over the Web—software interacting with people to lower TCO. The disruptive shift called cloud computing is about the computers talking to each other over the Web—software interacting with other software, and thereby other hardware.

Just as you should reach out to your prospects over the Web to drive demand, now you must reach out to complementary applications on the Web to complete your offering, because your product will not be able to stand on its own. It must fit into the myriad ecosystems of applications and application components that form the basis of each customer’s unique computing environment. Only applications with extensive, open, standards-based APIs will survive, because customers will expect your application to slip seamlessly and effortlessly into their environments.

Is your software-as-a-service Web-aware and cloud friendly? Do you have an open, standards-based approach to integration built on a Web services framework? Have you created partnerships with companies that offer complementary applications? Do you natively support RSS and widgets? Are you actively cultivating a developer community and crowd-sourcing extensions and mash-ups? Where you should focus your investments in the cloud will depend on the nature of your business. But, any SaaS application that attempts to live in isolation or keep its customers inside a walled garden limits its value by depriving itself of the very network that has fueled its innovation and it will die from lack of nourishment.
10. Leverage Your Community

This section is intentionally titled “Leverage your community” instead of “Engage your community.” Community engagement is great, but if you are in a for-profit business then any action you take should ultimately result in either increased revenue or reduced costs. A recurring theme in this list of dos and don’ts is that software-as-a-service businesses must take advantage Web-based automation and network effects to reduce costs, especially labor costs. So what is the true economic value of your community to your business? Free labor. Honest labor. Loyal labor. Viral labor.

By reaching out to your advocates and supporting their goals be they back-office or blogging, you are putting feet on the street. If you are a startup with a sales force of two, all of a sudden you find yourself with a sales force of hundreds or thousands or millions! When you open up your application and encourage your own customers to crowdsource improvements, then you can check items off your roadmap without writing a single line of code. There are plenty of books out there that will give you tips and tricks on how to do this. The point of this rule is simply to emphasize why a software-as-a-service business absolutely must do it as a matter of survival.
The Don’ts: Ten Surefire Ways to Fail at SaaS

1. Chase Elephants
Chasing big, bad elephants is by far the most tempting mistake a software-as-a-service business can make. You find a prospect that has lots of cash, but it needs special features, requires a long sales cycle and has restrictive legal requirements. When you need cash, chasing even the most difficult and demanding customers can become attractive; perhaps even a matter of survival. But, one too many stumbles away from your core strategy and you wake up to find that you are a small consulting business constrained by the special needs of a few powerful customers—not a rapidly growing web application with a low TCO value proposition based on a single-instance, multi-tenant architecture.

2. Waste Money Marketing Offline
Offline marketing is almost always more expensive than online equivalents, and for most SaaS businesses the average lifetime revenue per customer is usually far too low to cover it. Plus, if your prospects are not online, they are missing a very fundamental qualification criterion for buying a Web application—they aren’t online! While there may be focused events or offline promotions that can deliver positive ROI, or have ancillary benefits such as showing industry presence and credibility, they are few and far between.

3. Launch without Online Trial
Bringing your software-as-a-service to market without a free trial is marketing suicide. It is akin to launching an e-commerce site without registration or purchase. How many books would Amazon sell if you could see the covers, but you couldn’t read the reviews or look inside, and you had to pick up the phone to buy? Game over. Without online trial, you are erecting a great big stop sign in front of your prospect at the most critical point in the purchase cycle: the point after you have spent all that money generating demand, and you are on the verge of gaining a modicum of control over the sales process when your prospect raises her hand to demonstrate interest and reveal her identity.

4. Cover up Shortcomings with People
Marketing a software-as-a-service application is more like marketing packaged software or consumer electronics than enterprise software. The reason is simple: enterprise software is delivered in an unfinished state. The so-called product is specified, configured, customized, integrated, tested and maintained from a base foundation to deliver a unique solution—a product of one. Taking a product from an unfinished to a finished state requires lots of direct labor. In a SaaS business, direct labor is your enemy. Automation is your friend.

It is easy to cover up shortcomings in your SaaS business with people. No online leads; go to a trade show. No online trial; give us a call. No online purchase; talk to a salesperson. Product too complex; speak to a services rep. Found a bug; contact technical support. Want to upgrade; speak to your account
manager. When you neglect to automate core business processes and then cover it up with people, you ensure long-term unprofitability and engender a culture that undermines long term success.

Imagine that you are launching your product from a desert island with nothing but an Internet connection. Solve problems through automation, and then add people to push sales and service performance over the top, not to provide the basic function.

5. Invest in Channel Partners too Early

No one wants to resell your product or service unless they can make money at it. Until you are making money at it, you will have a hard time convincing a partner to invest precious time and resources building capacity to do so. It may be that your best distribution channel will someday be channel partners, but you almost always need to kick-start revenue yourself to prove the business potential. And, you will need to share the unique aspects of marketing and selling your product with your partners—which you can’t do if you haven’t been through it yourself.

6. Bleed Cash Indefinitely

If software-as-a-service is to reach the same level of business success as traditional licensed software SaaS executives and VCs need to adjust their attitudes toward revenue and profitability: growth follows efficiency, not the other way around. Most SaaS companies are not entering wide open markets, and the high volume, high leverage economics make the road to profitability a long one. Everyone gets excited about a stable subscription revenue stream, but they forget that the requirement of long term profitability implies a stable cost structure that is below that revenue line.

If your customer acquisition cost exceeds first year revenue, you should focus on increasing the efficiency of your sales and marketing processes to reduce cost/lead (or increase leads/cost), shorten sales cycles, and reduce or eliminate labor costs. For that matter, why not shoot for an acquisition cost of 50% of first year revenue—if you don’t set the goal, you will never achieve it! No business can sustain negative operating margins, so don’t believe that you can bleed cash indefinitely due to high acquisition and support costs in the hope that a profitable long term cost structure will miraculously emerge as you increase recurring revenue. This is foolish for two reasons: 1) because the subscription price that your customer is willing to pay for your service is completely unrelated to your costs, and 2) because software companies have cultures of innovation, so chances are slim that you will ever run your business as a cash cow in the future to make up for today’s losses. You must consciously make revenue meet costs at a profitable intersection. The sooner you achieve positive operating margins, the greater your chances of long term success—strive for positive cash flow.

7. Ignore the Long Tail

It is virtually impossible to move down-market once you are locked into a high price, high-touch, high-cost business model. You must “dumb down” your product offering, reduce selling costs and frequently cannibalize revenue. However, if you create your business with a vision of profitably servicing the long
tail, i.e., market segments with the lowest average revenue per customer, then you will have no problem profitably servicing higher revenue segments.

When your business is built to service the long tail of your market, you derive the immediate benefits of organic inbound demand and self-service revenue—there is no other way to service the long tail. This inbound lead flow will fuel for your core business. And, once you have your basic product offering and cost structure in line, it is much more straightforward to add advanced product functionality, strategic selling capability, and professional services to move upstream profitably. In short, it is easier to increase revenue and costs than it is to reduce them.

8. Think You Can Control It
Managers love control. It’s in their nature and it’s reflected in business maxims like “You can’t control what you don’t measure.” When you are selling a million dollar deal, you get lots of face-time with your prospect and there is considerable give-and-take on both sides. Not so online.

The need for control can lead good managers to make poor SaaS business decisions by favoring control over performance, such as increasing sales staff when there is insufficient inbound lead flow to support it. Or, spending money on low ROI email and paid search campaigns, rather than taking a decisive leap into the fuzzy worlds of social media and organic search.

9. Fail to be Creative
Face it. There is a lot of software out there already. And, it can be really, really cheap. Email works just great, so tell me again why I need your Wiki? It’s a big Internet. Why should I pay attention to your search ad? Why should I make all that effort just to save a few pennies? Creativity is your only defense against the noise and malaise surrounding your prospects. Your application must be different. Your message must be different. Your business must be different. Not just a little different, but ten times different if you expect to break away from the pack.

10. Depend on Network Effects
There is one lesson everyone should have learned from the dot com crash. If you build it, there is absolutely no guarantee that anyone whatsoever will come. You can’t build a Web business on network effects alone; you must create significant, direct value for every single customer (at every single network node per se). Before you start selling your investors on those exponential growth projections predicated on viral marketing, socializing your application and network monetization, make sure you can get there from here—satisfy your very first customer.
Software-as-a-Service Success
The Top Ten Dos and Don’ts of SaaS

Contents

The Top Ten Dos of SaaS Success

1. Choose a Large Market ................................................................. 1
2. Create a Hub on the Web ............................................................. 2
3. Accelerate Organic Growth ......................................................... 2
4. Craft a Compelling Story ............................................................. 3
5. Build the Business into the Product ........................................... 4
6. Reach across the Firewall ........................................................... 4
7. Monetize Creatively ................................................................... 5
8. Enable Mass Customization ......................................................... 6
9. Open Up to the Cloud ................................................................. 7
10. Leverage Your Community ......................................................... 8

The Don’ts: Ten Surefire Ways to Fail at SaaS

1. Chase Elephants ........................................................................ 9
2. Waste Money Marketing Offline ............................................... 9
3. Launch without Online Trial ....................................................... 9
4. Cover up Shortcomings with People .......................................... 9
5. Invest in Channel Partners too Early ....................................... 10
6. Bleed Cash Indefinitely ............................................................... 10
7. Ignore the Long Tail .................................................................. 10
8. Think You Can Control It ........................................................... 11
9. Fail to be Creative ....................................................................... 11
10. Depend on Network Effects ...................................................... 11
About

This whitepaper is based in part on recent blog posts concerning software-as-a-service business strategy at Chaotic Flow (www.chaotic-flow.com) by Joel York (www.crunchbase.com/person/joel-york).

Currently Chief Marketing Officer for Xignite (www.xignite.com), a pioneer in financial cloud services, Joel York has more than 15 years of experience bringing software and software-as-a-service (SaaS) products to market. He has managed global marketing and sales organizations serving over 50 countries, including local operations in the US, UK, Germany, Israel and India. His experience ranges from $5 SaaS subscriptions to $5M enterprise deals and he shares his expertise on SaaS, cloud computing and Web 2.0 business strategy on his blog.

Prior to Xignite, Joel provided SaaS strategy and marketing consulting services at affinitos, where he worked with rapidly growing Web 2.0 clients such as Conduit and Zendesk. At Conduit, Joel served as interim vice president of marketing and led the establishment of US operations for the global company. He has held senior management positions leading the marketing and sales organizations of both startups and midsize public companies, including Navis, eMind, Passlogix and SPSS [NASDAQ:SPSS]. He began his software career at Deloitte Consulting.

Joel holds a BS in Physics from Caltech, an MS in Engineering Physics from Cornell University, and an MBA from the University of Chicago.

Contact Information:
joelyork@chaotic-flow.com
www.linkedin.com/in/joelyork