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No. 153 December 2007

SHAPE UP YOUR TECHNOLOGY START-UPS!

Or how to avoid the most common management problems in early-stage, science-based companies

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High-innovation, technology-based start-ups have a very special role in both intra- and entrepreneurship. They produce proportionately far more jobs and value than their low- and medium-innovation counterparts – if they succeed. But the managerial challenges are formidable. In our forthcoming book, *Nurturing Science-Based Ventures: An International Case Perspective*[1], we use a panel of over 30 European clinical studies to investigate managerial and growth issues that are critical to the survival of both independent and corporate start-up ventures.

The results show that many factors need to come together to create a successful technology venture. Here are some key lessons that should pre-position your venture for success. Likewise, they will help larger corporations better appreciate the realities many technology start-ups live with to strike better collaboration agreements.

Structuring too early

Start-ups are based on the irrepressible urge of their champions to get going. At some point, reality intrudes and dictates the creation of an administrative shell to take care of the project. A company is born. But if that administrative shell is added before you have sufficiently prospected your competitive field and networked with potential customers, the shell may morph from a structural cocoon into a bureaucratic prison. Administrative issues (employment contracts, payroll, etc.) will cause you to lose sight of the more pressing business issues. Focus on what really matters, for example: getting to know your customers, testing your value proposition, finding partners that will support your development and engaging potential investors. The bureaucracy will find its way soon enough – operate under the bureaucratic radar screen for the longest time possible!

Confusing technology innovation with market needs

Customers do not buy technologies; they acquire what the technologies can do for them. A technology is a means to an end, not an end in itself. So how do you demonstrate that an innovation truly serves a market need? Ask yourself: does this product or technology replace an existing one? Complement it? Does it materially affect the customer's experience? Is the change something the customer would be willing and able to pay for? The seduction of a new technology is no guarantee that there are customers out there willing to "go up the experience curve" with your product or service. Actually, the more innovative the technology, the more reluctant they are to actually jump and adopt it.

While many companies or individuals may show great interest in a new technology, it actually might not be for

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the reasons assumed by the start-ups. Curiosity and market intelligence are often to blame, but these do not translate into significant order volumes. Their only intent is to examine and test the new offering in the competitive landscape. It is fair to assume that often your first interests will indeed come from individuals and companies really close to your field, i.e. mostly competitors, complementers or service providers. They actively scan your industry sector for innovations; your customers often do not. Be careful not to misread the interest and decipher the true motives of these early onlookers! The "liability of newness" is a concept all too often ignored by start-ups. Your first adopters are few and far between: they often do not constitute a viable market.

Providing free services to progress sales leads

Start-ups all face the same "catch-22" when emerging on the market. You need beta customers to convince the vast majority that you are for real. But no single customer has the incentive to become a "beta" customer, they all prefer to wait and see. Naturally, the temptation is great for a budding company to "bend over backwards" to incentivize first customers to come in, for example by giving away free customizations and other services. This behavior sends the wrong signals to the market about the value of your offering: you need to charge and send bills early to build credibility and to underline the seriousness of your enterprise. Furthermore, "freebies" do not lead to sales. On the contrary, they can be detrimental to the start-up's image and its cash box. Charging clients for services helps you distinguish between the genuinely interested customers and the window shopper.

Falling into the opportunity drain

Most start-ups do not suffer from a lack of opportunities; they suffocate under an opportunity overload. Having been short of resources for months and years, they cannot manage the opportunity pool when it finally appears in front of them. Hence the most delicate dilemma facing start-ups is to sacrifice some opportunities to take advantage of the others. While it feels counterintuitive for a start-up enterprise to hold back, it is necessary to discipline the process. Strategy is about making choices, i.e. turning away some customers and opportunities for the greater good of the company. It is about trimming the tree of possibilities to strengthen the pursuit of a limited but manageable subset of opportunities.

Failing to bridge technology and business expertise

Not surprisingly, blending technical expertise with the ability to truly understand customer needs is a first class managerial challenge. All too often, the technology genitors of new products have no respect for the salespeople that will end up peddling their wares. Similarly, salespeople often do not show proper respect for the technology, which they often treat as just an enabler of the product to be sold. This lack of respect and communication often leads to one-legged start-up teams, either loaded with technology types or with salespeople. It is very difficult to run the technology race on a single leg, however nimble. Eventually, there needs to be mutual respect between technology contributors and management. They are on the same footing. A first-rate idea and superior technology needs professional management to raise the odds of success:

> *It is hard to tell which exactly sets you apart, whether it is technology or management. But I have seen so many companies run into difficulties along the way – and it was always good management that got the company out of danger.*
>
> Dr Andrea Pfeifer, CEO, AC Immune, Swiss biotech start-up

Specific expertise, such as sales and marketing, must be brought on board in a timely manner. They must accompany the process of scaling up by complementing the existing team. An important question of course is how and when to integrate these skills effectively.

Scaling up too early

Many companies function with the common but wrong belief that opportunities are short-lived. They are so eager to capture the opportunities in front of them that they often skip steps in their development. For example, prototyping may be seen as just too time consuming, putting the technology lead at risk. So prototyping is bypassed in favor of an early market rollout. But through prototyping and testing with beta customers, the company could have discovered the minor design flaws or business model issues that ultimately could hamper adoption. In other words, what was initially intended as a means to increase the speed to market, could have the opposite effect. Do not short-change yourself in the initial phases. The same holds true for staffing up, recruiting expensive senior personal or raising money that cannot yet be put to "productive" use. Network, build-up goodwill and solicit commitment but phase in resources as you take your steps.

The working capital dark hole

While start-ups usually estimate their early capital expenditures (plants, equipment, etc.) properly, they tend to massively underestimate their working capital needs. Behind this systematic error is a common misunderstanding of the launch period. Start-ups often think in terms of "normal" working capital needs, but the launch period is anything but "normal". Early customers will take advantage of the situation knowing full well that a start-up is dependent on them as customers. They may not honor the terms of payment as you expected because they know you can't do anything about it: the balance of negotiating power is in their camp. As a start-up, it is fair to assume you will be abused; especially in the early days. Likewise you should expect the adoption process to be long and drawn out, especially with larger customers. You are in a rush: your customers are not. Your customers have many other priorities and/or various other constraints such as internal budget cycles.

Jumping on early licensing agreements

In an attempt to capture early revenues, companies will often jump into pre-mature licensing agreements, giving away some of the significant upside potential and future opportunities at a price they come to regret. Important considerations with respect to early licensing are whether the licensee will develop the right markets, particularly if there is a risk that the market could shift. Are the licensing fees really significant enough to enter into the agreements? What would it take in the worst case to "claw back" the license rights if the licensee does not deliver and at what conditions? Unless licensing is core to the business model, it may prove more valuable to simply charge service fees or enter into (paid) development contracts to finance your project.

Staying power is critical to your partners and clients

There is a general perception that most technology start-ups go bust in about three years time. This is not really true. Failure rates are a lot less dramatic, and the typical time to a harvest, good or bad, is more often seven to eight years rather than three. Still, customers will not adopt your technology if you cannot demonstrate that you will be there for the long term. While they may like your technology, companies hate to deal with start-ups because of credibility and sustainability issues. They have every reason NOT to want to work with you. As a start-up, you are very different from them: you are untested, you have no systems, little infrastructure, small teams and no brand capital. This is where finance can play a key role. Start-up financing is not just about money: it is about credibility and image, about showing a network of partners committed to backing you. This is why you need money also from sources that may be less pleasant to deal with than friends and family. The screening processes you will be subject to by bankers and venture capitalists, are ultimately the stamps of approval large companies are looking for in order to talk to you and possibly adopt your technology. It may be an expensive stamp of approval, but this may just be the cost of acquiring the first serious customers.

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Growth is sometimes the only path to sustainability

Often founders "satisfice", i.e. they are happy reaching 15 employees and CHF 10 million in sales. Realistically, they know that fast growth will create managerial challenges, and after the initial period, start-up managers may seek a better work-life balance. So they shun growth, even though growth may be the only way to insure sustainability of the company. Scale is often critical to cost competitiveness. To persevere in the market, the venture must stay competitive, which implies remaining flexible to emerging market opportunities and staying ambitious.

Conclusion

To conclude, technology start-up ventures may vary case by case but the above issues surfaced in most of the 30 companies examples reviewed in detail in "Nurturing Science-based Ventures". Often, we followed the companies over multiple years to document their evolution. Many of these hurdles can be overcome but every time they came as a "surprise" it turned into a costly and painful process for all involved. Highlighting these road blocks in due time to broking an experience sharing is the main ambition of our studies.

[1] Seifert, R.W., B.F. Leleux and C.L. Tucci, *Nurturing Science-based Ventures: An International Case Perspective*, 2008, Approx. 720 p., 350 illus., Hardcover, ISBN: 978-1-84628-873-9.

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