

How to Avoid Becoming a Biotech Zombie

Part 1 Applying Proven Industry Business Principles

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Biotechs can avoid becoming a zombie by having a thorough business plan and a clear focus.



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The annals of biotech include far too many stories of scientific breakthroughs followed by business breakdowns. For every spectacularly successful company, there are numerous others that fail. And then there are the companies that achieve neither failure nor success. In an article entitled “It’s Alive! Meet One of Biotech’s Zombies,” the *New York Times* recently recounted the history of one such company, which in its 26-year existence had never earned a profit or marketed a drug of its own while going through more than \$700 million of investor money. It is not alone. A number of other unprofitable biotech companies have hung on nearly as long and with similarly disappointing business results.

In our work with biotech companies

and investors, we have found that, while there is no one-size-fits-all solution for avoiding becoming a biotech zombie, there are several proven business principles that are specific to the biotech industry. If put into practice, they can greatly increase your chances of creating a healthy, vital company, instead of a non-profitable entity limping grimly along.

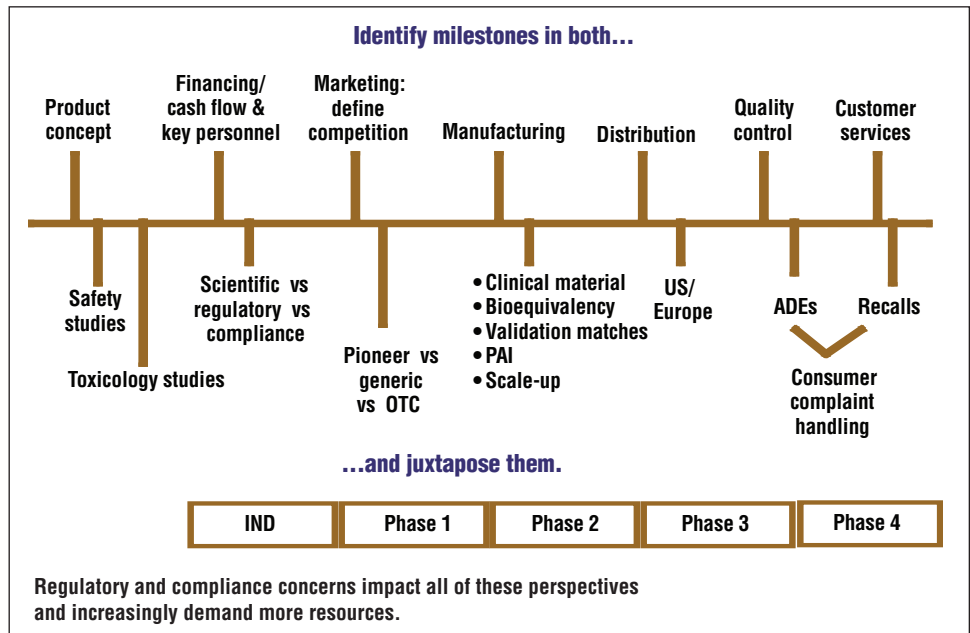
SLOW AND STEADY WINS THE RACE

Conventional wisdom suggests that all companies should be poised for growth—the faster, the better. The growth curve for biotechs, however, differs sharply from that of companies in other industries, as well as traditional pharmaceutical companies. Neither suddenly bursting forth like supernovas nor scratching their way meagerly forward like the zombies of the industry,

successful biotechs are much more likely to grow slowly and steadily. They methodically meet development milestones, each of which may require several years to achieve. They systematically and carefully satisfy regulators every step of the way, and they are prepared to absorb the almost inevitable scientific and regulatory setbacks.

Company executives and investors who try to impose an artificially rapid pace for growth on a biotech are making a grave mistake. Such pressure can result in slipshod science, a lack of strategic flexibility in product development, and disillusioned investors who prematurely pull the plug on funding. Formerly, many biotech investors, dazzled by the possibilities of blockbuster drugs and stunning breakthroughs like the mapping of the human genome, saw biotechs as having spectacular possibilities for growth. More recently, however, investors have begun to understand the much slower and more uniform growth curve that characterizes biotechs. For biotechs seeking funding, it is important to know if your potential investors harbor unreasonable expectations for growth. If they

Figure 1. Critical commercialization milestones



do, you must try to educate them about the challenges that biotechs face: the fact that you are trying to do something that's never been done before, that you face regulatory burdens at every turn, and that the path from proof-of-concept to efficacy in humans is long and arduous.

Further, because of the almost linear and accretive nature of drug development, biotech companies have few opportunities to expand outside of the scope of their core business until very late stages of development. Make it clear that everyone faces these hurdles and competitive conditions, and that the winner is likely to be the company that addresses them comprehensively from the first, maps out a viable strategic path, and proceeds with deliberate speed rather than undue haste. Gradual growth is a smart and reasonable expectation for all stakeholders for achieving the company's ultimate goals.

CONSIDER YOUR CORE CAPABILITY

In our experience, steady growth is best achieved by sticking to your core capability. However, that does not always mean pursuing only one

drug for one indication. In fact, such narrow focus can lead to disaster, as with the one-drug-wonders who fiercely chase a single—often spectacularly promising—product that doesn't pan out and destroys the company. Or, as with some of the zombies, the singular pursuit of a product turns out to be a dead end, but by managing to secure additional funding, the company embarks on a similar pursuit, initiating another cycle of development.

The key is not single-mindedness, but careful thought about precisely what your core capability is and what strategic possibilities it offers. The key milestones for a product's success involve clinical filing, data, and clinical efficacy for a chosen indication. A regulatory strategy that offers multiple indications and applications, or at least multiple classifications, for the purpose of reimbursement will offer more "shots on goal" and have a better chance of survival. One approval pathway does not make for a flexible regulatory strategy.

Alternatively, you may conclude that your most promising core capability is a technology platform,

Quick Recap

- **Some biotechs** have been around for years without ever turning a profit.
- **Companies** may try to race to a finished product, which can cause more problems and delay progress rather than speed up development.
- **Biotechs** should follow a steady course and use solid business practices to avoid becoming a biotech zombie.

such as pegylation or chemical modification for altering an antibody to deliver it to skin, kidneys, or other locations. A platform technology might be a new cell line which could be used to express proteins in vast quantities and is free of prior intellectual property claims. For such a platform, you need only show that your technology is faster, better, and cheaper. Instead of being restricted to the “one-and-done” approach, you have more commercial options because your core technology may provide a platform for numerous products.

With a technology program, you might typically persuade a major pharmaceutical company to license the technology before Phase 1 trials. As you achieve subsequent development milestones, you receive additional payments. And when the pharmaceutical company goes to market with a product that uses your technology, you receive royalties. Further, you aren't restricted to doing business with only one company—you have the possibility of doing similar deals with other companies. This strategy will not produce a billion-dollar therapeutic drug, but it can provide a sustainable return on investment.

Over the past five or six years, investors have shied away from investing in platform technologies. Seeking the home run, they invested in late-stage drugs. As many of them began chasing the same drugs, they dramatically drove up the price. As a result, many investors are now reconsidering investing in platforms.

Whether you pursue products or a technology platform as your core capability, make it clear to investors. Educate them about realistic timelines for development, then stick to that capability and resist pressure to

unnaturally speed up its development or abandon it prematurely. Forming a biotech company is difficult in itself, but securing time for it to grow may be even harder.

WEAVE TOGETHER THE BUSINESS PLAN AND COMMERCIALIZATION

A realistic business plan lays out the infrastructure on which to build a company. A drug develop-

ment and commercialization master plan maps out the course of action needed to create a product and move it through the regulatory process. They are inextricably linked. Identify critical milestones in both the business plan and commercialization plan and weave them together. Figure 1, for example, depicts a high-level view of the elements of each that must be inte-

grated to take a product all the way from concept to commerce. The end-point of the plan will of course depend on your company's ultimate strategy—whether you intend to manufacture or market your product or aim only to become a supplier of molecules.

Once you have integrated the business plan and the commercialization plan, you should then dissect each major milestone and assign appropriate time frames for the components of each. For example, achieving good clinical practice (GCP) is a major milestone that must be sustained over the duration of the trial. Often, and especially with innovative biologics, the FDA will investigate all aspects of clinical trial activities to ensure that GCPs have been installed and complied with. Be realistic when estimating the time frames for the many activities that constitute each milestone. In achieving GCP, the manufacture of clinical trial material (CTM) can be multi-faceted, complex, and often plagued by high variability. Similarly, the selection of the contract research organization (CRO) at this stage can be time-consuming. If a sponsor elects to transfer the responsibility of designing, conducting, and statistically analyzing an investigational trial, it is on them to begin the selection process before filing the Investigational New Drug Application (IND). This process can take as long as four to five months before the appropriate CRO is identified and enlisted.

With a fully integrated business plan and commercialization scheme set in a reasonable time frame, you can determine when you will need people, funding, and infrastructure resources. As your business unfolds, the actual time consumed for any given step may differ from your initial projections, requiring that you continue to iterate the plan and adjust it accordingly.

PREPARE FOR PRESSURE FROM STAKEHOLDERS

With a commitment to methodical growth, a clear understanding of core capabilities, and a time-sensitive, integrated business and development plan, all the elements would seem to be in place for a stable, steady progress toward your goals without flaming out or becoming a zombie. However, the best-laid plans are still susceptible to one potential source of disruption: investor pressure. The differing investment needs at various stages of funding bring different kinds of stakeholders, with different agendas and different goals, which can put unexpected pressures on your company.

For the typical academic researcher or entrepreneur who founds a biotech, the first stakeholder is the university in whose lab the core concept was born. The university's technical transfer office may help the researcher put a discovery into patentable form. However, it's important to consider how your decisions at this point may affect the business you hope to build around the idea. If you are claiming the idea has utility in treating cancer, you won't be able to get the patent approved until proof-of-concept. For a technology platform, the patent hurdles are often different and sometimes much lower. In any case, the financial pressures at this stage are usually benign—the university will want to firm up the ownership of the intellectual property.

Once you begin to develop the business, the parade of stakeholders begins. Initially, you are likely to depend upon a financial angel, typically an individual or a small group of investors, for the funding to get the company off the ground. Angels typically choose to exit after the next several rounds of financing. For Series A and B funding, the investors are likely to be private equity or specialty investment firms who want to oversee the company's initial growth spurt and cash out after taking the

company to the initial public offering (IPO) stage. These investors want control of the company's direction through board seats and the appointment of key managers.

As the situation changes and a drug candidate looks promising, they are likely to try to push you into Phase 1 trials as rapidly as possible and then have the company go public to execute an exit strategy for their investment. As they sell their stakes, you again find yourself cash-poor and working with an entirely new slate of directors, who now represent ordinary stockholders. These new owners will manage the company through the rough stages when disappointments can lead to dramatic drops in stock price, making further raising of capital dilutive.

In the face of these constantly evolving pressures to alter the pace of development, maintaining your chosen course and speed can be difficult. You will need to be able to educate each new group of stakeholders about the most likely path to success. You must also be adept in dealing with your pre- and post-IPO boards. Fortunately, with a well-integrated business and development plan, you will have the comprehensive view required to counter purely financially motivated pressures.

DRIVE THE STRATEGIC VISION IN DAILY DECISION-MAKING

To stay on course you must also ensure that the cumulative impact of daily decisions at all levels in your company supports the company's overall strategic plan. Who gets hired, who gets fired, how resources are allocated, and how success is defined are just some of the decisions that should be tightly aligned with the overall strategy. However, it is not uncommon to observe a disconnect between day-to-day decisions and the over-arching strategic plan. Such disconnects can add up, resulting in a company that looks nothing like the original vision.

This is not to say that every decision should be preceded by strategic analysis. There are many critical decisions that do require such analysis, however, including risk assessment. Failure to undertake the relevant analysis can significantly alter the direction of a company.

Understanding and adhering to the overall strategic vision is especially challenging for a biotech because all of the relevant expertise does not reside in any one part of the organization. Different disciplines play crucial and different roles in the commercialization process and the long-term success of the firm. How likely is it that decisions arising from senior management in product development will align with decisions coming from business development? Many of these units work in isolation, yet all are crucial to the success of the firm. Just as you must align the business plan with the drug development plan, you must effectively integrate the various and often conflicting perspectives of differing disciplines in order to align day-to-day choices with the company's strategic vision.

You should, therefore, develop a decision-making process that can accommodate the need to align the decisions and perspectives of the various disciplines with the company's strategic direction. Incorporating decision analysis and risk assessment provides a mechanism that can elicit input from all pertinent units, enabling managers from different departments and levels in the company to achieve consensus in the face of alternatives, and to individually and collectively move the company efficiently toward its goals. Most importantly, the decision-making process must take a top-down, leadership-driven approach where coherent direction is con-

stantly provided to ensure that departmental objectives do not conflict with the overall strategic vision.

As these observations suggest, the way to avoid becoming a biotech zombie is—somewhat paradoxically—not to engage in a fevered, fast-paced race to the finish line or to constantly strike out in new directions. Instead, you should firmly maintain a steady strategic course,

guided by a tightly integrated business and development plan and not be ruled by the vicissitudes of finance, but by the principles of sound biotech business practice. ♦

REFERENCES

1. Pollack A. Feb. 11, 2007.

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