

MANAGERIAL INSIGHTS FOR BIOTECH EXECUTIVES

Planning as a Tool to Manage Uncertainty: A Case Study

While planning can conjure-up an image of a slow, even bureaucratic process that is more synonymous with large organizations, planning can help young biotechnology firms reduce and manage uncertainty as the firm evolves. To benefit a small firm, planning should examine possible outcomes and determine the actions that will contribute to these outcomes. Looking at what might happen and specific actions that will help or hinder those outcomes can allow the firm to build or sharpen its awareness of how actions impact the firm's goals. By taking the time to formulate options based on likely outcomes, the firm can

“put a plan in place while thinking about the impact of actions for likely futures.”

An example of how this type of scenario analysis works involves managing financial uncertainty. Outcomes include not only getting the money or not, but determining realistic valuations, obtaining leads, generating interest, and energizing new advocates that can result in new contacts and future financing. With these multiple outcomes in mind, actions that can work to reduce financial uncertainty include “cultivating multiple sources” of capital and “raising additional financing whenever the opportunity arises.” The

plan to cultivate multiple financial sources reduces the uncertainty around whether capital will come in and whether the right kind of support (e.g. an important partnering deal) will ‘hit’ when it is needed, since the firm has a broader network of potential support. Accepting financing when it's available – instead of only when it's needed – also reduces uncertainty; it “allows the firm to have a cushion for unexpected downturns.” It can help to reduce uncertainties associated with changes or surprises. Cash in the bank “reduces the impact of the Street's view of the firm following adverse news because cash translates

into more time for the firm to develop its products and perform.”

In contrast, if the firm didn't consider and understand the actions that contribute to many possible outcomes it might miss financing opportunities and is more likely to face increased levels of financial uncertainty. It might even miss the opportunity to make financial uncertainty a thing of the past. For example, many small biotechnology firms only go public after partnering with a larger firm. However, “more than half of these deals terminate before Phase II trials. To reduce the uncertainty associated with deals, and protect against the ramifications of a partner leaving, you simply have to raise money at all times and need to find validation on your own. Otherwise you face uncertainty at the whim of the partner.”

Planning potential outcomes and understanding the impact of actions also helps manage other areas of uncertainty. When it comes to product decisions, biotechnology firms must “consider several product options and choose product attributes in light of market realities, patent opportunities or constraints, all the while trying to determine multiple ways to differentiate the firm and the product from the competition.” While making product

design decisions, managers need to “keep future requirements for manufacturing and market conditions in mind and understand the impact of product features on many areas.” This often means that managers must acknowledge that cutting edge product attributes may not be attainable, market conditions can change and the chance of product success is low.

To counter the downside risk associated with a product, many managers believe that “they need to have additional products in mind.” Developing a ‘secondary’ product along side the primary product becomes attractive. But is it? Planning based on examination of multiple outcomes and actions that are needed to produce them might suggest otherwise. Because biotechnology product development consumes large amounts of capital, managers might justify the second product on the grounds that it is “short term, easily done, and will provide significant revenue stream.” The second product will “help fund the primary product thereby reducing the firm’s financial uncertainty.” “Besides, revenue diversification, it is argued, reduces the risk to the firm’s investors.” But that doesn’t necessarily mean a firm should diversify.

By examining the course of actions that a second product development entails, the firm can discover that diversification doesn’t always make sense. Developing a second product may make the most sense when the development of one product enhances the development of the other. If strong economies of scope and positive spillovers exist, the firm can leverage what is learned in the second product to aid development of the primary product and vice versa.

The risk for small biotechnology firms is that leverage is not achieved and the firm spreads limited resources across multiple products. This can adversely affect the firm’s future fundraising ability and may weaken the firm’s ability to survive. A firm might find itself in the position where, “instead of providing revenue resources, developing a second product detracts from the company’s core efforts, diverts managerial attention, and uses resources.”

Another reason that explains why small firms do not always benefit from product diversification is that the easy-to- produce, short-term revenue-generating product often receives limited planning. Without this planning the second product can take on a troublesome life of its own. Individuals become attached to the product

convincing the firm to repeatedly commit additional resource, even when red flags indicate the need to terminate an effort. Individuals argue that it needs just “one more go at it.”

To counter this escalation of commitment, the firm needs a strong awareness of the trade-offs among product investment choices. It can also help to remember that “most products fail or succeed in a very different form than originally anticipated.” Managers need to ask whether an additional test on a secondary product will lead to the firm’s success. When does the cost associated with a second product’s development – in terms of managerial attention, firm focus and goal achievement – become detrimental? At what point does the firm pull the plug? By considering the impact of actions on potential outcomes, and putting go/ no-go triggers into place, the firm can take and stop actions to improve its chances of success. The firm can “avoid the uncertainties that arise when secondary products become a distraction and a drain on resources.”

Planning also involves looking at the product development path. Managers can choose to describe a set of tests and plot a decision tree based on study outcomes. However, what is often overlooked but invaluable

for managing the uncertainties associated with execution is analysis of why a product won’t work. Young biotechnology firms are heavily engaged in scientific analysis to advance products and show that a product does work. It is at the heart of developing a new product. However, relatively less effort is focused on product failure. However, the naysayer view doesn’t easily fit into the enthusiastic, upbeat entrepreneurial climate that is typical of many biotechnology firms.

Investigating why a product won’t work is valuable because it builds awareness of the ‘cons’ or shortcomings of a product. Studies that test product limits can discover faults and identify potential issues, allowing the firm to set a course that avoids major set-backs and prepares the firm for course adjustments. Because of this, conducting tests on product failure can reduce costs and help the firm manage the negative consequences of product uncertainty.

A case in point is the strategy of choosing to make a minor change to an existing “well-known safe therapeutic because it provides a path to reduce product uncertainty.” In these cases, managers often accept what is known without checking the limitations of the entity for the current application.

Foregoing a targeted investigation and analysis of why the product won’t work can limit the firm’s ability to adapt if surprises arise. As one manager suggested after his firm was caught off-guard because years of tests and data hadn’t examined a critical issue that affected the firm’s new application which would have exposed when the product would fail, “A firm shouldn’t hesitate to do what you have to do. The risk might be great. It might be detrimental, but you have to do it. You have to answer the questions related to when the product will fail so you can plan how to make the product work.”