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David Grainger
TCP Innovations

David Grainger is an academic in the Department of Medicine, [Cambridge University](#), researching mechanisms underpinning chronic inflammatory diseases. He is also a leading consultant to the pharmaceutical industry through [TCP Innovations Ltd](#), and is the Chief Scientific Officer of [Funxional Therapeutics Ltd](#), a Cambridge-based biotechnology company he founded in 2005, which develops novel anti-inflammatory drugs. He delivers his often iconoclastic opinions on recent trends in life sciences industries through the Drug Baron blog.

To be or not to be: The Pros and Cons of the Virtual Biotech Company

It is more than a decade since the classical model of a biotech company ruled unchallenged: the glass-fronted building on the gleaming modern science park, with the best part of a hundred doctoral level scientists working seemingly double shifts to deliver an entire pipeline of high value product candidates. The central principle underpinning the investment case for such a model was that a team of that kind, once assembled, could find and develop multiple assets that could be sold to big pharmaceutical companies. The key word was 'repeatedly' – no single asset could justify the vast cash drain such a model demands.

Finding such opportunities, which can genuinely sustain this “company” model, has proven to be tricky. Entrepreneurs would “pad out” a single high quality asset with several earlier stage opportunities that turn out to have considerably less value. After all, it is virtually impossible for any asset owner or research institution to generate genuine pipelines – large pharmaceutical companies with billion dollar R&D budgets can hardly even manage that feat.

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Experience has taught many investors that the only exception to this rule is the platform technology. A few exceptional technological breakthroughs have the capability to act as the goose that lays a clutch of golden eggs (humanized antibody libraries have been an obvious example of such a technology). Presented with such an opportunity, the glass-fronted building may still be the right solution – but you better be sure the platform is all it is promised to be and not a sterile goose with golden feathers.

For the rest, the answer is “project” financing, not “company” financing. Instead of seeking to balance risk at the level of the individual portfolio company, larger investors are increasingly seeking to balance risk across their whole portfolio. Provided each asset gets less money invested in it than would have been the case with the big, old fashioned “company” model, then a proportion of those assets can be allowed to fail. Looking now from the perspective of the investor, the game has changed: the “fail early, fail cheap” mantra of big pharmaceutical companies has replaced the “more than one egg in the basket” mentality that underpinned the old “company” model of biotechnology investing.

Typically, these “project” financed companies look very different from their predecessors. The liturgy now consists of capital efficiency and of an unswerving dedication to moving to the next value-creation milestone even if doing so exposes the asset to the risk of outright failure.

The other big difference is that progressing a single asset through the product development pipeline (and it doesn't matter whether we are talking about a therapeutic, a diagnostic test or medical device) needs lots of different skillsets. In a large company (even one the size of the old “company” model of biotechs) the majority of these competencies could be accommodated – the “reusability” of these capabilities was part of the justification for putting several assets through the same development pathway. But with only a single asset incubating in each nest, less than a full “unit” of each capability is required. Each skillset in turn is required, very intensively, but only for a relatively short period. In therapeutics, for example, preclinical development of a single compound might take nine months, in which period expertise in safety pharmacology and toxicology will be heavily in demand. Upon moving into the clinic, however, the emphasis quickly shifts to trial design, statistics and the like.

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The solution is to out-source these functions. The advantage of doing so is obvious: you only pay for the capability when you need it. You can have three highly skilled and experienced individuals working on your regulatory toxicology studies while they are on-going, without wondering what you are going to with them once the study is finished and reported. Even if the cost per unit time of accessing skills this way is higher (and it surely must be, since the contract provider has to secure a sufficient profit), the overall cost is lower because you are only paying for the amount of time and effort actually required. Lower total cost, higher capital efficiency.

A less obvious, but equally relevant, advantage is the possibility of accessing better, more experienced and more capable, individuals on an out-sourced basis than would have been possible, let alone financially viable, on an employed basis.

What about the disadvantages? Consultants by their very nature are more difficult to incentivize than employees. Their association with the company is transient, and their recompense primarily consists of fees payable irrespective of the final outcome of the project. Too often consultants have their focus divided between several (or, for the most in demand, many) projects and the quality can suffer. Faced with two simultaneous demands for urgent attention, they will always have to choose one. With employees, managers can do just that: manage. They can decide which of two competing demands is the higher priority for the overall health of the business.

So for a modern, “project financed” biotech the question of the moment is simply this: just how virtual should I be? Is being virtual, semi-virtual or fully staffed the “ideal” to be aimed for?

Virtual tech companies have proliferated in recent years. Many are virtual through necessity – without sufficient cash to progress their assets, their virtual existence is tantamount to suspended animation. These companies are often a single individual with an asset portraying themselves as a company either (in their view) to aid in raising finance or perhaps, where a group of individuals are involved, simply as a mechanism to divide up the ownership in a convenient and legally robust fashion. But these are not really virtual operations – because they do little or no actual operating.

Largely virtual but nonetheless operationally aggressive companies, with significant financial muscle, are a much rarer beast. One such company is Funxional Therapeutics, a Cambridge (UK) based therapeutics company with a single product in clinical trials. With only a handful of employees, mostly engaged in corporate management rather than operations, but nonetheless supported by significant investments from blue chip venture capital firms, Funxional is operating one of the purest forms of the virtual biotech model. It is “project financing” taken to its natural extreme. And for the most part it

has reaped the benefits of this virtual lifestyle. It has advanced its lead candidate from research to the end of phase I at a remarkably low cost and at a speed to match the industry's best. Whether or not the product actually works, allowing a profitable exit, or not is in a sense neither here nor there – that simply reflects the quality of the founding asset. From a purely operational perspective, it has been a resounding success already, by reaching the value-inflection points as quickly and cheaply as possible.

What has been the key to such success? And how were the pitfalls avoided? The single most important factor is the management team, and the management structure. Ensuring every part of the project is managed by an “inside” consultant whose job it is to manage the contractor responsible for delivery provides the ability to be an expert customer while being almost entirely virtual. In one sense, it doubles the management overhead – contractors are so keen to provide project management as part of the deal that, on the face of it, it can seem difficult to justify adding another layer: with the senior management overseeing an expert consultant directing a contractor's project manager who is managing the work. But convoluted as it sounds, this is one of the secrets to successful virtualisation.

And if further evidence of the importance of these “expert customer” roles were needed, TCP Innovations has seen a massive rise in requests for the provision of domain experts to perform exactly these kind of roles for a wide range of companies. With experts covering CMC, toxicology, chemistry, pharmacology, statistics, intellectual property and more, the right people are out there to make sure the ultimate virtual model can deliver success, more cheaply, more quickly and more flexibly than ever before.

There is still some way to go before all but the most avante garde investors regularly go all the way to this level of virtual project management. One limitation is their own internal benchmarks: years of analysing more conventional, less virtual businesses has engrained certain expectations. Most seasoned investors expect management and administrative expenses (that is, everything but the value-creating operations themselves) to be less than a certain fraction (perhaps 30%) of the total spend. Yet highly efficient virtual models may not reach this benchmark. Their failure to do so comes from several sources: out-sourcing saves money, so the operational costs are lower than with a conventional employed operations team. At the same time, management gets more expensive, particularly with this extra layer of “expert customer” consultants managing every aspect of the operations. So even though a “project financed” lean and mean, virtual company spends less overall building its value, for superior capital efficiency and better returns for every stakeholder, the fraction of the expenditure going on (what has previously been considered relative unproductive) management and administration has risen sharply.

Until investors gain enough experience to see that a rising fraction of expenditure on management can (though clearly is not always) be a sign of an efficient model, it will be difficult to win them round with a business plan for a fully virtual biotech. Worse still, asked to cut the management expenses back to a more traditional level risks surgically removing the “expert customer” capability which is so key to successful virtual operations in the first place.

Virtualisation is here to stay. Investors and managers alike have to learn new benchmarks, new practices and above all a greater trust and closer relationship with each other. Doing so exploits the cost savings of out-sourcing, retains the ability to do things well, and, in the end, this new model of a “project financed” virtual biotech may be the only show in town.

