
Book review

Biotech Alliances: Bridging the R&D Gap

Stephen Seget

Scrip Reports; PJB Publications,
Richmond; 181pp; £995

This report sets out to provide an overview of the biotechnology sector and the need for increased R&D productivity in the big pharmaceutical arena. It details some of the alliances within the sector involving biotechnology companies. There are case studies for 14 biotechnology companies, profiling their key alliance agreements, and one chapter dedicated to reviewing the development and investment in the biotechnology industry in selected geographical markets. The report would serve as a useful top-level reference document for some of the industry's largest deals in the last three years, and the profiles of its 14 selected companies. It is assumed that the intended audience is executives of both large pharma and biotech companies involved in R&D and alliance activities.

While the report contains details of alliances in the pharma–biotech sector, one interesting area not analysed by the report is whether biotech alliances have actually helped to bridge the R&D gap in the pharma industry – that is, have they delivered the required value? Analysis of the pharma industry's output (products, productivity and revenues) as it is derived from their biotech alliances would have added significantly to the richness of the report. It would also be interesting to understand whether some types of alliances create more value than others, for example multiple target/product deals with a single biotech company *v* smaller alliance deals with several companies.

The initial chapter reviews the evolution of biotechnology, where biotechnology is defined as 'any

application that uses living organisms to modify human health', and a biotechnology company as one that 'focuses on novel molecular biological techniques [and uses them] to identify and develop commercial products'. Growth and success of biotechnology-derived products are reviewed in terms of patents granted and products approved and launched. This chapter goes on to detail the author's segmentation of the biotechnology industry and this is used to underpin the remaining chapters. This segmentation is by technology:

- traditional/integrated biotechnology (recombinant insulins, monoclonal antibodies, interferons, etc);
- genetics-based technology (genomics, proteomics and pharmacogenomics);
- enabling technology platform providers (bioinformatics, combinatorial chemistry and high-throughput screening); and
- specialised drug technologies (gene therapy, cell therapy and immunotherapeutic capabilities).

In total, this seems unnecessarily constrained by restrictive definitions of a sector that is comprised of highly heterogeneous technologies (and should encompass, for example, small molecule technologies) and business models.

Chapter 2 reviews the challenges in R&D productivity and makes a case for the need for pharma–biotech alliances. A review of statistics, non-biological product approvals and launches, increasing R&D costs and patent expiries is contrasted with novel, high-performing biological products and biotechnology's advantage in motivating its workforce.

The key chapter reviewing biotech–big pharma alliances looks at various measures in order to demonstrate trends in number and types of alliances. It profiles the number of deals by therapy area and technology, and details the range of alliance structures and the trend towards sustained/continued relationships between parties. This chapter hints at the relevance, but does not explore in detail, the alliance structure as it relates to a biotech's business model and its stage of evolution. Although there are enlightening quotes by biotech executives that highlight the importance of this evolution, the report could be enhanced by reviewing the impact for big pharma in terms of relative value generation. Buy early, or collaborate later?

Ten ground-breaking deals of the 21st century, and the top ten deals by value (all between May 2000 and May 2002) are profiled; however, the resultant value generated for the big pharma party is not the focus.

The penultimate chapter presents an overview of the global trends in

biotechnology activity – key geographical clusters/markets, investment, number of companies and growth trends/forecasts. It includes the USA, Europe, Australia, Canada, Cuba, India, Israel and Singapore. This is a good reference data chapter, although its placement so late in the report is slightly confusing.

The final chapter contains case studies of 14 companies that are drawn from the initial biotechnology industry segmentation definitions. It provides a good summary of key alliance agreements signed over the last two-to five-year period for those companies.

In summary, this report provides some detailed analysis of alliances between pharma and biotech companies. The report does not, however, extend into the interesting area of whether they have actually helped bridge the R&D gap for big pharma, or generated value, and whether they can be expected to do so at the required rate in the future.

*Nerida Scott
Ribotargets, UK*