
Book Reviews

Innovation and Entrepreneurship in Biotechnology, an International Perspective: Concepts, Theories and Cases

Damian Hine and John Kapeleris

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Hine and Kapeleris have set themselves the challenge of interpreting the diverse industry of biotechnology within a social, business and economic context. They have undertaken a thorough review of the economics and innovation management literature and applied ideas that have emerged about technology economics in the last few decades to the biotechnology industry.

What results is a quite different way of looking at the biotechnology 'industry' from the business and technology-focused journals that abound on the subject. There is an interesting review in Chapter 5, for example, about how knowledge is captured and appropriated, and how products proceed through the long and tortuous life cycle. The authors give us some useful ways of thinking – such as the idea of absorptive capacity (a firm's ability to acquire and integrate external knowledge, first suggested by Cohen and Levin in the early 1990s) and its significance for biotechnology companies.

The conceptual frameworks are useful for describing what is going on in general terms but one cannot help feeling that the authors miss the subtle nuances and details that make the biotechnology business so diverse and unique – and arguably therefore, not

amenable to many generalisations. The conclusions at the end of each chapter are largely summaries of what has been said before – they offer relatively little with regard to actions one could take in the light of the analysis that has been made.

Another problem is it is very difficult to find nuggets of information and case studies – despite the claim of the title. References are thorough but the book lacks a thorough index, so if one wanted to know whether the story of the commercialisation of PCR is covered – one of the most fundamental breakthroughs to impact the industry – there is no easy way to find it.

Can we still think of biotechnology as one industry and usefully draw generalisations about this sector, or has it evolved to such an extent that it has outlived the term? In this respect, the book harks back to the biotechnology policy debates of the 1980s and 1990s that have – at least in the US and Europe – since moved on. One can pick a couple of sentences that are the cause of creating this impression: 'biotechnology is an emerging and fast growing industry that has the potential to revolutionise society in the next decade. It promises to provide improved healthcare and treatment of disease, new therapeutics, improved diagnostics, increased

yield in food production and improved environmental management.'

Surely, that potential has now been well and truly proven – at least in relation to medical applications. Furthermore, biotechnology is now a much more complex business, with the 'bio' element being only part of the story – the convergence of other technologies such as robotics, informatics, materials sciences is not really addressed in the book or analysed in terms of the underlying innovation and economic implications.

The audience for such a book is most definitely other academics and it will also help policy makers new to the sector to

understand the underlying drivers. Students of comparative technology economics and policy will also find this book revealing, particularly if they are unfamiliar with the sector.

Entrepreneurs will find it a useful perspective on how academics and economists look at complex industries and break them down, but they should not expect to easily translate this analysis into practical ways of innovating in their businesses.

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