New England Journal of Entrepreneurship

Volume 13 | Number 1 Article 10

2010

Handbook of Bioentrepreneurship (Book Review)

Joseph R. Bell
University of Arkansas, jrbell@ualr.edu

Book Review
Handbook of Bioentrepreneurship

Joseph R. Bell

Holger Patzelt and Thomas Brenner, eds., *Handbook of Bioentrepreneurship,* New York: Springer, 2008, 294 pages. $139.

The *Handbook of Bioentrepreneurship,* edited by Holger Patzelt, of the Max Planck Institute of Economics, and Thomas Brenner, of Philipps University Marburg, represents volume 4 in the International Handbook Series on Entrepreneurship. This book is a collection of articles covering the rapidly evolving biotechnology industry. The editors point out that biotechnology exemplifies entrepreneurial activity and is driven by "high knowledge intensity, long product development cycles, high technological and market uncertainties, and an extraordinary need for capital" (page 2). This book is not for the timid or casual reader of entrepreneurship, but for those with a compelling interest in biotechnology. The editors suggest the book is geared more toward the academic reader rather than practitioners.

In chapter one, the editors establish the purpose of the book as twofold: First, to provide an overview of the current state of the academic field; and second, to identify gaps within the current research and offer suggestions as to how future research might be approached. The following 11 chapters are organized into four parts: (1) the geography of biotechnology and regional networks, (2) strategic and managerial perspectives, (3) university bioentrepreneurship, and (4) legal frameworks and bioentrepreneurship policy (page 3).

The second chapter provides incredible insight into the worldwide biotechnology industry and offers an in-depth analysis of its economics. At times, throughout the entire book it seems appropriate to utter the word "fascinating." For its part, this chapter presents a comprehensive, eye-opening review of the industry through comparative tables of its economics, the product pipeline and development stage, industry demographics, and key biotechnology clusters.

Chapters three and four focus on social and innovation networks. Both chapters validate the importance of the role that universities play in the formation of biotechnology firms. Some of the conclusions were quite surprising and made for interesting reading. Chapter four (pages 57–58) presents a discussion of how the roles between universities and biotechnology firms have begun to blur. Today, universities and biotechnology firms have ventured into what was once a more clearly delineated stance regarding fundamental and applied research. This essential and timely discussion begins to paint a picture as to the future of the biotechnology industry and changes currently taking place in the pharmaceutical marketplace.[1]

Chapter five, entitled "Strategy and Strategic Thinking in Biotechnology Entrepreneurship," is relatively short (17 pages), but again provides a fascinating look at strategic planning for biotechnology firms. Some observations, such as how the gap between strategy and entrepreneurship has begun to close, and the importance of a reimbursement strategy, make this short but compelling chapter some of the best reading in the book.

The authors discuss in chapter six why strategic alliances are important and how some of the best alliances are formed. This section is comprehensive and provides insights into many underlying factors that drive organizations to form alliances. The chapter is also a wealth of interesting evidence-based trivia including, "of every 10,000 compounds screened, only five will enter clinical testing and only one will receive FDA approval" (page 107), and that alliances are far more likely to form if "their founders have graduated from the same educational institution" (page 110).

Chapter seven continues by discussing strategic and managerial perspectives of mergers and acquisitions. It is especially informative in exposing both reasons and motives for merger and acquisition activities in the biotechnology industry.

Chapter eight offers an intriguing case study of Kirin Brewery Company of Japan and how it went from brewing beer to developing and marketing biopharmaceuticals. The case illustrates a practical example of the strategic and managerial perspectives covered in the previous chapters.

Chapter nine touches on why some university scientists commercialize and why others do not. The chapter is a very enlightening piece supported by reference to some of entrepreneurship's top researchers, past and present. The chapter also addresses how the age of the researcher plays a role in their desire to commercialize—somewhat counter to what you might first expect.

Chapter 10 addresses the "recent phenomenon" of university-based spin-offs. It is outstanding in identifying contemporary issues facing spin-offs, the biotechnology industry, and research scientists. It also presents an informative discussion on the strategies employed by institutions to create and support the "entrepreneurial scientist" (page 198). Continuing on the topic of university biotechnology, Chapter 11 offers a detailed assessment of the current state of patenting, the uniqueness and challenges of patenting biotechnology, and importantly, the patent strategies employed by researchers and universities.

The final chapter, "Legal Frameworks and Public Support in the Biotechnology Industry" sounds interesting but serves as a bit of a letdown with an extensive discussion on the issues as they affect the country of Germany. At times, the same limitation could be mentioned for a number of the other chapters, but those chapters seem to provide enough industry-wide coverage to overcome a country- or region-specific perspective.

In conclusion, the book presents a history of bioentrepreneurship, including comprehensive industry statistics and insightful strategies for the biosciences and entrepreneurship. The book is well organized, contains a comprehensive index, and without exception, each of the articles is extremely well written.

Merriam Webster defines a "handbook" as "a book capable of being conveniently carried as a ready reference," or "a concise reference book covering a particular subject" (2009 Merriam Webster Online Search). The book's title is a bit of a misnomer, for I anticipated reviewing a "handbook." Instead, the *Handbook of Bioentrepreneurship* is neither a reference, nor concise, but it does serve as an in-depth discussion, though at times an academic approach, to the biosciences and entrepreneurship. And, as with any publication addressing an industry with explosive growth and ongoing change, some of the data can become quickly dated. These minimal considerations aside, the book is an interesting read and establishes a compelling factual perspective for the biotechnology industry.

The audiences best served by the book are academicians, doctoral students, and possibly specialized masters' students with an interest in, or need to understand the concept of, bioentrepreneurship. The chapters do waver at times between theory and practicality, but in my current role as a practitioner of biotechnology, I uttered the word "fascinating" far too often to suggest a lack of practitioner interest in the book. Fall into one of these categories and the book is definitely recommended a must-read.

Endnote

1. A February 2009 *Fast Company* magazine article (pages 36–39) entitled "Grand Experiment" discussed the success of drugmaker Wyeth Pharmaceuticals (BioPharma) and stressed that its success stemmed from a research culture being "almost like academia." At the time of this review Pfizer, Inc. was in the process of acquiring Wyeth for $68 billion.

NEJE

About the Author

Joseph R. Bell (jrbell@ualr.edu) is an associate professor of entrepreneurship at the University of Arkansas at Little Rock and an adjunct faculty member at the Bowen School of Law. He is also the associate director for business development at BioVentures, the commercialization and technology transfer arm of the University of Arkansas for Medical Sciences. He teaches Issues in Entrepreneurship, New Venture Creation, Small Business Management, and Law and Entrepreneurship. His research covers early-stage fundraising, entrepreneurship coursework, issues affecting entrepreneurial businesses, and case writing. A previous contributor to the *New England Journal of Entrepreneurship*, his research appears in such publications as *Entrepreneurship Theory and Practice* and *Entrepreneurial Executive.* He has also authored the book *Finding an Angel Investor in a Day: Get It Done Right, Get It Done Fast*.