

## Chapter 12

# Bioentrepreneurship in Medical Biotechnology: Starting, Managing, and Leading Innovative Technologies

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### **ABSTRACT**

*Being a developing sector, biotechnology combines both medical science and various facets of a sustainable environment. Scientific innovations from academics and industry contribute towards the rise of bioentrepreneurship across the world. Medical biotechnology helps the treatment and prevention of human diseases by using living cells and cell materials to research and produce pharmaceutical and diagnostic products. It requires incubation of research, product, and its yield for the improvement of humans to transform medical research into an entrepreneurial industry. Biotechnology provides an opportunity for entrepreneurs to harness the power of genomics for the development and marketing of new therapeutics. These opportunities allow entrepreneurs to visualize the creation of both disruptive business and disruptive technologies for today's business models. This chapter will summarize multiple features of entrepreneurship in the biotechnology industry in combination with other industries and will explain the significance of bio-entrepreneurship in the field of medical biotechnology.*

### **INTRODUCTION**

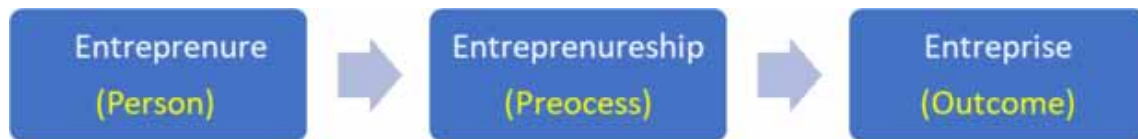
This chapter explains the business need of the rapidly growing area of biotechnology management. Its main emphasis is on the field of biotechnology entrepreneurship and innovation. It addresses the most important theoretical and practical facets of entrepreneurship, concentrating mainly on the innovation strategies that support the growth of new biotechnology firms (NBFs) (Hine & Kapeleris, 2006).

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Biotechnology describes the commercial application of biological species and approaches for the production of pharmaceutical, food and consumer goods (Oakey et al., 1990). Applications for biotechnology include, but are not limited to, bulk and specialist chemicals, health care, food and beverage goods, waste or emissions control, and agriculture (Sager, 2001). On the basis of these definitions, biotechnology entrepreneurship can be described as the inspiration, expertise and behaviour needed to effectively find and leverage business opportunities for the use, production and consumption of goods and services resulting from the use of biological organisms and processes (Gurau, 2021). Biotechnology remains an integral part of our lives in multiple ways. It is now regarded as a crucial knowledge-based organization that produces goods and processes for increasing global needs. Biotechnology provides latest solutions for economic, social and environmental areas of human life. (Roming & Ghidurus, 2019).

An “Entrepreneur” is one who reorganizes and manages only high-risk businesses in particular. An entrepreneur starts his own enterprise. He recognizes the potential of an opportunity, and then employs means and methods to extract maximum benefits out of that opportunity. Entrepreneurship is defined as the potential to develop, organize and run a business enterprise, in addition to all the unpredictability so that profit can be returned in future. A well-known example of entrepreneurship is that of launching a new business. Difference between Entrepreneur and Entrepreneurship is given in Figure 1 (Surbhi, 2020).

*Figure 1. Difference between entrepreneur and entrepreneurship (Surbhi, 2020)*



The two major factors required for the growth of biotechnology business are entrepreneurship and innovation. However, this growth is hampered due to lack of managers and researchers who have sufficient entrepreneurial and business skills in the biotechnology industry (Batterham, 2000; Sainsbury, 2002).

Entrepreneurial characteristics comprises of natural creativity, capability and desire to make decisions in the absence of solid data and a risk-taking temperament. Entrepreneurs are motivated by the desire of creating something new or building something tangible.

## **Process of Entrepreneurship**

While companies are as different and special as the entrepreneurs who build them, most of them seem to be going through a process. The diagram given below describes the process through which most of them create their enterprise. Process of Entrepreneurship is given in Figure 2.

- The six steps of Entrepreneurship are as follows:
  - Idea Generation.
  - Developing Business Plan
  - Funding Raising
  - Promoting
  - Commencing

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