Chapter 12
Theoretical Approaches to the Marketing of Innovation in Biotechnology Firms: New Products for New Markets

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ABSTRACT

The marketing of new products for new markets is uncertain and often leads to confusion. One of the many causes is the wrong use of marketing techniques for mature products whose life cycles are different, although they are very familiar. Biotechnology, with a strong component of technological knowledge and innovative cross-references not to an industry, but rather a set of applications of intricate characteristics mainly due to genetic manipulation, which represents a particular challenge unlike other more mature or traditional product or technology. For this reason, through an innovation-based marketing for new product, new customers and new markets are essential to maximize the success of this technology.

INTRODUCTION

Marketing of innovation is highly complex because the potential customers usually are unaware of the new product. In the same way, the markets as known in traditional marketing are frequently absent. The biotechnology is based on a cross-sectional knowledge, which represents a particular challenge and is different from other more mature and more traditional market products. Customers and biotech markets are different from traditional products as well as their goals and needs.

The studies related to behavior, tactics and influence of marketing in the process of developing a new technology product are relatively poor (Millier, 1997; Di Benedetto, 1997 and Atuahene-Gima, 2000). The most cases of biotechnology refer not to a particular industry, but to crossing a set of applications with multiple characteristics, which can be used in a variety of fields, such as agriculture, pharmaceutical, information technology, environment, etc. This makes both the customers, markets, and the objectives and needs of biotechnology, different from that of any other technology or industry.

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The uses of marketing strategies, which increase the likelihood of success of a new product, are crucial for biotechnology firms. In this context, it is important to highlight how these companies are faced with two major problems of marketing. The first is the novelty of the product, a situation that makes it unknown to potential customers; the second is whether this novel product will meet the needs of those customers, a distance by the nature of biotechnology (doctors, biologists, engineers, etc.). The challenge is how to reconcile the two major problems through marketing innovation, and not through the operational marketing (Montalvo, 2005) that is commonly used by companies with more mature technologies.

**METHODOLOGY**

On the base of a review of literature on marketing innovation in general and biotechnology in particular, the study describes the factors involved in marketing innovation so as to increase understanding of its importance, and assesses the impact on decisions that are commensurate with the product to be marketed, i.e. new products for new markets. We analyze the conditions necessary for insertion of a new product, taking into account the different life cycles that must face.

**THE CHARACTERISTICS OF THE MARKETING OF INNOVATION**

Many authors claim that the development of a new technological product is characterized by a high degree of uncertainty and risk, while retaining the context of turbulence, segmentation and high volatility exist in biotechnology sector. These are elements that somehow prevent the use of conventional marketing themselves useful for more traditional and stable products (Shanklin and Ryan, 1984; Jolly, 1997; Millier, 1997; Mohr, 2000; Day, 2000, Maltz and Kohli, 2000, Van Birgelen et al., 2001).

Biotechnology companies must operate differently than those serving more mature technologies. Foray (1996) explained that at the time of the birth of a technology, its future is essentially uncertain for several reasons:

- The atmosphere is different and the speed of change too, as biotechnology evolves extremely fast.
- Distribution channels are either absent or embryonic.
- We know badly the reaction of potential customers because they do not know the product.

In biotechnology, what often separates the winners from the losers are the measures that take into account the quality of the R&D organization, product advantage, the pre-development activities through preliminary studies that have account of the trilogy -market, technical, finance, also the specifications of the needs of the market and product, competition and compatibility among staff (R&D, marketing, finance) using channels and fluids compatible communication (Jolly, 1997). The intuitive, proactive attitude is necessary to try to anticipate markets, and in that sense, the marketing staff in conjunction with other staff must have the ability to investigate the environment related to potential customers.

In fact, the literature considers that the context of turbulence and high volatility segmentation gives a prominent role to the intercommunication between the different R&D members of the firm. The cross talk between marketing and R&D sector is one of the key elements in the success or failure of a new biotechnology product (Atuahene-Gima and Evangelista, 2000; Atuahene-Gima and Li, 2000, Sherman et al., 2000; Maltz and Kohli, 2000). Thus, we observe the importance of interaction between marketing, finance, manufacturing sector, customers and definitely R&D. The inter-