

Marketing and Partnership in Response to the Generation of Expertise in Biotechnology Firms

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Abstract: *Biotechnology is a very complex sector by the high investment required and uncertain to complete the long and critical R&D for the bio-molecular development. In addition, the firms must support the risk and extreme long time performance from discovery to final product. The development of new bio-molecules, particularly in the pharmaceutical sector needs more than ten years of research and between 800 and more than 1300 million U.S. dollars. This critical convergence is so intricate that the success of biotechnology firms is extremely hurdled, and many of them disappear in the first years of their live. Strategic alliances could be a significant player coveted in order to acquire the resources and skills gaps. In this order, the paper sets out to identify if alliances between those players could be an advantage for the acquisition of new dynamics capabilities and help to create value to these firms or not.*

Keywords: *Marketing, Partnership, Biotechnology, Firms, Risk, Expertise.*

1. INTRODUCTION

The chemical industry, considered as the first to have had a scientific base, constitutes a very heterogeneous sector. Molecular biology is complemented by the chemical industry in its steps, and the integration of two sciences have formed the young biotechnology sector, which is indivisible for develop bio-molecules. In addition, the development of biopharmaceuticals firms from 1920s to now results in the emergence of medium and large multinational companies intensives in R&D that work today in biotechnology (Krogmann and Schwalbe, 2011). The biotechnology firms were restructured while being interested in the always-promising sectors of pharmacy and agrochemicals. These two sectors form oligopoly structures in an environment of very high competition. In these industries, the R&D department is the primary component of importance, and the costs to complete an innovating product are often very high. For example, it will necessarily "invest" from ten to fifty years and between 600 million U.S. and more than 1300 million U.S, on average, for a new bio-molecule to be available on the market, included in these figures are the opportunity costs of development (Di Masi, 2007). The knowledge conditions, is the primary sticky in the biotechnology sector, with high uncertainty, asymmetries and high transactions costs produce a critical effect and, the strategic alliances could be one answer at this dilemma (Audretsch and Feldman, 2003).

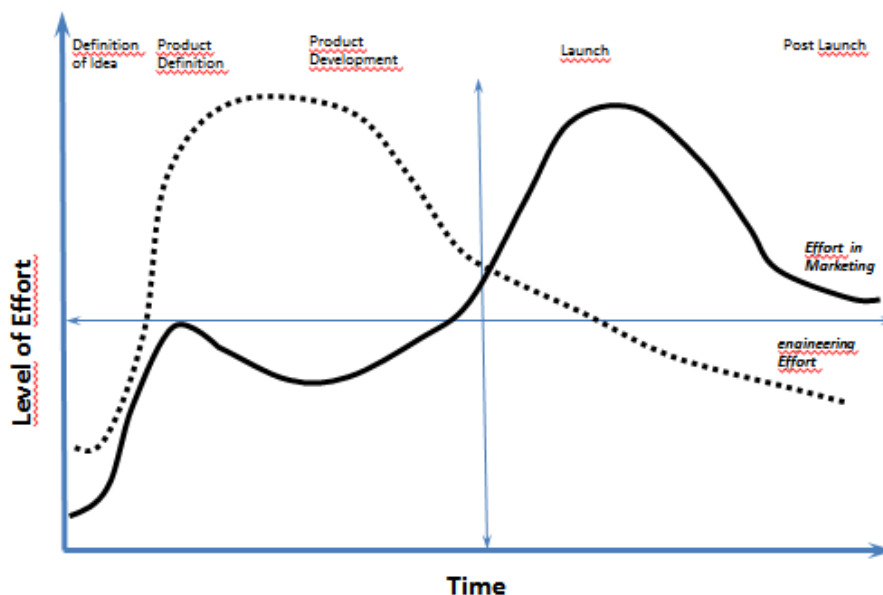
This article implies the review of ambiguity of a complex causal structural partnership (asymmetric differences and opportunism) (Tjekes and Furres, 2010; Lowensberg, 2010) and in a second profile, involves a relative big number of studies made on the relationship between partners, advantages, disadvantage or performance (taken in the broad sense: profitability, but also growth, stability, etc). However, there is less work to explain the influence of partnership on specific growth or failure of biotech firms. Bas and Niosi (2007) consider that in the biotechnology sector, small firms have very low systematically survival rates in the earliest stages of life, due to the high costs involved in R + D + i, lack of knowledge in areas of finance, marketing, entrepreneurship, manufacturing, distribution and risks that this means the survival of an undertaking of this kind. This leads us to believe that a structure of partnership could help these small biotech firms. However, consider a major factor of failure observed in the conquest of new markets with new products, particularly those with a high technological component in bio-engineering terms, mainly due to lack of marketing planning (Bas, 2013).

The literature shows that the companies do not have the same components, nor the same competences or routines. The companies generate a variety of different dynamics capabilities, as if each one of them were equipped with limited rationality or influenced by the social and collective nature of learning (Ambrosini et al., 2009; Srivastava and Frankwick, 2011). The firms do not have identical resources and they do not react in the same way either to same internal or external stimuli, which results in certain companies growing much more quickly than others (Peteraf and Bergen, 2003; Rothaermel and Deeds, 2004). In this complex scenario, the question that we will try to answer is: The alliances can help fill the void in the complexity for development of biotechnology firms and bio-molecules? We will analyse, if the biotechnology firms with alliances develop an advantage in the acquisition of new capabilities, and if they are more efficient in develop new products.

There are numerous risks of failure in everything related to the development of new products and especially if we talk about technology products. According to some authors, these can encrypt in the order of 60-70% in those who do not get to get the desired results in innovative activities (Zineldin and Dodourova, 2005).

It is crucial to consider the different phases of activities, from idea generation, through product development, after its launch and post-launch tracking. Among the different stages, it is important marketing efforts versus the engineering effort, which do not necessarily follow the same guidelines, except in the definition of the idea and product, and launching (Table 1).

Table1. Efforts Level of Different Phases of Activities, from Definition of Idea to Post-launch Tracking on the Time



2. MATERIALS AND METHODS

The article is based on a review of literature on strategic alliances, partnership, marketing, management of biotechnology and development of new molecules. A conceptual framework was developed to incorporate potential benefits or disadvantages associated with the formation of strategic alliances. We analyze whether biotech firms that have materialized partnership agreements allow developing an advantage in acquiring new skills, such as marketing and if they are more efficient in developing new products.

3. RESULTS AND DISCUSSION

The management of partnership is not easy due to the multiplicity of restrictions on cultural, own allies skills. Biotechnology firms may be involved in a partnership at all stages of the value chain, and partner with organizations that are closer to the market and thus generating business, that is the great deficit for biotechnology firms. Lack of marketing strategies, which are also involved in the entire chain, usually “guaranteeing” the failure of the firm.

The literature shows that the partnership or alliance agreements between biotechnology firms; biotechnology and pharmaceutical or biotech firms and universities in recent years, have been reduced, but the opposite effect has been experiencing in investments in such partnership agreements. In this sense, a relatively large number of investments in partnerships between pharmaceutical companies and universities (perhaps the third mission of universities has to do in this equation) is observed.

In the case of partnerships between biotechnology and large pharmaceutical companies, the number is much higher, apparently for obvious reasons domain familiarity sector development. Surprisingly to notice, is the small number of relationships between the pharmaceutical industry and large biotech firms, perhaps because many of them share skills and resources and therefore are in direct competition. The rapprochement between the small biotech firms and large pharmaceutical companies usually begin with a research contract, or rather informal exchange of basic information. Then, if circumstances are favorable, firms will be able to think more formally associated with more complex way marketing programs. Given the importance attached to biotechnology, many governments in industrialized countries encourage universities and their researchers to patent and market their products (Gottinger et al. 2010).

The development of a product derived from biotechnology in human health, it is generally extended in the time and intensive investment, is highly complex, and in the case of the small biotech firms, with owners with low rates of business knowledge and therefore, with a high component of uncertainty. Another aspect to own biotechnological processes is legal, which is expensive, complex and slow, contrary to information technologies, whose times and comparative risks are extremely low (Gottinger et al. 2010). Therefore, the uncertainty related to the market is omnipresent all along its extensive development.

The objective of partnership or alliances between large firms (usually pharmaceutical firms) and firms specializing in biotechnology (typically small), is to obtain benefits for the acquisition of new skills, which are very expensive and unobtainable internally, or it would be too long to play within the firm, beyond the ignorance of some more specifically related to molecular biology in the area of business scientists. Partnership with big pharma, can simultaneously acquire skills allow marketing with all that that means for those firms who cannot or do not know how to establish an efficient marketing plan and increase their chances of survival.

Therefore, it is expected that firms specializing in biotechnology will lose some competitive and comparative advantages, especially in terms of decision making, in order to obtain other advantages that allow them to survive in their ecosystems. These advantages can be represented by the access to finance, laboratory equipment, major international markets, marketing skills or admission to certain markets whose cultural barriers are difficult to cross, such as the eastern countries (Rothaermel and Boeker 2008 Gottinger et al., 2010).

4. CONCLUSION

Biotechnology firms, present great difficulties both to develop and to endure in time. In the same way are many obstacles to get to develop their self bio-molecules, financing and approval of their products. These risks lead to biotech firms to build partnerships, both between biotech-biotech firms and /or biotech-pharma and also biotech-university.

However, the management of biotechnology firms, particularly on the alliances, has tried to present these like the central axis of the growth of biotechnology companies. We assume that the partnership by itself do not explain all the fast growth or the acquisition of capabilities in biotechnology firms. Circumstances place the large companies (pharmaceuticals) and the SBF in a kind of constant interdependence in the search for expertise, resources and knowledge. Partnership can provide the financial resources and complementary capability to specializing company in biotechnology, such as the generation of knowledge in business and marketing. The SBF needs more than a simple partnership for the knowledge generation in biotechnology, such as appropriation of knowledge in business in the constant search for profitability in the medium and long term with good management of marketing structure. Evidence relating to strategic alliances are contradictory and not capable of demonstrating beyond doubt the benefits of these in the development and growth of biotechnology firms over time. The creation of biotechnology firms do not seem to be very complex, however, develop, grow and stay over time if they appear, on the basis of costs, resources and skills, not of molecular biology but

strategies marketing and commercialization of the derivatives of the molecules resulting from R & D. Partnership can help in the creation of skills and resources, without being a panacea, nor solve all the problems and disadvantages associated.

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