Sjournals
Scientific Journal of Medical Science (2013) 2(12) 235-241
ISSN 2322-5025
doi: 10.14196/sjms.v2.i12.946

Contents lists available at Sjournals
Scientific Journal of Medical Science
Journal homepage: www.Sjournals.com

Review article

Development potential of pharmaceutical industry in transition countres

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ARTICLE INFO

Article history:
Received 04 October 2013
Accepted 10 October 2013
Available online 28 December 2013

Keywords:
Healthy
Pharmaceutical market
Management – Marketing mix of
Pharmaceutical industry
Transition countries

ABSTRACT

Contemporary medicine is striving to bring man closer to the ideal of eternal life. This ideal is, of course, unattainable within the boundaries of currently existing knowledge, but the breakthroughs in extending life expectancy and enhancements of the quality of life due to medicine and pharmacy are undisputable facts. Just like economic theory recognizes the theory of welfare as a material dimension, it would be necessary to introduce the category of well-being, which could illustrate man's need for a long and fulfilled life free from biological limitations. As a logical introduction to considerations on the issue, which addresses the specific features and applications of marketing in pharmaceutical industry, one is faced with a compelling need for a clear identification of reasons that speak affirmatively in favor of the need for deeper and more systematic elaboration of this subject.

1. Introduction

Viewed from management aspect, data on the sales of pharmaceuticals, as well as various methodologies of monitoring the rate of return on capital, may serve as an illustration of the dynamics of this industry. It is an evident fact that pharmaceutical industry is evolving in its approach to end users through growth in the share of bio pharmacy, suggesting at the same time that substantial structural changes within the industry as well as

business and marketing approach are imminent. The economic force and perspectives can be viewed by analyzing movements on pharmaceutical market, using the research results of IMS Health, a consultancy specialized in informatics support to pharmaceutical industry, and data obtained from Data monitor, an organization involved in market research across various industries at global level. The global market of pharmaceutical, biotechnology and life-sciences products comprises aggregate revenues from pharmaceuticals, biotechnology and products and services of life sciences, where

1. pharmaceuticals market includes prescription medicines and over-the-counter (OTC) medicines;
2. biotechnology sector includes companies dealing in the development, production or sale of products based on advanced biotechnological research; the revenue of these companies comprises revenues from the sale of products, licensing, patent rights and research grants;
3. life-sciences is represented by a set of companies whose products and services enable continuity in discoveries, development and production in the area of biotechnology, such as analytic tools, instruments, operating supplies, clinical research services and various other types or research (Franklin J et al 2011, Gagan Bhalla et al 2004, Gregory T et al 2007)

Potentially, three key reasons may be found in the reality of the world around us. One set of reasons is directly related to pharmaceutical industry and its development potentials. The second group of reasons, in the spirit of the approach it fosters, pertains to the essential determinant of the target market we are trying to appeal to. Demographic factors are a vital determinant of consumer behavior, and have direct and clear implications on the development potential of pharmaceutical industry. On the other hand, the availability of pharmaceutical products and advances in pharmacy are making a direct impact on the structural changes in the demographic map of the world. The specific reasons and conditions for purchasing pharmaceuticals vitally determine the behavior and expectations of consumers of these products, and thus marketing practices in this area have significantly different connotations in comparison with most consumer goods. The third set of reasons justifying the need for addressing explicitly the specific features of pharmaceutical industry and its products can be found in the specific development pathways of contemporary marketing science and practices. At this point, we shall set aside the debate on which of the above factors have priority over others, and not claim that these close the circle of all internal and external factors determining the need to elaborate on the specific features of marketing in pharmaceutical industry (Dickov V et al., 2011, Dickov V et al., 2010)

2. Strategic position analysis

Biotechnology is a powerful market growth generator within pharmaceutical industry, and today, it quite certainly features as its future as well. If we want to compare the relationship between pharmacy and biotechnology, we can use an analogy with the development of marketing, where biotechnology, with its approach, is equivalent to the ideal of one-to-one or individual marketing. The product of biotechnology is the ultimate product customization, a medicine tailored to final consumers' demands, addressing their needs in a unique way. Viewing the period from 2005 to 2009, the average growth rate on the market of pharmaceuticals, biotechnology and life sciences amounted to 8.6%, leading to a total sales value of these products on the global market of 238.1 billion US dollars (Jennz Darroch et al 2004, Dickov V et al 2004). The ten top pharmaceutical companies sold 42% of all pharmaceuticals supplied on the global market last year. A glance at the list o 50 most prosperous pharmaceutical companies reveals a remarkable fact that they sell almost 90% of global medicine production. Pharmaceutical market can be regarded as exceptionally dynamic. The list of top 50 companies (Pharmaceutical Executive, May 2007, p. 99) is subject to changes resulting from strong competition, substantial investment in R&D, and a multitude of mergers and acquisitions. The largest pharmaceutical group in Europe is the result of merger of Aventis and Sanofi, in August 2004, which led the new company to the position of the third most successful pharmaceutical companies. Leading pharmaceutical companies (the so-called Big Pharma) invest in acquisitions of biotechnology companies, which, intrinsically, have a substantially different organization and business logic. The foreseen trend of shifting to biopharmaceutical products potentially gives rise to a completely new picture of pharmaceutical industry in the near future. The other significant trend refers to the express need for cost cutting in health insurance, which, for pharmaceutical industry, means further intensification of competition between generic products and producers. In a nutshell, ‘in 20 years, it will not be the pharmaceutical industry as our parents knew it’ (‘The Next 30 Years’, Pharmaceutical Technology, December 2007, p. 40). Management -Marketing mix practices and postulates applying to pharmaceutical industry will evolve in

accordance with the changes and practices of the industry itself (Dickov V et al., 2011). By nature, pharmaceutical industry is highly capital and technology intensive. The survival of companies in this industry is highly dependent on their research and development competence, as well as the ability to sell products, where remaining within national boundaries is not a sustainable strategy. All forecasts show that pharmaceutical industry has an incredible development potential. The task of every player on this market is to translate this potential into sales. It is not a coincidence that worlds' No. 1 producer, Pfizer Inc. (see Highlight 2), credits the company's key strength to its above-average marketing competence. When analyzing the regional markets of pharmaceuticals, it is evident that the arisen changes result from trends in the industry at the global level. If we limit our consideration to the former SFR Yugoslavia, three leading producers : Pliva - Zagreb, Lek - Ljubljana and Hemofarm - Vršac - are today parts of large international pharmaceutical companies (Dickov V et al 2011). Pliva, Zagreb is a subsidiary of Barr Pharmaceuticals, based in Pomona, USA. At the moment of takeover, Pliva was selling only 10% of its production on the domicile market, and the American corporation is alleged by media to have paid 2.2 billion dollars for the Croatian pharmaceutical company. Barr Pharmaceuticals and Pliva are examples of companies whose operations are based on generic medicines. By combining production, R&D, and unique knowledge of the market and abilities of the local management, Barr Pharmaceuticals is striving to reach the position of global leader on the generic medicine market (by combining sales results of both companies in the past period, they could be expected to take up the third place on the generic product market). Pliva's unique selling point could also refer to biotechnology segment and production of active chemical substances. It is interesting to mention that one of the possible bidders for Pliva was also Actavis of Hafnafjodur, Iceland, owner of the Serbian pharmaceutical company Zdravlje, Leskovac since 2002 (Dickov V et al 2011). Lek Pharmaceuticals Ljubljana has been a subsidiary of Novartis of Basel, Switzerland since 2002. The Slovenian pharmaceutical company was acquired for 900 million US dollars. The following year, Novartis decided that the 14 generic brands owned by the company should be included in a 'blanket' brand – Sandoz, by setting up Sandoz GmbH, a group specialized in generic pharmaceuticals. Novartis is the fourth most successful pharmaceutical companies with revenue in 2006 of nearly 30 billion US dollars. Sandoz, as Novartis' generic business, accounts for 20% of total revenue. The third biggest takeover in the region is the takeover of Hemofarm, Vršac by German corporation Stada Arzneimittel AG, Bad Vilbel. The German corporation allocated a little under 600 million US dollars for the purchase of our national pharmaceutical company (according to Bojadić, 2005, p. 26). This acquisition of the Serbian pharmaceutical firm is the greatest venture in the history of Stada, established in 1895. In the words of H. Retzlaff, the Chairman of the Board of Directors of the German corporation, the acquisition of Hemofarm means 'door open wide for sales in Eastern Europe', as well as production and development inside the company at low cost, as Stada had been highly dependent on outsourcing in the previous period. What is of special importance for the German partner is the fact that Hemofarm built a facility in Kaluga region, Russia, in 2006. The company's sales growth during the previous years opens a possibility of profitable production within its own capacities obtained by the acquisition of Hemofarm ('STADA Arzneimittel AG'; Company Profile, Datamonitor, May 2007). Expanded in-house development opportunities will also make a positive impact in terms of reduced costs of 'hired' intellectual property, and price competitiveness is a primary competition tool on generic product market. H. Retzlaff highlights that Stada has provided for long-term growth on the markets it services, as a result of medical advances, demographic changes and economic progress in the developing countries. The common denominator of the described acquisitions of Pliva, Lek and Hemofarm is the production of generic pharmaceuticals. Analyzing global pharmaceutical market, generics emerge as a logical response to the pressure for health insurance cut costs. The second source of growth is the fact that the expiry of patent rights on the medicine, the generic version, with substantially lower price, enables the availability of the medicine to a much broader patient base. Generic pharmaceutical industry will be regarded as a significant development route of contemporary pharmaceutical industry. In addition to Hemofarm as the largest pharmaceutical firm in Serbia, the key pharmaceutical companies in the country are Galenika a.d., Beograd and Zdravlje- Actavis, Leskovac. The second largest pharmaceutical company, Galenika, covers almost 30% of the national market. It was established in 1945, and has the longest-standing tradition in medicine production in Serbia. They have just emerged from a five-year dispute between the American company Valeant Pharmaceuticals International and the Serbian government over ownership stake,

which was concluded with a ruling that Serbia is the 100% owner of the company. Galenika has a long-standing tradition in the research and development of pharmaceuticals, although the years of litigation have made a deep impact on its operation. The third largest pharmaceutical company is Zdravlje-Actavis, Leskovac, a subsidiary of Icelandic Actavis since 2002- Actavis' core business is production of generic medicines – '...our goal is

to be first on the market when patent expires' (www.actavis.com , accessed February 2008), and what definitely entitles it to a mention is its rise to the list of 50 most successful global companies in 2006. The accomplishment of this Icelandic pharmaceutical company's plans implies investing in Zdravlje through modernization and extension of facilities and achieving high standards inside this industry (Gary P. Pisano 2006, Henry Mintzberg et al 1998). According to data of ALIMS, Agency for medicines and medical aids, Belgrade, the national pharmaceutical product market in Serbia was worth 42,389,483,753.40 dinars, i.e. about 511 million Euros as per National Bank of Serbia exchange rate on May 10, 2007 ('Pharmaceuticals – Trade and Consumption in 2006', ALIMS, 2007, p. 22). The development potential of pharmaceutical industry, the pace of change, high competition levels and forthcoming restructuring leave enough space for thinking about the specific aspects of pharmaceutical product marketing. The pharmaceutical market will continue to change and adapt to the new economic reality '...in which growth is shifting from mature markets to emerging ones; new product adoption is not keeping pace with the loss of patent protection by established products; specialty and niche products are playing a larger role; and regulators, payers and consumers are more carefully weighing the risk/benefit factors of pharmaceuticals.' (Aitken, 'IMS Health Forecasts 5 to 6 Percent Growth for Global Pharmaceutical Market in 2007', www.imshealth.com , accessed April 2008) (Kate Gillespie et al 2004, Mickey C. Smith 1991, Orville C et al 1995)

3. The state and perspectives of developing marketing theory and practices

In accordance with the noted (and sustained) objections, AMA unveiled a new definition of marketing in 2007, which reads: 'Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large' (www.marketing-power.com, accessed January 2008).(Orville C et al 2003, Robert F et al 1991).When considering the specific features of pharmaceuticals Management -Marketing mix, the existing definition is sufficiently comprehensive and relevant to define the complex reality of the environment and stakeholders specific to pharmaceutical industry, emphasizing at the same time the social dimension, which is critical, apparently more than on other markets. At the same time, it is important to highlight the relationship between the marketing function and other functions within pharmaceutical companies, as well as the relationship between the marketing function and environment constituents which are for the successful delivery of the promised value to the consumer. The confirmation of this assumption is find in Berry and Marabito (2006), who propose that the key mission of marketing is to enhance the quality of life, and that an organization's business performance results from its success in accomplishing the given mission. Approach to studying pharmaceutical marketing will contain elements of object-oriented approach to marketing, as one of the basic distinctions will rely on the specific nature of the products, i.e. specificities of their production, sale and consumption. Relative consistency of the basic principles12, elements and functions of marketing in theory and practice has led to a more intensive appreciation of specific features of markets of individual products and/or product categories , leading to the intensification of object-oriented approach to marketing. Emphasizing the importance of environment factors, M.C. Smith (2002), one of the most important authors in the field of pharmaceutical marketing, labels the approach to pharmaceutical marketing as environmentalist approach. Through the analysis of specific features of marketing mix in pharmaceutical industry and analysis of marketing strategies, this thesis will also assume the features of marketing management13 approach, posing the key question, 'how should organizations market their products and services?' (Shawn, Jones, 2005, p. 256). Pharmaceutical market offers a large number of challenges to marketing theory and practice, "paradoxes and unique facets" (Smith et al., 2002, p. 15), as well as a unique example of mutual influence of marketing and a complex social system including economic, legal, political, social and ethical issues. At the end of the introduction, it is possible to touch on another common strain linking marketing and pharmaceutical industry – namely, both marketing and pharmaceutical industry have long been under barrage of criticism. This makes the very idea of marketing in pharmaceutical industry, in a way, dually controversial. What is it that displeases the detractors of marketing? Marketing has a consumer centric vision of the world, and moreover, the public '…sometimes justified, sometimes not…' (Kotler, Armstrong, 2001, p. 751) level a whole range of objections to marketing practices. Marketing is condemned for: overpriced products, deceiving consumers, aggressive sale, poor product quality, incorporated product obsolescence etc. (ibid., pp. 751-756). Shankar, Whittaker and Fitchett (2006) criticize marketing very sharply, labeling it as a tool of neo-classical and neo-liberal economy, which brought on a consumer-oriented culture, 'increasing mercerization of contemporary society', amenability of the basic assumption of marketing, 'that marketers give people what they want', spurring

consumers' demands beyond practical and functional needs etc. Consumer logic is translated to pharmaceutical products by the attitude that health is 'recast as a commodity and as a distinct personal achievement' (Petryna, Kleinman, 2006, p. 3). When discussing ethical issues of pricing and promotion as marketing mix elements, marketing textbooks frequently quote examples from pharmaceutical industry (see Kotler, Armstrong, 2001, p. 750; Boone, Kurtz, 2004, p. 87). How was it possible for 'an industry that is dedicated to finding cures for diseases and products that alleviate chronic pain and suffering…' (Mole, 2005, p. 261) to be nicknamed 'Big "Bad" Pharma' (ibid., p. 261)? How did '…an industry whose products save people's lives – come to be so reviled?' (Hawthorne, 2004, p. 46)? A combination of products with an extremely high emotional potential for consumer and the industry's above-average profits are a partial source of the negative image (Kermani, 2004). The story of the tarnished reputation of pharmaceutical industry begins in the 1990s, when '...white coats started to give way to dark suits in the boardroom as a new generation of CEOs from the commercial side of the business took over from scientists and doctors' (Feki, 2005, p. 4), and meeting quarterly sales targets became the priority. In an attempt to protect their investment in R&D, large pharmaceutical companies hit the headlines with endless disputes aimed at getting 'questionable' (Hawthorne, 2004, p. 47) patent extensions so as to prevent the production of generic variants of their products. Expenditure on and practices in marketing products to prescribing physicians have caused consternation of the public. Newspaper columns are filled with stories of side-effects of medications resulting in court cases, such as the scandal around Merck's analgesic Viox, ending in a verdict that the company was to pay the patients damages of nearly 5 billion US dollars (Berenson, 2007). A multitude of medications (therapies and remedies) for typical afflictions of the developed world stand in stark contrast to meager advances in the treatment of illnesses affecting people in the developing world (Petryna, Kleinman, 2006, p. 3). Finally, probably a burning issue that equally worries everyone, both the richest and the poorest, is why pharmaceuticals are so expensive. 'The industry reflects a complex, and sometimes controversial, amalgam of science and business.' (Campbell, 2005, p. 4). Can it be supposed in advance what the public thinks about pharmaceutical marketing? Does the solution to the controversy lie in better marketing rather than more marketing? The presented problems burdening both marketing and pharmaceutical industry, as well as pharmaceutical marketing, result from the fact that the eyes of many are turned to pharmaceutical industry, expecting it to resolve our every health (and psychological!) problems, just as the eyes of many are looking at marketing, expecting it to resolve every business problem, satisfy consumers, and meet all stakeholders' expectations. There is certainly room for improvement(Dickov V et al 2011, Tom Blackett et al 2002)

4. Conclusion

Modern pharmaceutical industry is faced with numerous challenges, and the times we are living in 'have been interesting times indeed for those working in the pharmaceutical industry' (Hoffman, 2007, p. 40), but also for the public that keeps a watchful eye on the industry, with an enormous potential for 'doing well by doing good'. Until a new, 'disruptive' innovation, which could change the way we think about pharmacy, it is possible to identify several key courses that are predicted to mark the industry in the forthcoming period:

intensified competition of generics;

foreseen loss of importance of blockbuster drugs;

further advances in biotechnology; and

initiatives for a uniform (global) legislation on pharmaceutical products.

Considering the courses of development in the industry in an article entitled 'Harbingers of Change' published in Pharmaceutical Executive, July 2007, IMS Health's board of editors highlights the creation of special consortiums for researching and developing therapies for third-world illnesses, aimed at filling in the gap in available therapies for diseases that do not afflict the developed world pointed to by Petryna and Kleinman (2006). An important example quoted is the philanthropic foundation established by Bill and Melinda Gates, aiming 'to ensure innovations in healthcare and education to global community' (www.gatesfoundation.org, accessed March 2008). Within the pharmaceutical industry, the forthcoming period is expected to give rise to breakthroughs in various segments of R&D, production and sale of pharmaceutical products. Advances in computing technologies will make an impact on the design of clinical trials, which will, in the period to come, be marked by in silica testing of active pharmaceutical ingredients instead of current in vivo pre-clinical and clinical trials, development of new forms of API delivery, individualized dosage and changes in the packaging of pharmaceutical products are some of the changes to be expected in the forthcoming period (Dickov V et al 2011, Tom Blackett et al 2002).The issue of

health care and its availability within national borders, but also as an important issue for mankind, will remain controversial from the aspect of the confrontation between the purpose and logic of health care, and the fact that it has a price (or at least costs). Pharmaceutical industry functions in a complex and dynamic environment. Analytic approach serves the purpose of explaining individual constituents, but one must bear in mind that their action is manifested as complex and synergetic. Pending the individualization of healthcare and individual patient care, pharmaceutical companies are likely to change their logic in approaching the market and creating the supply of products of services, with the aim of creating value added for the final consumer, as already mentioned. Bio pharmacy has the potential to meet expectations in terms of drug individualization, and it is this area that records a dynamic growth, with pharmaceutical companies making considerable investments in bio pharmacy over the past few years. . The relevance of the issue is related to the above-average performance of the pharmaceutical industry, its role in the generation of humanity's demographic transition, and specific development routes of marketing as a scientific/practical discipline. The world of managed care and health insurance is in a state of flux due to the passage of healthcare reform and continued economic uncertainty. As the dust settles, managed markets managers have to learn to market their products with a leaner staff with new partners in a marketplace governed by new rules. The sensitive nature of a pharmaceutical product on the one hand generates the intense legislation on this market, whereas on the other, the circumstances of its use generate a specific environment in which the production/consumption of the products of pharmaceutical industry is intensively reflected as a specific medical, cultural, economic and even political phenomenon (Dickov V et al 2004, Robert F et al 1991)

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