

EXPLORING THE PHARMACEUTICAL MARKETING-MIX FACING THE CHALLENGE OF BUSINESS INTELLIGENCE IN THE 21ST CENTURY

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Abstract

As we all know the whole world is going through extraordinary times, markets are in turmoil and the recession has badly affected many industries, including the pharmaceutical and health-care industry which have historically been relatively immune to economic turn downs. Today, in modern pharmaceutical companies the current practice is that medical research is working hand in hand with marketing research in selecting product characteristics that best suit patient needs.

Rapid changes in the pharmaceutical landscape have demanded that companies re-evaluate their infrastructure and information delivery methods. Heavy competition for market share, as well as a variety of other industry-driven factors has necessitated the integration of disparate source systems.

In this paper, we discuss the specific impacts of the economic recession on pharmaceutical industry, and also on marketing strategies, trying to offer a conceptual solution to deliver valuable information to the pharmaceutical enterprise. The fundamental challenges on the Romanian pharmaceutical market are another key objective of our paper.

Rezumat

După cum este cunoscut, întreaga lume trece prin vremuri dificile, piețele se confruntă cu numeroase turbulențe iar recesiunea a afectat grav mai multe sectoare industriale, inclusiv industria farmaceutică și cea de îngrijire a sănătății, care până acum au fost relativ imune la astfel de crize economice. Astăzi, în companiile farmaceutice moderne cercetarea medicală lucrează mână în mână cu cercetarea de marketing în selectarea acelor proprietăți ale produsului care se potrivesc cel mai bine cu nevoile terapeutice ale pacientului.

Modificările rapide din peisajul farmaceutic au impus ca societățile furnizoare de medicamente să-și reevalueze infrastructura și metodele de livrare a informațiilor. Concurența acerbă pentru cota de piață, precum și o varietate de alți factori specifici industriei au impus integrarea diverselor sisteme sursă.

În această lucrare se analizează impactul recesiunii economice asupra industriei farmaceutice și asupra strategiilor de marketing, încercând să se ofere o soluție conceptuală prin furnizarea de informații valoroase companiilor din domeniul farmaceutic. Provocările fundamentale ale pieței farmaceutice din România reprezintă un alt obiectiv cheie al lucrării.

Key words: pharmaceutical industry, eHealth, eMarketing, biotech, chronic therapy, acute therapy, business intelligence, Enterprise Data Warehouse

Introduction

Experts argue that while 2008 brought a roller coaster ride to financial markets and economic instability around the world, the only certainty in this year, 2009, for the pharmaceutical industry will be the change, because the economic reality dictates hard decisions and new approaches and to be able to succeed in future markets the disruptive change can determine refocused businesses [1].

The pharmaceutical and health-care industry have historically been relatively immune to economic turndowns, because illness doesn't take a vacation. Yet, with the ongoing recession, financial support will be reduced. Therefore, like in other industries, it is expected that the most affected by the reduced availability in funding will be the early stage biotech and pharmaceutical companies who need funding [2].

Due to worldwide revenues, the pharmaceutical industry is the world's largest industry. Pharma industry has seen major changes in the recent years that place new demands on payers, providers and manufacturers. Customers now demand the same choice and convenience from pharma industry that they find in other segment. The current shift in the marketing strategy is work by multinational pharmaceutical companies [3].

But it is important to notice that pharmaceutical research and development spending continues to play a vital role in the pharmaceutical industry despite the current economic downturn. In USA, for instance, pharmaceutical companies approach a more strategic concentration on key chronic illnesses [4]. In USA it is argued that: "2009 will be a testing time for the pharma industry; U.S. people recognize a need for healthcare reform; industry stakeholders recognize that the pharma industry is facing a difficult period; in 2007 and 2008, biotech companies achieved more leverage in negotiating deal terms; more than 60 million U.S. adults now use Health 2.0 content and services online and more than 20 million consumers post health content online; the pharma industry is trying to exploit the opportunities in eHealth and eMarketing" [1, 2].

Regarding the pharmaceutical industry in Romania, specialists consider that the pharmaceutical market in Romania will not be affected directly by the financial crisis and in 2009 will register a growth of over 10% compared to 2008. We will further analyse in detail the pharmaceutical industry in Romania in the third part of the present work.

Rapid changes in the pharmaceutical landscape have demanded that companies re-evaluate their infrastructure and information delivery methods. Heavy competition for market share, as well as a variety of other

industry-driven factors has necessitated the integration of disparate source systems to provide a single version of “truth”.

The new economic landscape and its likely impact on pharmaceutical industry

With the ongoing recession [2], it is expected that investors are often reluctant to invest their money in biotech and pharmaceutical companies because of other very attractive industries such as buyouts and investments in resources (oil, for instance) and also due to the well recorded risk profile of the biotech and pharmaceutical industry. It is considered that the only way for a biotech/pharma company to be profitable is through acquisition by a larger biotech or pharmaceutical company (this has already started to take place, because with the stock market prices tumbling, acquisitions are becoming cheaper, the big pharma companies having exceptional opportunities to find bargains amongst the unfortunate small to medium companies in need for funding).

Nonetheless, it is important to remember that although the recession has yield great merges and acquisitions by the bigger biotech/pharma companies, the biotech and pharmaceutical industry is also very affected by the economic slowdown, and many of them are cutting jobs and closing factories. The belief of pharmaceutical and the health-care industry immunity to economic turndown is now on hold, and so is the hope for new medicine breakthrough.

On the other side it is worth to mention that in august 2007 Robert J. Murray, the president of search engine marketing firm iProspect from US, argued online that many people are receiving pharmaceutical intervention and more than a few search for information about the drugs online, but the online research is not an easy task because of pharmaceutical sites claiming to be the pre-eminent source of information on a particular topic. The website (which must be purely educational, selling prescription pharmaceuticals over the Internet being prohibited in the US) needs to target both audiences, the end consumer and the prescribing physician and that means unique marketing challenges for the big brand trying to reach their audiences. In Murray's opinion, “smart marketers will remember to speak to multiple audiences, optimize the site around the keywords specific to those audiences, define clear calls to action, and assign a value to each action”.

A year later we have seen that according to a Keller Fay Group report [5] less than 10% of pharmaceutical-related word-of-mouth in the US takes place online, compared with nearly three-quarters that happens in person and nearly 70% of consumers surveyed thought that pharmaceutical information

from peers was credible and believable, even if the peers were not experts, the company recommending that pharma marketers work with compliance experts and the Food and Drug Administration (FDA) to make sure communications are legitimate and ethical. Another research company, Millward Brown, that surveyed doctors (who said that many of the patient-run sites reported negatively on patient care and prescription drugs; they were receptive to engaging online since they themselves used blogs, social networking and other websites for information and advice; they used the Internet at least once per day, for an average of 12 hours every week) in the UK, found that despite the growing popularity of patient blogs and websites, healthcare and pharmaceutical brands were failing to use digital promotion and marketing. It is interesting to note what chief executive officer (CEO) of Millward Brown stated: "Healthcare and pharmaceutical brands need to listen and measure what is being said about their brands offline and online.... Even though more than 80% of word-of-mouth still happens offline, when it's online, it's magnified".

At the beginning of this year, 2009 [6], the huge overwhelming wealth of data available online represents one of the challenges facing pharmaceutical product managers and marketers today, because the information (you find stuff on drug development, clinical trials, being more active in the social media space, trend on the biotechnology side, what drugs were being tested against particular pathway, several pathways and what's trending in each etc.) is not sorted in any useful format for analysis or comparisons.

In the same time a health journalist [7] argued that the internet is helping to globalize and to change the nature of pharmaceutical marketing, the companies involved on the pharmaceutical capitalizing on the advent of the internet and the development of new media forms to promote their products, valorizing the new tools (electronic detailing, interactive websites, email prompts and viral marketing campaigns using social networking sites) and targeting both health professionals and the general public. This journalist (with honorary appointments at School of Public Health, University of Sydney and School of Medicine, Notre Dame University) underlined: the difficulty to police the anonymous marketing of drugs on blogs and forums or to regulate consumers' access to information from countries where pharmaceutical marketing may be less regulated; the further opportunities for pharmaceutical manufacturers to influence consumer expectations of health care and prescribing practices thanks to the ongoing development of internet-related technologies; the considerable gain resulting from the new opportunities provided for those concerned with the quality use of medicines and evidence-based education and from constructive

engagement with the world wide web; the necessity for the 21st century doctors to understand the use of the internet as a marketing tool.

Other specialists consider that pharmaceutical companies need “to better understand and demonstrate the value of their products, lower their costs of distribution, collaborate with partners at home and abroad, and provide value-added services to their customers” and to take into account “the key forces reshaping the pharmaceutical marketplace, including the growing power of healthcare payers, providers and patients, and the changes required to create a marketing and sales model that is fit for the 21st century” [8].

Framework of the Romanian pharmaceutical industry

Romania is ranked 80 in the world of 191 countries on health system's results and performance and ranked 72 on the overall achievement of the objectives proposed by the Ministry of Health and Family (MSF). Compared with European countries it is ranked 38 on health system performance [9].

Joining a downward trend after 1990, which reflected the general evolution of the economy, the Romanian pharmaceutical market has significantly recovered since 1995.

The evolution of the pharmaceutical market in recent years can be briefly characterized as follows: oscillating, growing and tending to normalize. This evolution can be characterized as: oscillating – still with large and non-homogeneous variations; growing – particularly in terms of value; and tending to normalize, because both in terms of share of large segments (80% retail, 20 % hospital), and share of main pharmaceutical groups (cardiovascular and nervous system), we are moving towards a normal market profile.

Romania acceded to the Convention on the elaboration of the European Pharmacopoeia, in the Council of Europe and became a full member since 24.09.2003 [10]. With Romania's accession to the Convention, quality standards of European Pharmacopoeia became mandatory for all medicines for human and veterinary use manufactured in Romania, as well as imported.

The quality of pharmaceuticals products has increased since the entry into force of GMP (Good Manufacturing Practice) on 1st January 2004. However, the number of producers of drugs has decreased from 71 to 31.

From a quantitative point of view, the past six years have registered an increase in the volume of the pharmaceutical market of about 3% annually. But the most significant indicator for the pharmaceutical market is still the number of days of treatment, where the average growth is about 6%

per year. In value, the average increase in recent years, by mid-2008 was almost 25% per year (in euro).

Among the causes that have led to growing pharmaceutical market in Romania by mid-2008, it can be mentioned: high treatment needs, but also the increased level of sensitivity of population regarding health and the need to protect it. On other plans there are also other causes, including: political attitude factor, which has become less reluctant to health and its costs (the most enlightening example is 2004, when, although the obvious electoral reasons, something important that deserves being mentioned has been achieved, namely increasing access of the population, particularly those with low purchasing power, to medicines on prescription; in that year, the growth of this segment was 50% in RON); pharmaceutical companies activity, which, beside the classical actions of promotion, play an important role in the identification and awareness of the role of certain diseases and / or treatments, both for the public and to health system professionals, physicians and pharmacists.

We should also mention that sales through pharmacies have significantly increased in the last six years. In 2000, the value of sales by pharmacies reached approximately 339 million euros on the price of acquisition in pharmacy, the equivalent figure of 295 million euros in producer prices. This segment has developed very dynamically, by increasing its value over three times, while the hospital segment did not reach twice the amount from 2000. This upward trend is due primarily to medicines on prescription, whose share has increased almost 4 times, while the drugs without a prescription over the counter (OTC) increased only 2.5 times. OTC segment represents an alternative at hand in terms of affordability and cost for treatment of minor illnesses. Therefore, this segment has growth prospects and becomes competitive in value, but not in volume. It is interesting to mention that medicines on prescription issued in pharmacies have significantly increased not only in value but also in number of days of treatment. Six years ago, the average price of a day of ambulatory treatment was 0.10 euro, and today it reached 0.18 euros. In five years, it is expected that the price of a day of treatment will reach around 0.25 euros.

In the last quarter of 2008 the Romanian pharmaceutical market was estimated at 1.8 billion euro, while spending *per capita* is below the average in the European Union, namely 85 euro / year, compared with 378 euro / year in the EU, according to data supplied by Cegedim, a market study company [11]. For 2009, it is estimated that the generic products market will register a slight decline of 2 percent, reaching a total of 400 million euros.

The growth of pharmaceutical market was, in general, between 5-20% in the Central and Eastern Europe, Romania recording one of the largest

increases in the region, over 30%. Compared to markets in Central and Eastern Europe, and EU market, Romania's position has improved significantly, as well as its perception. Before that, Romania was below the level of the Visegrad countries, regarding maturity and value. The causes of this evolution are the interest in long-term development (a large number of people with health care needs insufficiently covered) and the commercial interest (for a market which has reached a certain value and is still increasing).

According to data provided by IMS Health Consulting, pharmaceutical market growth, globally, will be reduced significantly for the period 2007-2012. It is estimated showing an annual growth rate between 4- 7%. The data were presented in the third edition of the Annual Congress PharmaBusiness held in November last year, and the main debated issue was "Developing markets in the pharmaceutical industry - new opportunities" [12].

According to Business Standard, the Czech company Zentiva whose portfolio includes the local brands Algocalmin[®] and Antinevralgic[®], dominates the market with a market share of 16.25%, in the rankings done by the market research company, Cegedim. The company Terapia Ranbaxy is on the second place, with a market share of 10.08% and approximately 52 million units sold, while on the third place, it is the producer Iasi, Antibiotice, with a market share of 8.26% and 42 million units sold [13].

Specialists consider that the pharmaceutical market in Romania will not be affected directly by the financial crisis and in 2009 will register a growth of over 10% compared to 2008 [14].

Worth mentioned that the Consumer HealthCare Division of the A & D Pharma Marketing & Sales signed in April 2009 a three years contract to promote drugs without a prescription (OTCs), in the portfolio of Antibiotice Iasi. The contract involves the provision of A & D Pharma services such as personalized merchandising, positioning on the shelves, promoting products in drug stores, and *above the line* (ATL) and *below the line* (BTL) activities for 39 OTCs in the portfolio of Antibiotice Iasi (including Paracetamol, Ibuprofen, Bromhexim, anti-inflammatory drugs and food supplements). "A & D Pharma has the experience and know-how in pharmaceutical marketing consolidated in over 10 years. Antibiotice Iasi is one of the leading local manufacturers, and for A & D Pharma, as market leader in the pharmaceutical marketing, it is a good opportunity for promoting the quality of Romanian products", said Robert Popescu, CEO A & D Pharma.

In connection with the legal framework for conducting activities in the pharmaceutical industry in Romania, it should be mentioned the activity of the College of Pharmacists in Romania (CFR) as a professional, non-

governmental organization, with juridical personality, apolitical and without patrimonial scope, created by Law no. 81/1997. As a professional organization, the College of pharmacists in Romania exerts a specialized control over the activity that takes place in the pharmaceutical units, monitors and defends the prestige of pharmacists. At the territorial level, these powers are exercised by the county colleges and by the one of the City of Bucharest [15].

Currently, the College of Pharmacists activity in Romania is regulated by Law no. 95/2006 regarding the reform of health, by the Regulation for Organization and Functioning and by the Statute of CFR. The College of Pharmacists of Romania, through its bodies, is the professional body representative in Romania in its relations with the authorities and the governmental and non-governmental institutions, domestic and international.

The State policy in the complex field of quality of medicines and other products for human use is carried out by the National Agency of Medicines (NAM), which was founded by Ordinance nr.125/29.08.1998 of the Romanian Government and which also contributes to promoting public health and safety. By exercising control prerogatives, the personnel empowered by the NAM or its territorial units, is entitled to require, and the operators of public and private sector are required to submit documents and to respond to other requests, necessary to check how the legislation regarding the quality of medicines is applied.

In early 2009, at the initiative of the most important local producers of medicines, it was decided the foundation of the Association of Producers of Generic Medicines in Romania (APMGR). The association has as main objectives the promotion of interests of the industry, to initiate an open and constructive dialogue with the authorities and with the civil society and to support the principles of responsibility and corporate governance, in line with European normatives and practices. In APMGR have registered the most important industrial investors in Romania: Actavis, Antibiotice, Gedeon Richter, Labormed, Ozone, Sandoz, Terapia Ranbaxy and Zentiva, which are producing and selling now around 60% of medicines in Romania. "The foundation of this association was necessary in the context in which the local pharmaceutical industry was not properly represented in front of authorities and public opinion," said Dragos Damian, Vice President of APMGR [14].

Worth to be mentioned is the initiative of the Competition Council in March this year, which triggered an investigation of the wholesale distribution of medicines to identify and correct potential anti-competitive practices in the pharmaceutical market. This searching inquiry is not about

the investigation and punishment of certain companies, but aims at examining the structure of the market in this sector, taken as a whole. In this investigation there are considered commercial practices between producers and distributors of medicines and possible artificial barriers created as a result of these practices [16].

Competition on the pharmaceutical market is high and growing. It is increasingly difficult to grow or even to keep the market share. According to Cap Gemini Ernst & Young, a medical representative will spend up to 75% of the time with non-promotional activities: travel, waiting and fulfillment of administrative tasks (conducted surveys have shown that administrative tasks take 1-2 hours per day). As waiting times and travel can not be compressed, tools should be in order to shorten the time necessary for administrative tasks. In this respect, there are now companies that provide mobile solutions of the last generation dedicated to pharmaceutical industry (producers, representatives, distributors) such as, for example, MedEXPERT CRM and MedEXPERT SFA [16]. MedEXPERT CRM contributes to increasing efficiency of promotion activities; effective tracking of marketing activities; resources allocation based on objective criteria and efficient tracking of this allocation; monitoring costs of promotion activities; comparing staff activity based on objective criteria; increasing customer satisfaction. MedEXPERT SFA is an effective solution to increase sales through: sales prediction based on sales data history; complex marketing programs based on market research; competition analysis, promotions, new products etc.; better services to clients: faster delivery, order tracking, removal of orders for products with stock 0; inventory control, customer retention.

Terapia RANBAXY is the first producer and exporter of medicines in Romania, which in recent years has undergone a powerful national expansion and an ongoing international expansion. Terapia RANBAXY already used in 2002 the first version of MedEXPERT Mobile solution. In time, because of the accelerated development of the company and of the sales team (which is today the most numerous of the Romanian industry) it was necessary to switch to new generation of MedEXPERT. Major requirements were represented by the need of porting the solution on laptops and work offline. Since March 2006, all members of the promotion team are using the new version of MedEXPERT and the success is fully.

In the future it is possible that the pharmaceutical market continues to grow, due to the allocation of funds for health, but also to competitiveness caused by increasing competition. Visible effects to the patient will be a faster access to new treatments, but also the difficulty to get

these treatments at lower costs on the local market, due to the possibility of parallel imports from other European countries. We should mention the trend of consolidation in the distribution sector, and the high cost pressure on pharmacies. It is estimated that 75% of pharmacies from the developed countries in the region are confronted with major financial difficulties because of the increasing costs and increased competition.

The challenges of the pharmaceutical marketing process and the current shift in the marketing strategy

To respond to the rapid changing market dynamics the pharmaceutical companies are forced today to adopt a range of corporate strategies, while facing “growing competition from generics and me-too drugs, combined with increasingly tough Public Relations (P&R), a clamp down on healthcare spending, and the need to treat patients for longer due to the aging population” [17].

Changes inside the Romanian medical world require indeed a sense of direction, acting at the right time, and now – in the context where the high quality of healthcare services, responding to customers’ needs, represent a recognized priority for the European citizens – the time has come to resort to marketing as a new method to identify innovation opportunities in healthcare services delivery. In fact, we are right in the middle of implementing the new European Health Strategy process, which aims at secure, high quality and efficient healthcare services.

To target the various customer types many pharmaceutical companies have deployed different strategies, the complex web of decision-makers determining the nature of the transaction/prescription for which direct customer/doctor of this industry is responsible, while the end-user/patient consumes a product and pays the cost. For marketing products to physicians and to exert some influence over others in the hierarchy of decision makers are used medical representatives.

Specialists underline that the key issues from organizational perspective are the following [3]: increased competition and unethical practices adopted by some of the propaganda base companies; low level of customer knowledge (doctors, retailers, wholesalers); poor customer (both external & internal) acquisition, development and retention strategies; varying customer perception; the number and the quality of medical representatives; very high territory development costs; high training and re-training costs of sales personnel; very high attrition rate of the sales personnel; busy doctors giving less time for sales calls; unclear value of prescription from each doctor in the list of each sales person; unknown

value of revenue from each retailer in the territory; absence of ideal mechanism of sales forecasting from field sales level, leading to huge deviations; absence of analysis on the amount of time invested on profitable and not-so profitable customers and lack of time-share planning towards developing customer base for future and un-tapped markets.

On the other side, it is worth to mention that:

- *a vital aspect of the global pharmaceutical industry are the patents, whose protection is essential to stimulate basic R&D and make it commercially viable*; because the pharmaceutical industry is characterized by heavy R&D expenditure, only the large pharmaceutical companies can allocate significant resources for Research and Development (R&D) to introduce new products, the patent allowing the companies concerned to use pricing power for their new products; to protect its own interests a pharmaceutical company undertakes patent registration prior to launching its products in any country, to protect the interests of the consumers being necessary the approval of the product by the drug authorities in that country, the process for seeking approval being initiated, in generally, alongside the patent registration process; the uniformity in patent laws across the world is being implemented under World Trade Organization (WTO) according to which a product patent life is of 20 years;

- *there is a difference between the acute and the chronic therapy area*, because the level of competition on day to day basis is very high in the acute segment (in acute cases doctor is changing brands on day to day basis) compared to chronic segment (in chronic cases the doctor has to prescribe drug for a long time and patient is supposed to consume it without any change of brand; there are companies which operate in niche formulations (chronic) market parts (such as psychiatry, cardiovascular, gastroenterology and neurology) and many companies which are focused on antibiotics and anti-infectives (acute) or on therapeutic areas (such as depression, hypertension and cancer);

- *there are two models in both acute and chronic segments describing the bases of marketing strategies*: 1) *a super core model* involving the search for, and distribution of a small number of drugs from chronic therapy area that achieve substantial global sales (every company is striving very hard to enter in this area, the major strategy involving right focus to highly specialized customer by well trained team; the success of this model depends on achieving large returns from a small number of drugs in order to pay for the high cost of the drug discovery and development process for a large number of patients, total revenues being highly dependent on sales from a small number of drugs); 2) *a core model* in which

a larger number of drugs from acute therapy area are marketed to big diversified markets (one of the important strategy here is presenting a large number of products and taking the advantage of opportunity cost; the success of this model is not dependent on sales of a small number of drugs).

By approaching the *super core model*, the author shows that in the pharmaceutical market there has been a significant shift from acute towards chronic therapy area, the chronic segments driving the growth of the market as leading prescribers in these segments are specialists as opposed to general practitioners.

Pharmaceutical marketing, a comprehensive approach

In a very well organized book of marketing, the passionate Dr. Mickey Smith and his collaborators [18] provide a comprehensive understanding, starting from the principles of marketing pharmaceuticals and underlining their application in response to the environmental factors in pharmaceutical practice, by exploring the pharmaceutical marketing-mix. They argue that: marketing costs account for as much as one-half of the selling price of all the purchased goods and in order to better determine whether we are receiving good value for our marketing investment, than, we should have as consumers some understanding of the nature of these costs; marketing has always existed and the principles of pharmaceutical marketing will bear application throughout the (producer) industry; because the products of the pharmaceutical industry affect people's health, some of the influencing factors assume greater importance than that attached to the stimulation of sales; today, *in modern pharmaceutical companies the current practice is that medical research is working hand in hand with marketing research in selecting product characteristics that best suit patient characteristics*; there is an undesirability of the pharmaceutical products (one of the many unique characteristics of the drug industry), because patients would prefer, with few exceptions, not to purchase a prescription, an explanation for the unpopularity of the prescription drugs and for the even more unpopular prescription drugs prices, the last ones (drugs prices) being as a consequence regularly publicly criticized; the community pharmacists receive sometimes the complaints, while at other times is criticized the whole industry and, as a consequence, there is no right price – only a “too high” price (or a “soaring” price); that is why what that price should be is a part of the task of the marketing department (wanting to know: expected sales of the product; price of competing products; cost of R&D; nature of the market etc.) to determine; for a given product several prices will be set in practice, the price per capsule for a given antibiotic, for example, might differ: as sold in varying quantities, as

sold to retailers, as sold to the wholesalers, as sold to hospitals, as sold to physicians, or when sold in foreign countries; many business reasons go into the determination of price, for example, to avoid placing a financial burden on the limited number of persons requiring some drugs they could be actually priced at a level that incurs a loss.

By approaching the social position of the pharmaceutical marketing, Dr. Mickey Smith and his collaborators underline that drugs affect and alter health and by their very nature they play a prominent role in society, consequently the drug industry also playing a prominent role in: discovery and development of new drugs; rapid and safe development of these drugs into useful therapeutic tools; production and distribution of safe and efficient existing drugs. As the health field is ripe for exploitation, we have to observe that: the vulnerability of the sick has led to the development of an extensive network of regulatory devices, self-imposed by the industry and enacted by government agencies, for the protection of the public; the most highly regulated of all is the pharmaceutical industry (from manufacturer to practicing pharmacist), the unethical and unscrupulous being controlled by laws and regulations ranging from restrictions on the content of manufacturers' advertising to requirements that the distribution of the prescription drugs at the community level be limited to licensed health professionals; the patients need have possession or use of the right product, at the right time, in the right form (colour, size, shape, flavour, composition, grade, class, fashion, texture, etc.) and in the right amount.

As mentioned in our analysis on the pharmaceutical industry in Romania, competition on the pharmaceutical market is high and growing. It is increasingly difficult to grow or even to keep the market share. In this "struggle" will come out as winners those who have the tools to help them to collect and process data about customers, products, competition, to monitor the expenses and sales, to allocate resources according to the results, and to stimulate the sales and promotion force based on objective criteria.

Coming back to Kumar Saxena we have to note that pharmaceutical marketing is a specialized field where medical representatives form the backbone of the entire marketing effort, the pharmaceutical companies appointing medical representatives and assigning them defined territories [3]. Medical representatives meet doctors, chemists and stockiest as per company norms and try to influence prescription pattern of doctors in favour of their brands. Regarding the pharmaceutical distribution channel, the pharmaceutical companies appoint one company depot or (Cost and Feasibility) C&F agent usually in each determined area and authorized stockist(s) in each district across the area. For instance, the pull system

working in chronic therapy segment is as we can see in Fig. 1. The main characteristic of this approach is ensuring of auto demand with limited availability and maximum liquidation of the products, doctors being in this system the core customers. The major thrust is given to build and retain doctors (core customers, they are pulling the demand for products), hence companies also give main emphasis in building and retaining doctors, all efforts being put for generating secondary sales (i.e. from stockist to retailer). To remind their products on daily basis to their direct customer (doctor), companies require more and more field force (that should have: good knowledge of product schemes and offers, a good rapport with retailers) for marketing of these types of products and ensuring good availability of their products to convince doctors and “push” their products (i.e. from Stockist to Retailer to Doctor). For a better professional interaction, it is very important to consider the needs of both pharmaceutical companies and their representatives on one side and physicians on the other side.

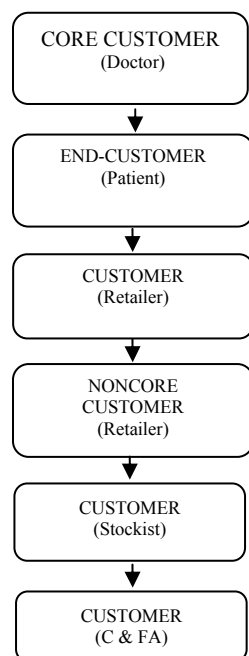


Figure 1

The pull system working in chronic therapy segment

Source: Kumar Saxena, Saurabh - A review of marketing strategies work by different pharmaceutical companies

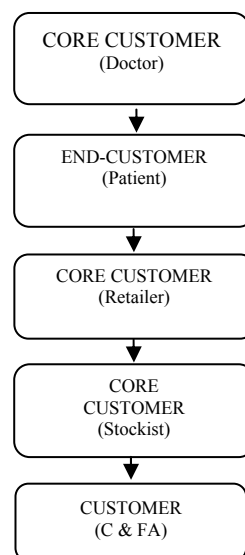


Figure 2

The push system working in acute therapy segment

Source: Kumar Saxena, Saurabh - A review of marketing strategies work by different pharmaceutical companies

Regarding the push system working in acute therapy segment, this can be seen in Fig. 2. Doctors and also retailers (as most of the times they are substituting the products based on their own discretion) are the core customers in this system. The major thrust is given to build and retain these customers. Products are being pushed in to the market, generally representatives placing product orders from their stockist on the basis of Stock Keeping Units - SKUs sold and schemes. By understanding the customers' delivery requirements Supply Chain Managers can provide considerable value to their companies, account segmentation (to identify market segments such as acute and chronic therapy market) being a very powerful tool for understanding these requirement, while logistics.

In conclusion, the commercial success can be derived either from a cost advantage or a value advantage or ideally from a combination of both, the organization with competitive advantage tending to be the cost leader in the industry or a seller of most differentiated products amongst all the players. In both phases (in acute as well as in chronic), the role of the supply chain is very important and when a company changes its concentration from acute to chronic therapy market the success of any pharmaceutical industry depends on the competitiveness of the supply chain, the company must tailor its supply chain offerings in order to meet the needs of each of the market segment it serves.

The challenge of business intelligence in the pharmaceutical industry: conceptual solution to deliver information to the enterprise

To enable pharmaceutical companies to continue to compete in an ever-evolving market, characterized by heavy competition for market share, as well as a variety of other industry-driven factors, it is necessary to have a marketing approach satisfying information integration by reevaluating the infrastructure and information delivery methods. As mentioned in the third part of our paper, there are Romanian companies that provide integrated solutions of the last generation dedicated to pharmaceutical industry such as, MedEXPERT CRM and MedEXPERT SFA. Terapia Ranbaxy, Mundipharma Romania and Farmexim are only few companies in Romania that decided to use complex mobile solutions for sales force automation and customer relationship management. Only in this way, management is able to take business and marketing decisions in the shortest time that will increase customer satisfaction and team effectiveness.

As a result of an increasingly dynamic environment, challenging the pharmaceutical industry, the business flow of the pharmaceutical organization (see Fig. 3) recorded, step by step, a real progress, the need to

effectively analyze both internal and external information being driven by the growing competition, government regulation, product segmentation and corporate consolidation [19].

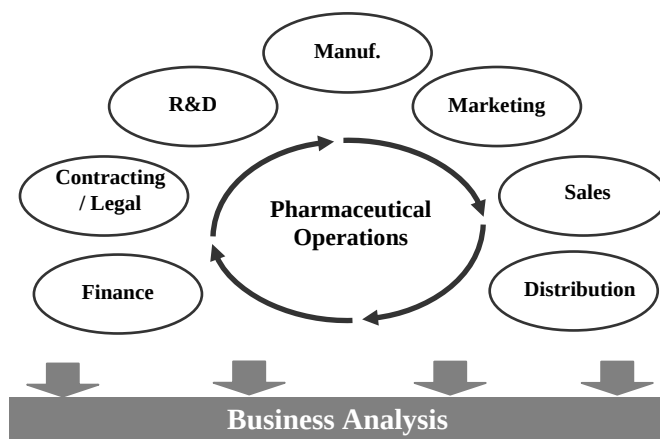


Figure 3

The business flow of a pharmaceutical organization

Source: Crolene, R. David - *An Infowise Solutions White Paper. Series Pharmaceutical Business Intelligence*

It is well known that true power is harnessed when information is integrated across components, each component driving, from a business perspective, every other component in a synergistic cycle. Enterprise business intelligence systems must be developed and deployed in order to satisfy the corporate-wide information integration requirements, most information systems (helping companies with: *business intelligence/* understanding the needs of the business; *business management/* managing internal operations based on those needs; *business operations/* running the business based on management directives) being built around the day-to-day operational needs of the business unit. A *critical approach in the pharmaceutical industry* is (see Fig. 4 displaying the processes and resulting functions of an EDW approach) the *Enterprise Data Warehouse (EDW)*. This is a platform upon which an organization can integrate information from a variety of sources into a common and consistent format and deliver it to analysts through a business-oriented semantic layer), one of the key enabling technologies to the evolution made possible by the enabled companies which have realized the opportunity of a business landscape characterized by: customer relationships, product delivery, opportunity-driven profit.

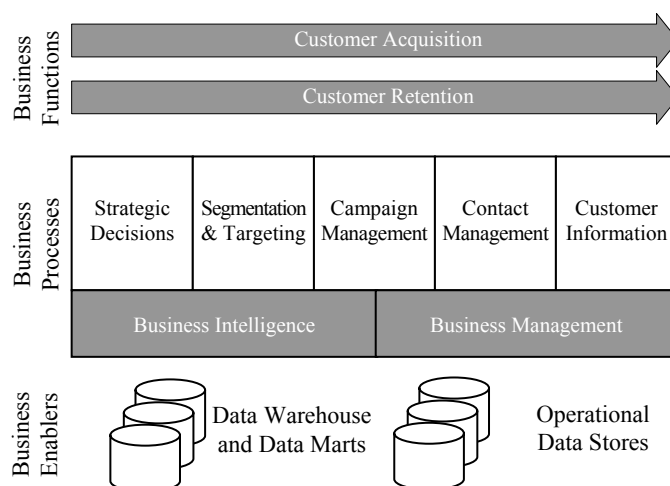


Figure 4

How the data warehouse delivers business intelligence capabilities to support business functions in the pharmaceutical industry

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The fact that there is a broad range of candidate data sources to integrate represents one of the unique characteristics of a pharmaceutical EDW (providing insight that drives new customers, helps retain current ones, streamlines operations, reduces costs and helps management to achieve their targets), being a real challenge to prioritize just a few of the candidate data sources for a pharmaceutical EDW (see Fig. 5) and find methodologies to merge them into the pharmaceutical EDW.

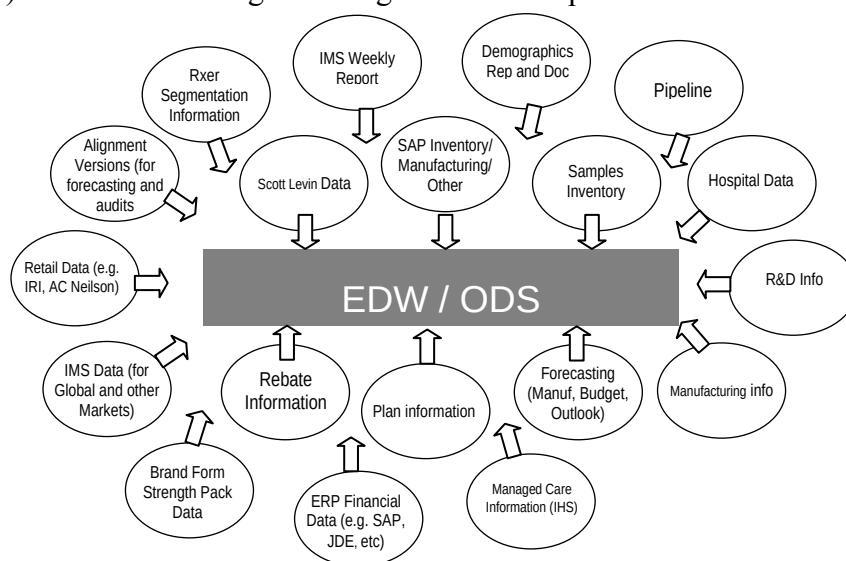


Figure 5

Candidate data sources for a pharmaceutical EDW

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There are also other several additional key challenges unique to the pharmaceutical industry: a great dependency on third-party data (it would be very difficult to analyze sales data without third-party information since most pharmaceutical inventory is sold to wholesalers and not directly to customers); many of the data sources are available at different intervals; external and internal data often are not readily nor easily mapped together; different parts of the business often view or align the same data in different ways (marketing analysts may view product and market roll-ups differently than sales analysts, for example); many pharmaceutical data warehouse users are often remotely located which may drive the need for a more sophisticated delivery process; there are many regulatory security and reporting requirements that are imposed on the pharmaceutical industry; the pharmaceutical industry is highly dynamic, therefore, an EDW must be constructed with adequate flexibility so that such changes do not require major modifications to the system.

In order to face increased competition and external pressures it is *very important for the companies to realize the pharmaceutical analysis and to discuss the specific challenges and possible approaches* such as those suggested by Crolene:

- consolidated big-picture information store, by extracting information from forecasting and finance systems and integrating it with manufacturing, market research and sales data, accurate values being derived for budget, manufacturing, and outlook;

- heavy analysis needed to determine financial viability given various scenarios, with analytic insight into product performance, doctor segmentation, competitor information and product synergies);

- measuring price sensitivity, by using an integrated EDW allowing to measure the impact that pricing has on consumption and prescriber/user acceptance, key sales and prescriber information being consolidated with price information to measure elasticity;

- targeting the most lucrative customers while addressing those who are more problematic, by integrating Enterprise Resource Planning (ERP) information with sales and marketing information, companies determining the value of its customers and how best to manage those who are not high value;

- facing often fragmented development, manufacturing and inventory information across a wide range of operational systems, by using an integrated EDW that allows analysts to track market research, manufacturing, inventory and distribution data and report on it internally and externally with the same rules and assumptions;

- beginning market research activities in the prelaunch drug development process (R&D is the lifeblood of modern pharmaceuticals), by establishing an integrated repository of analog drugs, insurance and managed care purchase trends, and competitive intelligence market analysts better working with upper management and R&D to drive the company's overall product strategy and focus;
- facing technical and business risk, by maintaining a database of the molecules that have been developed and all of their characteristics and allowing R&D executives and scientists the ability to search for certain characteristics and adverse interactions among them;
- determining the most effective product segmentation and acquisition/development strategies within the pharmaceutical industry (being critical to ensure that new and/or segmented drugs provide the greatest value and open new markets to a company while not overly cannibalizing existing product sales);
- facing the difficulty to directly track customer behaviour in an environment where customer privacy is protected and measuring campaign performance, by an EDW approach and assimilating demographic, campaign and sales performance information to obtain high-level campaign analysis;
- adequately analyzing both E-business in the pharmaceutical business, business-to-business (B2B, typically applied to reorder systems and business transaction type information) and Business-to-Customer (B2C, applied to product marketing web sites), by an EDW approach providing a set of conventions and processes that allow the integration of web-based information into the overall data warehouse, facilitating web analysis (such as customer analysis, campaign analysis, survey data) and opening the doors to integrating other enterprise information (such as sales and marketing data);
- facing the difficulty to integrate finance and sales information, by creating a cross-reference key between financial indicators and purchased sales performance information at the territory or sales representative level, being possible to generate sales force metrics to analyze sales performance as a whole;
- facing the difficulty both analyzing usage and acceptance of Business-to-Business systems as well as the resulting order information, by integrating business-to-business information with the EDW institutional sales information and by investigating system usage and change analysis;
- facing the crucial part of cost control, by integrating samples inventory information into the EDW along with expiration information, becoming possible to more effectively distribute and manage sales activities and providing potential cost-management opportunities for upper management.

As EDW enables the organization to provide the customer information to other components of the organization, by sharing this information with finance, R&D, sales, and upper management, the pharmaceutical organization can improve tactical as well as strategic planning. And as an EDW approach enhances the information interface among business organizations within a pharmaceutical company, the benefits of this integration are broad reaching and may significantly impact the business as a whole, ensuring that metrics and measures are consistently reported across organizations, while maintaining the specific “view” mandated by each business unit. Alignments for sales, marketing, and managed care may, for instance, vary while the underlying data and metrics are consistent, providing a centralized and common data dictionary or definition of information and allowing analysts from each organization to access information about other organizations from a common information source, enabling business components to interact more seamlessly and having access to more accurate and timely information, the net result being an improvement in overall corporate efficiency and reduced corporate expenditures and costs.

Only a performant EDW in conjunction with a strategic company vision will drive effective strategic decisions, enabling pharmaceutical companies to continue to compete in an ever-evolving market. And on this ever-evolving market it is good to remember “some great marketing quotes”: “Pharma executives today should be wandering the hallways like Diogenes, searching for people within their organizations who will tell them the truth, the whole truth, and nothing but the truth... Time is the enemy of all marketers today. Internet time is the new paradigm. You had better be able to implement with speed if you are to stay competitive in today's market” [20].

At the same time we have to take into account that saying nothing but the truth about selling, it is said that the more you understand people, the better your sales are and, it appears that price is the number one persuader. The last Organization for Economic, Cooperation and Development (OECD) study about pharmaceutical pricing policy (based on six case studies, an extensive review of the literature, and analysis of relevant data) argues that: “pharmaceutical market is complicated by several factors (insurance subsidises pharmaceutical expenditures, reducing financial barriers to access and increasing the use of medicines; patent protection provides industry with a monopoly on the market and opportunities to benefit from high prices and profits; most countries regulate prices for at least some part of the pharmaceutical market, in an effort to ensure affordable access to medicines etc.); one possibility for the future

development of the pharmaceutical market would be for policy-makers to agree that variation in prices and expenditures is appropriate and desirable, and to define prices for a product based upon its value in that country” [21].

Conclusions

Over the past decade, pharmaceutical and life sciences companies have had to navigate a challenging and rapidly changing environment, in which stakeholders such as shareholders, physicians, patients, payers and regulators are creating significant pressures for change. Despite steady demand for its products, the industry’s current business model is both economically unsustainable and operationally unsuited to the kind of quick action necessary to produce treatments demanded by global societies.

Companies will need to demonstrate that their brand adds value to patients and they will have to offer a package of products and health services that the market not only wants and needs but is willing to pay a premium for. There is a real need for Pharma to change its marketing and sales functions in order to sustain future growth and performance [22].

The fundamental dynamics that the industry faces and that are reshaping the pharmaceutical marketplace refer to the following: chronic disease is soaring; healthcare policy makers and payers are increasingly mandating what doctors can prescribe; pay-for-performance is on the rise; the boundaries between different forms of healthcare are blurring; the markets of the developing world, where demand for medicines is likely to grow most rapidly over the next 13 years, are highly varied; governments are beginning to focus on prevention rather than treatment; regulators are becoming more risk-averse.

In order to be successful, companies will need to stop the aggressive marketing focusing only on the product of the current model and: recognise the interdependence of the payer, provider and pharmaceutical value chains; invest in developing medicines the market wants to buy; adopt a more flexible approach to pricing; develop plans for marketing and selling specialist therapies; manage multi-country launches and live licensing; form a web of alliances to offer supporting services; create cultures that are suitable for marketing specialist healthcare packages; develop marketing and sales functions that are fit for the future and a knowledge based commercial organisation.

Enterprise business intelligence systems must be developed and deployed in order to satisfy the corporate-wide information integration requirements, most information systems (helping companies with: *business intelligence/understanding the needs of the business; business*

management/managing internal operations based on those needs; business operations/running the business based on management directives) being built around the day-to-day operational needs of the business unit. A critical approach in the pharmaceutical industry is the Enterprise Data Warehouse (EDW).

There is a real need of continuous pharmaceutical analysis, because it is essential for success to understand the uniqueness of the pharmaceutical industry benefiting of the complex and iterative process that carefully builds a pharmaceutical data warehouse, this being considered a necessity to the strategic direction of any pharmaceutical company facing increased competition and external pressure. A pharmaceutical analysis takes into account that the implementation of an EDW allows the organization to achieve the ultimate integration goal, making it possible to supply all components of the business with a single version of “truth”, an integrated EDW approach facilitating the ability to integrate disparate data sources for a complete picture of the business and helping strategic planners to use this more complete picture to steer the company.

Finally, we have to mention that the pharmaceutical industry is extremely important for the economy and for the Romanian society. Besides business and production, the Romanian producers of generic drugs are important employers, massive contributors to Gross domestic product (GDP) and a significant source of economic growth. It is required a systematic approach of the pharmaceutical industry in Romania, in order to achieve appropriate functionality. At the pharmacy level, it is necessary to have a proper orientation to the client, and a careful control of costs and to achieve the optimum level that characterizes any service.

By 2020 the current role of the pharmaceutical industry's sales and marketing workforce will be replaced by a new model as the industry shifts from a mass-market to a target-market approach to increase revenue. A pharmaceutical marketer already knows, for instance, that: “With direct-to-consumer advertising, you may attract the attention of a patient, however, you must also convince his or her doctor that your pharmaceutical product will produce beneficial results” [23]. At the same time, pharmaceutical marketers have to remember the words of Richard Meyer: “We are selling products that can make a difference in people's lives but today our customers are more skeptical of marketing messages and are connected to each other like we have never experienced. They talk to each other and listen to what is said about brands and new products and that is especially true for prescription drugs... Anytime I can talk to someone about the Web I am in heaven and believe that pharma has yet to tap its true potential” [24].

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