INNOVATION AS THE KEY OF THE PHARMACEUTICAL COMPANIES' COMPETITIVE ADVANTAGE

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Key words: innovation, research and development, competitiveness, pharmaceutical industry.

CONCLUSIONS

Pharmaceutical industry belongs to the most innovative branches in Hungary. However as a consequence of increasing development costs and the strong competition on the market the means of gaining competitive advantage has become a focal point of the pharmaceutical companies' strategy. Economic performance is highly dependent on research and knowledge and economic success is determined how companies are able to apply this knowledge and skills so how flourishing the product or technological development becomes. Only those branches and companies will gain competitive advantage that are able to compete on knowledge and technology. Since science and technology are considered to be the most important source of economic development, it contributes to the more effective restructuring and increased productivity.

ABSTRACT

Modern economies in the 21st century are based on knowledge and nowadays one of the key factors of growth lies in innovation. Pharmaceutical industry belongs to one of the most innovative branches in Hungary. As a consequence of recent trends in the global pharmaceutical market, Europe lost from its relevance and significant research funds were transferred to the North-American region. All this means that European pharmaceutical companies have had to face factors that considerably affected their competitiveness. Besides these factors Hungarian pharmaceutical companies had to confront special challenges so that an increased attention was drawn on the importance of gaining and enhancing competitiveness.

INTRODUCTION

One of the key factors of economic growth is considered to be research and development (R&D). In the competition that is based on innovation countries, branches and companies compete with each other. In the fierce competition it is necessary to produce additional economic value by developing new products, reengineering of production techniques and procedures and modifying organisational structures. All these actions are necessary to be able to achieve competitive advantage and they are crucial to the development of national economies, branches and companies. Researches (eg.: *Kiss, 2005*) proved that innovation ability influences highly the competitiveness of a company.

COMPETITIVENESS AND RESEARCH AND DEVELOPMENT

Competitiveness has no generally accepted definition and it can be analysed from several aspects, for example from the company's, branch's, region's, national economy's and the world econ-

omy's point of view (*Szentes, 2005*). Competitiveness of a nation means the ability of the given economy so that it is able to generate, produce, distribute and/or service a given product – according to the requirements of the international trade – while the returns of its production factors increase (*Borsi, 2002*). The essence of the competitiveness among companies lies in the fact how they are able to transform the available resources to the highest profit and how they are trying to compliance to social norms while they are capable to realise and react to the challenges of the external environment and the internal changes so that the gained profit can maintain their operation for a long time (*Chikán et al., 2002*). This paper will concentrate only on some aspects of the branch and company competitiveness. Several books (eg.: *Szentes, 1999; Török, 1999*), journal articles (eg.: *Boda – Pataki, 1995; Hoványi, 1999; Török, 1989; 1997; 2005*) and studies (eg.: *Majoros, 1997*) investigated the theoretical and methodological background of the issue of competitiveness. Research and development and competitiveness can be approached from two aspects. First is from the point of view of a given branch or economy. As a consequence of this it gives a broader analytical opportunity concerning the development of these. On the other hand R&D can be analysed as a branch itself (*Török et al., 2005*).

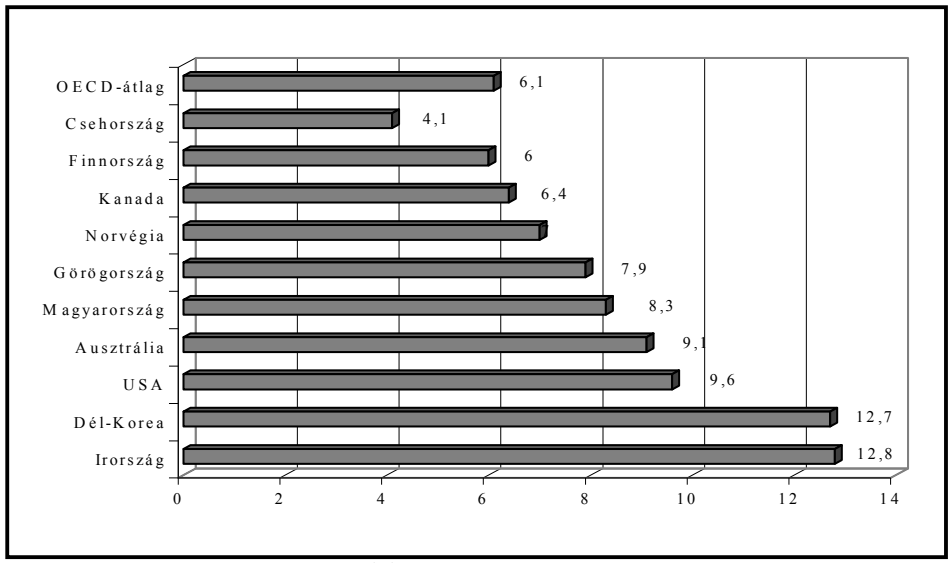
COMPETITIVENESS IN THE PHARMACEUTICAL INDUSTRY

Pharmaceutical industry can be considered as one of the most innovative branches in Hungary. Pharmaceutical industry produces and sells products by utilising relatively few material base, huge amount of human capital, requiring significant skills and knowledge as well as the ability of continuous improvement and development. Pharmaceutical industry belongs to the most effective and efficient branches of the processing industry. It is characterised by enormous capital investments (both in human and financial sense) and slow returns of investments. The importance of the branch should be highlighted from one more aspect. It is strongly export oriented, investments are strongly research and development intensive, it is anticyclic, and it has a far reaching effect on the employment. The pharmaceutical industry with its more than 100 year-old history is one of the most competitive branches of Hungary (http://www.bppiac.hu/kopint/magyar/gyogyszer.html). In international comparison Hungarian drug producers have not only a significant manufacturing tradition but also the medicine consumption of Hungarian people is remarkable as well (Figure 1).

Increasing research and development costs reshaped the global structure of the pharmaceutical market and became a dominant factor in determining the market position of a company (Figure 2 illustrates this trend). The status of regions with lower R&D investments condition became weaker in the global economy. In the past decade the declining European markets and parallel to this the withdrawal of the research and development funds in this region gave a reason for rethinking the market situation. Even in 1967 67 per cent of the drugs with brand new active substance originated from the European continent and after 30 years this ratio fell to 40 per cent. The engine of research gradually shifted to the United States.

Figure 1

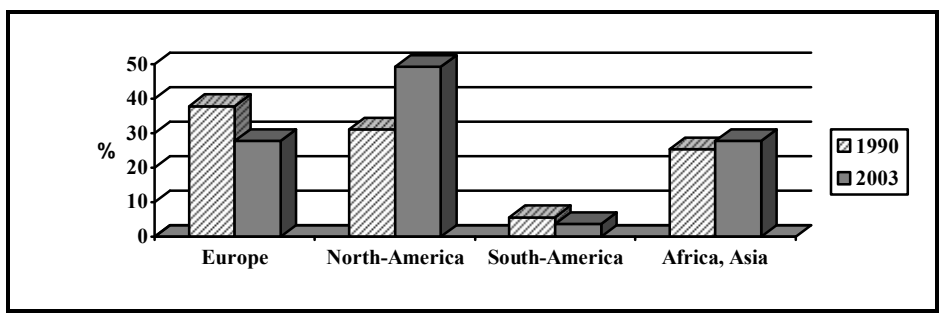
The nominal increase of expenditures on drugs per person, from 1998-2003



Source: Astra Zeneca company material

Figure 2

The structure of the world's pharmaceutical industry between 1990 and 2003



Source: Kaló 2004, original source: IMS World Review 2004

If we take a closer look to Figure 2 it can be stated that in terms of sale of pharmaceuticals the portion of European region decreased from 37.8 per cent to 27.8 per cent. Latin-American countries lost from their relevance as a consequence of the sweep of North-American markets. On the other hand it can be observed that from the 1990s giant pharmaceutical companies have chosen less-developed countries to the field of drug trials (*Nagy, 2005*). The causes of this tendency are the following:

- *Regulations are much less rigid as in Europe or North-America.* There are five categories of barriers of launching a drug to the market. Pharmaceutical products should fulfil all this five requirements so that a drug can appear on the market. These are:

1. safety
2. efficacy
3. quality
4. cost effectiveness
5. affordability or budget impact.

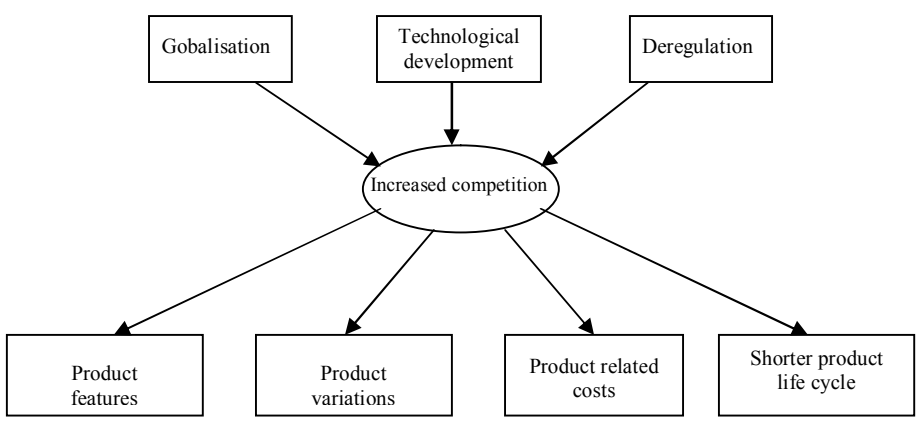
The first three barriers are usually set by government authorities the last two ones by the organisations that finance the drug consumption. The first three barriers summarise the requirements (safety, efficacy and quality) a new drug should execute before entering the market. This is strictly controlled in terms of human and physical requirements. The standards of control are internationally regulated and countries internalise them in their national policy.

- *Research cost are lower.*
- *Easy to find applicants for the experimentation.*

India belongs to the favourite regions of the pharmaceutical companies where the number of population is large and the willingness of people to participate in a drug research is extremely high. It became obvious that Eastern-European drug producer companies, so Hungarian ones as well faced significant barriers as a consequence of realignment of the pharmaceutical market. Moreover in the 1990s a radical transformation to market economy took place in Central and Eastern Europe. This transformation fundamentally reshaped the old economic structure and brought convincing results since the middle of the decade. The economy placed itself on a stable growth path and due to successful stabilisation steps equilibrium disturbances became less frequent. For long decades Central and Eastern European economies has been separated from the developed countries by a „technological gap", but this gap seems to be diminishing now (*Bélyácz, 2000*). After the transition numerous multinational pharmaceutical companies entered the Hungarian market and as a result of increased number of market players the competition became even fiercer. This is indicated in Figure 3.

Figure 3

Changing environmental condition and its consequences



Source: Wildeman, 1998

As a consequence of globalisation, technological development and deregulation the competition among companies has become fiercer. Businesses should pay increased attention on excellent product features and they ought to offer

their products in numerous variations to be able to keep their competitiveness on the market. They should focus on the continuous cost cutting as well and the means how the research, production and marketing costs can be covered should stay in a focal point of the company strategy as product life cycle becomes always shorter. All these means that Hungarian pharmaceutical companies ought to choose from two basic strategies to be able to compete effectively in this fierce competition on the market. The first strategy should be followed by innovative companies. These pharmaceutical companies are those who are making the majority of research and are developing and producing new original products (an item with brand new active substance, which was unknown before the appearance of this medicine). Original products have to fulfil special requirements from the point of view of the science, the market and the society. The most important are (*Schön 1998*)

- its effect should be well-known at molecular level and it should be new for the science, for the market and for the society;
- it should be safe;
- it should give new solutions to real and extensive heath problems;
- research costs should be acknowledged by the market.

Innovative pharmaceutical companies should continuously concentrate on research and development and they should appear with more patented innovations on the market. As consequence of the recent patenting rules it often happens that through the introduction of a new medicine to the market a company can gain a monopole position for a longer period of time when it can broaden the price-cost difference (*Scherer, 2000*). As a business entity gains a monopolistic position in the market, it is able to generate significant revenue. The key of success of these companies lies in the research ad development activity and how effectively they are able to develop an original product. In Hungary Richter Gedeon, Egis belong to the innovative pharmaceutical companies. This means that the realisation of the importance of research and development and the application of the business approach in the company strategy is a significant strategic task for the Hungarian pharmaceutical companies. In most European countries a new tendency can be observed as a result of recent trends illustrated on Figure 2, experts try to stimulate the competition of the generic medicines. A generic medicine is the therapeutic equivalent of an originator pharmaceutical product whose patent has expired. It contains the same active substance as it is essentially similar to and is therefore interchangeable with the originator product. Generics are cheaper than original products as producers can save the majority of the research and development costs. Even countries that have not traditionally had a strong generics market, such as Spain and France, have recently introduced rules to encourage generic competition, hence the return of innovation and the incentive to innovate is reduced. Strong generic competition is likely to have two secondary, longer term effects. First, the higher importance of branded period of the original products will provide an incentive to channel resources into R&D of new products that will gain acceptance quickly in order to keep a competitive product portfolio. On the other hand, it will increase the incentive to focus on incremental innovations that will lead to further steps, to the exclusion of the competitors (*Charles River Associates, 2004*). The aim of companies producing generic medicines is to focus on cost effectiveness so tech-

nology development got a priority against product development. The main aim of these kinds of drug producers is to develop efficient production methods and to be able to sell drugs more effectively on the market.

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