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**OPPORTUNITIES TO INCREASE
THE COMPETITIVENESS
OF PHARMACEUTICAL MANUFACTURERS**

AUTHOR’S ABSTRACT

of dissertation work
for awarding the educational and scientific degree “Doctor”
in the scientific specialty “Economics and Management” (Industry)

**Supervisor:
Prof. Dr. Milena Filipova**

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The dissertation contains an introduction, three chapters and a conclusion. It is a volume of 254 standard typewritten pages. 252 literary sources were used. There are three appendices to the dissertation in a volume of 23 pages. The text includes 31 graphs, 13 tables and 16 figures.

The author of the dissertation is a doctoral student in the Department of “Management and Marketing” at the Faculty of Economics of the South-West University “Neofit Rilski”, Blagoevgrad.

The defense of the dissertation will take place on ... 2023 at the South-West University “Neofit Rilski”, Blagoevgrad in hall ... from ... o’clock. Defense materials are available at the Department of Management and Marketing, Faculty of Economics at South-West University “Neofit Rilski”, Blagoevgrad.

I. GENERAL CHARACTERISTICS OF THE DISSERTATION

1. Relevance and importance of the topic

The pharmaceutical industry is unique in its nature. On the one hand, it is a part of the health care system and on the other – a part of the industrial production sector. The dual nature of the pharmaceutical industry is a consequence of the goals of each of the two sectors: achieving efficiency in healthcare and performance in the economy. Balancing the two goals leads to difficulties in defining and assessing the competitiveness of pharmaceutical manufacturers.

Competitiveness is the determination and gradation of the factors of production as consequence of the manufacturer's strategy. Determining competitiveness depends on the level of data – on the micro-, meso-, macro- and mega-level. Regardless of the level of definition, competitiveness aims to ensure that customers receive safe, effective and affordable pharmaceutical products.

Based on the analytical study of the literary sources, the conclusion was imposed that competition, competitiveness, assessment of competitiveness and approaches to increase competitiveness are the subject of research by a number of Bulgarian and foreign authors. Competitiveness has been identified as new topic in economics and with a significant number of publications. The development of the dissertation was based on the works of significant authors in the field of competitiveness: Michael Porter, Paul Krugman, Klaus Schwab, Ashok Ambastha and Kirankumar Momaya, Tomasz Siudek and Aldona Zawojcka, etc. Due attention is given to Bulgarian authors on the chosen topic: Mladen Velev, Raina Dimitrova, Todor Nenov and others. Finally yet importantly, the contribution of national and supranational organizations to competitiveness is reported: European Commission, European Economic and Social Committee, European Investment Bank, World Health Organization, World Economic Forum.

In the dissertation, research was conducted on well-established theories of competitiveness. The author to the pharmaceutical industry has specifically adapted the 5 forces model. Michael Porter's original method has been modified by adding new forces due to the specifics of the pharmaceutical industry – bargaining power for specialist contracting, government as market threat, complementary product threat, bargaining power of public payers, bargaining power of physician and patient organizations. For the completeness of the study, an analysis of data from the annual reports of leading enterprises from the pharmaceutical industry was carried out. The last chapter presents the

results of a survey with pharmaceutical manufacturers and a survey with users of pharmaceutical products.

The relevance of the topic of the dissertation is determined by:

1. The essential importance of the problem of increasing the competitiveness of pharmaceutical enterprises as prerequisite for the development of the pharmaceutical industry and hence – of health care.

2. Globalization and European integration are removing a number of barriers to competition. Due to the reduction of government regulation and the reduction of national spending to deal with the effects of the global financial crisis, pharmaceutical companies are facing problems related to survival caused by increasing competition in terms of products, resources, know-how, customers and markets.

3. The need to find adequate approaches and solutions to increase the competitiveness of enterprises from the pharmaceutical industry and the resulting current and future challenges faced by managers of pharmaceutical enterprises.

4. Lack of comprehensive and in-depth research in the field of the pharmaceutical industry, related to the assessment of the competitiveness of pharmaceutical enterprises and the possibilities for its increase.

The relevance of the topic to the pharmaceutical industry is a consequence of the combination of healthcare and industrial production. Conducting a competitiveness assessment will show the factors that drive production efficiency as well as health care efficiency. The two components of the topic, production and health care, are of particular importance to both the economy and society. The results of the competitiveness assessment are intended for a wide range of stakeholders and can be embedded in a national strategy for the competitiveness of the economy.

2. Research thesis

The main scientific thesis of the dissertation is that by researching, analyzing and assessing the opinions and attitudes of pharmaceutical manufacturers and users of pharmaceutical products, existing opportunities for increasing the competitiveness of pharmaceutical manufacturers in Bulgaria can be revealed.

3. Purpose and tasks of the study

The main goal of the research is to assess the competitiveness of pharmaceutical enterprises and to identify the possibilities for its increase in the context of the state and development of pharmaceutical manufacturers in

Bulgaria. Achieving the goal will form a good understanding of the functioning of the pharmaceutical industry, as well as possibly take corrective action through recommendations and identification of untapped opportunities to increase competitiveness.

To achieve the aim of the research, the following **research tasks** are set:

1. Systematization, derivation and generalization of the main theoretical-methodological problems of competition and competitiveness.

2. Characterization of the emergence and development of the pharmaceutical industry in Bulgaria.

3. Development of a methodology for assessing the competitiveness of enterprises in the pharmaceutical industry.

4. Carrying out an assessment of the competitiveness of the main pharmaceutical manufacturers in Bulgaria.

5. Offering opportunities to increase the competitiveness of pharmaceutical manufacturers.

4. Subject and object of the research

The subject of the study is the possibilities for increasing the competitiveness of pharmaceutical manufacturers in Bulgaria.

The object of research is the competitiveness of leading pharmaceutical manufacturers in Bulgaria.

5. Research methodology

To achieve the objectives of the study, the following research methods were used: method of analysis and synthesis, method of observation, method of induction and deduction, comparative analysis, method of grouping, balance method, survey method, statistical methods, intuitive and systematic approach, graphic and tabular method.

6. Sources of information assurance

In developing the dissertation, information from Bulgarian and foreign authors on the chosen topic was used; data from the National Statistical Institute; conclusions from conferences of professional organizations; references from the Bulgarian Drug Agency and the National Health Insurance Fund; decisions of the Commission for the Protection of Competition. In the empirical part, microeconomic data from annual financial statements of pharmaceutical manufacturers were used; results of a survey to pharmaceutical manufacturers and from a survey to end users of pharmaceutical products.

When presenting the pharmaceutical industry in Bulgaria, macroeconomic data from national and international institutions were used.

7. Limitations of the study

The present research is limited **in time** (2020-2022), **in place** (six pharmaceutical manufacturers located in Bulgaria) and **in methodology** (specifically selected approaches and methods). The survey of 130 respondents covers the period March-November 2021, as well as the annual financial statements of the investigated pharmaceutical manufacturers for the same period. The accepted limitations are related to: the production stage of the value added chain; to pharmaceutical products for mass use among clients; to the assessment of the leading pharmaceutical manufacturers; from using secondary data, which are not in all cases a complete set and do not contain the necessary information.

In the process of working on the dissertation, we had to overcome a number of **difficulties**, the most important of which are:

- the complex chain of added value for pharmaceutical products (discovery of a new pharmaceutical product, clinical trials, production, distribution);

- the impossibility of realistically separating the pharmaceutical industry from other sectors such as the chemical industry and the health care sector;

- the insufficient volume of available, up-to-date, specialized and detailed information about the pharmaceutical industry in Bulgaria;

- the low level of participation by pharmaceutical manufacturers-respondents in the survey given the disclosure of information about the activity of a specific enterprise;

- the low degree of health literacy among consumer-respondents.

8. Structure and content

The dissertation contains an introduction, an exposition in three chapters and a conclusion. It is a volume of 254 standard typewritten pages. 252 literary sources were used. There are three appendices to the dissertation in a volume of 23 pages. The text includes 31 graphs, 13 tables and 16 figures.

INTRODUCTION

CHAPTER ONE. GENERAL THEORETICAL ISSUES OF COMPETITION AND COMPETITIVENESS

- 1.1. Development and features of the pharmaceutical industry
- 1.2. Competition and competitiveness
- 1.3. Factors affecting competitiveness in the pharmaceutical industry

CHAPTER TWO. MODELS FOR ASSESSING COMPETITIVENESS

- 2.1. Concepts for assessing competitiveness
- 2.2. Quantitative models for assessing competitiveness
- 2.3. Qualitative models for assessing competitiveness

CHAPTER THREE. ASSESSMENT OF THE COMPETITIVENESS OF PHARMACEUTICAL MANUFACTURERS IN BULGARIA

- 3.1. Characteristics of the pharmaceutical industry in Bulgaria
- 3.2. Methodology for assessing the competitiveness of pharmaceutical manufacturers
- 3.3. Assessment of competitiveness through a quantitative model
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II. BRIEF DESCRIPTION OF THE CONTENTS OF THE DISSERTATION

CHAPTER ONE. GENERAL THEORETICAL ISSUES OF COMPETITION AND COMPETITIVENESS

In the first chapter, the emphasis is placed on the theoretical-methodological issues of competition and competitiveness. The subject of research in **the first paragraph** is the development and peculiarities of the pharmaceutical industry. In the new reality, the pharmaceutical industry is seen as consequence of the replacement of morally obsolete pharmaceutical technologies and products with new ones thanks to the widespread use of scientific approaches in the discovery, testing and production of pharmaceutical products. The up-to-date production of pharmaceutical products is established as result of close cooperation between a wide range of humanities, technical and social sciences. It is indicated that the modern pharmaceutical industry is formed by the participation of the state in all processes of the value chain of pharmaceutical products (development, clinical trials, production and distribution). It is concluded that the development of the pharmaceutical industry is an integral part of the progress of society.

The second paragraph defines the main concepts in the dissertation – “competition” and “competitiveness”. It is noted that the definition of the scope and content of the concept of “competition” is dependent on the historical environment. The modern understanding of competition is influenced by the entry into the economic literature of the concept of “external environment” and its determinant – the limitation of resources. In the new reality, the term “competition” is used relatively – it is applied to an unlimited number of participants who, in most cases, do not interact directly, but have similar features and belong to the same reference group of market participants.

It is argued that competition in the pharmaceutical industry is defined as long-term balance between interdependent and conflicting goals – healthcare and production. The view that competition in the pharmaceutical literature is mainly focused on price competition after the patent of the pharmaceutical product expires is argued.

The long-standing history of the concept of “competition” is brought out, and at the same time, relatively few studies on its definition are found. The diverse content of the concept of “competition” given the societal significance of the pharmaceutical industry is examined in detail:

– Competition between brands (therapeutic competition). Competition takes place between new, patented and innovative pharmaceutical products. At the heart of this competition is research to develop new therapies that are better than existing pharmaceutical products of another brand. Patents and intellectual property rights, as well as the supervisory procedure for issuing a trade permit influence competition. This competition leads to mergers and acquisitions, as well as joint research, licensing, co-marketing and distribution agreements.

– Intra-brand competition (import of cheaper pharmaceutical products from other countries). The prerequisite for the existence of this type of competition is the fundamental principle of guaranteeing the free movement of goods. Its manifestation intensifies after the expansion of the European Union with new member states, as well as due to differences in national systems for health insurance and pricing, incl. reimbursement from health insurance schemes.

– General competition (entry of generic and “biosimilar” pharmaceutical products). The driving force behind this competition is the state policy for the population’s access to pharmaceutical products at an acceptable price. The main criticism of this type of competition is that it makes it difficult to maintain a balance between the admission of generic pharmaceutical products and the stimulation of research for innovative pharmaceutical products.

– Competition between with or without prescription pharmaceutical products (according to distribution channels and choice of use of the pharmaceutical products). The effects of the global financial crisis (2007-2008) and reduced healthcare budgets increased the market share of over-the-counter pharmaceutical products because they provided the population with access to pharmaceutical products without the need for a medical consultation with a specialist. This leads to increased competition, but at the same time increases the importance of the regulatory entity to ensure the safety of pharmaceutical products. Prescription pharmaceutical products (ethical pharmaceutical products) compete for distribution by involving physicians and pharmacists as distribution channel.

– Competition between non-patented and patent-protected pharmaceutical products. It arises from the non-patented pharmaceutical products, the price of which is lower due to the expired patent term. This competition has a direct impact on the budget of health care systems – savings made from off-patent pharmaceutical products are used to finance new pharmaceutical products. Brand-name pharmaceutical product manufacturers compete for market share primarily through advertising and the quality of their

pharmaceutical products, including efficacy and side effects, as well as through pricing. Generic pharmaceutical product manufacturers increase their market share mainly by lowering prices.

Attention is paid to the concept of “competitiveness”, which is one of the most frequently used in the economic literature and yet is without a generally accepted definition. It has been clarified that in the individual stages of the development of society, the theories change the definitions of competitiveness. It was clarified that in the economic literature, microeconomic indicators determine competitiveness, among which the most frequently used are “productivity”, “efficiency” and “profitability” of a specific pharmaceutical manufacturer. It was added that a difficulty regarding the concept of “competitiveness” is not only in its definition, but also in its assessment.

Based on the analysis of the scientific literature, a wide palette of opinions regarding the essence of competitiveness is outlined. Individual opinions are systematized into positive and negative: positive opinions are primarily related to the measurement of competitiveness, while negative opinions are related to its definition.

For a detailed clarification of the concept of competitiveness, its main forms are examined. The main categories of competitiveness for the pharmaceutical industry are distinguished:

– Micro-level competitiveness. In the pharmaceutical industry, competitiveness at the pharmaceutical manufacturer level is determined by specialization in the value added chain. Unlike other economic sectors where forward integration (i.e. closer to the customer) is an advantage, in the pharmaceutical industry competitiveness manifests itself in the initial stages of the added value chain – in the development of new pharmaceutical products and clinical research, which determine the competitiveness of enterprises at the next two stages – production and distribution. In order to increase their competitiveness, companies undertake merger and acquisition procedures, as well as offshoring and backshoring strategies.

In the new reality, the competitiveness of pharmaceutical manufacturers is seen as balance between financial motives and customer needs, i.e. it requires constant adaptation to societal norms and economic conditions. In a long-term perspective, these two goals, financial motives and customer needs, must coincide and not contradict each other.

– Meso-level competitiveness. It is considered based on biopharmaceutical products and related research and innovation. The state has an impact on pharmaceutical manufacturers through sector-specific regulatory measures and means. The goal of government policy is to change the structure

of pharmaceutical manufacturers and the infrastructure of the pharmaceutical industry so that pharmaceutical manufacturers can become more productive or innovative.

– Regional level competitiveness. It is equated with productivity, which solves a number of problems, but gives a pseudoscientific view of competitiveness and raises a number of problems, especially in relation to its measurement. This competitiveness refers to the existence of conditions enabling pharmaceutical manufacturers to compete in their chosen markets and for the value, they generate. Thus defined, competitiveness at the regional level is related to local economic performance and should be measured in terms of the assets of the regional business environment. The strategic framework for improving productive and innovative outcomes is based on increasing knowledge and creativity through the creation of clusters or networks of enterprises. It is recognized that different sources have their own methodology in determining competitive advantages at the regional level.

– Macro level competitiveness. It is the nation's ability, under conditions of free trade and under fair market conditions, to produce goods and services. Measuring competitiveness at the macro level is difficult because it is believed to be driven by factors that are numerous and highly interrelated. This competitiveness makes sense when proven macroeconomic categories are used.

– Global competitiveness. It is expressed in the removal of barriers to pharmaceutical products and the provision of protection of intellectual property rights. National policies improve the ability of pharmaceutical manufacturers to develop new pharmaceutical products that are successful worldwide.

Based on the analysis of the concepts of competition and competitiveness, the conclusion is reached that competition reflects the dynamics in the external environment, and competitiveness is a consequence of the use of the resources of the internal environment. The view is defended that in modern economics the two concepts, competition and competitiveness, are considered in different dimensions without comparing and replacing them. The tendency is categorically confirmed that in the new reality the two concepts are accepted as complementary to each other rather than as their opposition.

In the third paragraph, attention is focused on the factors influencing the competitiveness of pharmaceutical manufacturers. Given the specifics of the pharmaceutical industry, the interests of pharmaceutical manufacturers and society may overlap, but they are not identical. At the core of the separate interests and their concurrence is the state and its control function to ensure a

reasonable return on investment for pharmaceutical manufacturers, safety and effectiveness of pharmaceutical products for consumers, i.e. that the pharmaceutical industry operates in the public interest. As result of the results of the research, it was found that when determining the competitiveness, there are:

– Factors affecting the supply of pharmaceutical products. A place is devoted to the model of the supply of pharmaceutical products, which includes prescription by the attending physician, dispensing by the pharmacist and purchase by the patient. Supply-side factors are related to the entry of companies into the market and the entry of generic pharmaceutical products, as well as the issues surrounding the pricing of pharmaceutical products, determining the reimbursement price acceptable to health insurance funds and determining the number of pharmaceutical products available in the reimbursement list. Traditionally, incentives have targeted physicians, but increasingly pharmacists are the target of financial incentives. The way to influence patients is through a cost-sharing system that favors generic pharmaceutical products.

– Factors influencing the demand for pharmaceutical products. The model of the supply of pharmaceutical products is presented, which includes the patient, prescriber, pharmacist, health insurance system, competent regulatory authority, insurers. In the healthcare market, incl. in the market of pharmaceutical products, the patient is not independent in the choice, payment and consumption of the product. The uniqueness of demand in the pharmaceutical industry is due to the role of each participant in the treatment process. The patient is the end user of the pharmaceutical product and is different from the prescribing physician who decides on the choice of pharmaceutical product and the health insurance system, which pays its price. The interests and functions of each actor lead to low sensitivity to the price of the pharmaceutical product for patients and prescribers, and the involvement of the health insurance system reduces the gap between both the purchasing power of patients and the prices of individual pharmaceutical products.

It is logical to conclude that the development of the pharmaceutical industry follows the dynamics of society, as from the middle of the last century there has been a change in the direction of interaction – the pharmaceutical industry begins to influence society. This change is justified by the application of an interdisciplinary scientific approach to the discovery, testing and production of pharmaceutical products. In summary, the pharmaceutical industry is beginning to play a significant role in both industrial production and the health care system.

It is argued that competition and competitiveness as concepts are complementary and without opposition to each other. Based on this statement, it is concluded that the main difference between the concepts is in their definition and measurement: while the concept of competition is clearly defined and precisely measured by quantitative indicators from microeconomics, the concept of competitiveness is the subject of an expanding range of attempts to its interpretation at all levels of the economy.

CHAPTER TWO. MODELS FOR ASSESSING COMPETITIVENESS

After the presentation of the definitions of competitiveness in the second chapter, attention is directed to the models for assessing competitiveness. Emphasis is placed on the multiplicity of competitiveness assessment models along with the variety of definitions of competitiveness. **The first paragraph** is an attempt to systematize the concepts of assessing competitiveness. The author is based on the paradox that there is still no single scientifically accepted model for assessing competitiveness. Attention is paid to the determinants for assessing competitiveness, i.e. to determine which economic indicators are a source of competitiveness (e.g. trade balance) or which are an outcome of competitiveness (e.g. price and costs). There is a trend towards an increase in the number of dimensions when assessing competitiveness.

It is recommended that the assessment of competitiveness be carried out at the individual levels of the economy:

- Models for assessing competitiveness at micro level. It is specified that micro-level models assess competitiveness through effective use of pharmaceutical manufacturers' resources to generate performance over competitors – cost reduction and pharmaceutical product differentiation given the price inelasticity of pharmaceutical products. Quantitative data (annual audited reports) as well as qualitative sources (interviews and surveys) are indicated as suitable tools for micro-level assessment. The main advantage of quantitative models (a well-developed methodological apparatus for processing microdata) and the main disadvantage (limited access to data on pharmaceutical manufacturers, which in most cases are aggregated and need periodic updating) have been identified. Quantitative models are recommended to be used in assessing the competitiveness of pharmaceutical manufacturers from one country and over one time period.

- Models for assessing competitiveness at meso level. They are defined as based on a balanced system of input and output indicators of the pharmaceutical industry such as trade balance and business environment. It is

recommended that these models be applied to case studies, as their advantage lies in establishing interrelationships with similar sectors such as chemical industry and scientific research. The models are characterized by difficulties due to the large number of indicators in the evaluation and limitation of the evaluation to only some indicators of competitiveness such as resources and results of pharmaceutical manufacturers.

– Models for assessing competitiveness at the macro level. As the beginning of these methods, the state policy for controlling the prices of pharmaceutical products and, in parallel with this, the profitability of pharmaceutical manufacturers and their concentration in the market, as well as the protection of consumers from the entry of new pharmaceutical products into the market due to mass production, are indicated. Macro-level methods are defined as point of reference in determining the contribution of the pharmaceutical industry to the development of the economy and to the progress of society. New methods for evaluating the competitiveness at the macro level through an interdisciplinary approach with other scientific fields, as well as shortening the period between scientific discoveries and their application in production, are established. The main advantage of these models (easier determination of factors from the external environment that lead to competitiveness through new, effective and safe pharmaceutical products), as well as their characteristic disadvantage (a complex combination of interrelated factors of the macroenvironment) are determined. The models are recommended as appropriate when preparing national competitiveness programs and measures to strengthen sectors of the national economy.

– Models for assessing competitiveness at mega level. The need to assess competitiveness at the mega level is argued because the pharmaceutical market, unlike other parts of the health care system, is international in nature. The constructs of the Global Competitiveness Index of the World Economic Forum, Davos and the International Competitiveness Rating System of the Business School of the International Institute for Management Development, Lausanne are presented. It is recommended that these models be applied when conducting comparative analyzes for countries with a similar methodology for preparing economic statistics.

In the second paragraph, quantitative models for assessing competitiveness are presented. The author's view is that modern quantitative methods take into account the influence of not only single indicators (for example, the price of pharmaceutical products) and over time the number of indicators increases and already exceeds the boundaries of economics, covering other sciences as well. In this regard, it is noted that in assessing competitiveness, a large part of quantitative models use financial data due to

their availability and wide scope. The financial data for evaluation is characterized by a low level of subjectivity and relatively small costs for data supply, emphasizing also their shortcomings such as the need for periodic reassessment and consideration of factors from the external environment. In addition to economic and financial data, other indicators are mentioned for assessing competitiveness – technical and technological (certificate for quality, production and use, safety), marketing (marketing mix), normative (compliance with directives, laws and regulations). Attention is paid to leading models for quantitative assessment of competitiveness: Eugene F. Brigham and Joel F. Houston (2009), Mladen Velev (2004), Todor Nenov (2008).

In **the third paragraph**, qualitative models for assessing competitiveness are presented. Special attention is paid to Professor Michael Porter's method (Porter's five forces method). The areas of application, application limitations, advantages and disadvantages of Porter's method are presented.

The author applies Porter's method to the pharmaceutical industry:

– Competitive rivalry. Competitive rivalry in the pharmaceutical sector is determined by the status of the pharmaceutical product offered – whether it has a patent or have not a patent. Competition for pharmaceutical products with a patent is driven by innovation and new pharmaceutical products being introduced – similar to competition in the pharmaceutical market – technical excellence and high quality are the main source of rivalry as these markets are not as price sensitive. Competition for pharmaceutical products without a patent is geographically limited to a specific country in whose market the patent of an original pharmaceutical product has expired (similar to competition in the vaccine market given state-level and patient organization initiatives to increase immunization).

– Bargaining power of suppliers. Suppliers are represented as market power because their revenues are independent of the industry, the pharmaceutical products they provide are unique and have no substitute, or when they are able to shift costs to industry participants. Pharmaceutical manufacturers that sell proprietary pharmaceutical products have more advantage over hospitals, wholesale distributors, and health insurance organizations than generic pharmaceutical product manufacturers, for example.

– Buyer bargaining power. Attention turns to determining the market power of buyers from the level of product differentiation, for example, in the oil business and pharmaceutical products, the level is high and buyers have more power. It defends the understanding that, unique to the pharmaceutical industry, there is more than one person who can be defined as “buyer” – the

prescriber chooses a pharmaceutical product that is paid for by the health insurance system and used by the end buyer – the patient. It is emphasized that, unlike other sectors, not all these “buyers” can produce the pharmaceutical products themselves, therefore the market bargaining power of the customer is enormous, but rarely used in practice. Different types of buyers in the pharmaceutical industry have different market power.

– Threat of new entrants. Emphasis is placed on the need for new entrants in the pharmaceutical industry to establish their brand among doctors and pharmacists, win the trust of patients, and meet the expectations of patient organizations and competent control authorities. It is added that in the distribution of their pharmaceutical products, given the already established contractual relations, the new entrants must lower prices in order to overcome the switching costs vis-à-vis other competitors. Emphasizes the importance for companies in the pharmaceutical industry, like those in most manufacturing and service industries, to transform into oligopolies, which is one of the key barriers to entry.

– Threat of substitutes. The threat is described in cases where the costs of switching to a substitute product are low, for example when switching from an original pharmaceutical product to a generic pharmaceutical product. It is recommended for pharmaceutical products to determine whether they are competitors or substitutes. Unlike non-healthcare substitutes, whose creation is determined by cost, those in the pharmaceutical industry lack a patent, which is why their place is most often between original and generic pharmaceutical products.

For the completeness of the study, Porter’s method is modified to the specifics of the pharmaceutical industry:

– Bargaining power of specialists. It is pointed out that the pharmaceutical industry mainly employs highly qualified employees, which requires significant resources of time and finance, specialized training facilities and laboratories. It is specified that a specific group is the persons who conduct clinical trials and specialists in regulatory affairs. It is noted that regardless of their role in the development of the pharmaceutical industry, pharmacy professionals do not influence the determination of the strategy for the regulation of pharmaceutical products, but influence competitiveness through their participation in pricing and in the choice of technologies used.

– Government as market threat. It is emphasized that when implementing their strategy, pharmaceutical manufacturers are dependent on political institutions that create the framework for the activity in the pharmaceutical industry. Government has been identified as significant factor in the operation of regulated industries, including the pharmaceutical industry

and the manufacture of baby food due to the safety requirements of the products they offer.

–Complementary product threat. The tendency is categorically confirmed that, unlike the substitute product, the complementary product has an independent meaning and purpose. It is stated that in most cases complementary products reflect the development of computer technology. Examples of complementary products are specified – software applications for tracking health, for example for measuring heart rate and calories burned incl. to establish a direct connection with the attending physician.

–Bargaining power of public payers. The position is defended that the health care systems in most countries provide for the inclusion of state or quasi-state authorities and various public institutions in covering the costs of treatment. Defends the notion that underwriting the costs of treatment constitutes the bargaining power of public payers, which has an impact on pharmaceutical manufacturers.

–Bargaining power of physician and patient organizations. The practice of a number of countries on the creation of non-governmental organizations in the health care system is summarized. Attention is directed to these organizations in the process of reorganization of existing suppliers in order to improve competition.

Recommendations are made for researchers to combine quantitative and qualitative methods when conducting competitiveness assessment. An assumption is made for professional conduct of assessment using quantitative methods (micro-level data) to obtain qualitative conclusions (macro-level results). A consistent combination of quantitative and qualitative assessment methods is also recommended, for example, the competitiveness of a pharmaceutical manufacturer be identified by market share, which in turn is determined by comparing price and profit with competitors in the pharmaceutical sector.

CHAPTER THREE. ASSESSMENT OF THE COMPETITIVENESS OF PHARMACEUTICAL MANUFACTURERS IN BULGARIA

The emphasis in the third chapter is placed on assessing the competitiveness of pharmaceutical manufacturers and ascertaining the possibilities for increasing their competitiveness. The subject of research in **the first paragraph** is the pharmaceutical industry in Bulgaria. It has been argued that with the beginning of statehood in recent history, the health care system was born, including the production of pharmaceutical products. The main factors for the modernization of the pharmaceutical industry are the

external environment (transition to a market economy, EU membership) and the “top-down” regulatory approach. The characteristics of the pharmaceutical industry in Bulgaria are systematized:

- production and sale mainly of generic pharmaceutical products;
- competition mainly between wholesale and retail distributors;
- number of small and medium-sized enterprises prevails;
- regardless of the entry of foreign companies, the local buyer’s preferences for well-known and widely used local pharmaceutical products remain;
- small number of registered pharmaceutical manufacturers and importers of pharmaceutical products;
- large number of issued licenses for wholesale trade in pharmaceutical products;
- low purchasing power of individuals given the level of living standards;
- presence of a large number of manufacturers of generic pharmaceutical products and lack of a market mechanism for determining the prices of pharmaceutical products shape the competition in the market on trade discounts in the distribution sector;
- market for pharmaceutical products in Bulgaria is small in volume (the situation is similar in Cyprus and Malta) and with low disposable income (the situation is similar in Estonia, Latvia, Lithuania, Poland, Hungary and Romania).

In the second paragraph, attention is focused on the methodology for assessing competitiveness. The peculiarities of the market of pharmaceutical products are reported:

- the sale of a pharmaceutical product requires permission for its use from a competent authority;
- in the distribution process, pharmaceutical products are not interchangeable with other products;
- mass-consumed generic analogues on the local market are produced by more than three pharmaceutical manufacturers in approximately the same price range;
- pharmaceutical product is a special type of commodity, of first necessity, and has a relatively low dependence of demand on prices and on territorial location.

The object of research is defined as set of the main manufacturers of pharmaceutical products in Bulgaria. Publicly available financial statements and activity reports from the Commercial Register were taken into account as

sources of information. From the accepted restrictions, a set of six leading pharmaceutical manufacturers is formed:

–Balkanfarma Dupnitsa AD, Dupnitsa. It was established as pharmaceutical plant in 1954 and after a series of changes is currently owned by Teva Pharmaceutical Industries Ltd., Israel. The product list includes over 150 items, which are sold in over 50 countries, incl. through Teva Group subsidiaries.

–Balkanpharma-Razgrad AD, Razgrad. It has over 60 years of experience in the development, production and sales of generic pharmaceutical products for human and veterinary use. Property of Antibiotic-Razgrad AD. The production is related to industrial microbial synthesis, genetics, and medicinal preparations for the markets of more than 20 countries.

–Balkanfarma Troyan AD, Troyan. It was established in 1953 as chemical laboratory. Since 2016, Teva Pharmaceutical Industries Ltd, Israel, has owned it. Production is related to gel, tablet, capsule and other forms of pharmaceutical preparations.

–Bul Bio EOOD, Sofia. Established in 1881 as chemical laboratory. Fully state owned. The only pharmaceutical manufacturer in the country of vaccines, serums, immunostimulators, allergens, diagnostic preparations.

–Sopharma AD, Sofia. It arose 100 years ago as professional organization. It is currently a local private property, acquired through cash privatization. It includes over 10 plants in Bulgaria and three plants abroad, united in the Sopharma Group. More than 20% of the Group's activity is related to production and the rest – to distribution. The production is aimed at both pharmaceutical products and chemical products.

–Tchaikafarma High quality pharmaceutical products AD, Varna. Established in 1999 by private local capital. It owns three plants in Sofia, Varna and Plovdiv. The production is related to generic and licensed pharmaceutical products.

The horizontal level (production) and vertical level (micro level) of research are commented on, which determine the sources of information, data collection, as well as the final results, conclusions and recommendations of the dissertation work.

The third paragraph assesses competitiveness through a quantitative model. The indicators of competitiveness were determined from the annual reports of the selected pharmaceutical manufacturers. The following conclusions are formulated:

– Sales efficiency expresses the ratio of receipts from customers to reported profit. It is argued that low values of this ratio are a competitive

advantage, since in the cases pharmaceutical manufacturers generate profit outside of the commercial relationship with customers and are significantly more resistant to changes in the customer base. The highest competitiveness in terms of sales efficiency was recorded at Chaikapharma (Chart 1). With this pharmaceutical manufacturer, the risk of dynamics in customers and their preferences is the lowest.

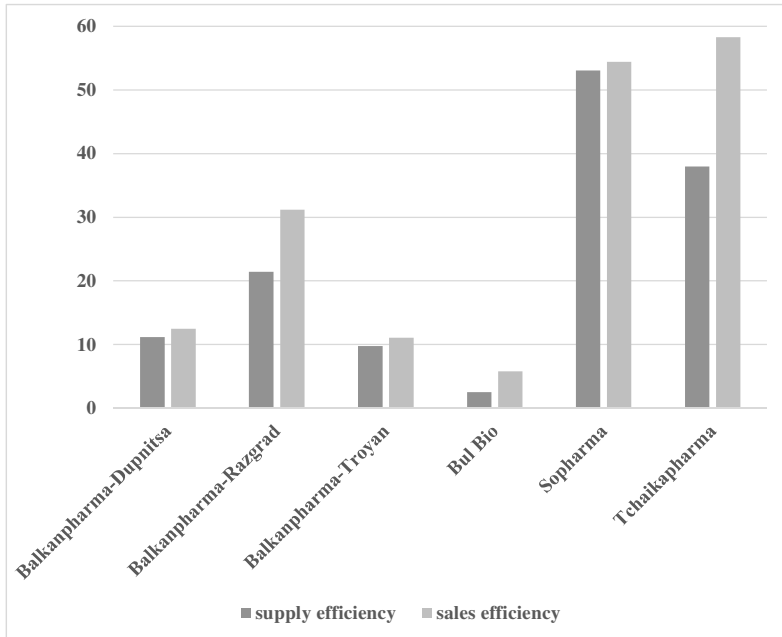


Chart 1. Competitiveness assessment of pharmaceutical manufacturers using a quantitative model

Source: author’s calculations based on data from audited annual reports, 2020

– Supply efficiency expresses the ratio of payments to suppliers to reported profit. It is argued that high values of this ratio mean a strong dependence on suppliers and a threat of takeover by another pharmaceutical manufacturer. The lowest values for the efficiency of deliveries were reported at Bul Bio. Its competitiveness is the highest due to the possibility to quickly and without great losses redirect to new suppliers. Switching suppliers is particularly difficult given the nature of pharmaceutical production by a narrow range of enterprises primarily in the oil refining and chemical industries.

The competitiveness assessment through a quantitative model is explained as: consequence of the participation of pharmaceutical manufacturers in holding groups, where the dependence of the input of the pharmaceutical manufacturer, respectively the risk, on the suppliers of raw materials for production (Balkanpharma-Dupnitsa, Balkanpharma-Troyan and Sopharma); low price tactics to expand the customer base due to government policy (Bul Bio); a limited number of pharmaceutical products and, accordingly, a small customer base (Chaikapharma).

The fourth paragraph assesses the competitiveness of pharmaceutical manufacturers through a qualitative model. The basis of the assessment is a survey of pharmaceutical manufacturers and users of pharmaceutical products, carried out in the period 01-31.03.2021. Data on the socio-demographic characteristics of the respondents are provided.

The competitiveness assessment of pharmaceutical manufacturers through a qualitative model is based on Porter’s method, described in the third paragraph of the second chapter of the dissertation. Existing competitors are assessed along three lines of competitiveness: input resources, work processes and output distribution (Chart 2).

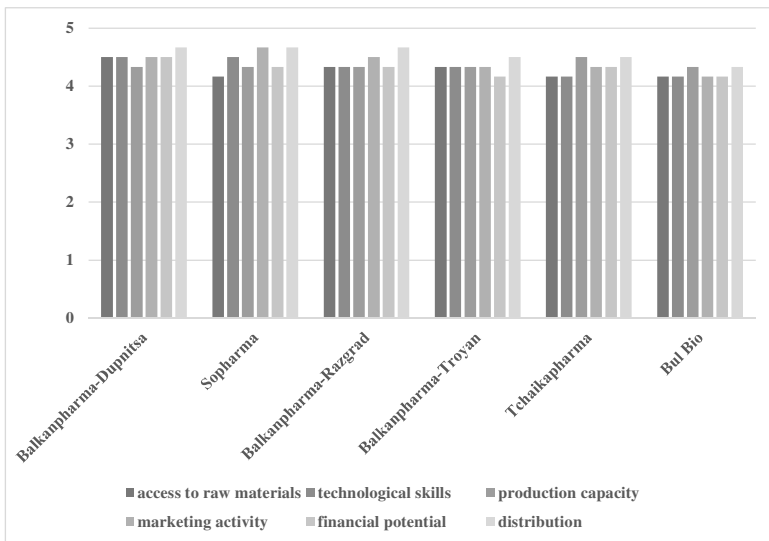


Chart 2. Competitiveness evaluation of pharmaceutical manufacturers using a qualitative model

Source: author’s systematization

Balkanfarma-Dupnitsa is the most competitive. With the highest results of the work processes is the competitiveness of Sopharma and with the highest competitiveness based on the output – Sopharma (marketing activity) and Balkanpharma-Dupnitsa (financial potential and distribution). Competitive advantages are claimed from supplier relationships with a limited number of pharmaceutical manufacturers. These manufacturers implement a strategy of focusing on a narrow market segment, which fact determines the preservation of the status quo for future periods.

Based on the assessment, the following conclusions were formulated:

First, the data from the assessment of the competitiveness of pharmaceutical manufacturers using a quality model identify Balkanpharma-Dupnitsa as the leader, followed by Balkanpharma-Razgrad and Balkanpharma-Troyan (Graph 3).

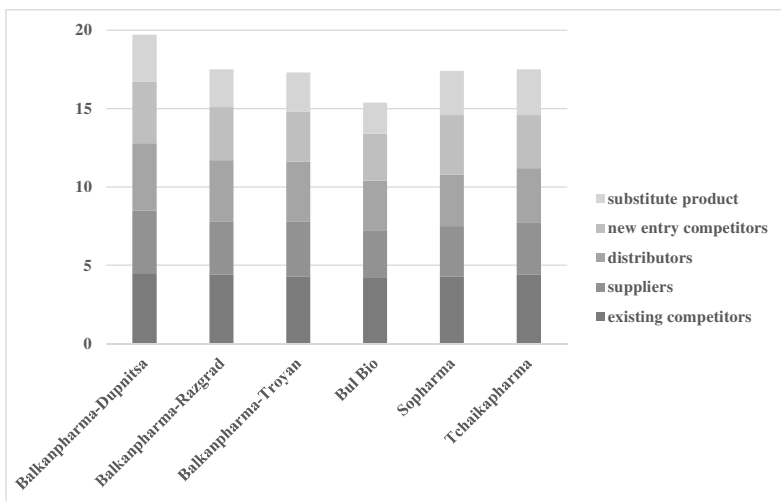


Chart 3. Evaluation of the competitiveness of pharmaceutical manufacturers, ball grades

Source: author’s systematization

When using the research data, attention is paid to taking into account the participation of competent authorities for the competitiveness of pharmaceutical manufacturers, such as sales permits and paying part of the price for the sale of medicines. This fact explains the high results for Sopharma and Tchaikapharma, which have the largest number of pharmaceutical products included in the reimbursement list of the National Health Insurance Fund and the highest percentage of co-payment by the state.

At the other pole is Bul Bio, which is a monopolist in the field of vaccines and yet is not sufficiently recognizable to consumers of pharmaceutical products, as production is mainly for the hospital market and for export.

Second, the quality of pharmaceutical products determines the competitiveness of pharmaceutical manufacturers. Other factors increasing competitiveness are the price of pharmaceutical products and the effects of treatment. Marketing tools are indicated as having the weakest impact on competitiveness. It is proven that the pharmaceutical industry is more a part of the health care system than a part of industrial production.

Third, the competitiveness assessment is presented as consequence of respondents' socio-demographic characteristics, including their health literacy. An additional factor in the assessment results is the regulatory function of the country, including the policy on the mass use of generic pharmaceutical products and the reimbursement policy. The two factors, the users of pharmaceutical products and the competent authorities, are indicated as participants in the health care system both on the supply side and on the demand side. It is recommended that future research on the chosen topic consider this dual role.

In the **fifth paragraph**, a summary assessment of the competitiveness of pharmaceutical manufacturers is made. Attention is drawn to the results of a second survey carried out in the period 13.10-12.11.2021. It is specified that the survey is based on the model of Ml. Velev (2004) for assessing competitiveness through a balanced system of micro-level indicators:

- competitiveness of the offered production;
- labor productivity in the pharmaceutical manufacturer;
- financial results of the pharmaceutical manufacturer;
- growth of the pharmaceutical manufacturer;
- innovativeness of the pharmaceutical manufacturer;
- production and marketing flexibility of the pharmaceutical manufacturer;
- adaptability of the pharmaceutical manufacturer to the market.

Velev's model includes significance coefficients for the individual indicators, which were modified by R. Dimitrova (2014). The mathematical expression of the Velev's model and the Dimitrova's coefficients are given in the following equation:

$$K = 0,22Cp + 0,13LP + 0,13Z + 0,12GP + 0,13IP + 0,13Fpm + 0,14Am.$$

where:

K is the value of competitiveness of a given pharmaceutical manufacturer;

C_p is the competitiveness of the products (includes the price and quality of the products from the survey);

LP is the labor productivity for a given pharmaceutical manufacturer;

Z is the financial results of the pharmaceutical manufacturers as reported in their annual financial statements;

GP is the growth of the pharmaceutical manufacturer;

IP is an indicator of manufacturer innovation;

Fpm is the production and marketing flexibility of the manufacturer;

Am is adaptability of the manufacturer to the market.

When summarizing the assessments of competitiveness, it was found that the indicators “competitiveness of products” (average value for all pharmaceutical manufacturers 33%) and “production and marketing flexibility of the enterprise” (29%) are of greatest importance, regardless of their coefficients in the formula, 0,22 and 0,13 respectively (Chart 4).

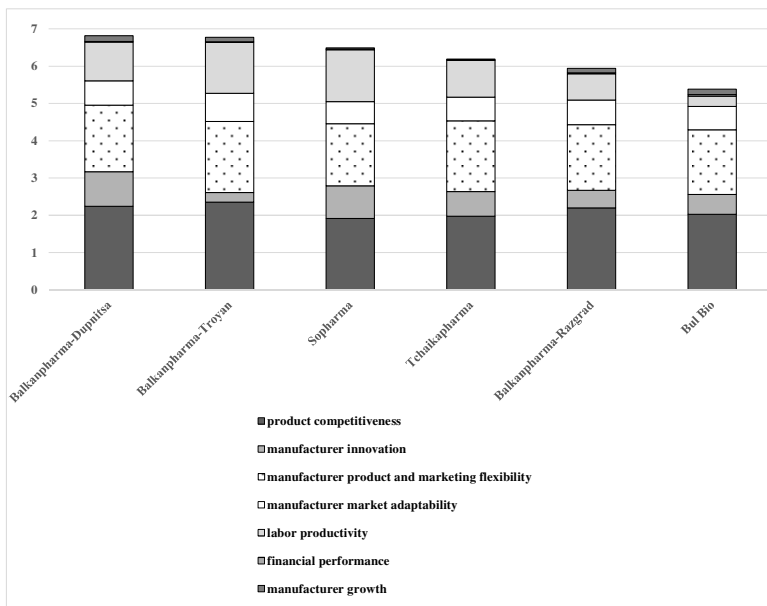


Chart 4. Results of pharmaceutical manufacturers’ competitiveness assessment

Source: author’s systematization

The results of the competitiveness assessment point to the biggest difference between the individual pharmaceutical manufacturers in terms of the “labor productivity” indicator for Balkanpharma-Troyan and Bul Bio. It was found that for both pharmaceutical manufacturers, the quality of their pharmaceutical products is more important to consumers than the price of the pharmaceutical products. As conclusion of the assessment, the opinion is presented that the non-financial indicators from the Velev-Dimitrova model have the strongest influence on the high assessment: competitiveness of the offered product, innovativeness of the enterprise, production and marketing flexibility of the enterprise, and adaptability of the enterprise to the market.

As summary, the ratings of competitiveness and the opinion of consumers for a preferred manufacturer of pharmaceutical products are compared (Table 1).

Table 1. Basic data from the pharmaceutical manufacturers’ competitiveness assessment and the preferences of the consumer respondents of the survey

	Assessment of the competitiveness	Preferred manufacturer by respondents
Balkanpharma-Dupnitsa	6,81	9,6%
Balkanpharma-Troyan	6,77	5,8%
Sopharma	6,49	51,9%
Tchaikapharma	6,19	13,5%
Balkanpharma-Razgrad	5,94	9,6%
Bul Bio	5,38	9,6%

Source: author’s calculations

The question is raised about the ranking of the pharmaceutical manufacturers in different positions according to the assessment and the survey. After operationalizing the data, the question posed is answered – the country and its pharmaceutical reimbursement policy are the leading factors in ranking as preferred pharmaceutical manufacturer.

Based on the results obtained from the pharmaceutical manufacturers' competitiveness assessment in Bulgaria, generalized conclusions were drawn:

First, Balkanpharma-Dupnitsa is nominated with the highest competitiveness (score 6,81) due to the highest manufacturer innovation and manufacturer growth values, followed by Balkanpharma-Troyan (score 6,77) due to the best competitiveness values of the product, flexibility of the manufacturer and adaptability of the manufacturer to the market. At the other pole is Bul Bio (score 5,38) – with good economic indicators that have a low weight in the competitiveness model.

Second, qualitative indicators are defined as leading to the competitiveness of pharmaceutical manufacturers, while quantitative indicators of individual pharmaceutical manufacturers have similar values and therefore have little effect on the assessment of their competitiveness.

Third, Sopharma was nominated as the most preferred pharmaceutical manufacturer (51,9% of respondents), followed by Tchaikapharma (13,5%). The preferred pharmaceutical manufacturer ranking is said to be influenced by state involvement through pharmaceutical reimbursement, with the National Health Insurance Fund paying the costs of pharmaceutical manufacturers in a scheme similar to the ranking of pharmaceutical users by consumer preference.

Fourth, the product competitiveness (ratio between quality and price of the pharmaceutical product) is indicated with the greatest weight in the assessment of the pharmaceutical manufacturers' competitiveness. Balkanpharma-Troyan (2,35%), followed by Balkanpharma-Dupnitsa (2,24%) and Balkanpharma-Razgrad (2,2%), are determined to have the highest competitiveness of the pharmaceutical product among the pharmaceutical manufacturers studied. Sopharma has the lowest value of this indicator (1,91%).

Fifth, the number of new products put into production and on sale has been identified as particularly important factor for the competitiveness of all pharmaceutical manufacturers. Balkanpharma-Dupnitsa, Tchaikapharma and Sopharma are indicated with the most new pharmaceutical products introduced into production, and Balkanpharma-Troyan and Bul Bio with the least. The most improvements in production technologies were made in Balkanpharma-Dupnitsa, Bul Bio and Sopharma, and the least – in Balkanpharma-Troyan. Balkanpharma-Dupnitsa, Sopharma and Bul Bio implemented the most innovations in organization and management, and Balkanpharma-Troyan implemented the least.

Sixth, the health literacy of the respondents is identified as leading when carrying out a competitiveness assessment. It is indicated that 75% of all respondents-end users of pharmaceutical products have an average level of health literacy and are influenced by opinions and recommendations of persons with high health literacy (doctors, pharmacists, patient organizations). For the rest of the respondents (25%), health literacy is at a high level, and for them, the assessment of competitiveness is determined by a wider range of indicators than the price of pharmaceutical products, for example, the effects of treatment.

Seventh, the socio-demographic characteristics of the respondents-end users of pharmaceutical products are indicated as factor of the competitiveness assessment. Consumers aged 25 to 55 (81% of all respondents) form the main group of respondents, as their purchasing power and health needs define them as less dependent on the financial support of the state through reimbursement of the price of pharmaceutical products. Another group consists of respondents aged 55 and over 65, who are characterized by limitations of personal finances, and therefore recognize and assess pharmaceutical manufacturers whose pharmaceutical products are included in the list for reimbursement by the National Health Insurance Fund.

In **the sixth paragraph**, the opportunities for increasing the competitiveness of pharmaceutical manufacturers in Bulgaria are formulated. Based on the obtained results, recommendations are made to pharmaceutical users.

Opportunity 1. Emphasis on good manufacturing practice

The application of good manufacturing practice is derived as factor for increasing the competitiveness of pharmaceutical manufacturers. It is indicated that a third of the pharmaceutical manufacturers-respondents consider their competitiveness as shaped by the implementation of good manufacturing practice, and 67% of the pharmaceutical manufacturers consider the implementation of good manufacturing practice as the main barrier to new entry competitors. In contrast to good manufacturing practice, another similar element, the presence of a patent or trademark from a pharmaceutical manufacturer, is reported by only 5% of consumers when purchasing a pharmaceutical product.

Opportunity 2. Taking into account the opinions of individual groups of interested parties

From the obtained results, it was found that pharmaceutical manufacturers in the production of pharmaceutical products take into account opinions that are closer to market factors: competitors, the state as financial source, the prescribing doctor and the end user. There have been no cases

where the opinions of professional participants in the healthcare system – patient organizations, the National Health Insurance Fund and pharmacists – are taken into account. The participants in the health system, whose opinion is taken into account by the pharmaceutical manufacturers, are on the side of the demand for pharmaceutical products, and the influence of the other participants is not taken into account, i.e. on the supply side of pharmaceutical products. This fact is explained by the production of mainly generic pharmaceutical products, the prices of which are paid additionally by the National Health Insurance Fund.

Taking into account the opinion of the participants in the health system from the side of the supply of pharmaceutical products, an increase in the competitiveness of local pharmaceutical manufacturers in foreign markets is assumed due to the requirements for innovation of pharmaceutical products and adaptability to market requirements. This option is recommended for implementation by pharmaceutical manufacturers who have contractual relations with foreign counterparties, for example Bul Bio and Sopharma.

Opportunity 3. Meeting the needs of end users of pharmaceutical products

From the presented data, it is clear that users (prescribing doctor, pharmacist, health fund, patient organizations, hospital market, and end user) are guided by three factors when purchasing a pharmaceutical product: price, quality and treatment effects. At the same time, end users consider factors that are related to healthcare: product quality and efficacy, while factors from an economic perspective (product price and therapy effects) are secondary.

The needs of consumers are relatively constant over time and we should talk about established traditions in the purchase of pharmaceutical products. Regardless of the peculiarities of the pharmaceutical market in Bulgaria, generic pharmaceutical products and reimbursement by the state, the majority of consumers give preference to new pharmaceutical products, with guaranteed quality and correspondingly high efficacy of treatment, as opposed to expectations for preferences for the price of pharmaceutical products.

Opportunity 4. Balancing between input, work and output processes in the production of pharmaceutical products

From the obtained results, the output processes related to the realization of the production are determined as common feature of the competitiveness of the assessed pharmaceutical manufacturers. An untapped opportunity to increase competitiveness is the input processes related to the market for raw materials and contractual relations with suppliers, including a strategy for their acquisition. Data from the competitiveness assessment show that 67% of pharmaceutical manufacturers see an opportunity to increase competitiveness

by improving relations with distributors. Forward integration is found in isolated cases – 17% of pharmaceutical manufacturers assess the closed production cycle as competitive advantage compared to other pharmaceutical manufacturers.

Opportunity 5. The quality-price dilemma of pharmaceutical products

When purchasing pharmaceutical products, consumers are primarily guided by the quality of the product (86%) and its price (58%). Sopharma is defined as the highest quality of pharmaceutical products according to the opinion of both pharmaceutical manufacturers and users of pharmaceutical products. Sopharma also offers the highest prices for pharmaceutical products. The prices of Bul Bio are the lowest, and only with this manufacturer do the assessments of pharmaceutical manufacturers and consumers of pharmaceutical products match in terms of the price of pharmaceutical products. In all indicators, the ratings of consumers of pharmaceutical products are lower than those of pharmaceutical manufacturers.

Opportunity 6. Reputation of pharmaceutical manufacturers

The data provides a basis for determining the reputation of individual pharmaceutical manufacturers as consequence of the quality and price of their pharmaceutical products. The results of the research determine a lower opinion of the consumers of pharmaceutical products than that of the pharmaceutical manufacturers in terms of reputation.

Reputation is established as opportunity to increase competitiveness, as 65% of consumers when purchasing a pharmaceutical product are guided by their previous experience. Own experience may exceed advice from doctors and pharmacists (64%), the opinion of colleagues and professionals from the guild (33%), recommendations from acquaintances and relatives (31%) or from advertising (4%) when purchasing a pharmaceutical product .

It is expedient for pharmaceutical enterprises to make efforts to build a positive corporate image related to the management of the manufacturer, the quality of the pharmaceutical products offered, financial stability, corporate assets, investments, innovations and responsibility towards society and the environment. In this regard, the image of the brand and competitors, the publicity and previous experience of the manufacturer, the advertising and marketing policy, and the image among the counterparties, the quality of service and the official policy of the pharmaceutical manufacturer are important.

Opportunity 7. Establishment of traditional manufacturer-consumer relations

Traditional market presence is cited by 67% as the leading advantage of pharmaceutical manufacturers, while high quality and uniqueness of the pharmaceutical product are secondary (50% each). It is recommended that pharmaceutical manufacturers launch a campaign to strengthen relations with consumers of pharmaceutical products. For example, there is a discrepancy in the opinions of consumers between knowledge of the pharmaceutical products of each of the pharmaceutical manufacturers and preferences for a specific manufacturer, for example in the case of Bul Bio.

The responses of the users of pharmaceutical products from the carried out survey confirm the existence of a traditional relationship with a specific pharmaceutical manufacturer. With the longest period of time, more than five years, products are used by 55% of consumers, from one to five years – 24% and under one year – 21%. Regardless of the traditional relationship, consumers have preferred the pharmaceutical products of another pharmaceutical manufacturer-competitor in the last five years more than five times in 41% of the responses, from two to four times in 38%, only once in 5% and in 15% of cases the pharmaceutical manufacturer was not changed. The most common motivations of consumers for preferences to another pharmaceutical manufacturer are due to more profitable market offers, for example lower price (78%) and higher quality (92%).

Opportunity 8. Preventive actions to implement current trends in healthcare

The adoption of market principles in Bulgaria contributes to the influence of international practices on local pharmaceutical manufacturers. The trends in health care mark a growth and orientation towards the application of achievements from sciences related to pharmacy.

The increase in environmental requirements is seen as increase in the threat of restrictions on the production of pharmaceutical products (83%). The circle of interested parties in the activities of pharmaceutical manufacturers is increasing, the expectations of stakeholders towards pharmaceutical manufacturers are also increasing, and pharmaceutical manufacturers (67%) report this trend as threat. Innovations in the IT sector inevitably have an impact on the pharmaceutical industry, while at the same time innovation is seen as threat to pharmaceutical manufacturers – the distribution of pharmaceutical products through vendor machines is perceived as threat by 17% of pharmaceutical manufacturers, as well as the introduction of electronic prescriptions. Of research interest is the opinion of pharmaceutical manufacturers that the creation of online stores does not pose a threat, as the

answer lies in the licensing nature of the distribution of pharmaceutical products.

Opportunity 9. Balancing between opportunities from the internal and external environment

Innovation is defined as the main approach to increase the competitiveness of pharmaceutical manufacturers. The opinion of the pharmaceutical manufacturers to improve their competitiveness is mainly directed towards internal restructuring of the activity and to a lesser extent – towards the opportunities from the external environment. Advantage is given to the entry and exit of pharmaceutical manufacturers by improving relations with suppliers and distributors, i.e. there is a broader understanding of the internal environment that now includes suppliers and distributors.

Stakeholders and other actors from the external environment are not seen by pharmaceutical manufacturers as opportunity to improve their competitiveness. Even participation in branch organizations would not contribute to their competitiveness. An exception to the external environment is the opportunity to participate in projects and research with universities and laboratories. The interpretation of these data should be sought in the market shares of individual pharmaceutical manufacturers and in the ways of their constitution (privatization and acquisition by foreign capital).

Opportunity 10. Consideration of market conditions

Realization of pharmaceutical products is cited as major advantage for a significant portion of pharmaceutical manufacturers. Established market presence (67%) is reported as the leading opportunity, followed by listing for pharmaceutical price reimbursement (50%), product uniqueness and high quality, each at 50%.

Distribution of pharmaceutical products through own chain is defined as underestimated opportunity by pharmaceutical manufacturers – only 17% of pharmaceutical manufacturers consider it as opportunity to increase their competitiveness. The answer to this missed opportunity may be a consequence of the regulatory restriction on simultaneous production and distribution by the same legal entity. Pharmaceutical manufacturers as main competitive advantages do not consider some market factors such as low prices (33%) and a wide range of products (17%).

CONCLUSION

In the conclusion, the main conclusions of the research and analyzes in the dissertation are summarized. Summaries and results of the conducted research related to the assessment of the competitiveness of pharmaceutical manufacturers and the possibilities for its increase are presented and highlighted in a synthesized form. They are a starting point for their application in the management of pharmaceutical manufacturers in Bulgaria. The problems that necessitate the deepening of scientific research on the chosen topic are also formulated. The practical significance of the proposed methodological toolkit for evaluating the competitiveness of pharmaceutical manufacturers is emphasized.

III. CONTRIBUTIONS REFERENCE

In connection with the development of the dissertation, the following **contributions** can be made:

1. The main theoretical concepts of competition and competitiveness are systematized, deduced and summarized.

2. An analysis and assessment of the state and development of the pharmaceutical industry in Bulgaria was made.

3. A methodology has been developed for assessing the competitiveness of manufacturers in the pharmaceutical industry.

4. The competitiveness of the pharmaceutical manufacturers in Bulgaria was assessed.

5. Possibilities for increasing the competitiveness of pharmaceutical manufacturers are proposed.

IV. DISSERTATION RELATED PUBLICATIONS

1. Filipova, M. and Nedelcheva, Y. (2022). Value-added Chain of a New Pharmaceutical Product. *Economics and Management*, X (X), 65-78.
2. Filipova, M. and Nedelcheva, Y. (2022). Assessment of Pharmaceutical Manufacturers' Competitiveness. *Entrepreneurship*, X (1), 59-67.
3. Filipova, M. and Nedelcheva, Y. (2022). Competitiveness Factors of Pharmaceutical Manufacturer. *Entrepreneurship*, X (1), 78-92.
4. Nedelcheva, Y. (2019). Competitiveness in the Pharmaceutical Industry: a Historical Overview. *Entrepreneurship*, VII (1), 36-47.
5. Nedelcheva, Y. (2019). Competition and Competitiveness in Pharmaceutical Industry. *Economics and Management*, XVI (2), 66-77.