

## SUSTAINABLE PERFORMANCE OF COMPANIES LISTED ON THE BSE FROM THE FARMA INDUSTRY

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### Abstract

*Performance encompasses skills that allow for openness to resources, destinations, and optimal use of those resources, to justify the benefits of negotiating sustainable development. Therefore, the adoption of sustainability programs can be an opportunity for companies to improve their relationships with stakeholders by increasing trust, gaining easier access to resources, with beneficial consequences for the overall performance of the company. For companies listed on the stock market, the index that presents the level of sustainability is a representative one, the measurement of sustainability effort being the order of the day, especially when we refer to the evolution of shares listed on the stock exchange. Through this paper, the authors conducted a study on companies in the pharma industry, listed on the Romanian capital market, in terms of their sustainable performance, choosing from the 7 companies on BSE, only 3, which have as main field of pharmaceutical production. From the analysis, relevant information on the stock market performance of pharma companies listed on the Bucharest Stock Exchange could be presented, as well as the essential aspects that lead to ensuring the sustainable performance of these companies, through the sustainable development objectives found in the Sustainability Reports. Sustainability in general is an essential opportunity to condition performance in a broader sense, in the medium term, performance can be treated both as an objective and as a condition of economic survival.*

**Key words:** *Sustainable development; listed companies, pharma industry; global performance; stock market performance; Sustainable Development Goals (SDGs).*

**JEL Classification:** *M14, M48, O13, Q01.*

### I. INTRODUCTION

Climate change, global warming and the damage caused by the production process are determinants of a company's performance, which lead to essential changes in manufacturing technology. Most investors draw attention to the fact that the production process of a company is not only profit-oriented, but also to pay more attention to environmental and social issues (Mihalciuc, Apetri, 2017: pp. 213-231).

The financial performance of a company can be analyzed in terms of profitability, shares, dividends, capital used, investments, sales, etc., but often does not give a complete picture of the profit situation. Exclusive focus on profit would lead to loss of sight of some essential aspects for the company, but also for society as a whole, which leads us to a broader description of performance, by introducing the notion of "sustainability". Thus, in a dynamic and complex business environment, corporate sustainability can influence corporate profitability and overall performance, leading to maintaining and increasing the value of the company, as well as obtaining strategic benefits as a result of integrating sustainability into their core strategies (Mihalciuc, Grosu, & Apetri, 2020: pp. 206-225).

When we talk about sustainability, we refer to all three balanced components that ensure sustainable performance and that are the guarantor of increasing market share, namely: economic, environmental and social performance (Mihalciuc, 2019). Environmental performance is a strategic part of a company's success (Supriyono, 2015: pp.143-161), showing the efficiency with which companies use natural resources to achieve their medium and long-term goals (Basuki, 2015: pp. 199- 218).

Sustainability also takes into account the innovative techniques implemented, which generate a guarantee of long-term performance in the company's management, ecological technologies designed to reduce the negative impact on the environment through emissions of harmful substances to the environment and others, but

also by the attention paid to investments in a future as prosperous and harmonious as possible for each of the parties (Mihalciuc & Grosu, 2020: pp. 601-620).

The sustainable development of a company is a derivative of economic development, education and human consciousness (Pieloch-Babiarz, Misztal, & Kowalska, 2020).

The success of sustainable development lies in accessing information and using it to make proactive decisions. In general, information includes a wide variety of meanings in different contexts, from everyday to technical (Sfetcu, 2019). From a practical activity, whose knowledge was acquired empirically, accounting has become a scientific discipline designed to provide effective data and information for the development of strategies at all levels and in the decision-making process (Diaconu, 2015: pp. 98-106).

There is a growing concern of companies about the impact on the environment and on monitoring these impacts and verifying the environmental performance of companies in the pharmaceutical industry, noting that the level of sustainable development of companies also depends on macroeconomic issues.

In addition to the traditional and modern indicators that describe the subject of performance, companies listed on the capital market also have stock market indicators, whose task is to define the situation of the company in that market, reflecting the gain brought by the company to its shareholders actions. Thus, the capitalized value of the given entity is given by the number of shares issued at the level of a company, as well as the trading value of a share.

Within the application part, starting from the general objective of the paper, the authors make both an analysis of the stock market performance of the three companies subject to research in the field of pharmaceutical production (S.C. Zentiva SA, S.C. Antibiotice S.A. and SC Biofarm SA) listed on BSE, and an analysis of the sustainability reports of these companies.

## II. LITERATURE REVIEW

The concept of sustainability on the three dimensions, social, economic and environmental is characterized by a familiar typology where the relationships between these dimensions are compatible and mutually supportive (Missimer, Robèrt, Broman, 2017, Part 1). This concept is seen as a policy concept, which since 1987 (Brundtland Report or "Our Common Future", WCED, 1987)) has gone through various stages of development since its introduction. The report expressed the belief that social equity, economic growth and maintaining the environment are simultaneously possible, thus highlighting the three fundamental components of sustainable development (Du Pisani, 2006; Taylor, 2016). The Brundtland report is accepted as a guide to fundamental principles, through which the concept of sustainable development is presented through various meanings ranging from holistic planning and adoption of strategies, ecology, heritage protection and biodiversity, to the concept of long-term sustainable development (Dernbach, 2003).

Various organizations and institutions have been actively involved in the implementation of the established principles and objectives (Tomislav, 2018). The concerns presented in this Report were related to the tension between humanity's aspirations for a better life and awareness of the limitations imposed by nature (Drexhage & Murphy, 2010).

Sustainability requires convergence and long-term balance between the pillars of economic development, social equity and environmental protection (Murphy, 2012; Gossling-Goidsmithe, 2018; DESA-UN, 2018). The problem of sustainable development is centered around equity. inter and intragenational anchored essentially on three-dimensional pillars, different but interconnected, namely the environment, the economy and society (Mensah, 2019).

Through its ethical imperative, sustainable development aims to offer everyone anywhere and at any time the opportunity to lead a dignified life in that society (Omann, Spangenberg, 2002).

Companies today are increasingly interested in corporate sustainability, which is becoming a significant alternative to current business, including in the strategy, vision and culture of an organization (Gonzalez-Perez, Leonard, 2015; Engert, Rauter, Baumgartner, 2016; Hutchins, Richter, Henry, Sutherland, 2019). Thus, we resorted to creating a framework to improve social sustainability practices, the performance of social sustainability being an increasingly analyzed aspect (Manrique, Marti-Ballester, 2017; International Organization for Standardization, 2018; Global Reporting Initiative, 2018).

The social dimension is essential for the concept of sustainability, in addition to economic and environmental aspects, social problems being found in one of its analytical dimensions (Janker, Mann, 2020).

The concept of sustainable development (SD) has become and remains a concept that calls for improved living standards without endangering Earth's ecosystems or causing environmental challenges, such as

deforestation and water and air pollution, which can lead to problems such as climate change and species extinction (Cerin, 2006; Abubakar, 2017; Scopelliti et. Al., 2018; Browning, Rigolon, 2019). Also, Elkington (1998) in his study analyzed the relationship between profit, man and the planet (Elkington, 1998: p.12).

In order to support the objective of our research, we will focus our attention on a bibliometric analysis of the literature in two directions, one on the pharma industry, and another on the concept of sustainable performance and the pharma industry, based on specialized studies, briefly emphasizing the evolution and correlation of the pharma industry in these studies with concepts such as: “*biotechnology*”, “*tehnology*”, “*tehnology transfer*”, “*conflict of interest*”, “*green chemistry*”, “*management*”, “*implementation*”, “*pharmaceutical*”, “*research and development*”, “*open innovation*”, “*discovery*”, “*drug development*”, “*quality*”, “*productivity*”, “*globalization*”, “*ethics*”, “*innovation*”, “*intellectual property*”, “*model*”, “*medicine*”, “*performance*”, “*strategy*”, “*big pharma*”, “*economics*”, “*information*”, “*science*”, etc.

Thus, we resorted to creating different term maps with the help of VOSviewer software, and the scientific database from the Web of Science. VOSviewer software is a software tool for building and viewing bibliometric networks, which include journals, research or individual publications. (Van Eck, Waltman, 2010: 523–538). In this paper, we used the VOSviewer Softer to generate and visualize networks of co-occurrence of important terms extracted from scientific databases associated with the topic "pharma industry" and "sustainable performance and pharma industry".

The following figures show differences in publication, in terms of the terms analyzed. Thus, in Figure 1 shows the increasing publication trend on the topic “pharma industry” in recent years, an aspect that illustrates the importance of this topic among international researchers, compared to the representation in Figure 2, where you can see the small number of publications on the Web of Science platform, in terms of "sustainable performance and pharma industry".

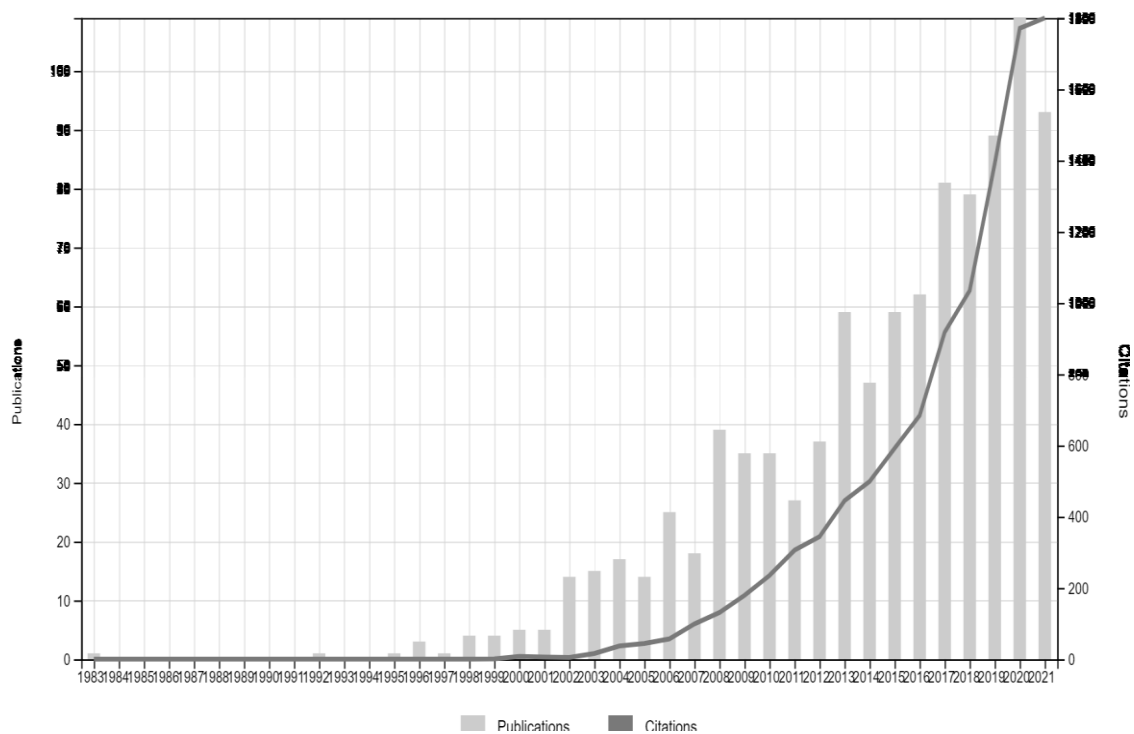
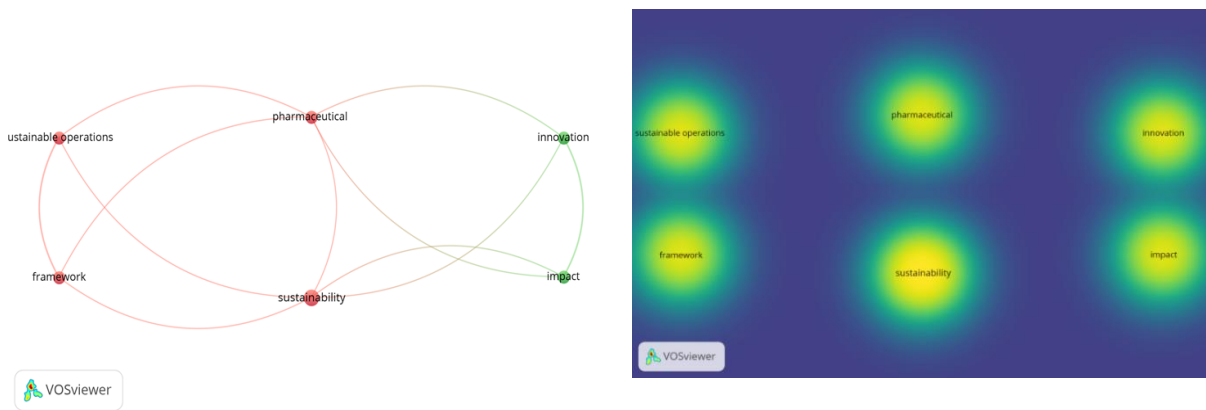


Figure 1 – Frequency of publications on the topic "pharma industry" during 1975-2021  
Source: Web of Science





The distribution in time of the appearance of the keywords is reflected in the Figure 6.



**Figure 5 - Co-occurrence keyword network on the issue sustainable performance and pharma industry for the period 2010-2021**

Source: own processing using VOSviewer

From Figure 6, information can be extracted regarding the distribution over time of the appearance of keywords in the selected publications, from 2018 to 2021.



**Figure 6 - The distribution in time of the appearance of the keywords during 2018-2021**

Source: own processing using VOSviewer

The results of the mapping of scientific terminology used in connection with sustainable performance and pharma industry, by using VOSviewer, according to the Web of Science database, revealed the terms and expressions most frequently associated with these concepts, our aim being to present and investigate general topics in previous research in the field.

### III. FINANCIAL AND NON-FINANCIAL PERFORMANCE - MAIN AXES OF A COMPANY'S GLOBAL PERFORMANCE

The overall performance of a company is represented by the totality of economic performance, social and environmental performance and occurs as a result of financial results obtained by the entity, but also as a result of its actions to protect employees and the environment (Reynaud, 2003). Performance reaches “an unstable level of a company's potential, obtained as a result of optimizing the value for money and which makes that company competitive in certain strategic sectors (Stern, Shiely & Ross, 2001). Also, performance represents “the degree to which an organization, as a social system, with certain resources and means, achieves its objectives” (Tannenbaum & Shimdt, 2009: p.133).

In companies they are trying to implement more and more the concept of responsible behavior. Thus, we notice an increased attention for CSR (Corporate Social Responsibility), a concept that is based primarily on its ability to influence the performance of companies, many studies confirming the existence of a link between corporate social responsibility (CSR) and financial performance. Companies that have clearly understood the importance of CSR and their impact on society, as well as their long-term benefits, have voluntarily integrated CSR practices into their core business strategies, with the concept of social and environmental responsibility becoming a separate part of viability. of the company (Dahlia & Siregar, 2008).

Sustainability can influence corporate profitability and overall performance, laying the groundwork for maintaining and increasing the value of the company in today's dynamic and complex business environment, thus providing companies with many strategic benefits as a result of integrating sustainability into their core strategies. (Nucă et al., 2020).

The concept of performance is taken into account the present relations between the company and the stakeholders. Respectively, these two authors explain performance by the company's ability to create added value for stakeholders, to meet consumer needs, to meet employee needs and, more recently, to care for the environment (Achim & Borlea, 2012).

If we refer to the market capitalization as an essential indicator that reflects the size of a company, this is a solid size taken into account according to the various characteristics in which investors are interested, another important indicator representing the trading risk that a company has in dependence on market value (Berheci, 2010: pp.403-416).

Regarding non-financial performance, it is also measured by a series of non-financial indicators. Through the analysis of these indicators, we reach the sensitive points of the company such as: the quality of management, intellectual capital, and other aspects related to the intangible value of the company, which will contribute to the substantiation of the investment decision. Thus, investors will want to use those non-financial criteria that will lead to the company's performance and the application of corporate governance practices (Robu & Vasilescu, 2004: p.181).

#### IV. STOCK MARKET PERFORMANCE ANALYSIS OF RESEARCH COMPANIES

The economic-financial performance of a company is generally defined by the concept of efficiency, through several sets of indicators, such as: indicators that focus on production and marketing; indicators that facilitate the profitability analysis process, as well as indicators based on value creation. In addition to the traditional and modern indicators that describe the subject of performance, companies listed on the capital market also have stock market indicators that have the task of establishing the situation of the company in that market and reflect the gain brought by the company to its shareholders of shares. Thus, these indicators are given by the number of shares issued at the level of a company, as well as the trading value of a share, the capitalized value of the given entity is expressed.

In this part of the paper the authors present a thorough analysis of the stock market performance of pharmaceutical companies in the field of pharmaceutical production, listed on the BSE, thus presenting in Table 1, a number of elements, such as: calculated dividends (DIVY); capitalized value; the value of equity, the ratio of earnings to profit (PER); but also the ratio of the market price of the shares to their book value (PBV), for a period of 5 years at the companies S.C. Zentiva S.A., S.C. Antibiotice S.A. and S.C. Biofarm S.A.:

**Table 1. Stock indicators for S.C. Zentiva S.A. SC Antibiotice S.A. SC Biofarm S.A. (pharmaceutical production)**

Symbol	ISIN	Capitalization	Equity	PBV	PER	DIVY	Year
SCD	ROSCDBACNOR8	1.434.346.356	305.801.664	4,69	19,64	4,53	2016
SCD	ROSCDBACNOR8	1.542.756.255	368.094.976	4,19	17,29	4,21	2017
SCD	ROSCDBACNOR8	2.230.454.528	630.692.665	3,54	8,49	2,91	2018
SCD	ROSCDBACNOR8	2.021.349.416	701.999.918	2,88	46,20	3,22	2019
SCD	ROSCDBACNOR8	1.979.528.394	785.364.072	2,52	30,16	3,28	2020
ATB	ROATBIACNOR9	361.179.866	409.066.368	0,88	11,89	7,13	2016
ATB	ROATBIACNOR9	326.941.625	416.877.824	0,78	9,74	5,45	2017
ATB	ROATBIACNOR9	341.039.724	472.727.315	0,72	9,94	1,97	2018
ATB	ROATBIACNOR9	326.270.287	496.842.915	0,66	10,59	6,15	2019

Symbol	ISIN	Capitalization	Equity	PBV	PER	DIVY	Year
ATB	ROATBIACNOR9	378.634.655	577.272.048	0,66	14,35	0,59	2020
BIO	ROBIOFACNOR9	287.729.602	197.146.496	1,46	9,76	5,82	2016
BIO	ROBIOFACNOR9	320.246.989	216.422.832	1,48	8,89	5,85	2017
BIO	ROBIOFACNOR9	357.691.252	225.418.516	1,59	9,31	5,51	2018
BIO	ROBIOFACNOR9	421.740.650	257.230.332	1,64	8,29	4,91	2019
BIO	ROBIOFACNOR9	616.844.969	291.551.533	2,12	11,37	3,51	2020

Source: own processing

From Table 1 we can appreciate the fact that in terms of capitalization, of the 3 companies analyzed S.C. Antibiotics is more valuable and successful than the other two companies.

Regarding the PER indicator, we note that for 2016 at SC Zentiva, the value is 19.64 which suggests that an investor is not willing to pay 19.64 lei for 1 lei of current earnings, the investment can be recovered in 20 years. We also notice this situation in 2017 and 2018, where the investor is not willing to pay because the PER must be higher than 20, the values being 17.29 and 8.49, he will not be able to recover his investment; regarding the PER for 2019, the value is 46.20 which suggests that an investor is willing to pay 46.20 lei for 1 lei of current earnings, the investment to be recovered in 20 years; concerning the PER for 2020, the value is 30.16, which suggests that an investor is willing to pay 30.16 lei for 1 lei of current earnings, the investment to be recovered in 20 years. For S.C. Antibiotice SA, the PER indicator at the level of the 5 years of analysis, presents values below the value of 20 (11.89; 9.74; 9.94; 10.59; 14.35 < 20) which shows that the investor is not willing to pay because he will not be able to recover the investment made. The same situation is found at SC Biofarm, for the five years of analysis, which present values below 20 (9.76; 8.89; 9.31; 8.29; 11.37), investors do not have the guarantee that their will recover the investment made during the following years.

Regarding the PBV for the years 2016-2020, the 3 companies present values that are between 0.66 and 4.69, which suggests that these companies have an undervalued share price, otherwise the high PBV values attract alarm signals for investors, companies thus going bankrupt.

The stock market indicators for the joint stock companies Zentiva, Antibiotice, Biofarm regarding DIVY for the years 2016-2020 show values between 0.59 and 7.13, which suggests that these companies will distribute dividends and the public will gain from revenues.

The applicability of the BSC method has proved useful in analyzing strategic performance within an outsourced supply chain, by using an extension of the BSC, namely the BSC analytical method (A-BSC) for various analyzes (De Felice, Petrillo & Autorino, 2015), and another approach in the form of Sustainability Balanced Scorecard (SBSC) has been developed for SMEs (Falle, Rauter, Engert & Baumgartner, 2016).

## V. ANALYSIS OF SUSTAINABLE DEVELOPMENT GOALS RESULTING FROM THE SUSTAINABILITY REPORTS OF THE THREE COMPANIES

Starting from the objective of this paper to make a comparative analysis of the content of sustainability reports of pharmaceutical companies in the pharmaceutical sector listed on BSE on the regulated market, we aimed to present the number of sustainable development objectives presented in these reports, in order to identify best sustainable reporting practices for these companies. The authors use the analysis of information on current requirements and prospects to be achieved through the Goals for sustainable development proposed by the UN (The 2030 Agenda for Sustainable Development, 2015), by collecting data on pharma companies listed on the regulated market from Romania, which reports trying to support the UN goals of sustainable development. The database created included 7 companies from the pharma sector listed on the regulated market at BSE, but in this paper only 3 companies were chosen for analysis (SC Zentiva SA, SC Antibiotice SA, SC Biofarm SA), which present as main field of activity production of pharmaceuticals. The information analyzed from the non-financial or sustainability statements and reports of these companies, refer to the objectives, principles and directions of action of the 2030 Agenda for Sustainable Development, which led to the centralization in Table 2 of the variables relevant for the purpose of the research, to identify the sustainable development strategy adopted and the number of sustainable development objectives in which pharmaceutical companies in the pharmaceutical sector listed on the BSE are involved (see Figure 7).



Table 2. Description of variables

No.	Variable symbol	Variable description
1.	Gs_Inn	Goals in Innovation (Yes/Non)
2.	Gs_Com	Goals in Community (Yes/Non)
3.	Gs_Envi	Environmental Goals (Yes/Non)
4.	Gs_Empl	Goals on Employees (Yes/Non)
5.	Gs_Edu	Goals in Education (Yes/Non)
6.	Gs_Sports	Goals in Sports (Yes/Non)
7.	Gs_Health	Goals in Health (Yes/Non)
8.	Gs_Cult	Goals in Culture (Yes/Non)
9.	Safety_Health	Safety and Health at Work (Yes/Non)
10.	Soc_Dial	Social Dialogue (Yes/Non)
11.	Discrim	Discrimination (Yes/Non)
12.	Hum_Dev_Voc_Tr	Human Development and Vocational Training (Yes/Non)
13.	Code_Ethics	Code of Ethics and Integrity (Yes/Non)
14.	Anti_Corr_Pol	Anti-Corruption Policies (Yes/Non)

Source: own processing

From Figure 7, it can be seen that the entities operating in the pharma industry are involved in seven objectives of social responsibility in the period 2016-2020. In the first place are the objectives related to employees and the environment (22%), in second place are the objectives aimed at health, community involvement and innovation (14%), and a lower involvement is found in the objectives related to education and sports (7%). It can be seen that these analyzed companies are not involved in objectives that take into account the cultural aspects.

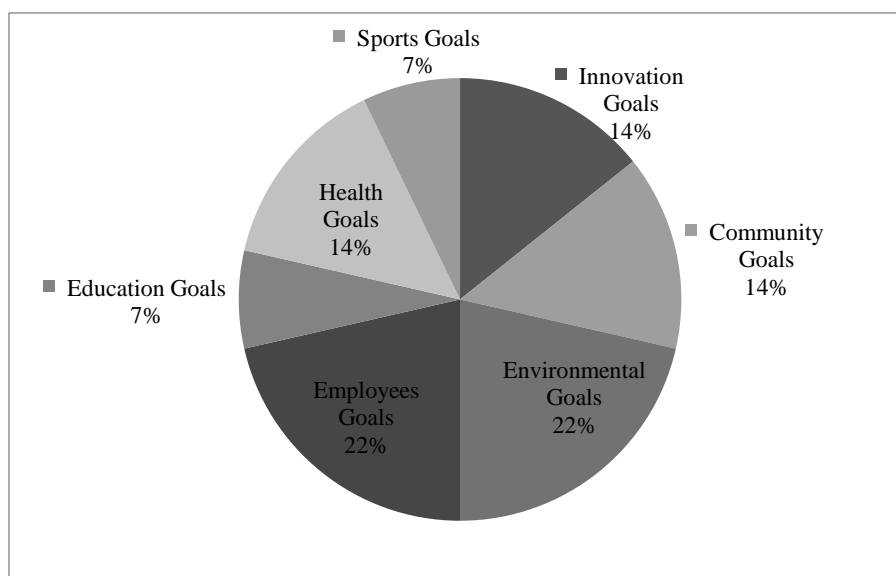
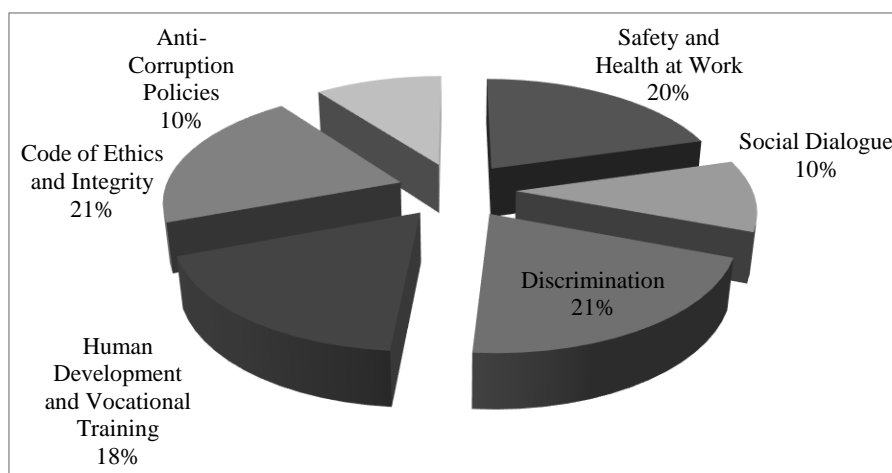


Figure 7 - Involvement of Pharma companies in sustainable development goals

Source: own processing

Regarding the involvement of companies in the pharma industry in other sustainable development objectives, we can see the following situation presented in Figure 8.



**Figure 8 - Involvement of Pharma companies in other sustainable development goals**

Source: own processing

From the above figure it is observed that the most frequent occurrences are in the case of the Policies of non-discrimination and adoption of the Codes of Ethics and Integrity. Policies aimed at Health and Safety at Work, but also Human Development and Vocational Training have an average frequency of occurrence, between 18% and 20%. Social dialogue and the adoption of anti-corruption policies, as sustainable development policies, have lower frequencies, only 10% in the analyzed period.

## VI. CONCLUSION

In the current context of globalization, the need to know and analyze the performance of companies is an important factor in assessing the effectiveness and efficiency of their economic activity.

Currently, the business environment faces many challenges, which have direct effects and major negative consequences on the performance of companies. The need to measure the performance and evaluation of companies appears as a result of the evolution of impediments in solving increasingly complex problems that these companies face as a result of the economic and financial crisis, the existing pandemic context, the development of information technologies, existing standards, etc.

In view of the global economic context and the competitive economy in which the activity of companies develops, they are required to constantly assess their degree of performance regardless of the field of activity, structure, or level of maturity. For all those companies that will want to expand their activity and are thinking of developing externally, it is very important that from the moment of their listing on the stock exchange they are known by potential customers and show interest in existing offers, so that the companies involved are efficient and produce added value for each party involved.

The analysis of the sustainability reports analyzed for the period between 2016-2020 at the three companies under study places S.C. Antibiotice S.A. in first place compared to S.C. Zentiva S.A. and S.C. Biofarm S.A. because it proposes the most objectives and allocates the appropriate resources. We can also observe that, S.C. Zentiva S.A. emphasizes the objectives of community, environment, personnel, safety and health at work, social dialogue, non-discrimination, development and training, they have a code of ethics; SC Antibiotice S.A. focuses on goals in innovation, community, environment, personnel, education, sports, health, safety and health at work, non-discrimination, development and training, code of ethics, anti-bribery and anti-corruption measures, and statement to SNA; SC Biofarm focuses on fewer objectives compared to the other two companies analyzed, these objectives are about innovation, environment, staff. The analyzed companies have financial resources to allocate to the development objectives.

The Romanian pharmaceutical industry is one of the fields of activity in which it invests and which brings increasing value from year to year, and this growth entails increases in the degree of competitiveness, performance and quality that brings innumerable advantages: jobs employment, development on all levels, increase in income, as well as increase in taxes and duties paid to the state which helps in a development on all levels of the population and the state.

Creating and protecting the value of the company calls into question the management of a different nuanced ecosystem consisting of financial, social, environmental factors, etc. This reality has not changed. What

has changed is that the COVID-19 pandemic has highlighted the fragility of relationships within the ecosystem as well as the dynamism of change (PwC, 2021).

## END NOTES

- [1] ATB - S.C. Antibiotice S.A., Joint stock company  
 [2] BIO - S.C. Biofarm S.A., Joint stock company  
 [3] BSE - Bucharest Stock Exchange  
 [4] DIVY –the dividend yield is expressed as a percentage and the current price in absolute value  
 [5] ISIN – International Securities Identification is a 12-digit number that represents the identification number of a financial asset (wikipedia.org)  
 [6] PBV - Price To Book Value or Price To Book Ratio  
 [7] PER- Price earnings ratio or P/E ratio  
 [8] SCD - S.C. Zentiva S.A, Joint stock company  
 [9] SNA- National anti-corruption strategy

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