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The Content Analysis of Reporting on Sustainable Development Goals

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Abstract

The epitome of sustainable development resides in the process of transformation through which resource exploitation, investment direction, technological development orientation, and institutional changes are in harmony and lead to the enhancement of the potential to meet present and future human needs and aspirations, based on the motto "Leaving no one behind" (UN, 2015). This is materialised into the 2030 Agenda for Sustainable Development, "Transforming Our World", defined by 17 Sustainable Development Goals (SDGs) with 169 related targets. The objective of the present research consists in addressing the need to determine to what extent a sample of companies listed on Bucharest Stock Exchange (BSE) in the Premium Tier, and operating in different industry sectors, disclose information related to SDGs in their annual reporting. This investigation covers the period 2017 – 2019. The longitudinal analysis points out the progress in implementing the SGSs throughout the three years, whereas the cross – industry analysis underlines the similarities and differences in disclosing generated by the industry sectors. It is envisaged that the findings of this study are to increase awareness and stimulate debate among businesses, government and regulatory agencies, civil society members, and other stakeholders on aspects referring to sustainable development and the SDGs.

Keywords: *Sustainable Development Goals (SDGs), Romania, content analysis, listed companies, longitudinal analysis, cross-industry analysis*

JEL Classification: *M40, M41, Q56*

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Introduction

By adopting the 2030 Agenda entitled "Transforming Our World: the 2030 Agenda for Sustainable Development", the world leaders agreed to work towards achieving the Sustainable Development Goals – SDGs (UN, 2015). The 2030 Agenda declares to be representing a vision that is "supremely ambitious and transformational" (UN, 2015). The magnitude and purpose of this revolutionary agenda are defined by its 17 goals and 169 targets, which came into effect on 1 January 2016, and consist in a guide for the 193 UN Member States to remodel the world in the years to follow.

Although the concept of sustainable development is becoming more and more widespread in the accounting and management literature, there is a need to clarify what this concept refers to in the different contexts in which it is used (Godemann *et al.*, 2014). Particularly, researchers are preoccupied with the fact that sustainable development could remain only a matter of interest for empirical research in the field of economic and social sciences, rather than a distinct and coherent research area. This concern comes as a consequence of the fact that, apart from the repeated presentation of the definition given in the Brundtland Report (WCED, 1987), many of the studies neglect the complexity of the issues that sustainable development entails (Bebbington and Thompson, 2013, cited by Bebbington and Unerman, 2018).

In Central and Eastern European (CEE) countries, the concept of sustainable development was adopted and introduced as an orientation measure, which was meant to guide the economic and social development. From the perspective of sustainable growth, as a member of the United Nations (UN) (since 1955) and the European Union (EU) (since 2007), Romania has assumed economic development by implementing and valuing sustainable principles, which is an important step towards a sustainable future, this aspect also being highlighted by developing the national strategy – Horizons 2013-2020-2030 (Romanian Government, 2008).

The objective of the present research consists in addressing the need to determine to what extent a sample of sound performing companies operating in different industries listed on Bucharest Stock Exchange (BSE) in the Premium tier disclose information related to the SDGs in their annual reporting. The selection criterion for ensuring the companies' comparability in terms of size is given by the value of the market capitalisation. The investigation covers 2017-2019 period of time frame and it is based on a longitudinal analysis, which will point out the progress in implementing the SGSs along the three years, and a cross-industry analysis that will highlight the similarities and differences in disclosing sustainability issues generated by the influence of industry sectors. The results include both the section based on the quantitative approach and the analysis of qualitative information. The quantitative methods applied focused on issues related to the structure of the reports, the analysis of information on SDGs reporting, as well as the quantitative analysis of the actions taken and the indicators reported at the companies, industries and SDGs levels.

In order to achieve the above mentioned objectives, the paper is structured as follows: first a brief literature review to underline the evolution of SDGs implementation accompanied by a synopsis of studies focused on disclosure of SDGs by industries, then the research methodology describing the sample and selection criteria applied in the investigation, leading to the study's results and discussions, which will emphasise the discoveries. The paper concludes with the ending remarks, research limitations and future research agenda on the SDGs reporting topic.

1. Literature review

In essence, sustainable development is a process of transformation through which the exploitation of resources, the orientation of investments, the direction of technological advancement and institutional changes act in harmony and lead to enhancing the potential to meet present and future human needs and aspirations (Nechita, 2019).

1.1. Synopsis on Sustainable Development Goals (SDG)

"Leaving no one behind" is the motto and keystone for the 17 Sustainable Development Goals (SDGs) and their 169 adjacent targets of the United Nations (UN, 2015), which its 193 member states adopted when signing the 2030 Agenda 2030. Consequently, joint actions across governments, civil society, businesses and dedicated individuals and communities are needed to be matched with the necessary resources, innovation capacity and partnerships in order to drive the successful implementation of the goals (World Investment Report, 2014). Moreover, the SDGs are set up to help businesses cope with several key challenges in the years ahead: managing reputational risk, responding to phenomena such as globalisation and digitisation, suitably communicating with stakeholders and meeting investors' demand for greater reporting transparency (CIMA, 2018).

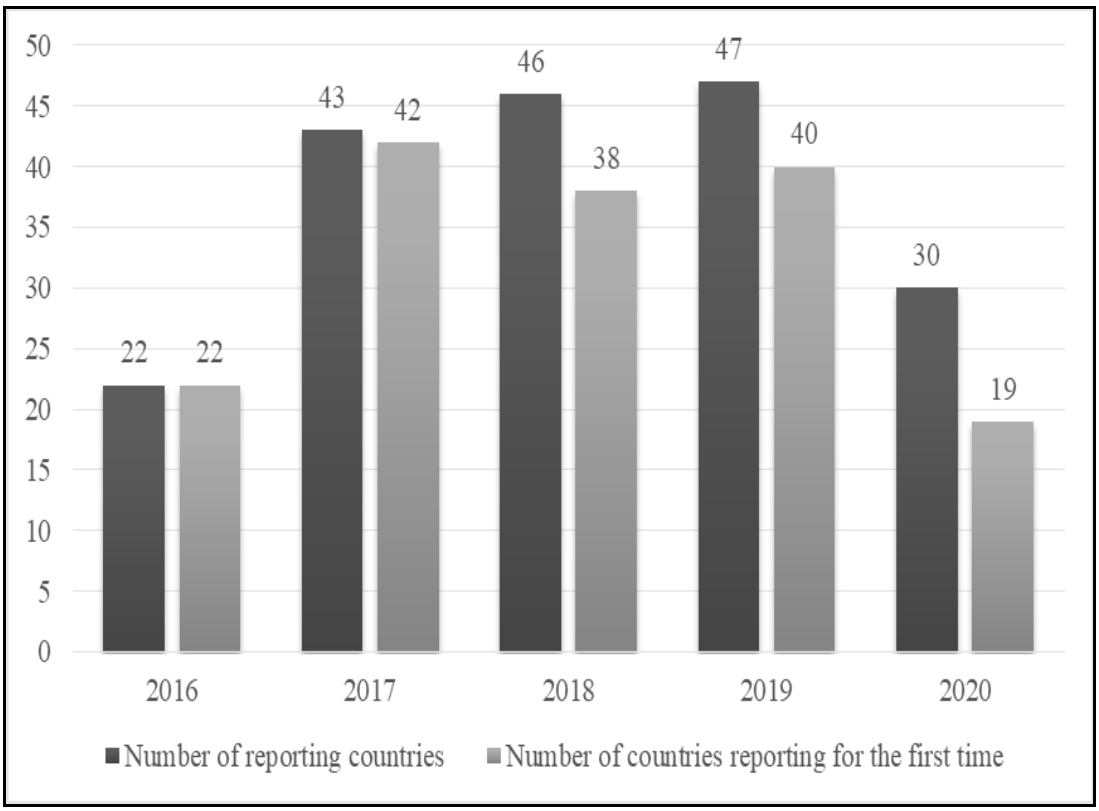
For achieving the UN goals, more attention needs to be paid to the analysis of the directions in which progress has been made, as well as where challenges or new threats arise, through comparable monitoring and continuous assessment. The 2030 Agenda requires a complex, multifaceted approach, an important framework for preserving the values of nature, humanity and human rights. The benefits and limits of sustainable development are highlighted by the results and progress of the society. In these circumstances, communicating on sustainability is one of the most important steps in stimulating the interest and assurance of the target audience (Firoiu *et al.*, 2019).

Professional bodies (e.g. ACCA, CIMA, IFAC) and relevant professional services companies (Deloitte, EY, KPMG, PwC) publish numerous studies inspecting the business sectors with respect to Sustainable Development Goals (SDGs). For instance, a PwC's research (2015) shows a high level of awareness in terms of SDGs in the business community (2,015 stakeholders from 986 companies where part of the questionnaire), and underlines the opportunity to turn this awareness into actions aimed at achieving UN's goals. Later on, PwC (2018) conducted a new investigation on SDGs concluding that the driving force of the goals in helping organisations is to identify significant risks and opportunities, building business models adaptable to unfavourable conditions, and implementing effective strategies for economic growth, but all these goals will only be accomplished if each part of the organisation contributes to their achievement. KPMG (2018) suggests a framework for reporting SDGs, based on three pillars: understanding, prioritization and measurement, and, along with the United Nations Global Compact (UNGC), developed matrices which provide industry-specific practical examples and ideas for action oriented to each sustainable development goal (KPMG, 2016).

In terms of reporting the SDGs, accountants play a dynamic role in ensuring the data is reliable and communicated effectively so that it can be used to support the disclosure of the SDGs. Better data will be a critical driver of the SDGs, accounting professionals will be the upholders of this data (ACCA, 2017) and they will become notable advisors in the decision-making process. The specific professional skills of accountants – including in governance, risk management and controlling business analysis, as well as decision support, which involves measuring, reporting and providing assurance on financial and nonfinancial data – will be increasingly in demand as the SDGs gain power (CIMA 2018).

Regarding the annual progress of the number of countries that voluntarily reported the stage of SDGs' achievement, ***Chart no. 1*** highlights an increase in the number of reporting countries over the period 2016-2019, with a significant decrease in 2020, when the number will drop to 30, of which 19 will be reporting for the first time. Romania is also among the members that chose to provide information on the state of the SDGs' implementation, the first and only reporting year to date being 2018. However, Romania is also not in the list of countries that will present such a report in 2020 (Nechita, 2019).

Chart no. 1. The annual evolution of the number of countries that voluntarily reported on SDGs



Source: Nechita, 2019

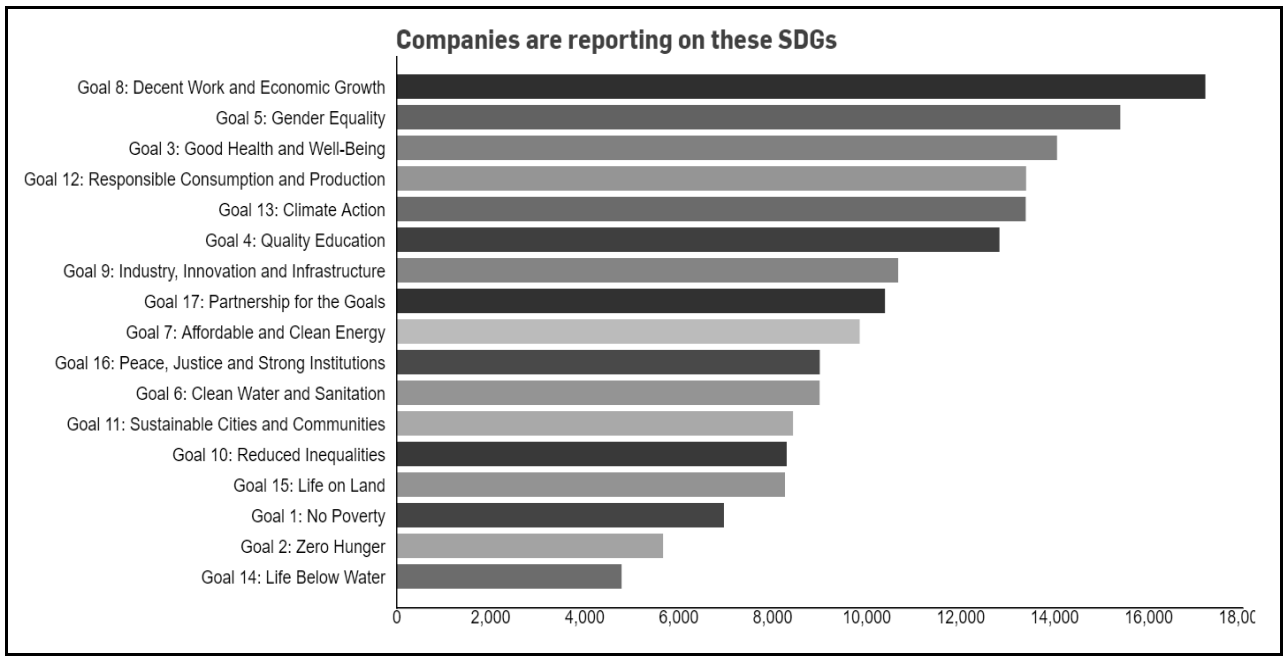
Currently, there are several ways for businesses to report their extended impact on environmental, social and governance (ESG) factors, including but not limited to the annual, sustainability or integrated reports. The indicator metrics and concepts vary greatly, making it difficult to apply comparisons between frameworks and tools that can provide businesses with a way to understand and communicate their influence and contribution to the SDGs. According to Albu *et al.* (2013), the most commonly used sustainability reporting frameworks are the Global Reporting Initiative (GRI) and the United Nations Global Compact (UNGC), GRI being applied mainly by multinational companies and UNGC by small and medium-sized enterprises in view of the fact that the latter is characterised by a more simplistic approach (Albu *et al.*, 2013, according to Wensen *et al.*, 2011).

In business practice, four approaches are frequently applied (ACCA, 2017):

- SDG Compass;
- <IR> Framework five-step approach;
- GRI UNGC Business Reporting on the SDGs;
- UNCTAD ISAR Core Indicators.

The subsequent chart, ***Chart no. 2***, discloses the number of companies aligned to the UNGC principles that are reporting the activities they conducted to achieve the SDGs based on data provided on the UNGC interactive online platform (2020), and which highlights that the top three goals of the reporting companies are SDG 8 *Decent work and economic growth*, SDG 5 *Gender equality* and SDG 3 *Good health and well-being*, respectively. Less interest is shown for SDG 1 *No poverty*, SDG 2 *Zero hunger*, and SDG 14 *Life below water*. In a recent academic work, Firoiu *et al.* (2019) emphasises that the status of the SDGs' implementation in the European Union is situated below the optimal targeted level.

Chart no. 2. Number of companies reporting activities carried out to achieve SDGs



Source: UNGC (2020), https://www.unglobalcompact.org/interactive/sdgs/global

The SDGs represent a major opportunity for businesses to shape, pilot, communicate and report their strategies, objectives and activities, allowing them to capitalise on a range of paybacks (World Investment Report, 2014). Corporate social reporting indicators can be integrated into a company's financial performance reporting and can transform sustainability into a tangible value for all interested parties (Oncioiu *et al.*, 2020).

As yet, financial and sustainability reports have proved not to be adequate to describe how companies create and share value for their stakeholders (Ocean Tomo, 2011 as cited by Mio and Fasan, 2014). On the one hand, financial reports are increasingly complex (ACCA, 2009; Chychyla *et al*., 2019) – therefore, investors have difficulties in understanding the economic substance of transactions) – and backward oriented (Beerbaum, 2020; Jiang and Penman, 2013) – thus, for the most part, they provide information about the past, while investors need to understand how the companies' performance will evolve in the future. On the other hand, sustainability reports often contain too much information, hence generating an "information overload" for the users, making it difficult to discern which information is material and which is not. Except for these shortcomings, sustainability reports often employ rigid categories in order to disclose information, using tags such as "social", "environmental", "governance", paying specific attention to some countries and their legislation on the subject matter. Despite that, sustainability reporting is becoming a mainstream business practice (EY, 2014) and empirical evidence shows 95% of the 250 largest companies around the world are now reporting on their corporate responsibility practices (KPMG, 2011).

1.2. Reporting Sustainable Development Goals (SDGs) by industries

There is a limited degree of consistency at the industry sector-level in terms of SDG prioritization, aside from certain goals that are directly linked to the specifics and characteristics of the companies' activities within a sector, e.g. food companies and SDG 2 *Zero hunger*, pharmaceutical companies and SDG 3 *Good health and well-being*, or energy companies and SDG 7 *Affordable and clean energy* (Mhlanga *et al.*, 2018).

Oil and gas production can foster economic and social development by providing access to affordable energy,

opportunities for decent employment, business and skills development, increased fiscal revenues, and improved infrastructure (IFC, 2013). Academic papers examining non-financial reporting of businesses operating in the oil and gas industry point out the struggles of these companies to include SDGs in their business model, all the more so with major oil companies having been accused of creating disorder in global environmental issues and facing reliability issues by policy-makers and the public from around the world (Mojarad *et al.*, 2018). The severity of environmental crises and climate change originated from the production of oil and gas has left grave consequences for many societies. Therefore, the concept of sustainable development was introduced to the oil and gas industry literature, and terms such as *Green Economy, Sustainable Development, Social Responsibility* and *Risk Management* have become commonplace in lectures and seminars presented by oil companies (Schweitzer, 2010). The investigation of Mojarad *et al.* (2018), based on a questionnaire addressed to 128 respondents from various oil and gas companies and service contractors within the Middle East region, acknowledged a severe lack of a consistent strategy and a robust policy for sustainable development.

A multidisciplinary team of researchers lead by Nerini (2018) attempts to identify the full range of goals and targets in the 2030 Agenda that call for changes in the energy sector by mapping the relationships between energy systems, SDG 7 *Affordable and clean energy*, and other goals in the 2030 Agenda (Nerini *et al.*, 2018). The findings reveal the tremendous complexity of links between energy systems and well-being, infrastructure and the environment, which means that SDG 7 cannot be achieved in sectoral isolation.

While SDG 3 might intuitively appear to be the goal where the pharmaceutical sector could have the greatest impact, other five additional SDGs for which this industry is particularly important are: SDG 4 *Quality education*, SDG 6 *Clean water and sanitation*, SDG 9 *Industry, innovation, and infrastructure*, SDG 11 *Sustainable cities and communities*, and SDG 14 *Life below water* respectively (Eccles, 2018).

1.3. Reporting Sustainable Development Goals (SDGs) by listed companies

According to GRI, capital market regulators play a key role in fostering good corporate governance and transparency, requiring listed companies to meet sustainability reporting regulations. In 2009, the UN launches the Sustainable Stock Exchanges Initiative (SSE), which invites partner stock exchanges around the world to join the initiative by signing a public voluntary agreement (Nechita, 2009). The activity of SSE takes into account the sustainable development goals (SDGs), but, in addition, SSE focuses on four SDGs of significant value for the stock exchanges, while contributing to a fifth goal, SDG 17 *Partnership for goals*, as an adjacent topic. Therefore, SSE organises its activity around the following key topics: SDG 5 *Gender equality*, SDG 8 *Decent work and economic growth*, SDG 12 *Responsible consumption and production* and SDG 13 *Climate action*.

The Sustainable Stock Exchanges Initiative regroups a number of 103 partner stock exchanges, including the Bucharest Stock Exchange, with a total of 52,931 listed companies, thus being characterized by a significant level of international coverage. According to the SSE progress report for 2019 on the 10th anniversary of its set up (SSE, 2019), capital markets play an important role in helping companies find a balance between sustainability reporting and management requirements. The success of SSE may be measured by the increased number of stock exchanges providing written guidance for sustainable development reporting, which extended to 39 in 2018, compared to only 13 in 2015.

Subramaniam *et al.* (2019) investigate the extent to which the top 150 Australian Securities Exchange companies (ASX 150) classified by their market capitalisation (as at 1st July 2019) are integrating and disclosing their uptake of the SDGs in their business strategies and annual reporting processes, and concluded that 56 (37%) of the ASX150 firms mentioned the SDGs in their corporate and sustainability reporting.

Similarly, Sucala and Sava (2017) underline that in more than half of the analysed companies, all listed, from Romania (53.5%), sustainability is implemented as an organisation principle, being part of the corporate management involved in all levels of the company. Sustainability is a strategic responsibility and task (25.5%), while for other 14% of the sample, sustainability is perceived as being mainly a public relation (PR) or marketing concept.

Other perspectives of research on sustainability show that for listed Romanian companies the sustainability disclosure positively influences the financial

performance, defined by return on asset (ROA) and return on equity (ROE) (Dobre *et al.*, 2015), as well the correlation between the share price and the future performance of a company (Jianu *et al.*, 2016). Through sustainability reporting, a company might be able to persuade potential investors that it entails a lower risk of investment than other firms (Berrone *et al.*, 2009; Garcia *et al.*, 2016; Haţegan *et al.*, 2018; Mocan *et al.*, 2015). An increasing number of investors suggest that they prefer to invest in transparent entities, as these are characterised by greater trust between the managers and stakeholders, more accurate forecasting, and low information asymmetry (Betti *et al.*, 2018; Jing *et al.*, 2019).

2. RESEARCH METHODOLOGY

Industry-specific characteristics and activities, in general, and the ones at the industry sector-level respectively, in particular, represent influencing factors of non-financial reporting in the field of sustainable development, generating a low level of consistency in terms of the targeted SDGs (Mhlanga *et al.*, 2018). In this regard, analysing the impact of the industry on reporting the sustainable development goals benefits from a growing interest among researchers (Mojarad *et al.*, 2018; Nerini *et al.*, 2018; Eccles, 2018). The present paper is particularly notable for addressing and analysing the reporting of all SDGs, while most studies focus on evaluating only one or a part of the goals from the list established by the UN in 2015 (Balcerowicz-Szkutnik *et al.*, 2020). Moreover, the analysis is deepened by collecting information on all the actions and quantitative indicators reported for each SDG.

2.1. Sample selection criteria

Leadership and vision are powerful for the political commitment to sustainable development (Olsen *et al.*, 2014). Strong political leadership will accelerate the implementation of the SDGs, and ensure adequate progress and synchronisation of efforts among stakeholders.

Sustainable development is part of the Romanian public policy, academic, and civil society attention. Romania's first "National Sustainable Development Strategy" dates back to 1999, operating by the motto "*Doing more with less*" and, after achieving EU membership in 2007, the strategy was revised and updated in 2008. Horizons 2013-2020-2030, based on the motto "*Keep healthy what keeps you in good health*", was a result of a joint project of the Romanian Government, through the Ministry of Environment and Sustainable Development, and the United Nations Development Programme. The strategy provides an implementation mechanism through an Inter-Departmental Committee for Sustainable Development at the executive level, under the direct authority of the Prime Minister, bringing together the ministries and national agencies of the central government that are involved in the implementation of the strategy (Ministry of Environment, 2018).

Taking into account the measures applied towards achieving sustainable development at the national level, the current research aims to analyse the reporting on SDGs, as disclosed by the Bucharest Stock Exchange (BSE) listed companies. Hence, according to **Table no. 1**, at the time of the study (June-July 2020) there are 25 companies whose securities are traded on BSE, on the main market, in the Premium tier.

Table no. 1. Number of companies listed on the main market of the BSE

Segment	Main market	Listing tier	Number of issuers
BSE	REGS	Int'l	3
		Premium	*25*
		Standard	56

Source: Authors' processing, 2020, according to https://bvb.ro/FinancialInstruments/Markets/SharesListForDownload.ashx?filetype=xlsx

For this research, 6 companies have been selected, consisting in 24% of the total number of firms listed in the *Premium* tier on the main market of BSE. The following criteria have been applied in selecting the sample:

- *Premium* tier listings;
- non-banking / non-financial companies or institutions;

- ensure the comparability of companies in size, taking into account the value of their market capitalisation;
- assure the firms' comparability by industry, selecting at least two companies within the same industry sector; this is the main criterion for conducting the investigation into the similarities and differences caused by industry in the reporting of the SDGs.

The resulting sample consists of 6 companies shown in **Table no. 2**.

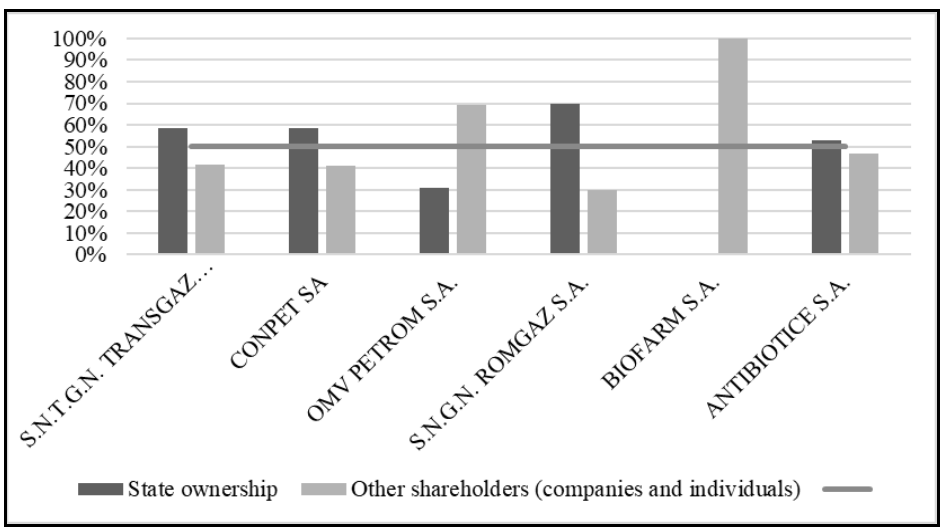
Table no. 2. Companies listed on BSE that are forming the analysed sample

Symbol	NACE code	Company	Field of activity	Industry sector	Market capitalisation (lei)
SNP	0610	OMV PETROM S.A.	Extraction of crude oil	Extractive industry	5.664.410.833,50
SNG	0620	S.N.G.N. ROMGAZ S.A.	Natural gas extraction	Extractive industry	385.422.400,00
TGN	4950	S.N.T.G.N. TRANSGAZ S.A.	Pipeline transportation	Transport and storage	117.738.440,00
BIO	2120	BIOFARM S.A.	Manufacture of pharmaceutical preparations	Manufacturing industry	98.537.535,00
ATB	2110	ANTIBIOTICE S.A.	Manufacture of basic pharmaceutical products	Manufacturing industry	67.133.804,00
COTE	4950	CONPET S.A.	Pipeline transportation	Transport and storage	28.569.842,40

Source: Authors' processing, 2020

Regarding the shareholders' structure, ***Chart no. 3*** discloses that in four of the six analysed companies, the state holds a majority position, while in one of the entities there is no association with the state.

Chart no. 3. Shareholders' structure



Source: Authors' processing, 2020

In respect of the time frame, the period 2017-2019 was included in the analysis, given that 2017 is the first reporting year in accordance with the provisions of Directive 2014/95/EU, which refers to the presentation of non-financial information, transposed in the national legislation through the M.P.F. Orders no. 1938/2016 and no. 2844/2016. According to the new regulations, public interest entities that exceed at the balance sheet date the criterion of having an average number of 500 employees during the financial year include in the administrators' report a non-financial statement containing information on at least environmental, social and personnel aspects, respect for human rights, fight against corruption and bribery, to the extent that these issues are necessary to understand the development, the performance and position of the entity, as well as the impact of its activity (MPFO 1938/2016).

Moreover, the mandatory reporting requirements for companies listed on the BSE in the Premium tier consist in transmitting to the market, through current reports, reliable and content-rich information that allows investors to assess the impact that certain events might exert on the company. The financial reports are to be prepared in accordance with the International Financial Reporting Standards (IFRS), and companies have the obligation to adhere to the highest governance standards, as defined in the Corporate Governance Code of the Bucharest Stock Exchange, focused on the provisions related to management responsibilities, risk management and the internal control and fair rewards system (BSE, 2020).

Following the selection, the resulting sample comprises a number of 219 firm-year-SDG observations associated to the 6 companies, extracted from 27 reports analysed for the time interval 2017-2019, adding up to 1,058 pages investigated in full. At the same time, the research highlighted a number of 787 actions carried out in the analysed period by the entities forming the sample, correlated with a total of 1,463 indicators meant to assess the degree of the SDGs achievement.

2.2. Data collection procedures and analysis methods

For the collection of information on the SDGs reporting, a textual analysis on the content of the selected reports was performed (Hummel, 2019; Li, 2010). Thus, all 27 public reports of the companies were fully reviewed, in order to identify the sustainable development goals, the actions taken to meet them, as well as the indicators presented by the companies to assess the achievement of those objectives. Once identified, the following step consisted in quantifying them.

The quantitative analysis was based on centralised and quantified data related to the number of SDGs, the number of actions taken, as well as the number of indicators monitored by companies, according to the information identified based on applying the content analysis on the reports.

In addition to the quantitative approach, the academic exploration also includes the qualitative research section of the report, resulting in a detailed presentation of the actions taken and indicators reported by the investigated companies, emphasising the common elements at the industry-level, as well as the differences between sectors.

3. Results of the content analysis on reporting the sustainable development goals

3.1. Results of the quantitative analysis on SDGs reporting

A first part of the content analysis consisted in collecting quantitative data from the reports, which led to obtaining the following results.

3.1.1. Structure analysis of the reports

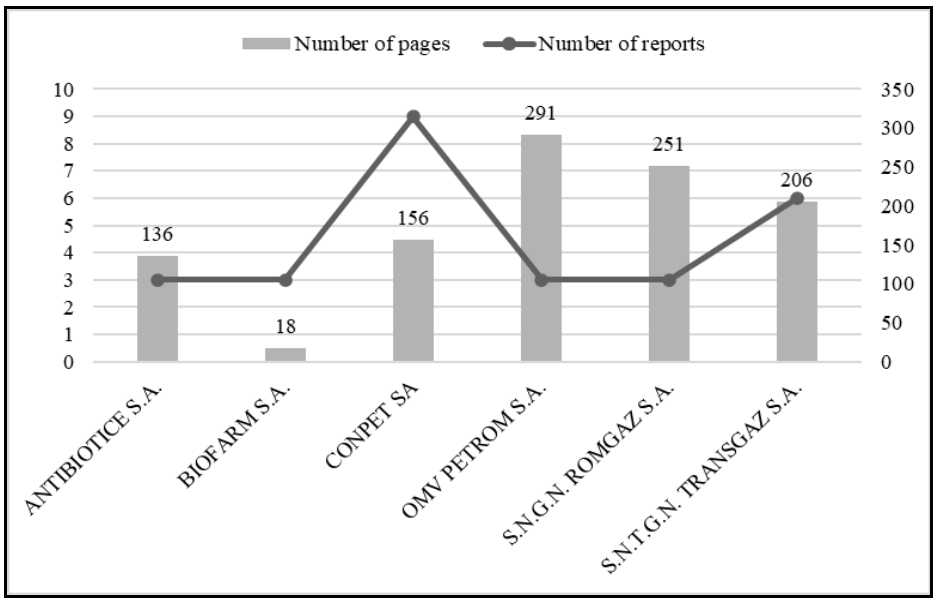
In order to collect information on the sustainable development goals related to the 6 selected companies, 27 reports totalling 1,058 pages for the period 2017-2019 have been analysed. Details regarding the list of reports included in the sample can be found in ***Appendix 1***.

At the top of the ranking in relation to the number of pages dedicated to the disclosure of sustainability issues stands OMV Petrom S.A., with 291 pages comprised in 3 annual reports, closely followed by SNGN Romgaz SA, from the same sector of activity, with 251 pages also coming from 3 annual reports. S.N.T.G.N. Transgaz S.A. and Antibiotice S.A. show a correlation of direct proportionality between the number of reports and their number of pages, as emphasised in ***Chart no. 4***, the 2

firms being positioned in the middle of the ranking. For Conpet S.A., the 156 pages containing information on sustainability have been found within 9 reports, which is also the maximum level of reports analysed for one company. At the low end of the hierarchy is Biofarm S.A., with only 18 pages of reporting on sustainable development.

With respect to the frameworks applied by companies for reporting information related to sustainable development, only OMV Petrom S.A., S.N.G.N. Romgaz S.A. and Antibiotice S.A. mentioned they prepared sustainability and non-financial reports in accordance with the Global Reporting Initiative (GRI) standards. All 3 companies specified that the first sustainability reports have been prepared for 2017, according to the provisions of Directive 2014/95/EU, which refers to the presentation of non-financial information, transposed into national legislation by the M.P.F. Orders no. 1938/2016 and no. 2844/2016. At the same time, in applying the procedures for identifying the materiality matrix, S.N.G.N. Romgaz S.A. mentions other specific standards and methodologies, such as the IPIECA Guidelines for the oil and gas industry on voluntary sustainability reporting, the standards developed by the Sustainability Accounting Standards Board (SASB), and the ROBECOSAM Sustainability Yearbook respectively.

Chart no. 4. Structure of the companies by number of reports and number of pages

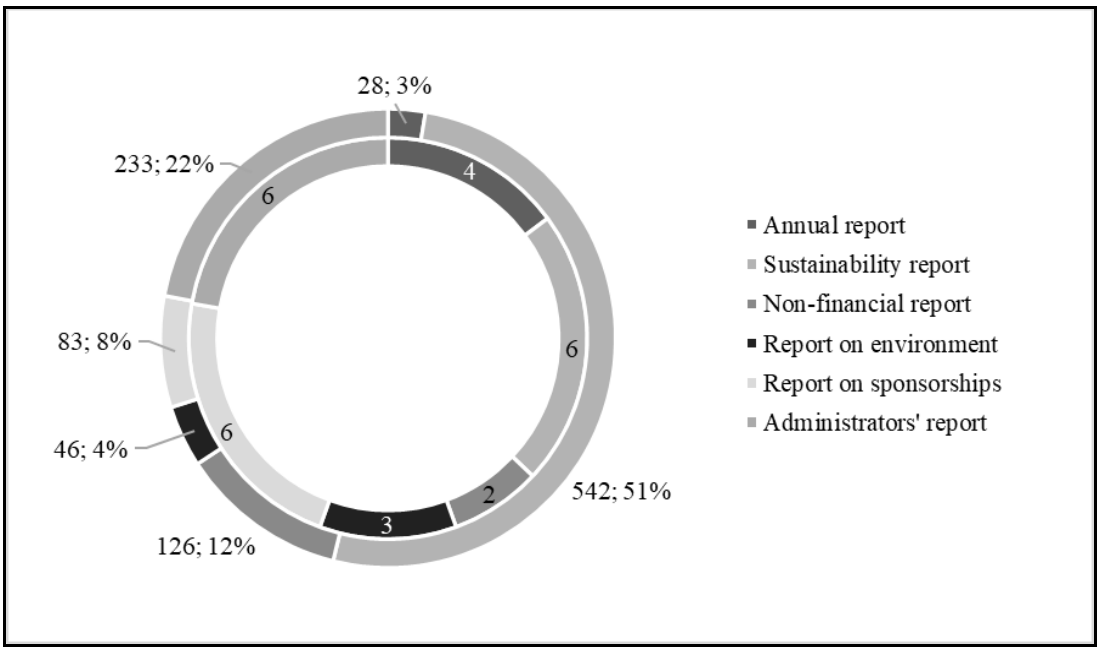


Source: Authors' processing, 2020

From the perspective of the types of reports prepared by the analysed entities in order to disclose information about sustainable development, ***Chart no. 5*** highlights their structure based on the number of reports (inner circle) and on the number of pages dedicated to the subject (outer circle).

Thus, out of the total of 27 reports included in the sample for the period 2017-2019, the largest share in terms of type is represented by the sustainability reports (51%, 542 pages, 6 reports), followed by 6 administrators' reports comprising 233 pages dedicated to sustainability issues (22%). A percentage of 12% of the total number of pages consists of 2 non-financial reports (126 pages), and details on the firms' impact on sustainable development were also exposed in 6 reports on sponsorships (8%; 83 pages). Also, data on the analysed topic have also been centralised from 3 environmental reports (4%, 46 pages). The case where companies did not publish any type of non-financial reports was found in 3% of the total number of reviewed pages, in these circumstances the related information being extracted from the annual financial reports.

Chart no. 5. Structure of the reports based on type and number of pages



Source: Authors' processing, 2020

This structure highlights the growing interest of companies and increased attention paid to reporting on issues related to sustainable development, especially through their disclosure in dedicated non-financial reports.

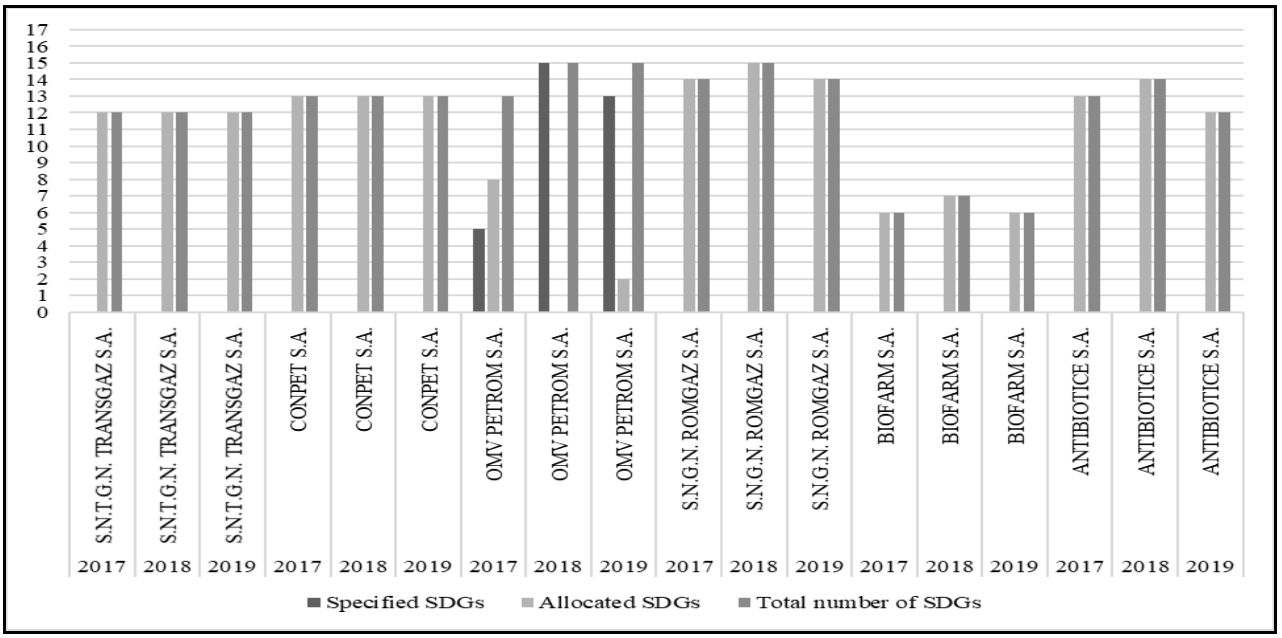
3.1.2. The analysis of information related to SDGs reporting

Reporting information related to sustainability in close connection with the Sustainable Development Goals – SDGs, as developed by the UN in 2015, consists in a novelty for companies. Research findings reflect that in the 2017-2019 period of time, out of the total number of 219 SDGs identified in the corporates' reports that form the sample, only 15.07% (33 reports) explicitly specified the sustainable development goals they aimed to achieve through the actions taken. For the difference of 186 SDGs, we proceeded to their allocation based on the nature and characteristics of the measures found in the reports. The only company that specifically mentioned the SDGs covered in their sustainability reports is OMV Petrom S.A., as shown in ***Chart no. 6***.

In relation to the number of identified sustainable development goals, two firms are located at the upper limit of the ranking, with 15 SDGs reported in 2018 (all being directly specified) and 2019 (13 specified, 2 allocated) by OMV Petrom S.A. and in 2018 (all 15 allocated) by S.N.G.N. Romgaz S.A., respectively. These are closely followed by the other companies (S.N.T.G.N. Transgaz S.A., Conpet S.A. and Antibiotice S.A.), with over 12 SDGs targeted throughout the analysed period. Biofarm S.A. scores the lowest number of SDGs reported among the firms forming the sample (5 in 2017 and 2019, respectively 6 in 2018).

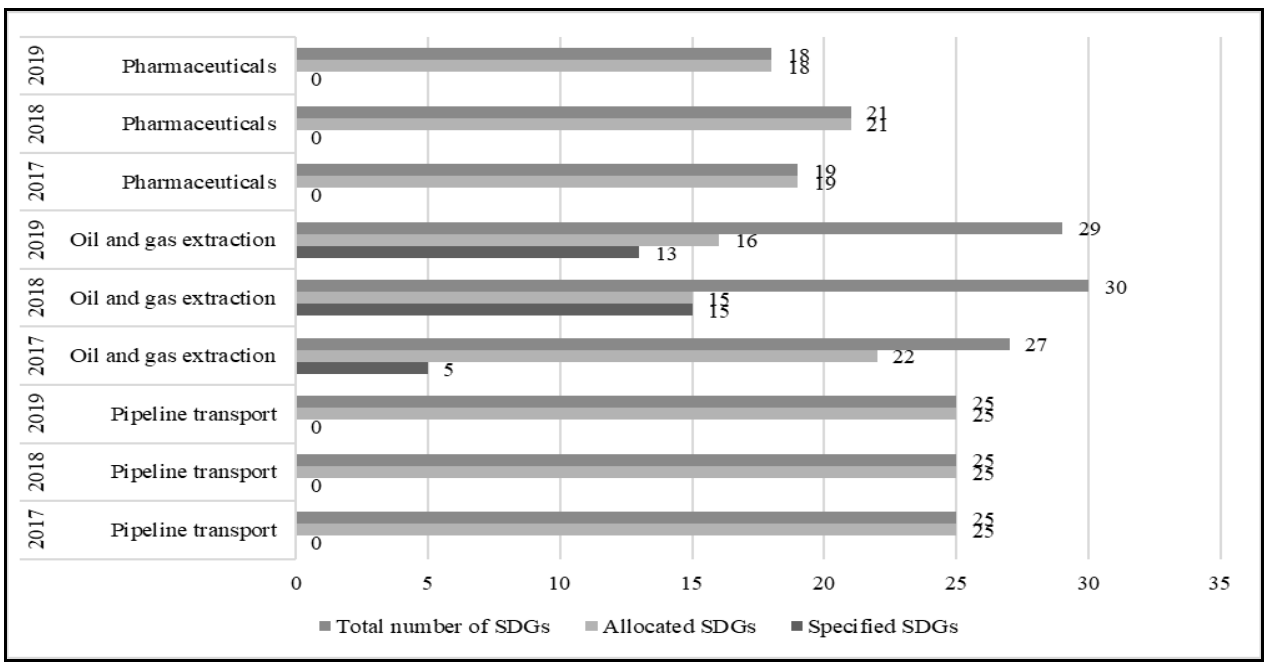
At the industry section level, according to ***Chart no. 7***, the highest number of SDGs is reported for the oil and gas extraction sector, with 86 goals in the analysed period, recording an increase with 3 SDGs in 2018 compared to 2017, followed by a decrease to a total of 27 targets reported in 2019, compared to 30 in the previous year. The same evolution is also registered by the pharmaceutical industry, but for the lowest number of targeted SDGs, the maximum number within the sector being reached in 2018 with 21 goals. For the pipeline transportation field, the number of 25 SDGs was kept constant for each year of the selected time frame.

Chart no. 6. Evolution of SDG reporting in 2017-2019 at the company level



Source: Authors' processing, 2020

Chart no. 7. Evolution of SDG reporting in 2017-2019 at the industry level

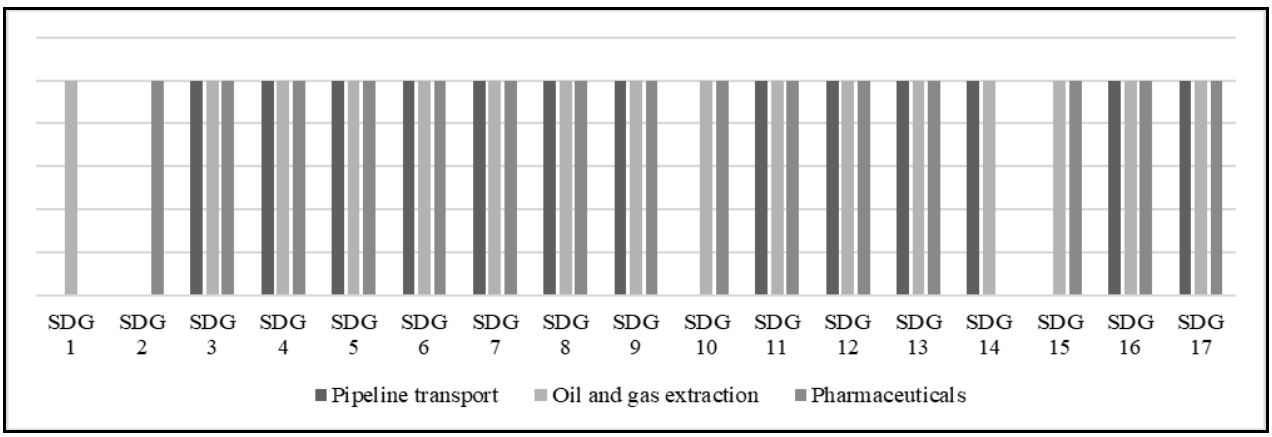


Source: Authors' processing, 2020

Considering all three industry sectors, there is a significant overlap in reporting the issues related to sustainable development goals. ***Chart no. 8*** shows that 12 of the 17 goals (71%) are found in all analysed industries and focus on health and education (SDG 3, SDG 4), gender equality (SDG 5), environmental protection (SDG 6, SDG 7, SDG 12, SDG 13), industry and innovation (SDG 9), secure work environments (SDG 8), support of sustainable communities (SDG 11), justice (SDG 16), and partnering to achieve the goals (SDG 17). At the same time, only two of the three industries report on SDG 10, SDG 14 and SDG 15. Disclosure on poverty and hunger goals (SDG 1, SDG 2) shows the most significant difference between the investigated business sectors, the explanation being that these sustainable development goals are not specific to the activities carried out on these industries level.

Deepening the analysis, we find out that the oil and gas extraction is the highest-ranking industry with the most sustainable development goals reported, in proportion of 94%, followed by the pharmaceutical industry with 88% and the pipeline transport industry with almost 76%. The figures show a growing interest in reporting the SDGs by the analysed companies operating in these industries.

Chart no. 8. SDGs disclosure on industry sectors



Source: Authors' processing, 2020

The increased interest shown at the company level extends to the industry level. **Table no. 3** includes the SDGs presentation frequency in the corporates' reports by industry sectors for the 2017-2019 time series.

Table no. 3. Frequency of SDGs' reporting in 2017-2019

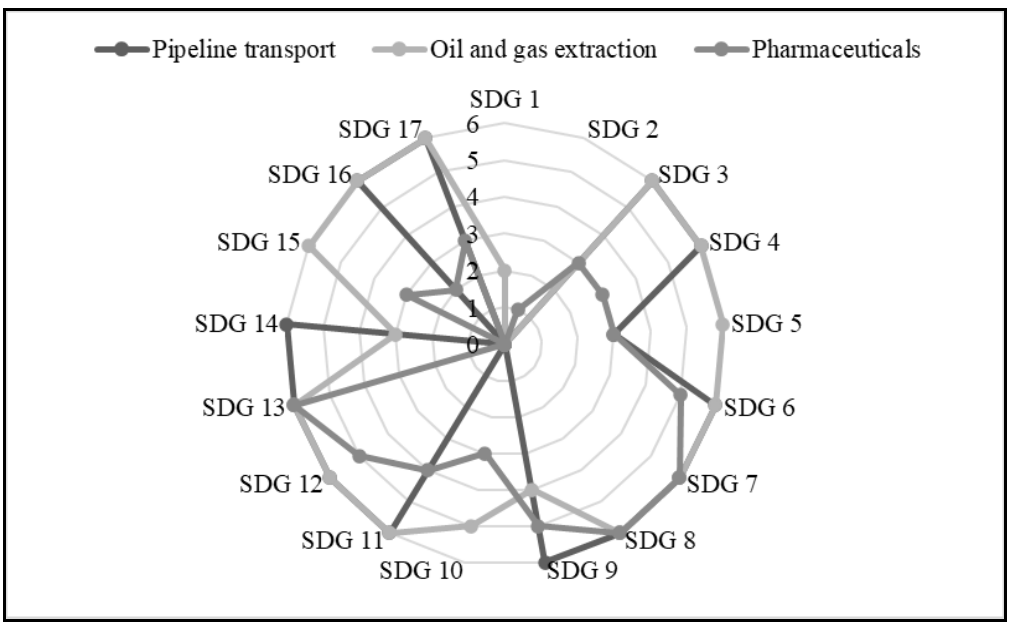
SDG	Industry sector						Total	
	Pipeline transportation		Oil and gas extraction		Pharmaceuticals			
	Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency
SDG 1	0	0%	2	33%	0	0%	2	11%
SDG 2	0	0%	0	0%	1	17%	1	6%
SDG 3	6	100%	6	100%	3	50%	15	83%
SDG 4	6	100%	6	100%	3	50%	15	83%
SDG 5	3	50%	6	100%	3	50%	12	67%
SDG 6	6	100%	6	100%	5	83%	17	94%
SDG 7	6	100%	6	100%	6	100%	18	100%
SDG 8	6	100%	6	100%	6	100%	18	100%
SDG 9	6	100%	4	67%	5	83%	15	83%

SDG	Industry sector						Total	
	Pipeline transportation		Oil and gas extraction		Pharmaceuticals			
	Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency
SDG 10	0	0%	5	83%	3	50%	8	44%
SDG 11	6	100%	6	100%	4	67%	16	89%
SDG 12	6	100%	6	100%	5	83%	17	94%
SDG 13	6	100%	6	100%	6	100%	18	100%
SDG 14	6	100%	3	50%	0	0%	9	50%
SDG 15	0	0%	6	100%	3	50%	9	50%
SDG 16	6	100%	6	100%	2	33%	14	78%
SDG 17	6	100%	6	100%	3	50%	15	83%
Total	**75**		**86**		**58**		**219**	

Source: Authors' processing, 2020

The research findings show that the companies have addressed many of the goals in all the reporting years under analysis. For the pipeline transportation industry, the results highlight that 12 of the 13 reported goals have been disclosed in all three years, underlining consistency in the presentation policies applied by the entities activating in this industry sector. Regarding the oil and gas extraction sector, 12 of the 16 reported SDGs are found in the common observations of the reviewed period, which might denote the companies' receptiveness to the new goals presentation and the continuous improvement of reporting. The most unfavourable situation is encountered in the pharmaceutical industry, where only 3 of the 15 goals have been consistently presented by companies in all years.

Chart no. 9. SDGs reporting frequency on industry sectors



Source: Authors' projections, 2020

The sustainable development goals that have been reported by all the analysed companies on an annual basis between 2017-2019 are SDG 7 *Affordable and Clean Energy*, SDG 8 *Decent Work and Economic*

Growth and SDG 13 *Climate Action*, as illustrated in **Chart no. 9**, these goals thus becoming the common priority triangle for the three industry sectors, targeting issues related to the reduction of electricity consumption, ensuring a decent labour environment and combating climate change.

3.1.3. The quantitative analysis of the actions taken and the indicators reported at the company, industry and SDGs level

The quantitative analysis of the actions taken and the indicators reported for achieving the SDGs at the company level

Table no. 4 reflects the actions undertaken by the 6 companies, as well as the indicators they reported in order to determine to which extent the sustainable development goals targeted in the reports are met for the period 2017-2019.

The results highlight a total number of 787 actions carried out in the analysed time frame by the companies included in the sample. These are correlated with a total of 1,463 indicators meant to assess the SDGs' degree of achievement.

Regarding the annual evolution of the actions and indicators, there is a significant increase in the number of actions applied to achieve the objectives by OMV Petrom S.A., from 39 in 2017, to 71 in 2018, and 102 in 2019. Therewith, the same company reports in 2019 the maximum number of 29 measures applied annually, and the average number for the same year is of 6.80 actions, representing the highest average within the 6 companies. For OMV Petrom S.A., this situation is also correlated with the number of indicators, their average registering an increase up to the maximum level of 7.93 indicators for 2019. At S.N.T.G.N. Transgaz S.A., the number of indicators is comparable to that of OMV Petrom S.A., and their evolution is similar for the period 2017-2019. However, S.N.G.N. Romgaz S.A. is found at the upper limit in terms of the number of reported indicators, with an increase from 116 indicators monitored in 2017, to 166 in 2018, respectively 210 indicators reported in 2019, the same company also reporting the maximum number of 66 indicators at the firm level in 2019.

Table no. 4. The analysis of actions and indicators at the company level

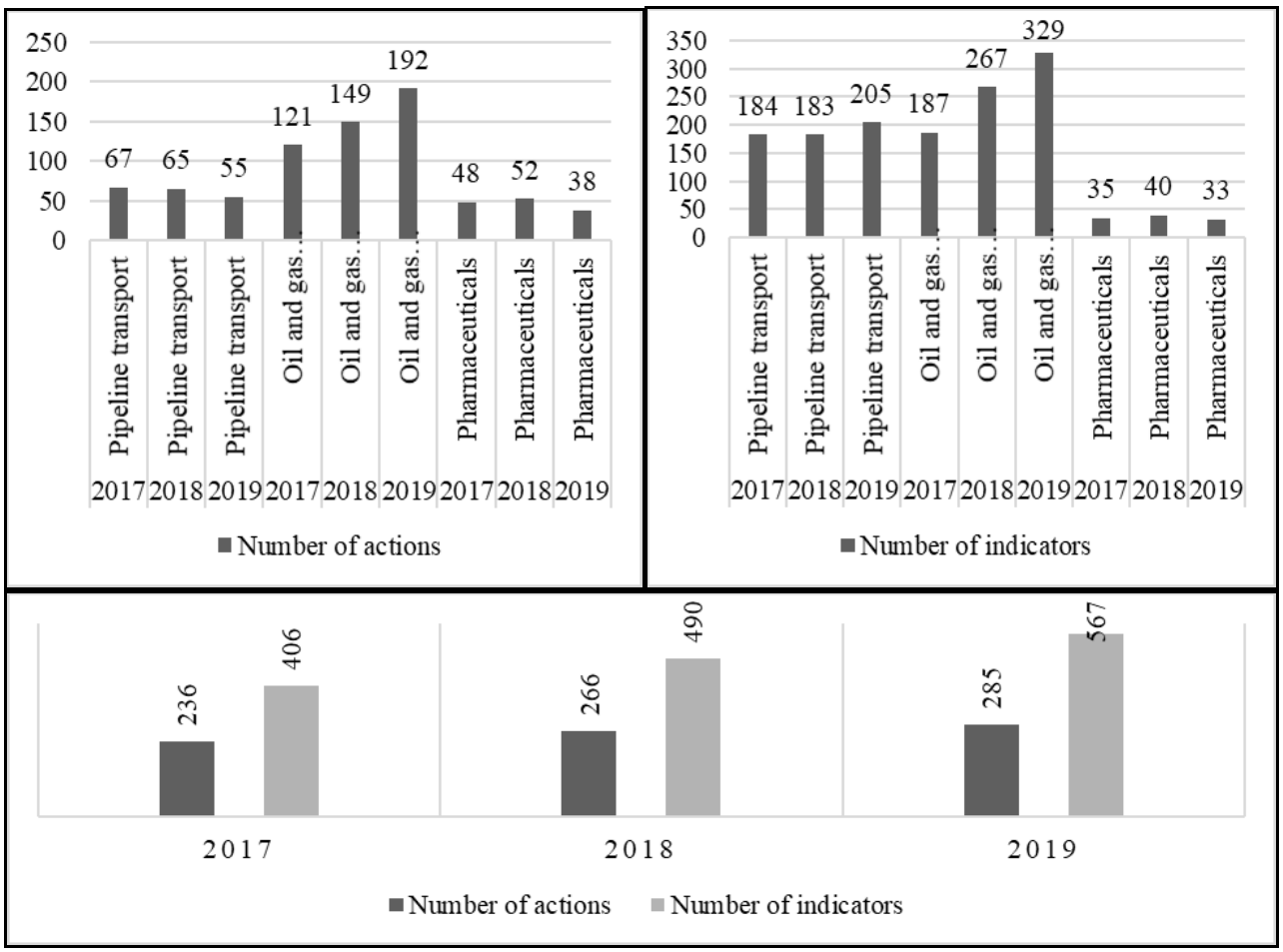
Listing symbol	Company name	Year	Actions				Indicators			
			Total number	Min. number	Max. number	Average number	Total number	Min. number	Max. number	Average number
TGN	S.N.T.G.N. TRANSGAZ S.A.	2017	42	1	13	3.50	98	0	25	8.17
TGN	S.N.T.G.N. TRANSGAZ S.A.	2018	42	1	12	3.50	106	0	22	8.83
TGN	S.N.T.G.N. TRANSGAZ S.A.	2019	31	1	7	2.58	118	0	32	9.83
COTE	CONPET SA	2017	25	1	5	1.92	86	1	27	6.62
COTE	CONPET SA	2018	23	1	5	1.77	77	1	29	5.92
COTE	CONPET SA	2019	24	1	6	1.85	87	1	22	6.69
SNP	OMV PETROM S.A.	2017	39	1	9	3.00	71	0	13	5.46
SNP	OMV PETROM S.A.	2018	71	1	20	4.73	101	0	16	6.73
SNP	OMV PETROM S.A.	2019	102	1	29	6.80	119	1	20	7.93
SNG	S.N.G.N. ROMGAZ S.A.	2017	82	1	25	5.86	116	1	37	8.29
SNG	S.N.G.N. ROMGAZ S.A.	2018	78	1	22	5.20	166	0	37	11.07
SNG	S.N.G.N. ROMGAZ S.A.	2019	90	1	20	6.43	210	1	66	15.00
BIO	BIOFARM S.A.	2017	14	1	4	2.33	7	0	3	1.17
BIO	BIOFARM S.A.	2018	14	1	3	2.00	8	0	3	1.14
BIO	BIOFARM S.A.	2019	10	1	3	1.67	9	0	3	1.50
ATB	ANTIBIOTICE S.A.	2017	34	1	7	2.62	28	1	6	2.15
ATB	ANTIBIOTICE S.A.	2018	38	1	7	2.71	32	1	7	2.29
ATB	ANTIBIOTICE S.A.	2019	28	1	6	2.33	24	0	6	2.00
Total			787	1	29	3.38	1,463	0	66	6.16

Source: Authors' processing, 2020

The quantitative analysis of the actions taken and the indicators reported for achieving the SDGs at the industry level

For the period 2017-2019, the sector-level analysis of the number of actions and indicators used by companies in order to achieve the proposed sustainable development goals revealed significant, on occasion even contrasting, differences (***Chart no. 10***). Thus, the number of actions taken by pipeline transport companies decreased over the period, in contrast to the number of measures taken by oil and gas companies, which had an increasing trend. An oscillating evolution was observed at the level of the pharmaceutical sector, where the increase was followed by a significant decrease.

Chart no. 10. Evolution of the number of actions and indicators on industry sectors and overall, in the period 2017-2019



Source: Authors' processing, 2020

Regarding the number of quantitative indicators, findings show that the trend in the number of actions is maintained, with the exception of the pipeline transportation industry, which in the last year manages to register an increase. Moreover, the consistent growth rate reported by oil and gas companies should also be noted.

In 2019 maximum values both for the number of actions and for the number of reported quantitative indicators are reached by the companies in the oil and gas extraction sector. This increase is so extensive that it sets out an upward trend to the total number of companies analysed per year, although the other two

industries generally had an unfavorable evolution in 2019, compared to 2018.

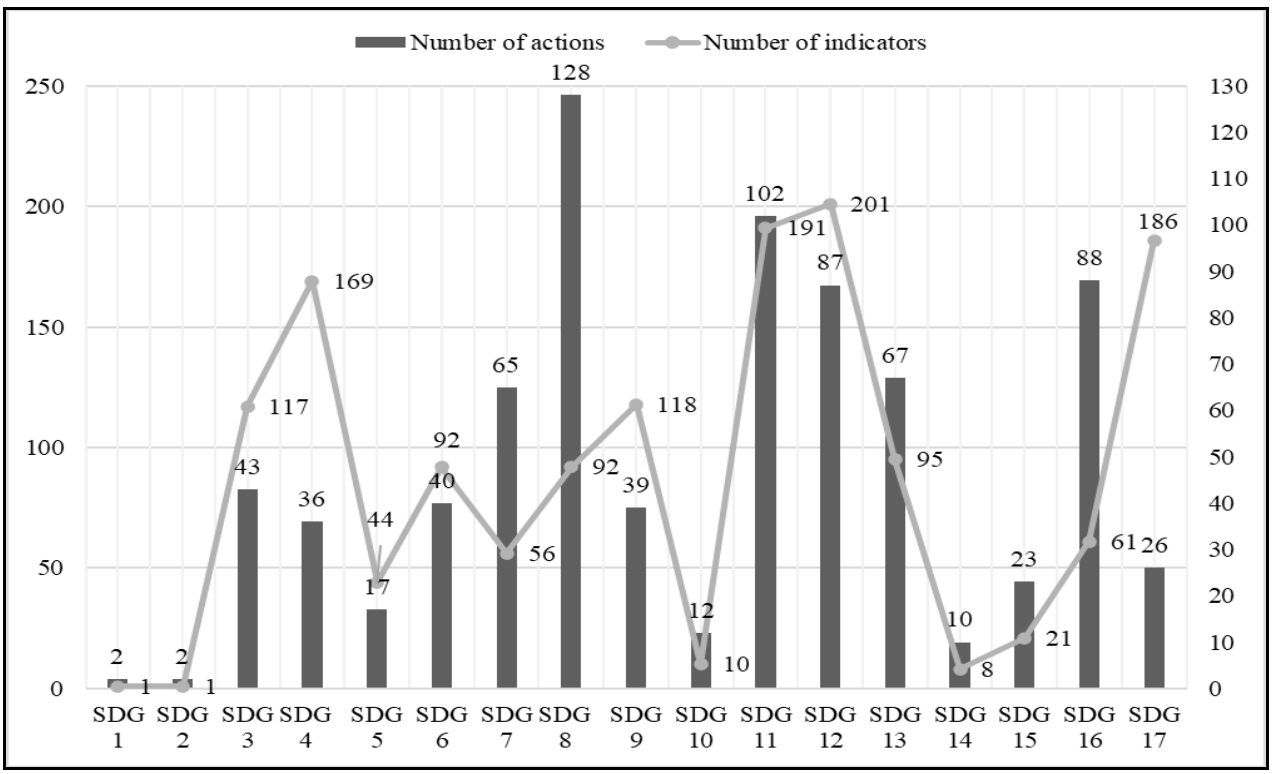
A ranking of the industry sectors based on the average number of actions applied per year, qualifies the oil and gas extraction companies on the first place (with 154 actions on average per year), followed by the pipeline transportation companies with less than half (62 actions on average per year), and the pharmaceutical industry with an average of 46 actions per year. This hierarchy of the sectors is also maintained with regard to the average number of quantitative indicators calculated each year.

At the same time, the analysis of the ratio between the number of quantitative indicators and the number of actions carried out is particularly relevant, because the quantitative approach is the one that shows to which extent the concept of sustainable development is implemented (Raszkowski and Bartniczak, 2019). The results place the pipeline transport sector first, with the number of quantitative indicators exceeding the number of actions at least by 2.75 times in each of the analysed years. This is followed by the oil and gas extraction industry, where the ratio of the two values is over 1.55 each year. In contrast to these two, the pharmaceutical sector does not reach in any of the years a number of quantitative indicators higher than the number of actions.

The quantitative analysis of the actions taken and the indicators reported at the SDGs level

The analysis of the actions and associated indicators for the reported SDGs in the period 2017-2019 is highlighted in ***Chart no. 11***. Thus, the ranking is led from a distance by *Decent work and economic growth* (SDG 8), with a number of 128 actions applied for achieving the SDGs. At the bottom of the list we find the number of actions taken to eradicate poverty (SDG 1), as well as those aiming to eradicate hunger (SDG 2), two measures for each of the two goals. The obtained results are also influenced by the specifics of the industries that form the analysed sample.

Chart no. 11. Analysis of actions and indicators at the SDGs level



Source: Authors' processing, 2020

At the same time, the graph shows that in most cases there is a correlation between the number of actions and the number of indicators reported on the sustainable development goals, with the exception of SDGs 4, 7, 8, 16 and 17. In the case of *Quality education* (SDG 4) and *Partnerships for achieving the goals* (SDG 17), the number of indicators exceeds the number of actions applied, the result also being justified by the nature of the indicators determined for the 2 goals – the number of sponsorships, and the number of signed partnerships, respectively. Conversely, for SDG 7 *Affordable and clean energy*, SDG 8 *Decent work and economic growth* and SDG 16 *Peace, justice and strong institutions*, the number of analysed indicators is lower than the number of actions taken, which might be explained, inter alia, by the existence of a gap between the time of the measures' application and that of assessing the resulting effects based on the quantitative indicators.

3.2. Findings of the qualitative analysis on the reported SDGs

Succeeding the qualitative analysis of the information presented in the reports of the selected listed companies, the paper highlights the main directions of action, the measures applied, as well as the indicators monitored and reported by the entities in order to assess the achievement level of the sustainable development goals set by the UN.

Thus, in the period 2017-2019 the analysed companies were involved in activities such as poverty reduction through community programs and social investments, training for supporting employment (SDG 1), providing food to families in need from rural areas (SDG 2), sponsoring hospitals to strengthen the health system (SDG 3), as well as sponsoring education institutions, providing internships and scholarships to pupils and students (SDG 4). Moreover, measures have also been taken to promote women and men equally, by monitoring indicators such as the number of women in senior positions (SDG 5), along with actions to combat discrimination, taking into account the personnel structure by nationality and the employment of people with disabilities (SDG 10).

Regarding the contribution of the analysed companies to the protection of the environment, among the applied actions we found the management and reduction of water consumption, prevention of water pollution, and water recycling (SDG 6), the decrease of electricity consumption and installation of solar panels (SDG 7), the selective waste collection or the reduction of fossil fuel consumption (SDG 12), not forgetting the improvement of air quality, in particular by reducing carbon emissions (SDG 13). Measures to protect water biodiversity, by monitoring fish species (SDG 14), as well as protecting terrestrial ecosystems, by planting trees to combat desertification and remedy soil degradation (SDG 15), have also been reported.

Alongside, companies were concerned with the personnel professional training and guidance on occupational safety and health risks, quantifying indicators such as the number and average frequency of work accidents (SDG 8). Furthermore, findings show that all firms invest in actions that address local communities, by sponsoring cultural and sports events, campaigns to reduce road accidents or decrease the level of noise produced (SDG 11).

The selected companies aimed to develop new technologies, investing in research projects (SDG 9), but also in activities conducted to prevent and diminish corruption (SDG 16). Last but not least, the contributions made to the achievement of the sustainable development goals have been based on actions undertaken in partnership with other organizations, including national and international universities, research institutes, cultural associations, but also state institutions such as the line ministries (SDG 17).

Conclusion

Considering the growing attention paid in recent years to non-financial reporting referring to sustainability issues, the current research aims to identify the sustainable development goals reported by the 6 companies listed on the Bucharest Stock Exchange that are forming the sample, as well as to analyse to what extent the comparability of this type of reporting is being ensured between the 3 industry sectors in which the selected entities operate.

Subsequent to the performed content analysis, the results have been structured taking into account both the quantitative and the qualitative approach. The quantitative analysis focused on issues related to the structure of the reports, the analysis of information at the SDGs level, as well as the quantitative analysis of actions taken and indicators reported at the companies, industries and SDGs level.

The structure of the reports showed that, out of the 27 analysed reports, the largest share is represented by the non-financial ones with 97% of the total, whereas for the remaining 3% the information was extracted from the annual financial reports. This structure signals the increase of the companies' interest in aspects related to sustainable development. Regarding the number of pages dedicated to the disclosure of issues concerning sustainability, OMV Petrom S.A. occupies the top of the ranking with 291 pages in 3 annual reports, followed closely by S.N.G.N. Romgaz S.A., from the same industry, with 251 pages, also within a number of 3 annual reports. With respect to the frameworks companies apply for reporting information related to sustainable development, only OMV Petrom S.A., S.N.G.N. Romgaz S.A. and Antibiotice S.A. prepared sustainability and non-financial reports in accordance with the Global Reporting Initiative (GRI) standards.

The results of the analysis at the level of the SDGs show that in the period 2017-2019, out of the 219 sustainable development goals identified in the reports of the entities forming the sample, only 15.07% (33 reports) explicitly specified the SDGs that they have targeted through their actions. The cross-sectional analysis by industries highlighted the fact that the highest number of SDGs is related to the oil and gas extraction sector (86 goals for the analysed period), recording an increase with 3 SDGs in 2018 compared to 2017, followed by a decrease to a total of 27 targets reported in 2019, compared to 30 in the previous year. The same evolution is registered by the pharmaceutical industry as well, but for the lowest number of targeted SDGs, the maximum number per sector being reached in 2018 with 21 goals. For the pipeline transportation industry, the number of 25 SDGs remained constant for each year of the selected time frame.

Analysing all three industry sectors, there is a significant overlap in reporting the issues related to the SDGs, given that 12 of the 17 goals (71%) are found in all analysed industries. Deepening the analysis, findings show that the oil and gas extraction sector stands at the top of the ranking with the highest number of sustainable development goals reported, having a share of 94%, followed by the pharmaceutical industry with 88%, and the pipeline transportation sector with almost 76%, respectively. Moreover, the results highlight the common priority triangle for the three industry sectors, targeting issues related to reducing electricity consumption (SDG 7), ensuring decent work conditions (SDG 8) and combating climate change (SDG 13).

Following the quantitative analysis of the actions applied and the indicators reported, the results emphasise a number of 787 actions carried out in the selected period included in the sampled companies, which are correlated with a total of 1,463 indicators meant to assess the achievement degree of the SDGs. For the period 2017-2019, the sector-level analysis of the number of actions and indicators used by companies in order to achieve the proposed sustainable development goals revealed significant, on occasion even contrasting, differences, registering increasing, oscillating or even decreasing trends. At the same time, the longitudinal analysis shows that the number of actions and the number of indicators reported by the analysed entities increased continuously: from 236 actions and 406 indicators in 2017, to 266 actions and 490 indicators in 2018, then 285 actions and 567 indicators in 2019, respectively. Thus, the companies' interest in reporting the SDGs can be assessed through a more detailed description and additional ways to monitor the degree of compliance with the SDGs from one year to the next, in order to meet the information needs of stakeholders.

The analysis of the ratio between the number of quantitative indicators and the number of actions carried out by the firms (Raszkowski and Bartniczak, 2019) places the pipeline transport sector first, with the number of quantitative indicators exceeding the number of actions at least by 2.75 times in each of the analysed years.

For the overall picture of the above-mentioned results, **Table no. 5** presents the sectors hierarchy based on the indicators analysed in the quantitative research over the period 2017-2019.

Table no. 5. Ranking of the analysed indicators at the industry sector level

Sector ranking based on the indicator:	Pipeline transportation	Oil and gas extraction	Pharmaceuticals
Number of reports with non-financial disclosure	2	1	3
Number of pages	2	1	3
Reported SDGs	3	1	2
SDGs reporting frequency	1	2	3
Number of actions applied	2	1	3
Evolution on the number of actions	3	1	2
Average number of actions per year	2	1	3
Number of indicators	2	1	3
Evolution on the number of indicators	2	1	3
Average number of indicators per year	2	1	3
Ratio quantitative indicators / actions	1	2	3

Source: Authors' processing, 2020

The analysis of the actions and associated indicators for the reported SDGs in the period 2017-2019 highlights that the ranking is led from a distance by SDG 8 *Decent work and economic growth* with a number of 128 actions applied for achieving the SDGs. At the bottom of the list we find the number of actions taken to eradicate poverty (SDG 1), as well as those aiming to eradicate hunger (SDG 2), 2 measures for each of the 2 goals.

In order to deepen the analysis of the reported measures and indicators, a qualitative approach was presented, consisting in the disclosure of the 17 UN SDGs in close correlation with the issues identified at the companies' level, focusing on common elements, but also on particular aspects.

Among the limitations of the study, the small number of companies selected for analysis, as well as the subjectivity involved in any approach that involves the textual analysis as research method should be pointed out. However, the small number of companies allowed the research to be deepened by extending the longitudinal analysis, presenting in qualitative terms the details of the SDGs reporting on actions taken and indicators monitored by the entities. Further research directions include expanding the sample both on the national level and by including companies with similar characteristics from other countries, as well as identifying additional correlations to determine the extent to which the actions and quantitative indicators are also influenced by other factors complementary to the industry.

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71. *** https://www.unglobalcompact.org/interactive/sdgs/global
72. *** https://www.wbcsd.org/Overview/Our-members

Appendix 1. List of analysed reports

Symbol	Company name	Year	Type of report	Number of pages
ATB	ANTIBIOTICE S.A.	2017	Non-financial report	62
ATB	ANTIBIOTICE S.A.	2018	Non-financial report	64
ATB	ANTIBIOTICE S.A.	2019	Annual report	10
BIO	BIOFARM S.A.	2017	Annual report	6
BIO	BIOFARM S.A.	2018	Annual report	6
BIO	BIOFARM S.A.	2019	Annual report	6
COTE	CONPET S.A.	2017	Report related to information on the environment	17
COTE	CONPET S.A.	2017	Report on sponsorships	7
COTE	CONPET S.A.	2017	Administrators' report	28
COTE	CONPET S.A.	2018	Report related to information on the environment	14
COTE	CONPET S.A.	2018	Report on sponsorships	8
COTE	CONPET S.A.	2018	Administrators' report	23
COTE	CONPET S.A.	2019	Report related to information on the environment	15
COTE	CONPET S.A.	2019	Report on sponsorships	9
COTE	CONPET S.A.	2019	Administrators' report	35
SNP	OMV PETROM S.A.	2017	Sustainability report	57
SNP	OMV PETROM S.A.	2018	Sustainability report	98
SNP	OMV PETROM S.A.	2019	Sustainability report	136
SNG	S.N.G.N. ROMGAZ S.A.	2017	Sustainability report	59
SNG	S.N.G.N. ROMGAZ S.A.	2018	Sustainability report	92
SNG	S.N.G.N. ROMGAZ S.A.	2019	Sustainability report	100
TGN	S.N.T.G.N. TRANSGAZ S.A.	2017	Report on sponsorships	20
TGN	S.N.T.G.N. TRANSGAZ S.A.	2017	Administrators' report	51
TGN	S.N.T.G.N. TRANSGAZ S.A.	2018	Report on sponsorships	25
TGN	S.N.T.G.N. TRANSGAZ S.A.	2018	Administrators' report	47
TGN	S.N.T.G.N. TRANSGAZ S.A.	2019	Report on sponsorships	14
TGN	S.N.T.G.N. TRANSGAZ S.A.	2019	Administrators' report	49
Total number of reports / analysed pages			**27**	**1,058**

Source: Authors' processing, 2020