Survey of the wheat and derivatives production chain regarding the 2030 Agenda and the SDG

Uma pesquisa survey da cadeia produtiva de trigo e seus derivados tendo como referência a Agenda 2030 e os ODS

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ABSTRACT

The adequacy of the 2030 Agenda and the SDG is a new instrument that companies should implement within their innovative processes to improve social, environmental, and economic issues internally and externally. Thus, this work aims to diagnose the wheat and derivatives segment and the adoption/implementation of the 2030 Agenda and SDG to business practices. To this end, a sample of 91 companies of the wheat agribusiness and processing industry was studied, using the survey-based exploratory-descriptive methodology. Data collected underwent qualitative and quantitative analysis, which demonstrated that although many of the SDGs are under assessment for possible new integration with those remaining and those under implementation, the number of objectives already included in business practices is still trivial (38.4%, that is, about 6 out of 17).

Keywords: 2030 Agenda. 17 SDGs. Wheat and derivatives industry. Sustainable development.

RESUMO

O objetivo deste trabalho foi o de realizar um diagnóstico do segmento de trigo e derivados em relação a adoção/implementação dos ODS da Agenda 2030 à suas práticas empresariais. Para tal, foi utilizada uma amostra de 91 empresas (com a aplicação de mais de 157 questionários) pertencentes a agroindústria do trigo e indústria de transformação e a metodologia exploratória-descritiva tipo Survey. Foi utilizado como instrumento de trabalho um questionário semiestruturado, contendo perguntas dicotômicas, tricotômicas, de múltipla escolha, escalar e numéricas, perguntas abertas e campo para observações,

além de entrevistas com gestores da área de qualidade e/ou ambiental. Os dados coletados passaram por análise qualitativa e quantitativa e demonstraram que por mais que existam muitos ODS em análise de uma possível nova integração aos demais e outros em implementação, o número de objetivos que já fazem parte das práticas empresariais ainda é muito pequeno (38,4% - 6 de 17 ODS).

Palavras-chave: *Agenda 2030. 17 ODS. Industria do trigo e derivados. Desenvolvimento sustentável.*

1 INTRODUCTION

According to Martins (2020), even though it is early for a definitive diagnosis, the outbreak of the zoonotic coronavirus (Covid-19) seems to be linked to environmental degradation (excessive deforestation of forest reserves or areas close to these reserves, changes in the habitats of native wildlife by new constructions, etc.). It could be less devastating if countries implemented sustainable development through the 17 SDGs (Sustainable Development Goals), goals and indicators described in the United Nations 2030 Agenda (ASN, 2020).

Since its implementation, according to the "Luz" Report, published in 2019, Brazil has not achieved significant success with the objectives and goals set by the Agenda (NILO & MATTAR, 2019). However, Brazil is moving in the opposite direction to sustainability and the 2030 Agenda. Besides, some large Brazilian companies have shown prominence and commitment to include some SDGs in their business strategies, even if at a slow pace (LEITE, 2018).

Moreover, the insertion of these SDGs in business practices is not allowing to fully discern transformations in the production mode of companies or the SDGs that determine much of the decision-making (LEITE, 2018).

Considering the deadline for establishing the Agenda and SDGs has already shortened and that the private sector plays an essential role in incorporating the 2030 Agenda in the country according to the "Capital Markets and SDGs" report, there are reasons to worry. Companies having enormous economic power, carrying out innovations using cutting-edge technologies, and being influential while engaging the most diverse audiences - governments, suppliers, employees, and consumers (B3 et al., 2018) can explain this phenomenon.

For companies, it is also advantageous to develop themselves sustainably and work towards the SDGs of the 2030 Agenda. In the SDG guidelines for companies, developed by the Global Reporting Initiative (GRI) and others, the potential benefits to be achieved when working this way are: identifying new business opportunities with innovative solutions and transformative changes, valuing corporate sustainability through the efficient use of resources and strengthening relationship with stakeholders by reducing legal risks (GRI et al., 2016).

Thus, considering five years have passed since the Agenda 2030, besides the fact of its importance for sustainable development and the advantages it can bring to the industrial sector, this work aims to evaluate the familiarity of companies of the wheat and derivatives segment with the Agenda and the stage of goals implementation.

It is noteworthy that it will not be the object of this study to analyze in-depth the elements that make up the 2030 Agenda since its objective is to analyze its adoption in industrial practices in the wheat and derivatives segment.

2 THEORETICAL FRAMEWORK

2.1 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

In 2015, world leaders met at the United Nations headquarters in New York. They endorsed the "Transforming Our World: 2030 Agenda for Sustainable Development" document, a global development agenda for all countries and stakeholders to use as a model for advancement in economic, social and environmental sustainability (ANDERSON et al., 2017). Seventeen Sustainable Development Goals (SDGs), 169 Associated Goals and Indicators are anchored in the 2030 Agenda; however, the SDGs are the core of the Agenda and should be reached by 2030 (RAZAVI, 2016).

It is worth pointing out that the Sustainable Development Goals (SDGs), part of the 2030 Agenda, are Millennium Development Goals (MDGs) successors. One can consider that the SDGs are a continuation of MDGs (BÁRCENA, 2015). What differentiates the MDGs from the SDGs is the first ones focused on social issues, mainly on difficulties faced by developing countries, which practically does not involve the economic axis. The Sustainable Development Goals represent a more global Agenda and focus solidly on the environment (ONU, 2015).

The 17 SDGs (http://www.Agenda2030.com.br) include goals on a wide range of topics, such as poverty eradication, agriculture and food security, education, health, reduction of inequalities, energy, water and sanitation, sustainable production and consumption, climate change, protection and sustainable use of terrestrial and ocean ecosystems, inclusive economic growth, infrastructure and industrialization, sustainable cities, governance and implementation strategies (GRI et al., 2015). They provide an integrated, holistic and coherent structure to address the most urgent challenges in the world for sustainability and to create a better future for all. SDG 17 (Strengthen the means of implementation and revitalize the global partnership for sustainable development - United Nations, 2018) is a tie of the entire 2030 Agenda (SAYEG, 2017). This SDG is the only procedural one, composed of procedures and not goals like the other sixteen.

Also, due to the concern about the fulfilment of the Agenda in September 2019, global leaders, gathered at the "SDG Summit" in New York, defined the launch of the "Decade of Action" movement ("SDG Accelerations action"), which started in January 2020 to accelerate compliance with the SDGs by 2030 (KINGO, 2020). Thanks to the UN DESA platform, this voluntary movement describes the efforts made in favour of SDGs as new policies, new or improved programs or projects, financing projects related to the implementation of one or more of the 17 SDGs or addressing the interconnected nature of the 2030 Agenda (UNITED NATIONS, sd). Thus, it is possible to obtain an online database of SDG Acceleration Actions to help inspire and mobilize actions worldwide to promote objectives' implementation (DESA, 2020).

2.2 WHEAT AND DERIVATIVES SECTOR

The wheat and derivatives segment comprises the manufacture of wheat flour, wheat milling, the manufacture of semolina and wheat bran, the manufacture of other wheat derivatives and the manufacture of flour and mixed pasta (powder) and prepared for the manufacture of bread, cakes, cookies, etc. (ECONODATA, 2020).

According to this database, this segment consists of 798 companies distributed between 26 Brazilian states, as shown in Figure 1.
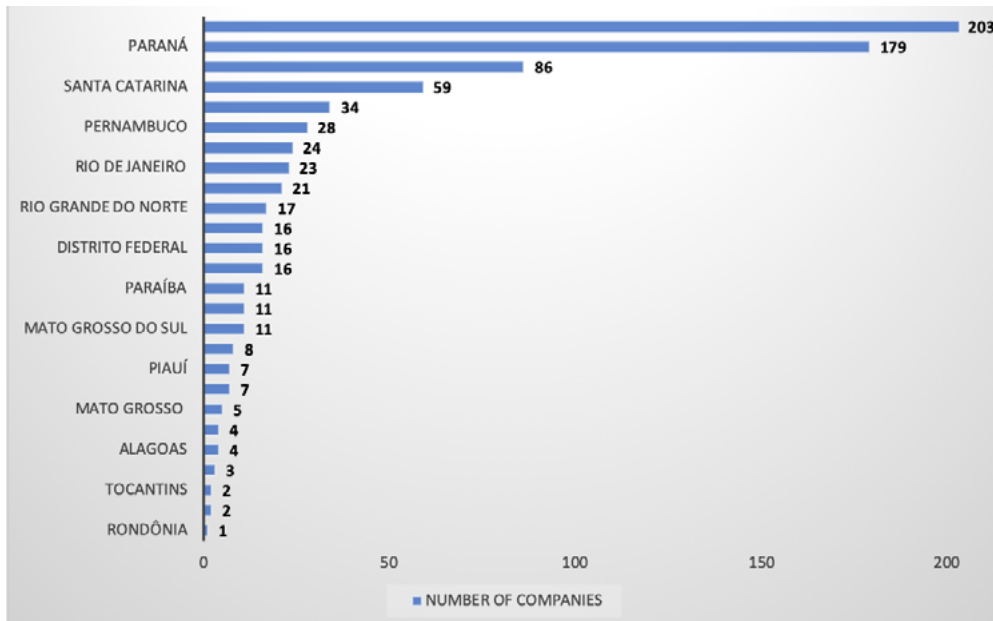
*Survey of the wheat and derivatives
production chain regarding the 2030
Agenda and the SDG*

Figure 1 | Distribution of companies in the wheat and derivatives segment in Brazil.

Source: Prepared by the authors

The wheat production chain is production in macro segments, complex and with many productive links (SIDONIO et al., 2013, FIEP, 2016). The Agro-industrial Chain or Agro-industrial Complex (CAI) has three processing industries, apart from retail, wholesale and consumers and its agricultural production.

The first processing industries work to generate flours, mixtures and bran as a final product. The second receive the flour and transform it into pasta, cookies, bread, non-food products, and so forth. The third-processing industries produce pizzas, dishes ready for consumption or convenience, etc. (MORI & IGNACZAK, 2011).

According to the research carried out by ABITRIGO (Brazilian Association of the Wheat Industry), the generated income volume (GDP) from the wheat production chain is 25.3 billion reais for the Brazilian society in 2016. 55.7% of this total came from the wheat-related service chain, 22.4% from the agribusiness chain (mills), 16.5% from agriculture and the rest from the input chain. For job creation, a survey carried out by PNAD showed that in the second quarter of 2017, agribusiness had the highest contribution (58%), followed by agriculture (33.9%), services and the production of inputs (IBGE, 2017).

In 2019, Brazil's wheat grain harvest was 5155 thousand tons, productivity was 2526 kg/ha, and the cultivated area was around 2040 thousand ha (CONAB, 2020). In that same year, grain import ranked 29th place for the main products imported by Brazil (4th place in the ranking of basic products), which imported about 4 million tons to meet the wheat consumption in Brazil, which according to the Association of the Wheat Industry (ABITRIGO) (2020) was 11 million tons (FAZCOMEX, 2020).

In the case of wheat derivatives, 9.5 thousand tons were produced in 2018, generating approximately 59 billion reais (ABIA, 2018; ABITRIGO, 2018), distributed as follows: 55% due to the sale of bakery products, 16% due to the sale of pasta in general, 10% biscuit and 19% domestic consumption of wheat flour (CUNHA, 2017). For these products, innovation processes have a different focus than the previously mentioned products generated in the first wheat-processing chain. Concerning derivatives, the rationale driving companies to innovate their products is more linked to ensuring food safety, nutritional quality, and providing a new generation of food that meets consumer demand for convenience, variety and quality (MARTÍNEZ-MONZÓ et al., 2013).

According to FIEP (Federation of Industries of the State of Paraná) (2016), among the companies that make up the wheat supply chain (transformation chain), 60% have an innovative culture, while for the remaining 40%, demand stimulates innovation. Besides, the type of innovation that persists in this supply chain concerns the production process with technologies used to improve plantation monitoring and yields.

According to Corte & Waquil (2015), taking into account the wheat derivatives industries (second processing chain), most of them (55%) did not develop or implement innovations in 2015, as they believed that the cost related to the implementation was high. In the remaining 45% of companies, as pointed out by the same authors, product innovations are more recurrent than processes, as incremental and radical innovations.

According to Embrapa (2018), in general, innovations in the wheat segment occur as follows: 45.30% in genetics, 30.30% in technology transfer, 7.20% in management, 6.10% in post-harvest, 1.70% in protection, 1.10% in processes, 1.10% in products and 0.60% in services. Thus, one can affirm that around 83% of innovations are more linked to sustainable farming practices, which end up generating positive results for sustainability.

3 METHODOLOGY – SURVEY METHOD

3.1 RESEARCH PROCEDURES

For the present work, a quantitative survey of two stages was used: an exploratory survey and a conclusive survey.

The exploratory stage allowed greater familiarity between the researcher and the researched topic (GIL, 2008). This stage did not require sampling procedures or quantitative data collection techniques since the objective is to describe the target population. Thus, information about the context came from bibliographical survey and interviews with people experiencing the problem (COOPER; SCHINDLER, 2003).

The conclusive stage, in turn, consisted of research in companies that are part of the wheat and derivatives segment in Brazil, with the application of more than 157 questionnaires. According to Gil (2008), it is possible to describe the characteristics of a given population or phenomenon using techniques such as questionnaires and systemic observations.

This enabled identifying the implementation stage of the 17 SDGs in the wheat CAI (Agro-industrial Complex) and motivations and difficulties found by these companies to improve their sustainable development goals.

3.2 SAMPLE AND RESEARCH INSTRUMENT

The research population consisted of companies that compose the wheat Agro-industrial chain. The sample is of 91 companies (about 58% of the total questionnaires), and the sampling was random because the selection of companies followed that each member of the population had the same probability of being chosen (MARCONI; LAKATOS, 1996). As an input field strategy, electronic mailing (e-mail) and telephone interviews served to send data collection instrument. Information was collected from area managers, product and process quality managers and managers from the sustainability area. Data collection took place from December 9, 2019, to May 12, 2020.

The instrument used was a semi-structured questionnaire with dichotomous, trichotomous, multiple-choice, scale (5-point Likert scale), numeric, and open-ended questions, and an observation field. It consisted of 17 questions grouped in two parts: the first one to describe the respondent company and the second one to verify which practices focus on the 2030 Agenda and SDGs implemented.

After preparing and acquiring form responses, the database was developed using the Statistical Package for Social Sciences software (SPSS 17.0) to measure all statistical analyses. Measures of proportion and frequencies and subsequent graphs were used in descriptive analyses to better visualize the results. Moreover, non-parametric statistical techniques were used. According to Siebert and Siebert (2017), the advantage of choosing non-parametric methods, in addition to other features, is that they can be applied using nominal and ordinal data, not being dependent only on interval and ratio variables (SIEBERT; SIEBERT, 2017).

The Kruskal-Wallis H test (KW) was used to determine whether there were statistically significant differences between three groups of an independent variable in a continuous or ordinal dependent variable. For two groups of an independent variable, the Mann-Whitney U test was used. With a statistically significant difference between means, the Bonferroni test (post hoc test) was performed to make multiple comparisons. In these analyses, the size of companies was a dependent variable and the other variables independent. Spearman's correlation coefficient was also used to identify the correlation between two ordinal variables; in this case, the correlation between motivations and difficulties found by companies with the implementation of the 2030 Agenda and its respective SDGs.

4 DATA ANALYSIS AND PROCESSING

4.1 THE GENERAL PROFILE OF RESPONDENTS

A total of 91 questionnaires were tabulated, with 53.3% of responding companies belonging to CAI responsible for the agricultural production of wheat grain, 48.9% belonging to the first processing industry (processing of wheat grain into flour) and 97.8% belonging to the second processing industry (of this percentage, 30.0% in the production of pasta, 32.2% in the production of bread and/or cakes and 35.6% in the production of cookies and/or crackers). These values, if added together, show that they account for more than 100%; this is because quite often, companies that belong to the wheat and derivatives segment do not participate only in the agribusiness or processing industry. They are vertically integrated companies that simultaneously operate in more than one link of the chain.

As from the questionnaires, only 16 (17.6%) of the 91 companies belong exclusively to the Agro-industrial sector. For the processing industry, only six exclusively belong to flour production and four belong to pasta production. Three are in the production of bread and/or cakes only, and four only manufacture cookies and/or crackers. This means that 63.8% of the sample belongs to more than one transformation stage of the wheat CAI, which impaired carrying out the statistical analysis by links in the production chain.

Regarding the size of responding companies, 52.7% are large-sized, 35.2% medium, and 12.1% small. SEBRAE (2010) was the criterion used to classify company size, which considers the number of employees.

Of these companies, most are from São Paulo (SP), followed by Paraná (PR) and Rio Grande do Sul (RS) (Figure 1), which are considered the largest industrial wheat hubs (FIEP, 2016).
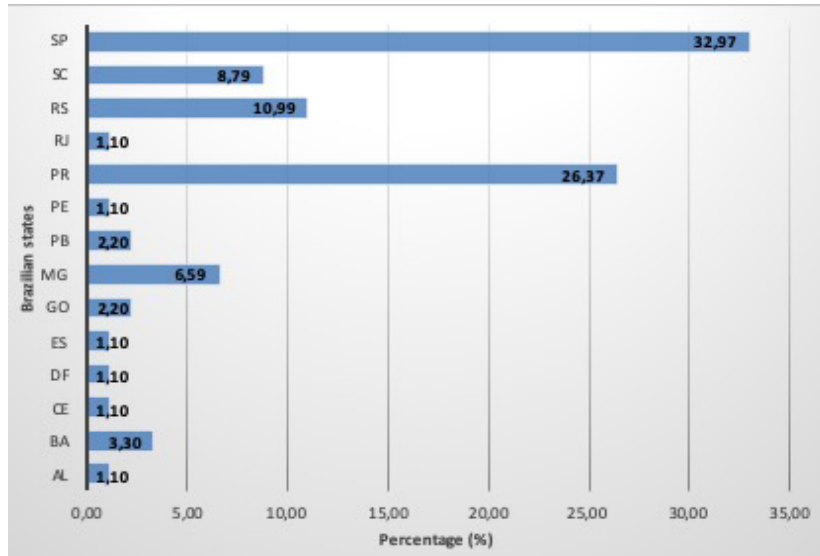
Figure 2 | Sample distribution according to Brazilian states.

Source: Prepared by the authors.

4.1.1 RESPONDENTS' RELATIONSHIP WITH THE 2030 AGENDA AND THE SDGS

The first issue addressed in companies was their knowledge about the 2030 Agenda and its 17 SDGs using a 5-point Likert scale. (1 - Not at all familiar, 2 - Slightly familiar, 3 - Somewhat familiar, 4 - Moderately familiar and 5 - Extremely familiar). Figure 3 shows the percentage of responses from the 91 companies.
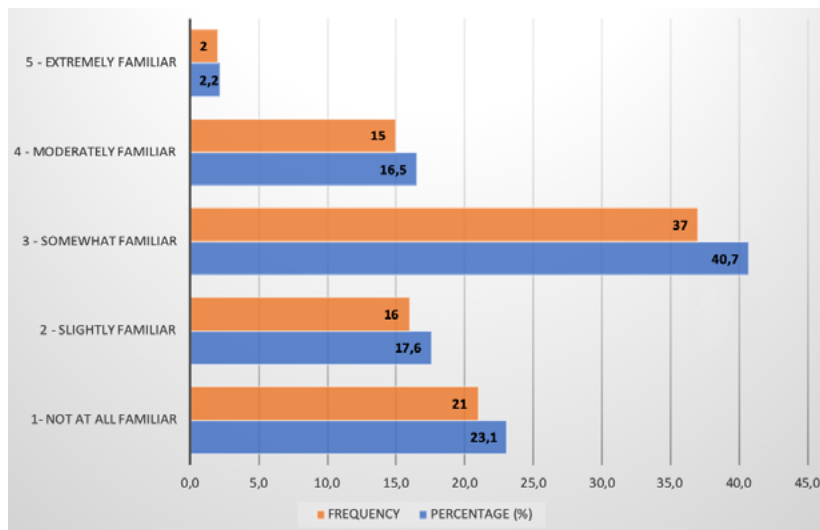

Figure 3 | Percentage and frequency of knowledge distribution in the 2030 Agenda and the 17 SDGs of responding companies.

Source: Prepared by the authors.

These data, when treated statistically by the K-W test and comparison between pairs by the ANOVA Post hoc analysis - Bonferroni correction, showed the effect of company size on knowledge about the 2030 Agenda and 17 SDGs [$X2$ (2) = 18,534; p <0.05]. Thus, there is a statistically significant difference (p<0.05) between the knowledge on this subject of small-sized companies when compared to medium and large-sized companies. However, this difference is no longer present when it comes to comparing medium and large companies.

Response percentages by company size are in Figure 4. This figure shows that most small companies do not know the Agenda and its objectives. After analysis, most of the medium and large companies are at the intermediate level (Somewhat familiar) with this knowledge.
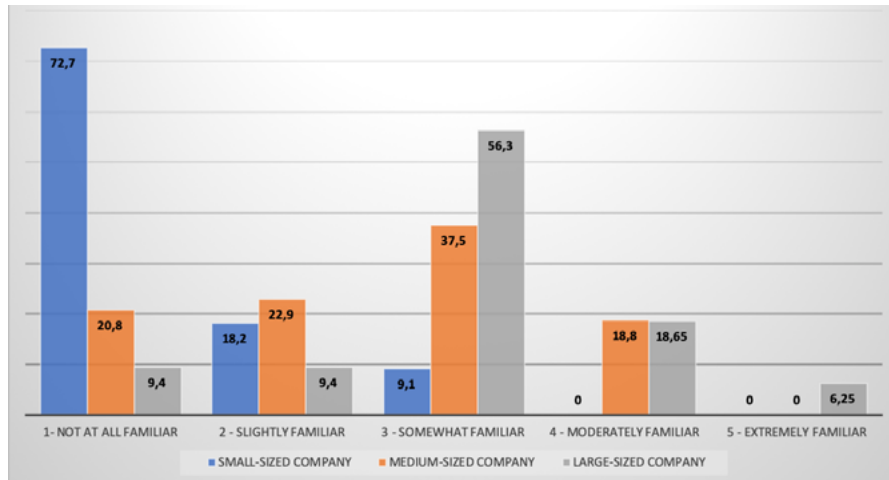

Figure 4 | Response percentage on knowledge about the 2030 Agenda and 17 SDGs concerning the size of responding companies.

Source: Prepared by the authors.

For this sample, 57.1% of responding companies have already used the Agenda and its objectives in business practices, and 39.6% have not but intend to use it in the coming years (Figure 5).
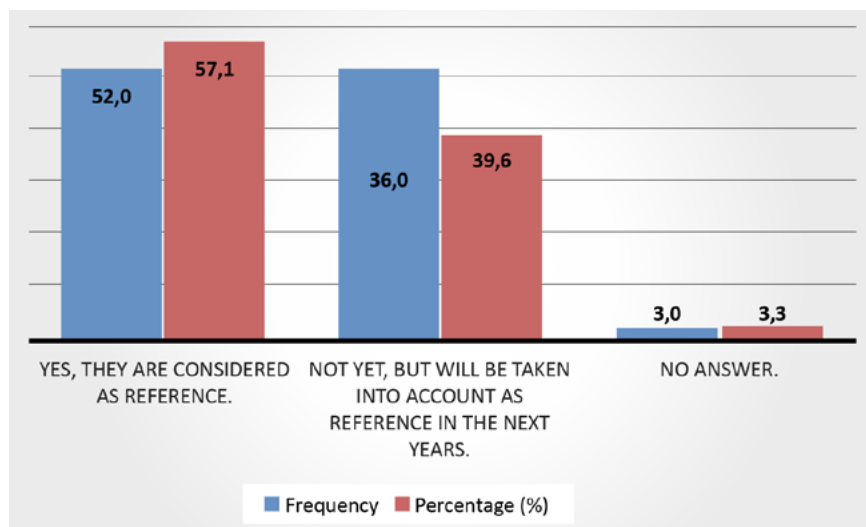
Figure 5 | Frequency and percentage of companies that use SDGs in their business practices.

Source: Prepared by the authors.

It is noteworthy that 3.3% did not respond to the question and that they are the same companies that reported having little knowledge about the Agenda and its objectives.

The companies reporting to consider the Agenda as a reference for intensifying their sustainable development practices had to indicate how they verify the direct and relevant relationship between their business practices and SDGs. There were three different ways to respond to this question: 1 - Qualitative analysis of implications and impacts of the business practices considered with the set of SDGs; 2 - Prioritization of the most relevant SDGs to their business due to a materiality analysis

(investments and management of externalities, risks and opportunities), identifying the most positive and negative impacts of their business; and 3- Another method.

As seen in Figure 6, none of the companies responded that they would use another method, and all responses were divided between items 1 and 2.
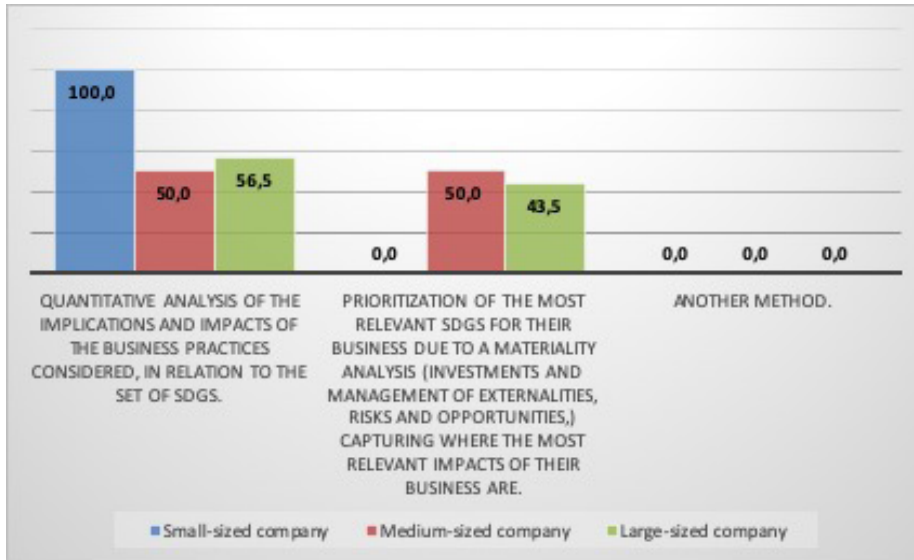

Figure 6 | Percentage of responses on how they identify the direct and relevant relationship between their business practices and SDGs concerning company size.

Source: Prepared by the authors.

Regarding the sample of small companies under study, only one of them uses the 2030 Agenda and SDGs, so the percentage is 100%. This company checks whether the implementation of the 2030 Agenda has helped its business practices - or not - by analyzing impacts and implications, without prioritizing some SDGs. In the case of medium and large-sized companies, nearly 50% of the sample verify the influence of the implementation of the 2030 Agenda in the same way as small-sized companies. However, the other portion of these companies prefers to prioritize the most relevant SDGs first and then analyze how they influence (positive or negative) their business practices.

4.1.2 ANALYSIS OF SUSTAINABLE DEVELOPMENT GOALS (SDGS)

Table 1 shows the SDGs under implementation, those already implemented, the ones to be implemented and the unanswered ones during the survey application. In this case, the study was carried out separating companies by size, as in the previous analysis.

The SDGs already implemented are those in which the targets and their indicators used would no longer need updates since they demonstrate clear evidence in the evolution of the fulfilment of Agenda 2030 and its objectives. Regarding implementation, those SDGs where the target and/or indicator could still be improved, readapted or modified for the same purpose.

In the case of those who did not respond, the position in which the SDG received within their company, it was specified by the responding company that it had difficulty seeing the respective SDG in its current business practices, being computed in the "unanswered" questionnaire. Thus, for SDG 1, 5, and 16, all responses could be computed; for SDGs 2, 4, 6, 8, 9, 10, 11, 12, 14 and 17, the percentage of non-responding companies was 1.9%; for SDGs 7 and 15, it was 3.8%, while for SDGs 3 and 13, it was 5.8%.

Given the data in Table 1, 10.1% of SDGs are under analysis, 46.8% are in the implementation phase, 38.4% have already been implemented and 4.8% will not be implemented.

Dividing the percentage responses in Table 1 into 4 parts (1 - under analysis, 2 - under implementation, 3 - already implemented and 4 - will not be implemented), for small companies, based on the initial sample, as only one implemented the 2030 Agenda and SDGs, the majority of SDGs represent 100% percentage. For this company, based on Table 1, a little more than half of SDGs are in the process of implementation (53%), 12% are under analysis, 29% have already been implemented, and the company reported that only one SDG will not be implemented (SDG 14). It is noteworthy that this SDG specified by the small company is also classified in the same way by medium and large companies.

To better analyze Table 1, the Mann-Whitney U statistical test was applied in two independent samples to observe whether there is a significant difference ($p<0.05$) between the results of medium and large companies for each SDG. Since this is not the case, the way these companies treat SDGs is similar.

Table 1 - Application percentage of SDGs within small, medium and large companies in the wheat and derivatives sector.

	Small-sized company	Medium-sized company	Large-sized company	Small-sized company	Medium-sized company	Large-sized company	Small-sized company	Medium-sized company	Large-sized company	Small-sized company	Medium-sized company	Large-sized company	Small-sized company	Medium-sized company	Large-sized company
SDGs	Under analysis			Under implementation			Already implemented			Will NOT be implemented			No response		
SDG 1	100,0	25,0	26,1	0,0	67,9	39,1	0,0	7,1	26,1	0,0	0,0	8,7	0,0	0,0	0,0
SDG 2	100,0	21,4	21,7	0,0	67,9	43,5	0,0	7,1	26,1	0,0	0,0	8,7	0,0	3,6	0,0
SDG 3	0,0	0,0	0,0	100,0	32,1	39,1	0,0	64,3	52,2	0,0	0,0	0,0	0,0	3,6	8,7
SDG 4	0,0	10,7	4,3	100,0	64,3	65,2	0,0	21,4	30,4	0,0	0,0	0,0	0,0	3,6	0,0
SDG 5	0,0	3,6	4,3	100,0	39,3	39,1	0,0	57,1	56,5	0,0	0,0	0,0	0,0	0,0	0,0
SDG 6	0,0	0,0	4,3	0,0	17,9	34,8	100,0	78,6	60,9	0,0	0,0	0,0	0,0	3,6	0,0
SDG 7	0,0	0,0	4,3	0,0	35,7	30,4	100,0	60,7	52,2	0,0	0,0	8,7	0,0	3,6	4,3
SDG 8	0,0	0,0	0,0	100,0	53,6	56,5	0,0	42,9	43,5	0,0	0,0	0,0	0,0	3,6	0,0
SDG 9	0,0	3,6	4,3	0,0	64,3	47,8	100,0	28,6	47,8	0,0	0,0	0,0	0,0	3,6	0,0
SDG 10	0,0	14,3	4,3	0,0	50,0	47,8	100,0	32,1	47,8	0,0	0,0	0,0	0,0	3,6	0,0
SDG 11	0,0	7,1	13,0	100,0	53,6	47,8	0,0	35,7	34,8	0,0	0,0	4,3	0,0	3,6	0,0
SDG 12	0,0	3,6	0,0	0,0	14,3	13,0	100,0	78,6	87,0	0,0	0,0	0,0	0,0	3,6	0,0
SDG 13	0,0	28,6	21,7	100,0	42,9	52,2	0,0	17,9	21,7	0,0	3,6	0,0	0,0	7,1	4,3
SDG 14	0,0	28,6	30,4	0,0	10,7	0,0	0,0	3,6	4,3	100,0	57,1	65,2	0,0	0,0	0,0
SDG 15	0,0	3,6	13,0	100,0	64,3	69,6	0,0	25,0	13,0	0,0	3,6	0,0	0,0	3,6	4,3
SDG 16	0,0	17,9	4,3	100,0	64,3	73,9	0,0	17,9	21,7	0,0	0,0	0,0	0,0	0,0	0,0
SDG 17	0,0	3,6	13,0	100,0	64,3	39,1	0,0	28,6	47,8	0,0	0,0	0,0	0,0	3,6	0,0

Source: Prepared by the authors.

According to Moretti, in an interview given to the "Aviculture Industrial" journal (2019), in the case of the 17 SDGs, Brazil could contribute more, including to the eradication of poverty (SDG 1) and hunger in the world (SDG) 2), since the country has considerably evolved in terms of agro-industrial issues, and during the last five years it switched from a net importer to a great food producer. From the results presented, there are two SDGs that companies intend to include in their business practices and that medium and large companies have a high percentage in the implementation phase.

Among the already implemented SDGs, three should be highlighted: SDG 3, SDG 6 and SDG 12 concomitantly in different company sizes. Through corporate actions, the presence of these three objectives is represented on the field, besides as industrial actions, and include: reducing the salt content in 75% of products, increasing the average crop productivity without using more land, water or inputs, reducing by 50% the amount of water used in the application of agrochemicals, reducing the emission of organic substances in the water, zero-emission in seed operations, the use of renewable energy sources, 100% mechanized harvest, improving soil fertility (LOPES et al., 2016).

As previously mentioned, the objectives are interdependent. For this reason, actions focused on any one of them can achieve progress on the others. Thus, related SDGs are in the same action position in Table 1. For example, SDGs 2, 3 and 12 have the principle of promoting food security, health and nutrition. Two of them have a high implementation percentage, and the other one has a high implementation percentage.

Another example points to objectives 1, 2, 9 and 17 (it has the principle of promoting knowledge sharing and new technologies), which have a high percentage in the implementation phase in Table 1.

Objective 8 might be the most relevant objective for 95% of participant companies in the "Integrating the SDGs into business strategy" report from the Global Compact Network Brazil (2017). Since it is an SDG that represents business activity, and concepts such as income generation and decent job offer, it is not surprising that it is being implemented or has already been implemented, including when addressing family farming actions.

Moreover, according to received responses, 87% of these companies have already identified which SDGs are most important. Important SDGs are those the company can easily incorporate into its practices, those that could leverage the level of corporate sustainability, those that would help improve the company's brand in the market, those that meet its business practices and so on. Among responses collected, Figure 7 shows the percentage of those that stood out positively and negatively.
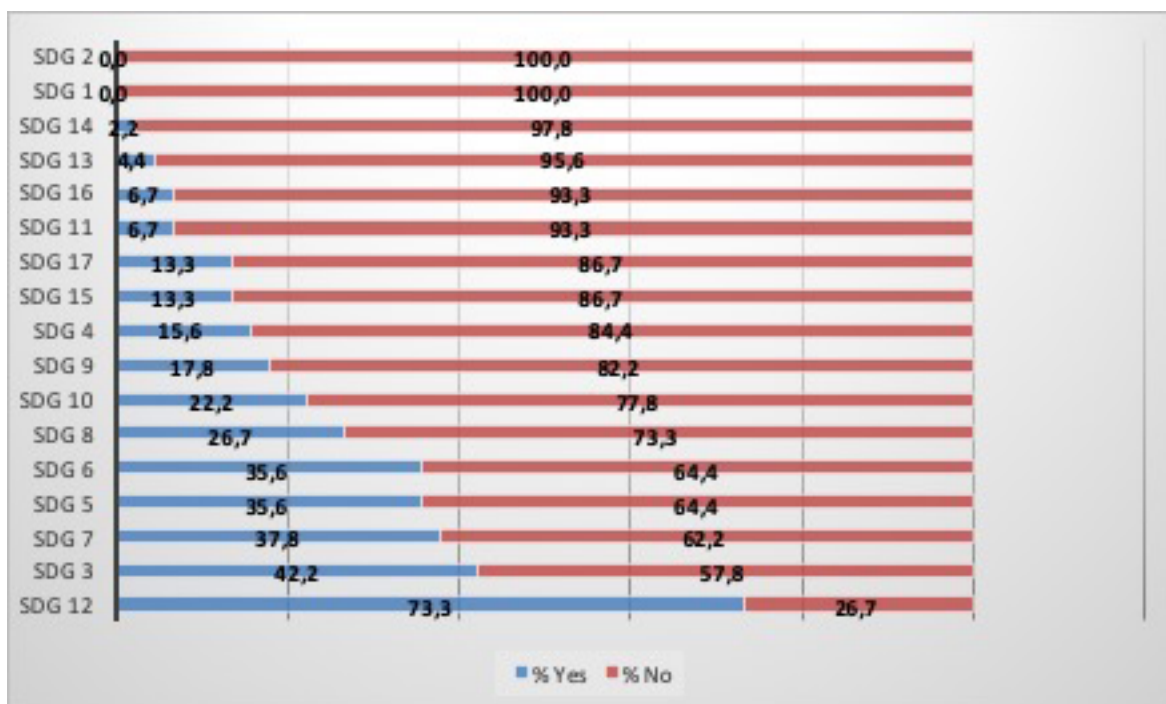

Figure 7 - SDGs considered most important for responding companies.

Source: Prepared by the authors.

In the highlighted objectives, SDG 12 was considered by 73.3% of companies as the most important. Making a comparison with Table 1, in addition to this objective being considered as very important, it is also the objective that has the highest implementation percentage.

Corroborating these data, Kalinke (2020) points out that for the private sector, even though all objectives are interconnected, three SDGs stand out for their characteristics directly focused on and influencing the qualitative and quantitative indices of the goods and services sector, namely: SDG 8, SDG 9 and SDG 12.

Through annual reports (2018 and 2019) of companies that are part of the wheat CAI published on the internet, it was possible to verify some of the projects that are being put into practice to reach the different SDGs (Table 2).

Table 2 | Actions adopted by companies in the wheat and derivatives segment to achieve success in the different SDGs of the 2030 Agenda.

SGD	Some actions
1 NO POVERTY	Projects with tax incentives, with impact on employability, social inclusion and citizenship; Partnership with schools to stimulate employability and fight poverty in a socially vulnerable region; Urban cooperatives of vegetable gardens - without pesticides; Finance for agricultural mechanization; Public biological security actions.
2 ZERO HUNGER	Identification of supplier's members of the Sustainable Agriculture Initiative (SAI); Forecasting in the analysis of agronomic data; Donation of products; Use of sustainable agriculture practices; Food security plan; HACCP systems; Solidarity campaigns; Donation of inputs for soil correction; Good farm practices.
3 GOOD HEALTH	Employee's participation in programs that encourage a healthier lifestyle; Adherence to the vaccination campaign; Incentive and recognition program; Preventive oral health actions; Food vouchers; Quality medical insurance; partnerships with pharmacies; Engagement research – listening to the employee; Zero accident programs; CIPA; Annual training plan.
4 QUALITY EDUCATION	Partnerships with higher education institutions and language schools; Volunteers giving classes to institutions supported by the company; Development programs to improve skills. Training for cooperative technicians. Courses provided knowledge and practice on healthy and nutritious food, affecting families' food and nutritional security.
5 GENDER EQUALITY	Integrate women in family farming; Qualification of women in the manufacture of wheat-based products to be sold in the local market or offered at school lunches, adding value and income to family farming products.
6 CLEAN WATER AND SANITATION	Resource management to reduce water use; Investment in effluent treatment system; Program for the rational use of water.
7 AFFORDABLE AND CLEAN ENERGY	Projects to reduce energy use; Energy efficiency, reduction of pollutants; Use of Biogas, Photovoltaic and/or wind power.
8 DECENT WORK AND ECONOMIC GROWTH	Partnerships; Leadership development programs, continuing education, technical training. Employee benefits. Personal help and guidance to family members and employees.
9 INDUSTRY INNOVATION AND INFRASTRUCTURE	Startup selection and acceleration program; Grain supply chains commitment to eliminate deforestation; Increase product traceability; Acquisition of certifications such as Proterra, International Certification of Sustainability and Carbon – ISCC; Waste management; Hackathons and Rally for knowledge focused on sustainable innovation; Commodity production.
10 REDUCED INEQUALITIES	Participation in the Give the Future a Hand program; Donations to NGOs; Inclusion of disabled employees.

SGD	Some actions
11 SUSTAINABLE CITIES AND COMMUNITIES	—
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Projects to reduce sodium and sugar in products; Sustainable packaging projects; Valuing suppliers using sustainable agriculture; Use of reverse logistics; Best management practices and reduction of environmental impacts; Work with machines remotely; Precision agriculture; Fleet monitoring; Research with renowned institutions; Interactivity with business partners; Sustainability report; Lean Manufacturing; Program of rapid response to environmental issues (Class 1 and 2 waste); Management associated with efficient environmental management, implementing Business Process Management (BPMs); Innovation program in family farming.
13 PROTECT THE PLANET	Projects to analyze the materiality of climate change in the business; Management of GHG emissions based on the Brazilian GHG Protocol Program.
14 LIFE BELOW WATER	River and Beach Cleaning Event; No-till farming.
15 LIFE ON LAND	Conservation actions to mitigate environmental impacts; Rational use of natural resources; No-tillage; Reforestation; Physical soil recovery; Donation of seedlings to cooperative members.
16 PEACE, JUSTICE AND STRONG INSTITUTIONS	Adoption of Compliance Programs; Cooperative Management Development Programs; Use of standards and certification acquisitions such as ISO9001, ISSO 14001, ISSO 45001, AS 8000 and HACCP, IFS FOOD, SEEDCARE SYNGENT SEAL, FSSC 22000C; Fairs and events focused on agriculture and sustainable production; Environmental licensing.
17 PARTNERSHIPS FOR THE GOALS	Cooperative Marketing

Source: Authors' own

4.1.3 DIFFICULTIES AND MOTIVATIONS TO IMPLEMENT THE 2030 AGENDA AND ITS SDGS

Companies that used the Agenda were asked about motivations and difficulties when working with SDGs.

For the question about motivations, responses used a 5-point Likert scale where: 1 – Not at all motivated, 2- Slightly motivated, 3 - Moderately motivated, 4 - Very motivated and 5 - Extremely motivated (%). Issues related to sustainability, company strategy and relationship with stakeholders were addressed. Table 3 shows the percentage of responses to each question.

For difficulties in integrating SDGs, 8 different points addressed the company's strategy and environmental impact assessment more than its relationship with stakeholders. For these questions, a 5-point Likert scale was also used where: 1 – Not at all difficult, 2 - Slightly difficult, 3 - Moderately difficult, 4 - Very difficult and 5 - Extremely difficult. Results are also expressed in Table 3.

Table 3 | Percentage of responses regarding motivation and difficulties in integrating SDGs into industrial practices in the wheat CAI.

Motivations	Not at all motivations (%)	Slightly motivation (%)	Moderately motivation (%)	Very motivation (%)	Extremely motivation (%)	Difficulties	Not at all difficulty (%)	Slightly difficulty (%)	Moderately difficulty (%)	Very difficulty (%)	Extremely difficulty (%)	No response (%)
Invest in an environment that is conducive to business.	0,0	0,0	9,6	38,5	51,9	Establish partnerships to advance the SDG proposals.	0,0	36,5	40,4	19,2	3,8	0,0
Strengthen relations with stakeholders (internal and external) and keep pace with policy developments.	0,0	0,0	5,8	38,5	55,8	Identify opportunities related to the SDGs.	17,3	67,3	9,6	3,8	1,9	0,0
Value corporate sustainability.	0,0	0,0	1,9	21,2	76,9	Define indicators for activities related to the SDGs.	25,0	65,4	5,8	1,9	0,0	1,9
Identify opportunity for future business.	0,0	0,0	5,8	42,3	51,9	Define their goals in relation to the goals stipulated by the SDGs.	23,1	65,4	5,8	0,0	5,8	0,0
						Identify the SDGs relevant to the business.	7,7	59,6	30,8	1,9	0,0	0,0
						Identify and assess impacts.	5,8	42,3	30,8	19,2	0,0	1,9
						Identify the connection between project actions, and institutional programs with the SDGs.	3,8	67,3	25,0	3,8	0,0	0,0
						Develop technical knowledge.	7,7	51,9	32,7	1,9	5,8	0,0

Source: Prepared by the authors.

Regarding the motivation results that lead companies to use the Agenda, 76.9% are extremely motivated to use it to value corporate sustainability. Companies recognize that implementing SDGs in business practices helps accelerate progress for sustainable development. This also appears in Figure 5.

Concerning business relationships such as investing in a favorable business environment, strengthening relations with stakeholders and identifying future business opportunities, percentages for the level of motivation also remained higher in the extremely motivated level, at around 51 to 56%, and the second-highest percentage was in the extremely motivated level. Responses to these three questions give us the impression that the current and the future business environment is a sustainable environment and that stakeholders prefer to invest in this type of company, that is, companies that are engaged in practices aimed at sustainable development since motivation has high percentage values.

Regarding difficulties found by companies in implementing SDGs, Table 5 does not provide very much information for the items investigated, and responses expressed no difficulty, little difficulty, or moderate difficulty.

Of the eight questions, four of them draw the most attention: Identifying opportunities related to SDGs, defining indicators for activities related to SDGs, defining the goals set by SDGs and identifying connections. These are interconnected questions and responses because the company will only define the goals and indicators for a specific SDG when it verifies the possibility of incorporating it into its practices, or when the company sees an advantage in incorporating it.

Thus, it could be said that most items have at least one correlation. The results of Table 4 (correlation between difficulties and motivations) show that most are positive and weak correlations. When a correlation is said to be positive, the study variable has a direct relationship. Thus, when the value of one increases, the other also increases. In negative correlations, the correlation is inversely proportional. When the value of one variable decreases, the value of the other increases. Regarding intensity, according to Spearman's ρ coefficient, values between 0 and 0.3 (or 0 and -0.3) are negligible; values between 0.31 and 0.5 (or -0.31 and -0.5) are weak correlations; between 0.51 and 0.7 (or -0.51 and -0.7) are moderate correlations; between 0.71 and 0.9 (or -0.71 and 0.9) are strong correlations; and> 0.9 (or <-0.9), correlations are considered very strong (MUKAKA, 2012).

Of the significant correlations shown in Table 4, only the moderate will be discussed. The first is Motivation 1 x Difficulty 2, which has a negative correlation (ρ = -0.522, p<0.01). When the degree of motivation to invest in a favorable business environment increases, the difficulty of identifying opportunities related to SDGs decreases. According to Gómez and Castilho (2007), a favorable business environment is where the company integrates the social aspect with economic and environmental issues, using the sustainability tripod concept. Thus, if the company incorporates sustainable values within its business, it will identify opportunities in implementing SDGs easily.

The correlation between difficulties 1 and 4 is positive. The two variables are directly proportional (ρ = 0.561, p<0.01). Partnerships are essential for the survival of current companies, as well as strategies for their growth. Nevertheless, for these partnerships to be successful, there should be common goals that include all partners objectives.

The correlation between difficulty 7 and difficulty 8 (ρ = 0.580, p<0.01), is also positive, following the same correlation theory discussed above. Having technical knowledge helps to identify the connections of institutional projects and programs related to SDGs.

Table 4 | Correlation between motivational and difficulty items.

Motivation and Difficulty Items	ρ p-value	MOTIVATION - Invest in a business enabling environment.	MOTIVATION - Strengthen relations with Stakeholders (internal and external) and keep pace with policy developments.	MOTIVATION - Value corporate Sustainability.	MOTIVATION - Identify future business opportunity.	DIFFICULTY - Establish partnerships to advance the SDG proposal.	DIFFICULTY - Identify opportunities related to the SDGs.	DIFFICULTY - Define indicators for activities related to the SDGs.	DIFFICULTY - Define goals in relation to the goals set by the SDGs	DIFFICULTY - Identify the SDGs relevant to the business.	DIFFICULTY - Identify and assess impacts.	DIFFICULTY - Identify the actions, projects, and institutional programs that connect with the SDGs.	DIFFICULTY - Develop technical knowledge.
MOTIVATION - Invest in a business enabling environment.	Correlation Coefficient	1	,344*	,481**	,489**	-,21	-,522**	-,309*	-,309*	-,219	-,065	-,341*	-,296*
	Sig. (2 extremities)		0,012	0	0	0,129	0	0,026	0,024	0,116	0,648	0,013	0,031
MOTIVATION - Strengthen relations with Stakeholders (internal and external) and keep pace with policy developments.	Correlation Coefficient		1	0,199	0,226	-,24	-,307*	-,331*	-0,038	0,005	,299*	-0,034	0,062
	Sig. (2 extremities)			0,153	0,103	0,08	0,025	0,016	0,785	0,973	0,031	0,808	0,657
MOTIVATION - Value corporate sustainability.	Correlation Coefficient			1	,276*	-,12	-,25	-,341*	-,231	-,341*	0,083	-0,203	-,305*
	Sig. (2 extremities)				0,046	0,377	0,071	0,013	0,096	0,012	0,56	0,145	0,027
MOTIVATION - Identify future business opportunity.	Correlation Coefficient				1	-,27	-0,078	-0,204	-,361**	-,321*	-0,072	-,333*	-,478**
	Sig. (2 extremities)					0,051	0,578	0,148	0,008	0,019	0,611	0,015	0
DIFFICULTY - Establish partnerships to advance the SDG proposal.	Correlation Coefficient					1	,374**	,452**	,561**	,462**	,279*	0,24	,395**
	Sig. (2 extremities)						0,006	0,001	0	0	0,045	0,083	0,003
DIFFICULTY - Identify opportunities related to the SDGs.	Correlation Coefficient						1	,291*	,318*	0,254	0,163	,442**	0,242
	Sig. (2 extremities)							0,036	0,02	0,066	0,249	0,001	0,081
DIFFICULTY - Define indicators for activities related to the SDGs.	Correlation Coefficient							1	,487**	,283*	0,102	0,256	0,127
	Sig. (2 extremities)								0	0,042	0,476	0,067	0,371
DIFFICULTY – Define goals in relation to the goals set by the SDGs.	Correlation Coefficient								1	,377**	,380**	,292*	,451**
	Sig. (2 extremities)									0,005	0,005	0,034	0,001
DIFFICULTY - Identify the SDGs relevant to the business.	Correlation Coefficient									1	,274*	,395**	,427**
	Sig. (2 extremities)										0,049	0,003	0,001
DIFFICULTY - Identify and assess impacts.	Correlation Coefficient										1	,340*	,467**
	Sig. (2 extremities)											0,014	0
DIFFICULTY - Identify the actions, projects, and institutional programs that connect with the SDGs.	Correlation Coefficient											1	,580**
	Sig. (2 extremities)												0
DIFFICULTY - Develop technical knowledge.	Correlation Coefficient												1
	Sig. (2 extremities)												

Rô (ρ) de Spearman

■ Weak correlation
■ Moderate correlation

Source: Prepared by the authors.
* The correlation is significant at the 0.05 level (2 extremities).

5 CONCLUSION

The Global Compact (GC), in its "Progress Report 2019" report, with the participation of 1584 companies, representing 40 different sectors and 107 countries, concluded that 59% of these companies considered the 2030 Agenda an ambitious Agenda, which serves as a guide to identify problems and guide social and environmental improvements. This report shows that for 85% of CEOs, against 81% in 2018 and 75% in 2017, SDGs are vital and aim for leadership in corporate sustainability (UN GLOBAL COMPACT, 2019).

These percentages decrease when more companies are assessed, as with surveys conducted by the UN (2019). According to this organization, only 32% of companies have ambitious plans to reach the 17 SDGs. This is problematic for companies. Actions for SDG progress appear to be independent of central strategies in most companies, not influencing the product, services or business model innovations (ONU, 2019).

Concerning the wheat and derivatives segment, it does not seem very different and is also worrying, considering that 5 years have passed since the implementation of the 2030 Agenda and its respective SDGs. Among the 91 companies questioned in this work, about 11% managed to implement 38.4% of SDGs.

Although 53% of them are in the implementation phase, it may take some time to obtain results. Implementation of the SDGs requires financial resources, development and technology transfer, regional and commercial partnerships, capacity development, and inclusive globalization, planning and synergy. In this COVID-19 pandemic era, it can take longer to proceed with these actions, delaying some analysis or implementation processes.

Nevertheless, in the implementation of SDGs by the wheat CAI, what differentiates companies from being at the implementation phase or final integration of SDGs to industrial practices is that they see more actions to be incorporated in the company to improve the adoption of SDGs.

The effective contribution to SDGs depends on indicators (goals. Thus, the SDG implementation must translate into progress from state A, before implementation, towards the goal. As an example: one of the responding companies and SDG 7, in its 2019 sustainability report, made it clear that internal actions aimed at energy efficiency represent annual savings of around R$ 800 thousand, but for 2021, it intends to reduce this value by 2%.

According to the Brazilian Global Compact Committee for the 2030 Agenda, which in 2017 assessed 21 national companies, half already considered SDGs as a reference in their daily activities for conducting business, whether in management or as strategy, and 20% reported that they might use SDGs in the future. The rest of the surveyed companies (30%) refer to other global initiatives such as the Millennium Development Goals (MDGs), in which SDGs represent a type of continuity (PACTO GLOBAL, 2017).

For the wheat and derivatives segment, the result was not that different. Of responding companies, 57.1% already use the Agenda and its objectives in their business practices, and 39.6% have not but intend to use it in the coming years.

The wheat and derivatives segment is represented by companies that are usually part of several links of the wheat agro-industrial complex – CAI. This was one of the difficulties to carry out statistical analyses of data based on products by companies. Despite this, companies of different sizes (small, medium and large) also have different knowledge levels concerning the 2030 Agenda and its SDGs. Concerning medium and large companies, the difference in knowledge is no longer perceptible, and similar engagement with the analysis and implementation of SDGs is verified. However, when it comes to small companies, due to

the fact they first think about surviving in the market, the 2030 Agenda and SDGs are secondary. For the companies analyzed in this study (12.1%), only one could link the Agenda to its business practices.

In this work, it was also possible to summarize the business activities developed, so that companies could create links with SDGs. Nevertheless, regardless of the size and knowledge they have regarding the subject addressed here, there is a relatively limited number of wheat grain companies that present their annual results in electronically published reports, which eventually impairs the acquisition of supporting material. This lack of information results in weak social transparency regarding SDGs implementation by these companies. Information is an essential issue for the 2030 Agenda.

Finally, there is still a long path for the wheat and derivatives segment to move towards sustainable development, as proposed in the 2030 Agenda and its SDGs. The action of inserting SDGs into business practices undertaken to achieve this goal by companies in this study is similar to those in sustainability reports from other segments, such as meat companies (development in SDGs 2, 3, 6, 8, 12 and 15). However, the number of companies adopting these practices is still trivial.

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