

ASSESSING THE IMPLEMENTATION OF THE SUSTAINABLE DEVELOPMENT GOALS AND THEIR IMPACT ON THE VALUE OF ENTERPRISES IN FOOD INDUSTRY

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Assessing the Implementation of the Sustainable Development Goals and Their Impact on the Value of Enterprises in Food Industry

The article presents the sequence and results of assessing the implementation of the conception of sustainable development in the practice of enterprises in the context of their value formation. A scientific and methodological approach to assessing the implementation of the Sustainable Development Goals has been proposed, which provides for the calculation of an integral indicator of the implementation of the Sustainable Development Goals in the activities of enterprises, formed taking into account the indicators of organizational support, systematic implementation and complexity of the results of socially responsible programs and projects. A scientific and methodological approach to determining the value of an enterprise, on the basis of an assessment of the enterprise's economic and non-economic components using the method of fuzzy sets, is substantiated. The study was carried out on the basis of data from companies operating in the field of food production. It is shown that enterprises associate long-term development with the introduction of the principles of social responsibility and sustainable development into practice. It is determined that the socially responsible projects of the studied enterprises are mainly related to the implementation of the Sustainable Development Goals in the field of ecology and responsible consumption. It is shown that global companies carry out more systematic and comprehensive activities to implement the principles of sustainable development, compared to companies operating at the national level, thereby providing higher value. An assessment of both the economic and non-economic values of the studied enterprises has been carried out. To determine the dependency between the level of implementation of sustainable development goals and the characteristics of the value of enterprises, the method of correlation analysis was used. In the course of the correlation analysis, the coefficient of implementation of the Sustainable Development Goals in the practice of activity was considered as a factor feature, and the coefficients of implementation of both the non-economic and economic values of enterprise were considered as a result. It is noted that the integration of the principles of sustainable development into the practice of activities ensures the growth of the value of enterprise. It is indicated that enterprises that systematically implement socially responsible practices have higher value indicators.

Keywords: sustainable development, Sustainable Development Goals, enterprise, food industry, enterprise value, management

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Краснокутська Н. С., Гао Л. Оцінка імплементації Цілей сталого розвитку та їхнього впливу на цінність підприємств харчової галузі

У статті наведено послідовність і результати оцінки впровадження концепції сталого розвитку у практику діяльності підприємств у контексті формування їх цінності. Запропоновано науково-методичний підхід до оцінювання реалізації Цілей сталого розвитку, який передбачає розрахунок інтегрального показника імплементації Цілей сталого розвитку у діяльність підприємств, сформованого з урахуванням індикаторів організаційного забезпечення, системності впровадження та комплексності результатів програм і проєктів соціально-відповідального спрямування. Обґрунтовано науково-методичний підхід до визначення цінності підприємства, основу якого становить оцінювання економічної та неекономічної її складових з використанням методу нечітких множин. Дослідження проведено за даними компаній, що функціонують у галузі виробництва продуктів харчування. Показано, що підприємства пов'язують довгостроковий розвиток із впровадженням у практику діяльності принципів соціальної відповідальності та сталого розвитку. Установлено, що проєкти соціально-відповідального спрямування досліджених підприємств пов'язані переважно з реалізацією Цілей сталого розвитку в галузі екології та відповідального споживання. Показано, що глобальні компанії ведуть більш системну та комплексну діяльність з імплементації засад сталого розвитку, порівняно з компаніями національного рівня, забезпечуючи тим самим більш високу цінність. Здійснено оцінювання економічної та неекономічної цінностей досліджених підприємств. Для визначення залежності між рівнем імплементації цілей сталого розвитку та характеристиками цінності підприємств застосовано метод кореляційного аналізу. Під час проведення

кореляційного аналізу факторною ознакою узято коефіцієнт імплементації Цілей сталого розвитку у практику діяльності, результатною – коефіцієнти реалізації неекономічної та економічної цінностей підприємства. Зазначено, що інтеграція принципів сталого розвитку в практику діяльності забезпечує зростання цінності підприємства. Вказано, що підприємства, які системно впроваджують соціально-відповідальні практики, мають більш високі показники цінності.

Ключові слова: сталий розвиток, Цілі сталого розвитку, підприємство, харчова промисловість, цінність підприємства, менеджмент.

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Formulation of the problem. The functioning of enterprises under modern economic conditions is closely related to the implementation in their practical activities of socially responsible projects and programs. The organization of the activities of enterprises in harmony with natural and social systems ensures the competitiveness of the enterprise, the efficiency and stability of its results in the long term. As a member of the community of economic entities that implement in practice the Sustainable Development Goals (SDGs), each enterprise implements these goals differently, taking into account the industry specifics of production, the scale of activities and experience in implementing the socially responsible projects and programs. This determines the relevance of the study of the practice of socially oriented activities of enterprises, taking into account the sectoral features of their functioning and the results of such activities in terms of the value created by the enterprise.

Analysis of the latest research and publications. An analysis of a number of publications shows that the issues of implementation of the Sustainable Development Goals in practice are actively discussed by the scientific community. The publications raise issues related to taking into account the social, environmental, and managerial impact on national economies (S. Bali (2020) [1]), assessments of the current level of achievement of the Sustainable Development Goals at the global level (J. Moyer (2020) [2]), formation of predictive models in this direction (K. Henderson (2023) [3]), the risks related to the implementation of the principles of sustainable development on the part of artificial intelligence, in terms of global productivity, compliance with the principles of equality and inclusiveness (R. Vinuesa (2020) [4]), creation of a positive image and organization of communications with society within the framework of corporate social responsibility, based on the principles of sustainable development (J. Lu (2021) [5]), research on the implementation of the SDGs at the strategic level of company management (P.B.d.O. Claro (2021) [6]), innovative activity of enterprises adhering to the principles of sustainable development (J. Van Der Waa (2021) [7]). In addition to scholars' publications, the problems of implementing social practices in the activities of enterprises are presented in the documents of the United Nations and the World Economic

Forum, as well as in reports and recommendations of both the professional and public structures [8–11].

Allocation of the previously unresolved parts of the general problem. Despite significant achievements in formalizing initiatives to implement the Sustainable Development Goals in the practice of enterprises along with research to assess the implementation of socially oriented practices, there is no single methodological approach to identifying the level of implementation of the SDGs in the activities of the enterprise. The available publications consider certain issues related to the assessment of the implementation of the SDGs in the practice of enterprises, in particular the impact of the SDGs on the innovation activity of enterprises (J. Van Der Waa (2021) [7]) and the effectiveness of management of their innovation activities (O. V. Bondar-Pidhurska (2020) [12]), substantiate the feasibility of introducing the SDGs in the activities of entrepreneurial structures (B. I. Kosovych [13]) and consider the problems of financial support for sustainable development of enterprises (O. O. Solodovnik (2023) [14]). Still, the issue of identifying the level of implementation of the principles of the theory of sustainable development in the practice of enterprises is not yet considered in full. It is also relevant to carry out further empirical research on the implementation of the SDGs at the enterprise in the context of ensuring the efficiency of its functioning and development, in particular value creation.

Definition of tasks. The aim of the article is to determine the features of implementation of the Sustainable Development Goals in the activities of enterprises operating in the market of production and sale of food products. To achieve the aim, the following tasks have been defined and solved: the level of implementation of the Sustainable Development Goals in the activities of enterprises has been determined; the dependency between the level of implementation of the Sustainable Development Goals in the activities of enterprises and the value created by them is characterized.

Methodology. For the study, information on the activities of 25 companies operating in the segment of production and sale of food products was used. The sample comprises two groups. The first group includes companies operating in

the world market (Avanti Feeds Ltd., Budweiser Brewing Co. APAC Ltd., Danone, Tyson Foods, Heineken, The Coca-Cola Company, JBS, Diageo PLC, Pernod Ricard, Archer-Daniels-Midland Co., Bunge Ltd., Asahi Group Holdings Ltd., Fonterra Co-operative Group Ltd.), the second group includes companies operating in the Ukrainian market (AB InBev Efes Ukraine, «Carlsberg Ukraine», «Kyiv Confectionery Factory «Roshen», «Obolon» PJSC, «Delta Wilmar Ukraine» LLC, Group of Companies «New Products», «Kharkiv Biscuit Factory» PJSC, «Kyiv Margarine Factory», «Morshyn Mineral Water Plant «Oscar», «Dominic Co» LLC, «Khmilnyk Plant of Skimmed Milk Powder «Milk Visit» LLC, «Confectionery Factory «Yarych» LLC). Information on the performance of enterprises and their imple-

mentation of socially responsible practices is based on the data of their financial and non-financial statements for 2017–2022, as well as other open sources, including Sustainalytics [15], CSR Ukraine [11], Finance Charts [16]. The study was carried out in the following stages.

Stage 1. Determination of the level of implementation of the SDGs in the practice of enterprises. This indicator is determined taking into account the following criteria: organizational support, systemacy of implementation of programs and projects within the framework of the implementation of the SDGs, complexity of implementation results. The list of criteria and indicators for assessing the implementation of the SDGs in the activities of the enterprise is presented in the Table 1.

Table 1

Criteria and indicators for assessing the implementation of the SDGs in the activities of the enterprise

Criterion	Indicator
1. Organizational support for the implementation of the SDGs	1.1. Integration of the SDGs into the company's strategy. Structure of value orientations of the company's activities. 1.2. Presence of a person (division) responsible for the implementation of socially responsible practices in activities
2. Systemacy of implementation of programs and projects within the framework of the implementation of the SDGs	2.1. Availability of non-financial reporting on socially responsible practices. 2.2. Integration of the SDG-related activities into value creation activities. 2.3. Implementation of measures to achieve the SDGs. 2.4. Measurability of the SDGs.
3. Comprehensiveness of implementation of the SDGs.	3.1. Type of implementation result: 3.1.2. ecological (the SDGs: 6, 13, 14, 15), 3.1.3. social (the SDGs: 1–5, 7, 11, 16), 3.1.1. economic (the SDGs: 8, 9, 10, 12), 3.1.4. organizational (the SDG: 17)

Source: developed by the authors based on [17; 18]

To formalize the indicators by enterprise, the method of binary assessment is used. The meaning of this method is that each indicator is considered taking into account the «yes/no» scale, which, taken in points, equates the values of either 1 or 0. To determine the level of implementation of the SDGs in the practice of economic management by areas and in general by enterprise, the coefficient of implementation of the SDGs in the activities of the enterprise is calculated. The calculation formula is as follows:

$$K = \frac{\sum B_f}{\sum B_{max}}, \quad (1)$$

where K is: level of implementation of the SDGs in the activities of the enterprise, coefficient;

B_f – the actual number of points for positive answers regarding the implementation of the SDGs in the activities of the enterprise;

B_{max} – the maximum number of points for positive answers on the implementation of the SDGs in the activities of the enterprise.

The conditions for identifying the state of implementation of the SDGs in the activities of the enterprise are provided in the Table 2.

Table 2

Conditions for identifying the level of implementation of the SDGs in the activities of the enterprise

Value of K	The level of implementation of the SDGs in the activities of the enterprise
$0 < K \leq 0.2$	K_1 – crucial
$0.2 < K \leq 0.4$	K_2 – low
$0.4 < K \leq 0.6$	K_3 – moderate
$0.6 < K \leq 0.8$	K_4 – high
$0.8 < K \leq 1.0$	K_5 – very high

Source: developed by the authors

Stage 2. Determination of both the non-financial and financial characteristics of the value of enterprises. The value of the enterprise is represented by both the non-economic and economic components, the latter are formalized, taking into account indicators and signifiers that reflect both the non-financial and financial results of the main and auxiliary activities (Tab. 3).

Table 3

The indicators and signifiers, by components of enterprise value

Value component	Indicator	Signifier
Non-economic	ESG risk	ESG risk level (points)
	Participation of the company in the corporate social responsibility rankings	Ranking level (points)
	Extent of socially responsible programs and projects	Level of socially responsible programs and projects (points)
Economic	Efficiency of core activities	Profitability (%)
	Efficiency of auxiliary activities	Return on assets (%)
		Return on equity (%)

Source: developed by the authors

To formalize both the non-economic and economic components of the value of enterprises, the method of fuzzy logic is used. It provides for the substantiation of the conclusion on the components of value on the basis of the accepted conditions regarding the indicators used to assess them. The calculation formula is as follows:

$$S = \sum_{i=1}^N p_i \times \sum_{j=1}^S a_j \lambda_{ij}, \quad (2)$$

where S is: value implementation signifier, coefficient;

p_i – level of significance of the k -signifier;

N – number of signifiers;

$a_j = (0.1; 0.3; 0.5; 0.7; 0.9)$ – multitude of nodal points;

λ_{ij} – value of the membership function by individual signifiers.

Stage 3. Determination of the dependency between the level of implementation of the SDGs and the characteristics of the value of enterprises. For this purpose, the method of correlation analysis is used. The correlation is examined in two directions: between the activity of implementation of the SDGs and the level of implementation of both the non-economic and economic values of enterprise. In the course of the correlation analysis, the coefficient of implementation of the SDGs in the practice of activity (K) was considered as the factor feature, and the coefficients of implementation of the non-economic (S_{SDG}) and the economic (S_E) values of the enterprise were considered as the result feature. The closeness of the relationship between the level of implementation of the SDGs and the characteristics of the value of enterprises is determined by the results of calculating the correlation coefficient. The formula [20] is:

$$r = \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^n (X_i - \bar{X})^2 \sum_{i=1}^n (Y_i - \bar{Y})^2}}, \quad (3)$$

where r is correlation coefficient between variables X and Y ;

X_i, Y_i – observational values for variables X and Y , respectively;

\bar{X}, \bar{Y} – average values of the X and Y variables, respectively.

The correlation coefficient r acquires values ranging from -1 to $+1$. A value close to $+1$ shows a strong positive linear relationship between the variables; a value close to -1 indicates a strong negative linear relationship; a value close to 0 indicates that there is no linear relationship.

Presentation of the main material of the research. In line with the developed succession, the study began with an assessment of the implementation of the SDGs in the practice of food industry enterprises. The calculations of this stage were carried out taking into account the criteria of organizational support, systemacity, and implementation of the comprehensive programs and projects of a social direction within the framework of the implementation of the Sustainable Development Goals in practice.

As part of the analysis of compliance with the criterion of organizational support, the integration of the SDGs into the strategic management system is studied, in particular when formulating the goals of the company's activities, ways and tools for achieving them. It is determined that the social and ecological aspects of the activity, as well as the provisions for satisfying the interests of various stakeholders, the introduction of socially oriented projects and initiatives in the practice of economic management, are presented in all the companies studied. This verifies their adherence to the principles of sustainable development. Meanwhile, a detailed analysis of the information provided on the websites and in the companies' reports revealed different structures of value orientations, which are the basis of the target guidelines of the companies' activities, in the context of the groups studied. It has been found that in global companies (Group 1) the goals of activity are formulated taking into account a set of value orientations – theoretical, economic, social, aesthetic, and religious. Describing their characteristics, companies point to long-term research and development (19 mentions out of 105), profitability, increased market presence (12 out of 105), organizational culture, development opportunities for employees, leadership, knowledge, experience, commitment to the principles of sustainable development (6 out of 105), design, product quality (5 out of 105), ethics, moral qualities (8 out of 105), implementation of the principles of sustainable development and social responsibility directly (27 out of 105). The results of the analysis of the another group of enterprises show that economic value orientations are most expressed. Of the 12 companies studied, 8 enterprises indicated the quality of products, assortment, and quality of production

processes as a feature of the business. Social values are represented to a lesser extent. Only 4 out of 12 companies noted such values as leadership and social responsibility.

As part of the analysis of organizational support for the implementation of the SDGs in the practice of enterprises, the organizational structure of companies is studied in terms of the presence of a person (division) responsible for the implementation of socially responsible practices in activities. As a result of the analysis, it is found that companies solve the issue of distribution of tasks and responsibility for the implementation of the principles of sustainable development in different ways. All companies of the first group have a position or division in the management structure that takes care of the implementation of the principles of sustainable development. In the Group 2, information on the management staff is provided in 8 out of 12 enterprises, of which only 3 companies have the positions of corporate social responsibility manager, director of social projects development, and coordination of social programs as part of management structures.

The systemacy of implementation of programs and projects in terms of compliance with the principles of sustainable development is analyzed based on information on the implementation of socially responsible programs and projects by stages of creating value by the company, the availability of non-financial reporting on socially responsible practices and the development of corporate governance, the number of Sustainable Development Goals, appropriate actions for which are implemented at the enterprise, and ways to measure the achievement of these goals.

One of the tools in the system of value management of an enterprise is the formation of non-financial reporting. In this way, the company builds communication with stakeholders, positioning itself as an open and transparent enterprise that adheres to the principles of social responsibility and sustainable development.

The carried out analysis showed that non-financial reports are formed by all enterprises from the sample. However, the format of presenting information can differ. The non-financial statements of the companies of the Group 1 consist of documents formed taking into account requests for information about the company from various groups of stakeholders. This includes reports prepared under various sustainability reporting systems, including GRI, SASB, TSD, as well as comprehensive and free-form reports. The analysis showed that the non-financial statements of the Group 1 companies contain a wide range of information not only about the results, but also about the plans and intentions of companies in the field of socially responsible practices. The description of programs and projects on the socioeconomic, ecological, and managerial aspects of the activity is presented in the context of the values proclaimed by the company, with an emphasis on the systematic implementation of such measures by stages of the value chain, taking into account the interests of different groups of stakeholders. The non-financial statements of global companies also contain a significant list of metrics that allow to assess the goals of their activities in the environmental and social spheres and also the results of the implementation of socially oriented measures in the main processes both in a certain period of time and in dynamics. The companies' reports provide planned and

actual indicators of compliance with the requirements of a certain standard in the field of socially responsible practices and progress in the implementation of socially oriented programs and/or projects implemented by the company in general. An analysis of the non-financial statements of the companies of the Group 2 shows that the culture of formation of such statements in Ukraine is at the initial stage. Most of the companies in this group (10 out of 12 enterprises) submit non-financial information only within the framework of the Management Report, following the structure of which they indicate the environmental and social aspects of their activities, the directions of personnel policy, the results of research and innovation, and development prospects. Taking into account the requirements for the preparation of the Management Report, securities issuers also provide information on the state of corporate governance. The results of the analysis show that most of the companies of the Group 2, when submitting non-financial statements, do not focus on meeting the information requests of different groups of stakeholders. Thus, only 3 companies out of 12 have information on socially responsible practices presented not as part of a standardized document (Management Report), but in other forms of non-financial reporting, in particular in the form of booklets, information sheets, comprehensive reports describing specific projects implemented by the company and presented on its website. Similar trends have been identified in the formalization of projects by stages of value creation. Although all enterprises of the Group 2 indicate compliance with the principles of sustainable development when describing the strategic principles of activity, only 1/3 of them cite the value chain, indicating how the proclaimed Sustainable Development Goals are implemented in business practice. The analysis of the composition of signifiers for socially responsible practices, which are given in the reports of the enterprises of the Group 2, showed that, providing information on the results and plans for various aspects of responsibility, most of them use signifiers formed on the basis of statistical and financial statements of companies (structure of income, expenses, property, capital, financial ratios). International experience in presenting non-financial information, in particular the use of GRI or SASB indicators, is applied only in 3 out of 12 companies. It should be noted that in accordance with the Guidelines for the Preparation of the Management Report [20], enterprises may disclose in the Report other than indicated information about the company and its activities, thereby contributing to the growth of stakeholder confidence and their positive perception of the brand. Although the analysis showed that the information provided by the companies of the Group 2 in these reports is limited to the list of mandatory signifiers (in accordance with the Guidelines) [20]. This indicates the rejection by the management of many Ukrainian enterprises of the main role of non-financial information and the possibilities of its use to form a positive image of the company and trust in it on the part of various groups of stakeholders.

In the course of the study of the systemacy of implementation of socially responsible practices in activities, the activity of companies as to implementation of projects in accordance with the Sustainable Development Goals was considered. For this purpose, information on the composition of the SDGs, which are implemented at the studied enterprises, was used.

The carried out analysis showed that, despite the statements on compliance with the principles of sustainable development, out of 25 companies under study, 16 enterprises indicated the Sustainable Development Goals being implemented, of which 13 belong to the Group 1 and 3 – to the Group 2. Of the 17 SDGs, companies pay attention to the implementation of projects to achieve the following goals: Goal 3. Good health and well-being (12 companies), Goal 6. Clean water and sanitation

(13 companies), Goal 8. Decent work and economic growth (14 companies), Goal 12. Responsible consumption and production (14 companies), Goal 13. Climate action (13 companies). The activity of companies in the implementation of projects and programs for these goals corresponds to the sectoral orientation of their activities. In general, information on the implementation of the SDGs by enterprises from the sample is shown in the Fig. 1.

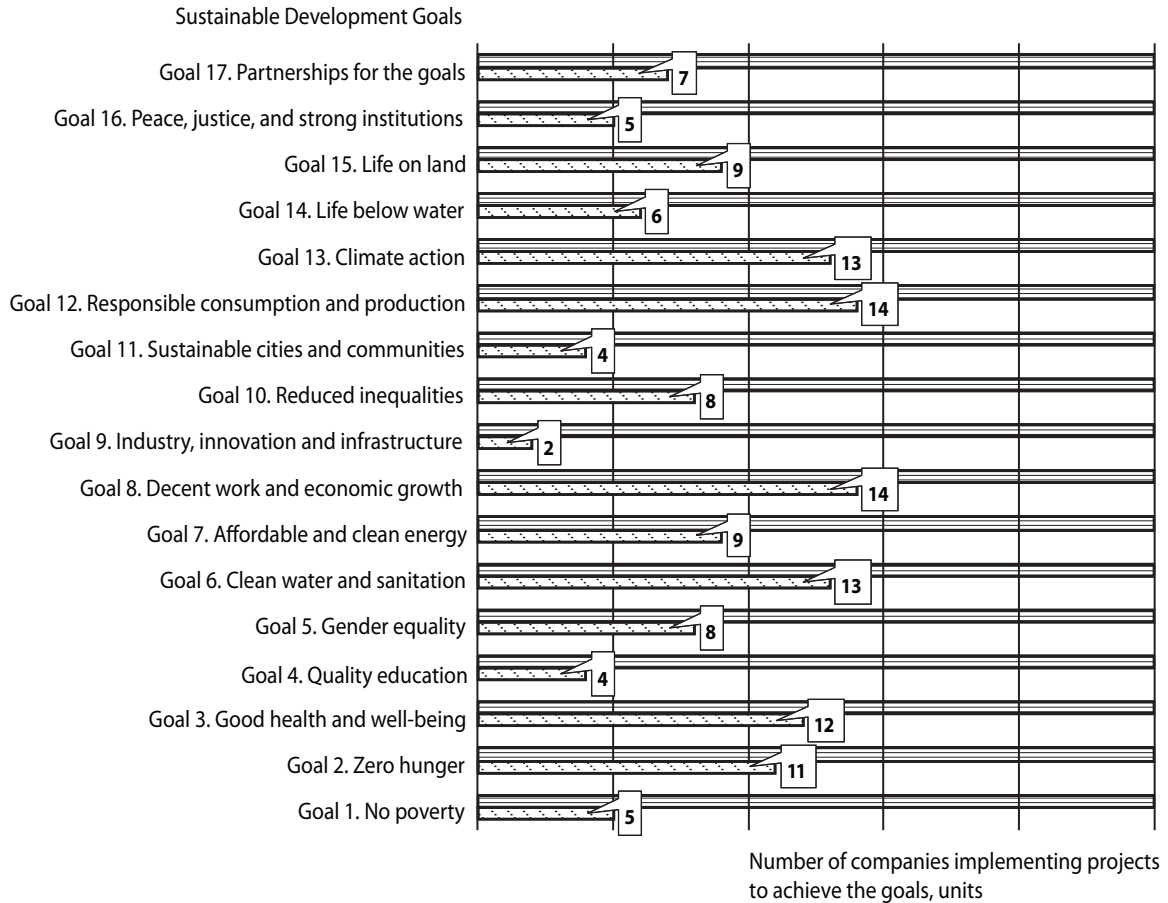


Fig. 1. The Sustainable Development Goals as reported by the companies from the sample

Source: developed by the authors

It should be noted that out of 16 companies that indicated the implementation of the SDGs in business practice, only one was diagnosed with the implementation of all 17 goals. Implementation of up to 8 goals was noted in 8 companies, from 9 to 16 goals – in 7 companies (Fig. 2).

A comparison of projects by groups of enterprises showed that the measures implemented by international companies (Group 1) are more systematic. This is due to their implementation at the global level as part of the implementation of ESG strategies. At the same time, socially responsible practices differ slightly in content, as they are developed taking into consideration the interests of stakeholders, which, regardless of the scale of the company's activities, are implemented at the local level and formalized in the characteristics of product quality, labor safety, biodiversity conservation, and improvement of the quality of life.

The next direction of research on the implementation of the SDGs in practice is due to the understanding that the

Sustainable Development Goals are not separated, but support each other, forming a certain logical connection regarding the succession of their implementation. The logic of this succession is as follows: the successful implementation of environmental projects leads to positive social changes, which, in turn, affects the improvement of economic results and the establishment of partnerships at different levels of community management and economic structures (local, regional, national, global) [21]. Compliance with this succession and compliance of the actual SDGs with their recommended number for the specified links were used as key signs for assessing the complexity of the implementation of the SDGs in practice. The complexity of the implementation of the SDGs is analyzed based on the following succession: environmental projects → social changes → economic prosperity → partnerships for sustainable development. The distribution of the SDGs by stages of this succession is as follows: ecological results are represented by the implementation of projects corresponding to the SDG 6, SDG 13, SDG 14,

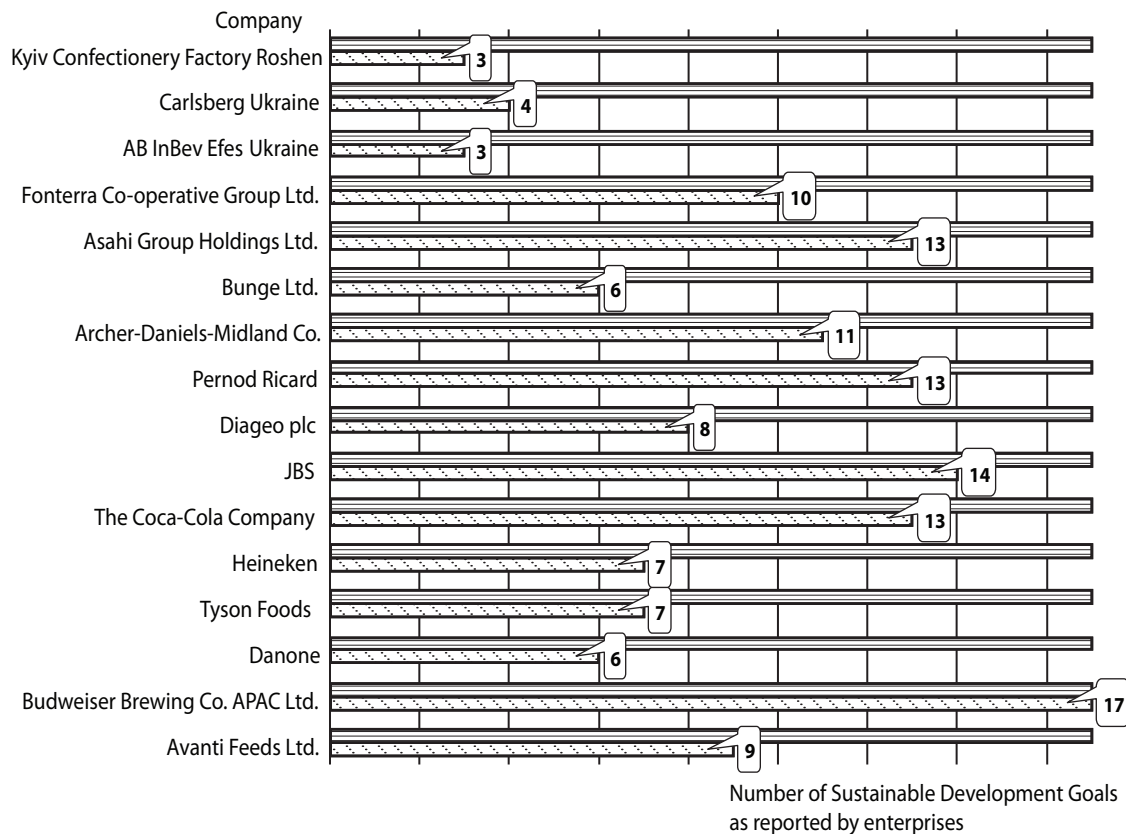


Fig. 2. The number of the Sustainable Development Goals as reported by the companies from the sample

Source: developed by the authors

SDG 15; social change – projects corresponding to the SDG 1–SDG 5, SDG 7, SDG 11, SDG 16; economic prosperity – projects that are in line with the SDG 8–SDG 10, SDG 12; partnerships for sustainable development – SDG 17 [21].

The results of the analysis of the reporting of companies on the implementation of the SDGs showed that the succession «environmental projects → social change → economic prosperity → partnerships for sustainable development» was followed in 7 out of 16 companies. In the other 9 companies, projects are implemented within the limits of only the first three elements of the succession, and measures aimed at achieving the SDG 17 (Partnerships for the goals) are not implemented in the activities of these companies. It is also found that in the course of the implementation of socially responsible measures, priority is given to environmental projects. Each of the 16 companies that reported on the introduction of the SDGs is implementing such projects as part of the achievement of several Sustainable Development Goals, mainly the SDG 6 (Clean water and sanitation) (13 companies) and the SDG 13 (Climate action) (13 companies). The next group in terms of implementation activity consists of projects for achieving the goals related to ensuring the economic prosperity. In this area, projects are implemented primarily in terms of achieving the SDG 8 (Decent work and economic growth) (14 companies) and the SDG 12 (Responsible consumption and production) (14 companies). As for projects aimed at social change, out of the eight areas wherein these projects can be implemented, companies are actively implementing measures to achieve the SDG 3 (Good

health and well-being) (12 companies) and the SDG 2 (Zero Hunger) (11 companies).

Taking into account the results of the assessment of the implementation of the SDGs according to the criteria of organizational support, systemacy, and complexity of implementation, the coefficient of implementation of the SDGs in the activities of enterprises is calculated and a linguistic assessment of the obtained results is provided. In a generalized form, the results of the assessment of the implementation of the SDGs in the activities of the enterprises from the sample are presented in the Table 4.

The next stage of the study is related to the determination of both the non-economic and economic components of the value of the studied enterprises. Since the calculations at this stage were carried out using the method of fuzzy logic, it is important to determine the subsets within the set of «Level of value implementation», along with the characteristics to identify the signifiers used to describe these values (non-economic, economic).

For each of the constituent values of the enterprise, five levels of subsets are allocated. The list of these subsets and the values of the intervals, taking into account the coefficients of implementation of the value of the enterprise (S), are presented in the Table 5.

The signifiers and characteristics used to describe the non-economic (V_{SDG}) and the economic values (V_E) of enterprises are also represented by a combination of five subsets: crucial, low, moderate, high, and very high levels. A description

Table 4

An assessment of the implementation of the SDGs in the activities of the enterprises from the sample

Level of implementation of the SDGs	Enterprises of the Group 1	Enterprises of the Group 2
crucial	–	–
low	–	«Kharkiv Biscuit Factory» PJSC, «Kyiv Margarine Factory» PJSC, «Morshyn Mineral Water Plant «Oscar» PJSC, «Dominic Co» LLC, «Khmilnyk Plant of Skimmed Milk Powder «Milk Visit» LLC, Confectionery Factory «Yarych» LLC
moderate	–	«KCF «Roshen»
high	Avanti Feeds Ltd., Tyson Foods, Heineken, The Coca-Cola Company, JBS, Archer-Daniels-Midland Co., Bunge Ltd., Asahi Group Holdings Ltd., Fonterra Co-operative Group Ltd.	AB InBev Efes Ukraine, «Carlsberg Ukraine», «Obolon» PJSC, «Delta Wilmar Ukraine» LLC, Group of Companies «New Products»
very high	Budweiser Brewing Co. APAC, Ltd., Danone, Diageo PLC, Pernod Ricard	–

Source: developed by the authors

Table 5

Distribution of the set of «Level of value implementation (V)»

Range of values of the coefficient (S)	Name of the subset
$0 < S \leq 0.2$	V_1 – crucial level of value implementation
$0.2 < S \leq 0.4$	V_2 – low level of value implementation
$0.4 < S \leq 0.6$	V_3 – moderate level of value implementation
$0.6 < S \leq 0.8$	V_4 – high level of value implementation
$0.8 < S \leq 1.0$	V_5 – very high level of value implementation

Source: developed by authors based on [23]

for identifying signifiers for these subsets to assess the level of implementation of the non-economic (V_{ESG}) and the economic values (V_E) of enterprises is provided in the Table 6.

As the calculations show, the enterprises of the Group 1 are characterized by higher values of the coefficients of implementation of both the economic and non-economic value. For the 13 companies under study, value implementation meets the characteristics of «moderate», «high», and «very high». For the enterprises of the Group 2, the value implementation coefficients are mostly low. Thus, for 6 out of 12 studied companies of this group, the level of implementation of both the non-economic and economic value is defined as «low» (Tab. 7).

The results of calculations on the coefficients of implementation of the SDGs in the practice of activity and implementation of both the economic and non-economic value by enterprises were used to analyze the correlation between these signifiers. These results are presented in the Table 8.

The calculated correlation coefficients indicate a direct strong relationship between the studied signifiers. The correlation coefficient between the level of implementation of the SDGs in practice and the implementation of the non-economic value of enterprises is 0.82; the correlation coefficient between the level of implementation of the SDGs in practice and the re-

alization of economic value is 0.66. The type and strength of the relationship between these signifiers verify the relevance of the formation of strategies and policies based on the principles of sustainable development and the feasibility of further research in this direction.

The conclusions resulting from the study. The modern functioning of enterprises is associated with the implementation of socially responsible projects and programs that contribute to their competitiveness and stability of results in the long term. The scientific community actively explores the implementation of the Sustainable Development Goals, focusing on various aspects such as impact management, communication with society and stakeholder requirements. In this context, it is relevant to study the implementation of the SDGs, taking into account the sectoral features, scale and practice of enterprises in this direction, as well as the analysis of the relationship between the activity of implementing socially oriented programs and the value created by the enterprise.

Summing up the results of the study on the implementation of the SDGs in the practice of activities, which was carried out according to the data of the aggregate of enterprises operating in the field of production and sale of food products, the following conclusions are made. Enterprises associate long-term

Table 6

Characteristics for identifying signifiers by subsets to assess the level of enterprise value implementation

Signifier	Linguistic variable L				
	L _{a1}	L _{a2}	L _{a3}	L _{a4}	L _{a5}
	crucial level	low level	moderate level	high level	very high level
Characteristics for identifying signifiers by subsets to assess the level of enterprise non-economic value implementation (V_{SDG})					
ESG risk level [15]	The value is very low, due to the high ESG risk (40 points or more)	The value is low, due to the high ESG risk (30-40 points)	The value is moderate, due to the moderate ESG risk (20-30 points)	The value is high, due to the low ESG risk (10-20 points)	The value is very high, due to the very low ESG risk (up to 10 points)
Ranking level	The company implements the SDGs in its activities, but is not included in the rankings	The company is included in the regional ranking for the implementation of the SDGs	The company is included in the national ranking for the implementation of the SDGs	The company is included in one of the world rankings for the implementation of the SDGs	The company is included in several world rankings for the implementation of the SDGs
Level of socially responsible programs and projects	The company implements the SDGs in activities at the local level	The company implements the SDGs in activities at the regional level	The company implements the SDGs in activities at the national level	The company implements the SDGs in activities at the international level	The company implements the SDGs in activities at the global level
Characteristics for identifying signifiers by subsets to assess the level of enterprise economic value implementation (V_e)					
Profitability	The value of the signifier is negative; the negative value increases over time periods; information on the indicator cannot be verified	The value of the signifier is negative; the negative value increases over time periods; information is verified	The value of the signifier is negative; the negative value decreases over time periods; information is verified	The value of the signifier is positive; the positive value doesn't change or changes little over time periods; information is verified	The value of the signifier is positive; the positive value increases over time periods; information is verified
Return on assets					
Return on equity					

Source: developed by authors based on [15; 22]

Table 7

An assessment of the level of value implementation of the enterprises from the sample

Enterprise	Level of value implementation	
	non-economic	economic
1	2	3
Avanti Feeds Ltd.	high	high
Budweiser Brewing Co. APAC Ltd.	very high	high
Danone	very high	moderate
Tyson Foods	high	moderate
Heineken	high	high
The Coca-Cola Company	high	very high
JBS	high	high
Diageo PLC	very high	very high
Pernod Ricard	very high	high
Archer-Daniels-Midland Co.	high	high
Bunge Ltd.	high	high
Asahi Group Holdings Ltd.	high	moderate
Fonterra Co-operative Group Ltd.	high	moderate

1	2	3
AB InBev Efes Україна	high	low
«Carlsberg Ukraine»	high	moderate
«KCF «Roshen»	moderate	high
«Obolon» PJSC	high	low
«Delta Wilmar Ukraine» LLC	high	moderate
Group of Companies «New Products»	high	moderate
«Kyiv Margarine Factory» PJSC	low	high
«Kyiv Margarine Factory» PJSC	low	moderate
«Morshyn Mineral Water Plant «Oscar» PJSC	low	low
«Dominic Co» LLC	low	low
«Khmilnyk Plant of Skimmed Milk Powder «Milk Visit» LLC	low	low
«Confectionery Factory «Yarych» LLC	low	low

Source: developed by authors

Table 8

Results of the study of the correlation between the signifiers of the level of implementation of the SDGs in practice and the value of the enterprise

Signifier	Level of implementation of the non-economic value, V_{SDG}	Level of implementation of the economic value, V_E
Level of implementation of the SDGs in the practice of activity, K	$r_{K, V_{SDG}} = 0.82$	$r_{K, V_E} = 0.66$

Source: developed by authors

development with the creation of value and compliance with the principles of social responsibility in their activities. This is evidenced by the formation of their strategic management system taking into consideration the principles of sustainable development, in particular in terms of substantiating the system of corporate values, taking into account the interests of various groups of stakeholders and organizational support for the creation of these values. The analysis of reporting on the implementation of the SDGs in the activities of enterprises showed that projects and programs of the socially responsible direction of companies are mainly related to the implementation of the Sustainable Development Goals on ecology and responsible consumption. This is due to the sectoral peculiarities of the activities of the enterprises of the studied aggregate. It is noted that in comparison with enterprises of the national level, global companies carry out activities to implement the principles of sustainable development more systematically and comprehensively. At the same time, it is found that socially oriented practices at the local level in both global and national companies are similar. The correlation analysis of the dependency between the level of implementation of the SDGs in practice and the value of enterprises showed a direct strong relationship between these characteristics, which indicates the feasibility of further research in this direction. In particular, prospects for further research are the analysis of the dynamics of the value of enterprises, taking into account the activity and composition of their socially responsible practices.

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