

## THE ALGORITHM FOR RECOGNIZING THE RESULTS OF ESG-BEHAVIOR OF BUSINESS IN FINANCIAL REPORTING IN THE CONTEXT OF THE IMPERATIVE OF ITS TRANSITION TO THE SOCIO-ECONOMIC MODEL

Irina GOLOCHALOVA

Moldova State University, MD2009, Republic of Moldova  
[irina.golochalova@usm.md](mailto:irina.golochalova@usm.md)

Maria COJOCARU

Moldova State University, MD2009, Republic of Moldova  
[maria.cojocar@usm.md](mailto:maria.cojocar@usm.md)

### Abstract

*The research aims to develop a conceptualized approach to presenting information about the ESG-activities of businesses in financial reporting, considering the imperative of transitioning to a socio-economic development model. This research is conducted based on general scientific and specific methods, including comparative analysis, abstraction, and modeling. During the research process, the following steps were taken: analyzed the current trend in Moldova's reporting system concerning the disclosure of information related to business ESG-behavior; identified that the conceptual framework for an innovative approach to financial reporting is based on bridging financial reporting theory with the concept of social responsibility; established a criterion for transforming vague social responsibility into business ESG-obligations and their recognition as part of accounting entities; compared different ways of influencing the impact of a business's ESG-contribution on its capital size and overall cost; developed a 3-stage algorithm for presenting information on a business's ESG-performance in its reporting. The research conclusions include the following: The qualification of Moldova's economy as developing and the state policy of stimulating business as taxpayers are crucial factors that have determined the trend of the national reporting system regarding the disclosure of information on business ESG-contributions to achieve sustainable development goals. The recognition of the outcomes of ESG-behavior of socially responsible businesses as components of accounting entities is contingent upon the authority vested in stakeholders concerning the business's associated ownership. The method of influencing the value of a business through ESG-obligations depends on its recognition as part of the financial reporting elements.*

**Keywords:** *Socio-economic model of reporting; information usefulness; socially responsible business; accounting methodology; ESG-indicators.*

**JEL Classification:** G32; M14; M41; Q56.

### I. INTRODUCTION

It is a well-known fact that all business results must be reported to the public on a regular basis. Financial reporting is a tool that allows you to translate the results achieved. Stakeholders are shown reliable information about the actions of the business through certain financial indicators, based on which the effectiveness of the adopted business model is assessed and the prospects for its implementation are determined.

Obviously, financial reporting data contributes to building relationships between business owners and investors, as well as other stakeholders. Meanwhile, under the impact of new social ties and economic relations, the development of the "green" economy, and the introduction of information technology, the demands and views of stakeholders have changed significantly. Today, they are interested in information that describes not only the results of the business, but also its achievements for the purposes of sustainable development.

Traditionally, for business owners, the most important is the financial indicator of the profit received. Nevertheless, modern economic realities are such that business participants have become owners of non-financial resources (human, natural). Undoubtedly, they are interested in accounting data reflecting the recognition and execution of their rights, namely: the value of their invested non-financial capital, the amount attributable to their share, the profits earned, and finally, the contribution to the maintenance of the amount of non-financial capital, losing its value in the process of use. This circumstance has led to the transition to an innovative model of financial reporting - socio-economic, the imperative of which is predetermined by the reasonable demand of non-financial participants in business for the disclosure of useful information for them. At the same time for this transition, it is necessary to have a conceptual basis, combining the theory of reporting and special concepts.

The modern concept of financial reporting provides a combination of economic and legal approaches, the use of which is aimed at the formation of useful information, primarily focused on the interests of owners as the main group of users.

However, the phenomena caused by the interaction of business with society and the environment, at first sight, have no legal justification and economic sense, which excludes the presentation of the result of these phenomena in the financial statements. At the same time, the accounting methodology, through its valuation mechanism, facilitates the transformation of economic, financial and business transactions into accounting entries. These records are then summarized, and already in the form of financial statements, the accounting information is presented to stakeholders. This means that accounting methodology has given the lead role to the person concerned, so financial reporting is a synthesis of human activity. On this basis, it follows that it must present measured (cost) economic and financial information about the results of any human activity (Pérez-Benedito, 2022).

The absence of such information indicates a contradiction in accounting methodology, the key element of which is currently the concept of financial capital, while today's realities require a transition to its expanded interpretation - associated capital as a source of all business resources: financial and non-financial. A special concept, the Concept of Social Responsibility, orientates business towards the fulfillment of its responsibility to the non-financial contributors of associated capital - society and the environment.

In the context of the implementation of its provisions, many organizations initially began to prepare a report on sustainable development, according to the Global Reporting Initiative (GRI), which is widely distributed. This report is important because it provides additional information beyond traditional financial reporting. With this information, stakeholders can make judgments about the sustainability of the business model and plan for the business to achieve its sustainability goals. However, there are doubts about the ability of this report to convey relevant information transparently and accurately to stockholders and other stakeholders, and, consequently, there is a significant lack of public confidence in this report, for example, in the UK and in most European countries (Wilson, 2021).

Subsequently, in the context of adopting the Principles for Responsible Investment, a triad of ESG-indicators (Environmental, Social, and Corporate Governance) was developed. ESG-triad is designed to demonstrate the contribution of business in the development of society and the maintenance of the environment, and is designed for investors to assess the risks, opportunities and prospects of interaction with the business.

However, the format for presenting ESG-information is adapted to the format of the Sustainability Report and differs from it only in the level of detail of the information. Along with this circumstance, the absence of a single evaluation criterion for ESG-indicators of business breaks their connection with the financial indicators formed by the accounting system.

To solve the problem of the usefulness of information for the owners of all resources used by the business, integrated reporting is aimed at disclosing information about the value of financial, social, natural and other types of capital, the ESG-contribution of business in their maintenance, and finally about their impact on the growth of total capital. However, in the absence of a unified methodology for the valuation of all forms of capital, this kind of information is additional to that presented in the financial statements. In addition, there is a lack of a clear set of parameters for the format of disclosure.

Thus, the most important circumstance for changing the format of business financial reporting is the transition to a new development paradigm, which determines the revision of the criteria of usefulness of the information field of reporting, the rules of its preparation, principles and methods of accounting the results of economic events. The solution to the problem of recognizing the results of ESG-behavior of socially responsible business (hereinafter, SR-business) in financial reporting and its transition to the socio-economic model, should be sought in the plane of improved accounting methodology. Innovative accounting methodology must:

- facilitate the reflection of societal progress, socio-economic development and the development of the individual business (Kaz et al., 2020);
- provide for the assessment of social responsibilities based on the implementation of a unified concept of social responsibility (Geva, 2008);
- follow the principles of mandatory accounting law, balance between the three types of capital (financial, human and natural) invested in the business, and accordingly, the parity of profit distribution (Richard & Altukhova, 2017).

In this context, the authors put forward the following hypotheses:

*Hypothesis H1* – The prevailing trend of information disclosure concerning business ESG-behavior in the reporting system of the Republic of Moldova does not meet the demands of the socio-economic development paradigm.

*Hypothesis H2* - The criterion for recognizing the results of the ESG-behavior of SR-businesses as accounting objects and translating them into financial statements is the power over property.

*Hypothesis H3* - ESG-contribution of business affects its value: recognized in the accounting objects directly, qualified as internally generated goodwill - indirectly.

The article is structured as follows to substantiate the proposed hypotheses: Section II – Literature review, Section III – Research methodology, Section IV – Results and discussions and Section V – Finding and conclusions.

## II. LITERATURE REVIEW

Since the end of the XX-th century, there has been widespread discussion in academic and professional circles of the problem of reporting on the performance of social responsibility by business in the face of the contradiction between its egoistic goal of infinite growth of financial capital and the quintessential associational ownership used to achieve this goal. The discussion has become particularly intense since the beginning of the XXI-st century in the context of the recognition of the need to assess the contribution of business to the maintenance of the environment for the purposes of sustainable development. Some of the works are methodological in nature, while others aim at empirical research. One of the main issues for theorists of this period is the format of disclosure in business reporting in the context of sustainable development goals.

### 2.1 Natural of Methodological

A conceptual approach to reforming the format of financial reporting is followed by Wilson, whose work emphasized that more than 78% of the created value is associated with intangible assets, the source of formation of which is human and institutional capital (Wilson, 2021). Meanwhile, he points out that human capital, embodied in skills and knowledge, is weakly tangible, and social capital even less so, since it arises as the result of relations between social subjects. Limited tangibility creates problems of reliability of their measurement and, consequently, the usefulness of financial reporting. According to Wilson (2021), to resolve this problem the accounting community requires a contribution to theoretical research and on its basis to develop practical tools that will ensure the reliability of information in financial statements.

In this context, the article by Imaningati et al. (2022) is worthy of attention, which notes that the accelerated development of business has led to increased demands from stakeholders for completeness of information on their performance of social responsibility, which must be presented in financial statements. Their judgment is justified by the fact that it is quite costly for stakeholders to study one report after another, first financial and then sustainability. They need comprehensive information presented in combined reporting, which should include information both translatable from financial statements and on the results of the ESG-behavior of the business. However, this requires the formation of a conceptual framework, the basis of which will be the measurement of new forms of capital.

Among the theorists who analyze changes in the reporting format stand out Ofurum and Ngoke (2022). In their opinion, the first step to reform reporting in order to increase its usefulness and provide reliable information about the economic value created by the business is the identification of the users interested in it. Identification as a logical technique provides an interaction between the users of information and the economic values created, in the absence of which the usefulness of reporting is reduced and its content does not meet its stated purpose.

The work of Murni et al. (2022) in which the question of capital structure optimization is investigated deserves attention. The authors proceed from the judgment: capital structure optimization is necessary if its changes affect the value of the business. The capital structure is considered optimal if it can maximize the value of the business at a certain level of risk. To evaluate how effectively the capital of the owners of the business is used, you can use the ROE - return on equity.

Since business capital consists of financial contributions from shareholders and non-financial capital (human, social, natural, etc.) involved in the creation of associated property, ignoring the value of non-financial capital will distort the ROE and risks in making investment decisions. In this context, it is appropriate once again to return to the work of Ofurum and Ngoke (2022), who proved the positive relationship of human and natural capital appreciation with such financial indicators as ROE and ROA (return on assets).

As part of the discussion on this topic, let us turn to Alves' research, which consists of an analysis of the relationship between the structure of corporate ownership and the structure of capital. The author emphasizes that "...different ownership structures can lead to differences in the capital structure, which will reflect different rights associated with different types of owners. This capital structure, in turn, may have a greater or lesser impact on the financial reporting process" (Alves, 2020). In her view, capital structure depends on the type of organizations, but its key components should be recognized as: 1) the aggregate of equity held by the shareholder, 2) the share of equity held by managers, and 3) the share of equity held by institutional investors. One cannot but agree with this point of view. Hence, the three-component structure of business ownership: production, intellectual and institutional components.

### 2.2 Empirical Nature

The essence of other discussions comes down to the practical aspect of solving the outlined problem, namely the presentation of information about human and natural capital in financial statements. So, the source of the emergence of a set of intangible assets is intellectual capital, which is represented by three types: human, structural, and relational (Imaningati et al, 2022). It should be noted that such a division somewhat contradicts the idea of integrated reporting and is generally quite controversial. The authors of this study do not aim to qualify the type of capital from the position of strategic management.

**Table 1.** Classification groups of intellectual capital and their assessment indicators

| n/n | Intellectual Capital Group | Indicators for assessing the qualifying type of intellectual capital   |
|-----|----------------------------|--|
| 1   | Human Capital              | Number of employees; Employee education and training; Type of work-related training; Employee turnover; Education level; Employee qualifications; Employee knowledge; Employee competence  |
| 2   | Structural Capital         | Vision and mission; Code of conduct; Patent; Copyright; Trademark; Management philosophy; Organizational culture; Management process; Information Systems; Network System; Corporate Governance; Breach reporting system / Whistle blowing system; Comprehensive performance analysis; Debt repayment ability; Capital structure |
| 3   | Relational Capital         | Brand; Customer; Customer loyalty; Company name; Distribution Network; Business Collaboration; License agreement; Profitable contracts; Franchise Agreement; Award; Certification; Marketing strategy; Market Share  |

Source: Adapted after Imaningati et al. (2022)

Nevertheless, the clear grouping of indicators proposed by Imaningati et al. (2022), identifiable with a specific highlighted type of capital, deserves attention. Obviously, some of these indicators cannot be reliably valued, and, consequently, reporters will find it difficult to report on the ESG-behavior of the business and assess its contribution to maintaining sustainable development. In this context, researchers noted that the qualitative state of research is limited by the application of a quantitative method of measuring intellectual capital.

Tsibulnikova's article focuses on the development of a conceptual approach to the reflection of natural capital in financial statements. In her opinion, since recently there has been an increase in the influence of natural capital on business results, its evaluation is predetermined. In this regard, the basis of the proposed approach to the reflection of natural capital in the composition of accounting objects are principles: the clear boundaries of its evaluation; the variability of its state, the recognition of its involvement in circulation; its value measurability (Tsibulnikova, 2020). One cannot but agree with Tsibulnikova's opinion about the important role of the principles she highlights. In fact, their observance predetermines the opening of natural capital accounts, its recognition as an element of financial reporting, which serves as a prerequisite for assessing the ESG-contribution of business in achieving sustainable development goals. Dmitrieva (2022) makes a similar judgment. From her point of view, in order to make information available to decision makers on investments, it is necessary to develop an accounting model for natural capital, which involves the collection of comparable and regular data on natural capital as a source of natural assets and flows of created services. This requires a cost estimate of natural capital, based on which it is possible to calculate the contribution of the environment to the business and vice versa - its ESG-contribution to the recovery of impairment or degradation of natural capital.

Other scientific works are devoted to the assessment of the ESG-contribution of business through the implementation of the concept of social responsibility. As Geva (2008) rightly points out, the concept of social responsibility of business that does not include a condition for measuring social responsibilities loses its integrity and purpose. A single scale for their evaluation unifies and harmonizes existing theories of social responsibility (Chen et al., 2021).

The special significance of using cost-related indicators of social responsibility performance lies in the context of empirically proven impact of socially responsible management on:

- environmental behavior of employees and business sustainability (Al-Amin et al., 2021);
- corporate financial indicators such as ROA, ROCE and Tobin-Q, whose value improves when the ESG-indicators of business are increased, which are interpreted as factors of investment decision due to their positive correlation with business value (Almeyda & Darmansya, 2019);
- business reputation (Chen et al., 2021), and, therefore, on its value as a whole.

However, such evaluation will be effective only if the social responsibility of business is institutionalized (Al-Amin et al., 2021). Otherwise, the business has no legal obligation for the quality and quantity of ESG-indicators, and, therefore, for the consequences of decisions made on their basis.

Most studies focus on assessing the impact of the ESG-contribution of a business on its value as a whole. In this regard, two approaches are used in assessing the correlation between ESG-indicators and business value:

- based on the comparison of costs (investment in human capital, waste reduction and energy conservation) and revenues (gaining customer loyalty, creating new market opportunities) associated with the ESG-behavior of the business. In this case, the assessed contribution directly affects the change in the business' value of capital (Lee & Suh, 2021);
- based on the valuation of the market value of the company's common stock, and which indirectly demonstrates the relationship between ROA and ROE with ESG-indicators (Ahmad et al., 2021).

Nevertheless, according to Lee and Suh (2022), and to date the vast majority of research results in the field of ESG-behavior and its impact on financial performance remain inconclusive, in the absence of a common standard on both the order of reporting, and on its parameters.

In order to overcome the difficulties associated with measuring intangible human capital and even less tangible, social capital, the Social and Human Capital Protocol was developed. It recommends four basic principles



to guide the development of a social and human capital reporting approach ([Social & Human Capital Protocol, 2021](#)):

- the information must be relevant to the business and stakeholders;
- the method of measurement must be appropriate and identify reliable data, reporting must meet the characteristics of completeness, transparency and accountability;
- indicators must be consistent and measurement methods must be compatible within a particular business.

It is expected that the implementation of this protocol will produce quantitative, qualitative and monetary indicators that will help to reliably assess the socio-management contribution (SG-contribution) of business in achieving sustainable development goals.

Existing shortcomings with regard to assessing the state of natural capital used by business and society as a whole have necessitated the development of a specific natural capital accounting system that is designed to provide an integrated framework for accounting for ecosystems and their services. These are the document acts "System of Environmental-Economic Accounting 2012: Central Framework" ([SEEA-CF, 2012 standard](#)) and "SEEA - Ecosystem Accounting" (final standard 2021). They contain:

- guidelines for the identification of types of natural capital, classification of ecosystem services, rules and principles of accounts, application of asset and sweat accounts ([System of Environmental-Economic Accounting 2012: Central Framework, 2012](#));
- and minimum requirements for determining significant impacts and dependencies, documenting accounting data and making accounting entries, calculation process, regarding the content of the Balance ([System of Environmental-Economic Accounting-Ecosystems Accounting, 2021](#)).

Moreover, the implementation of SEEA-EA will provide an assessment of the environmental contribution (E-contribution) of business in achieving sustainable development.

Undoubtedly, all of the above-mentioned studies make a significant contribution to resolving the problem. Meanwhile, their common phenomenon is that they more reflect the request to adapt the requirements of the concept of sustainable development to the ESG-triad disclosures ([Evlakhova, 2022](#)), rather than reforming the theory of financial reporting. And the question of recognizing the results of ESG-behavior of the business in financial reporting in the context of the imperative of its transition to the socio-economic model is still open.

### III. RESEARCH METHODOLOGY

This research is conducted on the basis of general scientific and special methods: system approach, comparison, analysis, synthesis, modeling, study of special literature. The application of the system approach is manifested in the rational combination of certain scientific methods aimed at building a research methodology: formulating the problem, proposing hypotheses and their justification, and finally developing a mechanism for recognizing the results of ESG-behavior of business in financial reporting in order to achieve sustainable development.

A logical approach was also used as part of the development of the research methodology for the problem. The basis of the developed methodology are the methods of content analysis, comparison and analysis, modeling. So on the basis of the method of:

1. analysis an evaluation of the factors determining the trend in the reporting system of the Republic of Moldova regarding the disclosure of information on ESG-behavior business has been conducted (Fig. 1, Fig. 2); the reasons for the emergence of the concept of social responsibility and established the nature of its impact on the content of business reporting, the point of convergence between the concept of social responsibility and the methodology of accounting, identified the criterion for the recognition of ESG-behavior of business as elements of financial reporting (Fig. 3);

2. content analysis of the provisions of the legal and regulatory framework of the Republic of Moldova in the field of accounting and reporting is substantiated the necessity for its modernization (Tabel 2);

3. comparison, interpreted the concept of social responsibility on the basis of an assessment of its three directions, characterized the current state and identified the prospects for improvement;

4. modeling, an algorithm has been developed with the help of which visualization of the evidentiary format of the hypotheses put forward is achieved and which is a form of presentation of the developed mechanism of recognition of the results of ESG-behavior of the business (Fig. 4).

In the process, the authors were guided by the methods of:

- induction, the application of which made it possible to propose hypotheses;
- synthesis, which made it possible to formulate conclusions and argue the hypotheses put forward;
- abstraction, which was used to assess the point of convergence between the concept of social responsibility and financial reporting methodology;
- economic analysis and its tools, on the basis of which the methodology of research of problems of recognition of the results of ESG-behavior of the business was developed.

To achieve the purpose of the study, the authors studied the documentary acts in the field of evaluation and accounting of social and natural capital, the Conceptual Framework for the preparation of financial statements, the works of famous scientists published in scientific journals, indexed in Scopus and other databases, and as monographs. Official materials of the Republic of Moldova, including legislative acts and data from the National Statistical Bureau for the year 2021, were utilized to form the evidentiary basis for the hypotheses.

To achieve the goal, a research design has been developed, comprising the following elements:

- 1) Identification of the factors determining the trend of disclosing information on business ESG-behavior in the accounting and reporting system of the Republic of Moldova;
- 2) Identification of rights and type of social responsibility of business in the context of its ESG-behavior;
- 3) Interpretation of the order of recognition of ESG-results of business as elements of financial reporting;
- 4) Selection of the method of evaluation of ESG-impact of business on its value as a whole.

#### IV. RESULT AND DISCUSSION

The importance of the usefulness of financial reporting information is reinforced in the context of responsible investment decisions. The implementation of the principle of usefulness is possible on the basis of an innovative mechanism for presenting information on ESG-behavior of business - the methodology of ESG-contribution assessment of SR-business and its recognition as elements of financial reporting. In the context of the identified research problem, let's conduct an analysis of the factors determining the trend of disclosing information on ESG-behavior in the financial reporting of existing enterprises in the Republic of Moldova (RM) to assess their contribution to sustainable development.

##### 4.1 The conceptual interpretation of the trend of disclosing information on ESG-indicators in the business reporting of the Republic of Moldova

It is known that the trend regarding national development and monitoring of information on the achieved effect is set by strategic acts. In the Republic of Moldova, such an act is the Government's Strategy "European Moldova-2030", which is based on the concept of sustainable development used by the European Union (EU) countries. The European Moldova-2030 Strategy prioritizes the development and maintenance of social and natural capital through their effective management. It is obvious that monitoring of information on the realization of the set goals will require adequate disclosure of it both in the reporting of business and - and institutional structures.

This fact is an argument in favor of the importance of the transition to the socio-economic model of financial reporting of the accounting system of RM. One of the circumstances predetermining the trend of ESG-behavior disclosure in reporting is the qualification of Moldova's economy as a developing one. This qualification is confirmed by the evaluation of the development level of RM according to the World Bank's World Governance Indicators (Golochalova et al., 2023). This circumstance negatively affects the understanding of the imperative to disclose this type of information. After all, in countries with relatively unfavorable economic conditions, businesses, confronted with political instability, weak regulatory systems, low rule of law and high levels of corruption, pay little attention to social initiatives in an effort to maximize their profits. In turn, society is insufficiently informed about the causes and extent of social problems.

Now, in order to strengthen the evidentiary basis of the judgment, let us review the current state of the composition of the enterprises operating in RM, taking into account their economic activity. In this context, official information prepared by the National Bureau of Statistics (hereinafter, NBS) and presented in Table 2 and Figures 1, 2 is used.

**Table 2.** Overview of enterprises in the Republic of Moldova by types of economic activities and in terms of the real and financial sectors for 2021

| Types of economic activities   | Number of enterprises, unit | Share of enterprises, % | Gross output in basic prices, thousand lei | Gross value added, thousand lei |
|--|-----------------------------|-------------------------|--|---------------------------------|
| Agriculture, forestry and pisciculture, including: foreign participation   | 3,638<br>36                 | 8.67                    | 49,656,676                                 | 25,118,853                      |
| Mining and quarrying and manufacturing industry, including: foreign participation  | 3,820<br>725                | 9.11                    | 69,114,411                                 | 23,730,793                      |
| Electricity, gas, steam and air conditioning supply, water supply; waste management and remediation activities, support service activities, including: foreign participation | 1,881<br>17                 | 4.48                    | 21,053,139                                 | 9,368,922                       |
| Construction, including: foreign participation   | 2,774<br>376                | 6.62                    | 42,403,522                                 | 19,730,132                      |
| Wholesale and retail trade; repair of motor vehicles and transportation, including: foreign participation  | 18,545<br>185               | 44.23                   | 77,994,500                                 | 46,236,524                      |
| Information and communication, including: foreign participation  | 2,154<br>49                 | 5.15                    | 18,410,710                                 | 13,245,010                      |

|   |                 |       |             |             |
|---|-----------------|-------|-------------|-------------|
| Real estate activities, including: foreign participation                            | 4,436<br>45     | 10.58 | 25,008,830  | 19,128,082  |
| Professional, scientific and technical activities, including: foreign participation | 3,897<br>×      | 9.30  | 6,754,248   | 4,331,002   |
| In the real sector of the economy   | 41,145          | 98.14 | 310,396,036 | 167,129,318 |
| Financial and insurance activities, including: foreign participation                | 778<br>12       | 1.86  | 10,335,088  | 6,930,711   |
| <b>Total, including: foreign participation</b>                                      | 41,923<br>1,441 | 100   | 320,731,124 | 167,820,029 |

Source: compiled by the authors based on the NSB

According to Table 2, in 2021, almost half (~45%) of all operating enterprises of RM employed in the economy belong to the service sector, type of activity wholesale and retail trade and repair of motor vehicles and transport. It is known that the contribution of this type of activity to the development of the economy compared to the contribution of the industrial segment of the real sector is always insignificant.

Using the aggregated data of Table 2 and calculating the Gross Value Added (GVA) for each economic activity, we will prepare a diagram (Fig. 1), the purpose of which is to visualize the evidence base of the qualification of the economy of RM as a developing economy.

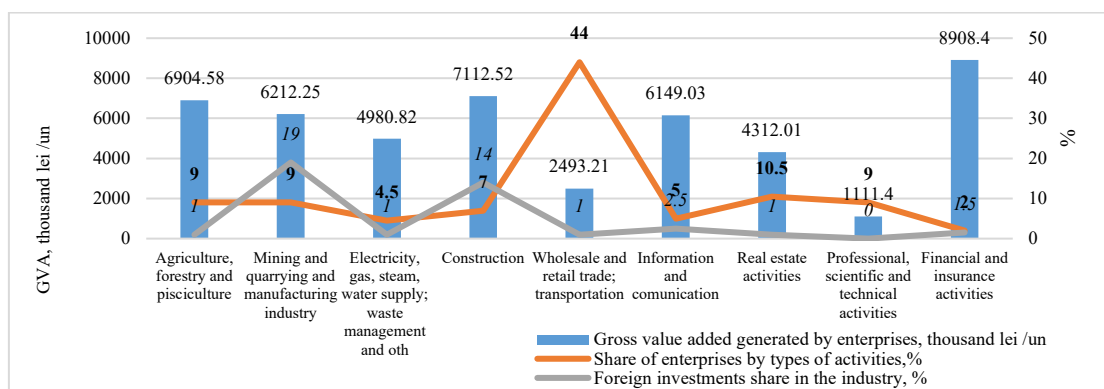


Figure 1. The relationship of enterprises' contributions by types of activities to the GVA of the Republic of Moldova for 2021

Source: compiled by the authors based on the NSB

The diagram shows that the greatest contribution to the formation of GVA is made by the enterprises of the real sector of RM engaged in agribusiness (6,904 thousand lei/un) and in construction (7,112 thousand lei/un), while their share in the aggregate of operating enterprises is insignificant (see Table 2). An asymmetric effect is observed with regard to trade enterprises: the lowest contribution value (2,493 thousand lei/un) with the highest share in the real sector – 44.23%. To strengthen the argumentation, we will compare the segmented shares of the real sector of the Moldovan economy and the economies of several EU countries, geographically and socially related to it. The evidence base is visualized and in this part is represented in Fig. 2, based on three segments of the real sector of the economy: services, construction and industry.

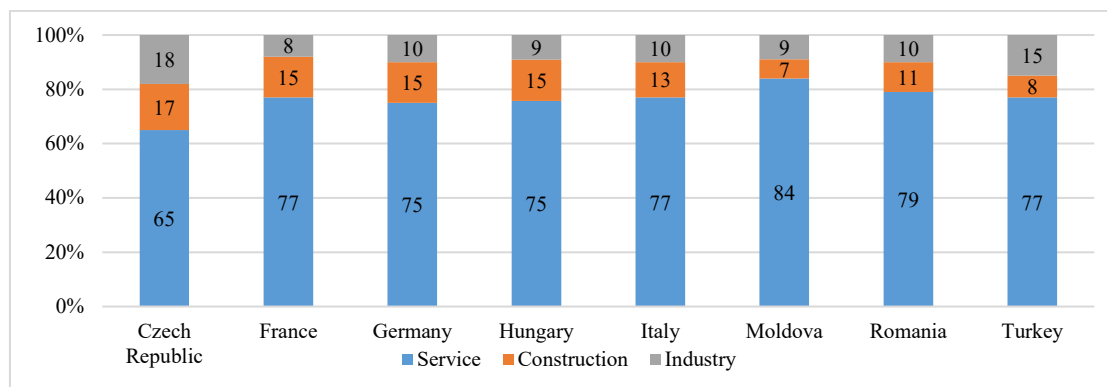


Figure 2. The share of segments in the real sector of the economy of EU countries and the Republic of Moldova for 2021

Source: compiled by the authors based on the NSB

Fig. 2 shows that in 2021, at EU level, on average 74% of all enterprises employed in the economy belonged to the services sector. In terms of contribution to economic development, the services sector is the least important (65%) in the Czech Republic, traditionally belonging to the industrialized countries of the EU, and the largest (84%) in the Republic of Moldova. Obviously, the share of the other two segments in Moldova is negligible (7% - construction, 9% - industry).

The asymmetric approach in structuring the real sector of the economy of RM inevitably leads to a low level of its economic development. The above-mentioned serves as a justification of the judgment about the qualification of the economy of RM as a developing economy.

Let us now focus on the requirements of the RM accounting and reporting legal framework with respect to the disclosure of ESG-behavior of the business in the financial statements. Thus, according to Law No. 287 of 15.12.2017 on Accounting and Financial Reporting (hereinafter, Law No. 287), financial statements are prepared in accordance with the National Accounting Standards (hereinafter, NAS):

- by micro entities - abbreviated;
- by small enterprises - simplified;
- by medium and large entities – full (article 5).

Public interest entities (financial and insurance companies) prepare financial statements in accordance with IFRS, the concept of which flexibly responds to the requirements of the transition to a socio-economic model of financial reporting.

Quantify the business, reporting that meets the current trend of ESG-behavior disclosure. In this context, it is appropriate to emphasize that the Law No.287 provides for the possibility to choose IFRS reporting by all the listed entities engaged in the real sector of the Moldovan economy.

Official data from the NBS informs that in 2021, the number of SMEs is 98.7% of the total number reporting. Actually, this trend has been observed since 2017.

Meanwhile, preparers of condensed or simplified financial statements often do not have the professional competencies and skills to prepare IFRS financial statements. This means that in Moldova, companies with foreign capital (1,441 units, see Table 2), as well as financial and insurance companies (778 units, see Table 2), demonstrate an understanding of the concept of corporate social responsibility and the essence of the ESG-indicators triad. Total – 2,220 units.

At the same time, the Law No. 287 provides for the annual preparation and submission of non-financial reports together with financial reports - Management Report of medium, large and public interest entities (Article 23).

This report is intended to provide information on the interaction of the business with the social and environmental environment in terms of:

- the non-financial performance indicators that are significant to the entity's operations;
- the main risks and uncertainties faced by the entity;
- protection of the environment and professional capabilities of employees.

However, the share of medium-sized companies submitting the Management Report is insignificant. Total - 980 units. This indicator is calculated as follows:  $(41,923 - 2,220) \times 0,987 \times 0,025$ , where: 2,220 units - companies reporting under IFRS and Management Report (see Table 2); 2.5% - the share of medium-sized companies in the SME sector of RM.

The share of large businesses in RM is only 1.3% and they are usually foreign-owned enterprises. Thus, according to the obtained assessments, in the Republic of Moldova, there are very few companies, about 3,200 (7.7%) out of their total population of 41,293, that produce non-financial reports.

It should be noted that some companies from the financial sector ([Moldova Agroinbank-Maib](#)) and with foreign capital ([Kaufland Moldova](#)) prepare GRI-reporting on a voluntary basis, focusing on ESG-impact and methods of their assessment. Meanwhile, this fact is an exception to the trend adopted in the national reporting system to disclose information on ESG-indicators of business.

The obtained results of the study testify to the fact that the national legislation of the Republic of Moldova in the field of accounting and reporting corresponds to the course of state policy to stimulate business as a taxpayer. And, consequently, the reporting system does not yet provide for the presentation of information on ESG-contribution of business to the achievement of sustainable development goals.

The above is the third circumstance that determines the current trend of RM with regard to the understanding by business and society as a whole of the "philosophy" of ESG-behavior. The above justifies *Hypotheses 1*. However, this does not mean that the transition to a socio-economic reporting model is excluded in RM. There is a known way to modernize reporting as a convergence of financial and non-financial reports based on a critical analysis of their differences and development of an appropriate conceptual platform.

One of its components is the mechanism for representing the results of ESG-behavior of business in the financial statements that meet the objectives of sustainable development.



**4.2 Conceptualization of the mechanism for representing the results of ESG-behavior of business in the financial statements that meet the objectives of sustainable development, and its step-by-step characterization**

The indicated mechanism required comprehension of the concept of social responsibility and assessment of the possibility of adapting its provisions to the methodology of accounting, and is represented by a 3-step algorithm.

In the first stage of the developed mechanism, the authors considered three theories of social responsibility of business, forming a common concept:

1) Freeman's stakeholder theory, in which: qualified as stakeholders those parties whose lives are touched by business actions; stakeholder groups are identified and characterized: owners, employees, customers, suppliers, government, and society; defined business responsibility as the desire to provide benefits for all stakeholders; and it is indicated that the degree of validity of stakeholder demands to a business determines the nature of its social responsibility;

2) Carroll's pyramidal model of social responsibility, according to which the types of responsibility are arranged in descending order of their importance in the process of creating business value: at the bottom - economic, next - legal, then - ethical and crowns the pyramid - philanthropic;

3) the triple line of success - Elkington's TBL theory, according to which economic interests should guide businesses not only to maximize profits, but also to improve their own social and environmental conditions by using a part of their profits to maintain social and natural capital to achieve sustainable development.

The result of comprehension of each of the theories of social responsibility and its concept as a whole is the definition of social responsibility proposed by the authors.

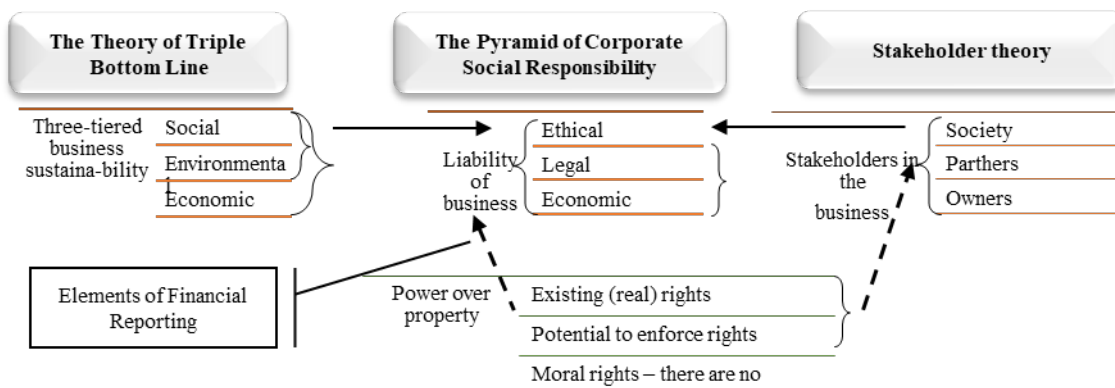
It is the result of social ties in which each macroeconomic actor recognizes and fulfills a duty to the associated property participants, and is economically oriented to support public demand for values that qualify as socially significant (Golochalova et al., 2023).

Based on this definition, the type of social responsibility is identified by answering the questions: *Are stakeholders' demands on the business legitimate? What rights do they have with respect to the actions of the business?*

Before the owners of property rights business recognizes the obligation to execute them (Golochalova & Cojocaru, 2022a), and thus social responsibility, losing the uncertainty, qualifies as legal and economic.

There is no doubt that society, as a separate group of stakeholders, is generally interested in the results of business. However, the public interest is interpreted as ensuring welfare and stability, which provides no legal justification for recognizing any rights-requirements of society to a business that may voluntarily assume ethical responsibility. Such stakeholders are accorded moral rights that remain at the level of abstraction, although they provide opportunities to participate in the decision-making process.

The authors identify the following attributes of moral rights: represent non-property powers; are the consequence of corporate actions; are subjective in nature, manifest in the future and are not reliably measurable (Golochalova et al., 2023). The authors see the solution to the problem of recognizing the results of the ESG-behavior of a business in financial statements in the clear identification of its social responsibility and attributing it to a particular type of obligation. Identification of social responsibility of business is a methodological procedure to facilitate the transition to the socio-economic model of financial reporting. A summary of the above first stage of the methodology for recognizing the results of ESG-behavior of business in financial statements is presented in Fig. 3.



**Figure 3.** Scheme of interaction of the three theories of social responsibility and the point of their convergence with the concept of financial reporting

Source: Adapted after Golochalova & Cojocaru (2022b)

Its track is to establish the powers and rights of stakeholders over associated business ownership, which serve as a point of convergence between the concept of SR-business and the economic theory of financial reporting (the justification of *hypothesis H2*).

The task of the second stage of the developed mechanism is to get an answer to the following questions: *Are the financial statements translating information about the results of the ESG-behavior of SR-business? What accounting objects should include the results of the ESG-behavior of the business?*

At the same time, the author's approach focuses on the identification of stakeholders' rights with respect to ESG-resources used in the creation of associated business property. It is known that the system of property relations has two aspects: the legal aspect is aimed at qualifying the rights of stakeholders (either for a share in the business or for compensation for transferred resources), and the economic aspect is realized in the assessment, increase and distribution of economic good among all participants in property relations.

Accounting methodology involves the legal codification and evaluation of the economic content of a business's property obligations, followed by their recognition as accounting objects - the equity or liabilities of the business. This scheme corresponds to the current concept of financial reporting, according to which ([Conceptual Framework for Financial Reporting, 2018](#)):

- financial statements are prepared using economic and legal approaches;
- the range of users of financial statements includes, as a major group, the owners (potential and existing), creditors, suppliers and customers, employees, the state in the face of tax authorities, the public;
- financial statements translates information about the state of the financial reporting elements.

Provided there is no legal and economic justification (recognition criteria), information about the results of ESG-behavior is disclosed additionally in non-financial statements. The track of this stage of the mechanism is to establish a scheme for presenting information on the performance of ESG-obligations of the business in its reporting.

The third stage of the mechanism, which essentially fixes the transition to the socio-economic model of financial reporting, is designed to answer this question: *How does the information translated by reporting on the ESG-contribution of business in achieving sustainable development, impact the decision to invest, including social?*

The implementation of the concept of social responsibility involves increasing the profitability of the business and improving its reputation, and thus an increase in the value of the business as a whole. As you know, the value of a business is an investor's perception of its level of success, which is usually related to the market price of the stock. High stock prices make the value of a business high, but they cannot increase stakeholder confidence going forward. In this case, trust is ensured by maximizing profits as the main goal of the business. The financial indicators generated by the accounting system demonstrate increased profitability.

Thus, the increase in associated capital, indicating an excess of income over expenses, including those related to the execution of the ESG-obligations of the business, directly affects the value of the business.

Reputation is created by a business as a result of its ethical responsibility with respect to the moral rights of stakeholders, and is treated as internally generated goodwill (badwill), which cannot be included in intangible assets due to non-compliance with the recognition criteria. In this case, the ESG-indicators of the business are disclosed in the Sustainability Report, which provides investors with additional, beyond the traditional financial statements, information.

There is no direct relationship between the ESG-indicators of the business, which form the intra-generated goodwill (badwill) with the value of the business as a whole. However, as a result of capital market transactions, where the market value of shares is established, the value of the business as a whole is determined, goodwill (badwill) is calculated, and hence the impact of ESG-behavior is also evaluated.

So, the track of the third stage of the mechanism is to establish a way to assess the impact of the ESG behavior of the business on its value as a whole. The above justifies *hypothesis H3*.

#### **4.3 Algorithm as a form of presentation of the developed mechanism for recognizing the results of ESG-behavior of business in financial reporting in the context of its transition to the socio-economic model**

The three-step algorithm that embodies the developed methodology for recognizing the results of ESG-behavior of business in financial statements, the content of which is outlined above, is presented in Fig. 4.

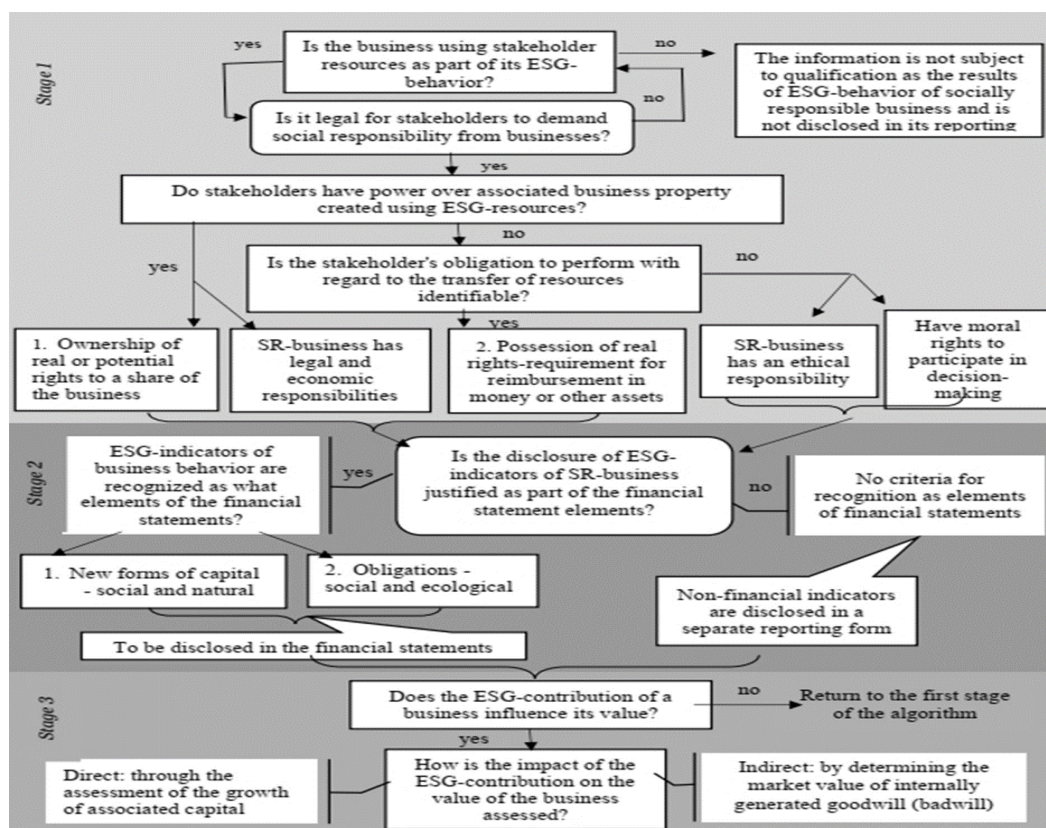


Figure 4. Algorithm of recognition of the results of ESG-behavior of business in the context of the transition to the socio-economic model of financial reporting

Source: authors' development

The application of the modeling method allowed the authors to summarize the results of the study and develop an algorithm for recognizing the results of ESG-behavior of the business in the context of the transition to the socio-economic model of financial reporting (Fig. 4). The developed algorithm is actually the key result of the author's research and consists in the conceptual interpretation of the scheme of recognition of ESG-contribution of SR-business as elements of financial reporting in the context of the indicated trend - the imperative of transition to the socio-economic model of reporting.

## V. FINDING AND CONCLUSIONS

In the context of the current trend - the presentation of non-financial ESG-information in special business reporting for decision-making, and primarily investment, the authors believe that the problem of presentation in the financial statements of data on the performance of ESG-obligations of business is not solved and needs to be studied.

To assess the prospects for transition to a socio-economic model of financial reporting, the authors developed a research methodology that uses the most effective methods for this: a systematic approach, comparison, induction and deduction, synthesis and analysis, abstraction and modeling.

However, the basis of the methodology was the methods of analysis and modeling. The use of the analysis method allowed us to characterize the trend adopted by the reporting system of the Republic of Moldova regarding the disclosure of information on the business's ESG-contribution to achieving sustainable development goals and a quantitative assessment of business-reporting regarding the disclosure of ESG-information. In addition, based on it, the concept of corporate social responsibility (CSR) is interpreted, and a point of convergence with economic theory - the concept of financial reporting is established. This refers to the rights or authority of stakeholders regarding the associated ownership of the business.

The modeling method contributed to the development of a 3-step algorithm for recognizing the results of ESG-behavior business in financial reporting and disclosure of relevant ESG-indicators for investment decisions and useful to other stakeholder groups. The methodological part of the study is represented by the developed mechanism of recognizing the results of ESG-behavior of the business in financial reporting. The key result of its first stage consists in the identification of the criterion for recognizing the results of ESG-behavior of SR-business

in the composition of accounting objects. In the absence of methodological justification of their recognition, the possibility of transition to the socio-economic model of financial reporting is questioned.

Application of the modeling method made it possible to visualize the result of the first stage and present it in Fig. 3. The second stage of the proposed mechanism conceptually interprets the scheme of presenting information about the performance of ESG-obligations of a business in its reporting: financial and non-financial. In the third stage - assessment of the impact of ESG-contribution of the business in sustainable development, the information about which is translated by reporting, on its value in general, and thus on the decision-making about impact investing. Finally, the application of the modeling method allowed the authors to summarize the results of the study and develop an algorithm for recognizing the results of ESG-behavior of the business in the context of the transition to the socio-economic model of financial reporting. The result of the study is also the justification of the hypotheses H1-H3, and the synthesized general and private conclusions.

According to the results of the study, the authors formulated the following conclusions:

First, the designated scientific problem is solved on the basis of a systematic approach and embodied in the research model. The approach used focused on:

- interpreting the concept of SR-business in the context of the modern interpretation of associated ownership,
- establishing a point of convergence between economic theory and the social concept,
- developing a scheme for recognizing as elements of financial reporting the results of the ESG-behavior of SR-business, and identifying the way they affect the value of the business as a whole.

This part of the study is theoretical in nature.

As part of the methodological part of the work, the approach focused on assessing the possibility of recognizing the performance of ESG-obligations by business as part of the accounting objects: new forms of associated capital - social and natural, and liabilities - social and environmental.

In the applied part of the research, circumstances that determined the trend of disclosing information on business ESG-contributions regulated by the legislative and normative framework of the Republic of Moldova were identified. These circumstances include the qualification of Moldova's economy as developing and the state policy of stimulating business as taxpayers. Among the conclusions of this research section is a recommendation for the most optimal approach to transitioning towards a socio-economic reporting model within the accounting system of the RM.

Also as part of the practical part of the study the emphasis is placed on the way of assessing the impact of the execution of ESG-obligations of the business, the indicators of which are disclosed in the statements, on the value, and hence on the sustainability of the business.

The information field of the socio-economic model demonstrates the advantages of business and allows investors to assess risks when making decisions, including those related to responsible investment.

Secondly, the hypotheses put forward were confirmed:

- The prevailing trend of information disclosure concerning business ESG-behavior in the reporting system of the Republic of Moldova does not meet the demands of the socio-economic development paradigm;
- The conceptual platform of the socio-economic model of business financial reporting is based on the convergence of accounting methodology and the concept of social responsibility, with the trend for the transformation of uncertain social responsibility into the responsibility of SR-business is the power of ownership of stakeholders;
- The execution of the ESG-obligation of business affects its value: directly - when recognizing its results in the accounting objects (capital or liability), indirectly - when qualifying its results as internally generated goodwill (badwill).

The developed mechanism for presenting the results of ESG-behavior business can be utilized within the national accounting and reporting system of the Republic of Moldova in the context of its transition to a socio-economic model. This transition is of a reformative nature and is inevitable.

**ACKNOWLEDGEMENTS:** Irina Golochalova expresses her gratitude for the financial support of the research project "The methodology of accounting and financial statements in the conditions of innovative economy vector", registered under number 22.00208.0807.09/PD in the State Register of Projects in the field of science and innovation in which this study is being carried out.

## REFERENCES

1. Ahmad, N., Mobarek, A., & Roni, N. (2021). Revisiting the impact of ESG on financial performance of FTSE350 UK firms: Static and dynamic panel data analysis. *Cogent Business & Management*, 8 (1), 1-18. <https://doi.org/10.1080/23311975.2021.1900500>
2. Al-Amin, Md., Akter, R., Akter, A., Aftab Uddin, Md., & Abdullah Al Mamun (2021). Socially Responsible Human Resource Management and Voluntary Environmental Behavior: The Moderating Effect of Ecocentric Leadership. *Central European Management Journal*, 29(2), 147-168. <https://doi.org/10.7206/cemj.2658-0845.49>
3. Almeyda, R., & Darmansya, A. (2019). The influence of environmental, social and governance (ESG) disclosure on firm financial performance. *IPTEK Journal of Proceedings Series*, 5, 278-290. Retrieved September 29, 2023 from: <https://iptek.its.ac.id/index.php/jps/article/view/6340/4185>

4. Alves, S. (2020). Ownership structure and accounting conservatism: evidence from Portuguese and Spanish listed companies. *Academy of Accounting and Financial Studies Journal*, 24(6), 1-21.
5. Chen, C.-C., Khan, A., Hongsuchon, T., Ruangkanjanases, A., Chen, Y.-T., Sivarak, O., & Chen, S.-C. (2021). The Role of Corporate Social Responsibility and Corporate Image in Times of Crisis: The Mediating Role of Customer Trust. *International Journal of Environmental Research and Public Health*, 18(16), 8275. <https://doi.org/10.3390/ijerph18168275>
6. Conceptual Framework for Financial Reporting (2018). Retrieved October 2, 2023 from: <https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards/english/2021/issued/part-a/conceptual-framework-for-financial-reporting.pdf>
7. Dmitrieva, T. (2022). Approaches to assessment of natural capital: foreign experience. In Proceedings of the Komi Science Center of the Ural Branch of the Russian Academy of Sciences. Vol. 3 (55), pp. 35-46. Retrieved September 29, 2023 from: <https://cyberleninka.ru/article/n/podhody-k-otsenke-prirodnogo-kapitala-zarubezhnyy-opyt>
8. Evlakhova, Yu. (2022). ESG-factors in reputational risk assessment of Russian banks. *Bulletin of St. Petersburg University-Economics*, 38 (3), 385–415. <https://doi.org/10.21638/spbu05.2022.303>
9. Geva, A. (2008). Three Models of Corporate Social Responsibility: Interrelationships between Theory, Research, and Practice. *Business and Society Review*, 113(1), 1-41. <https://doi.org/10.1111/j.1467-8594.2008.00311.x>
10. Golochalova, I., & Cojocaru, M. (2022a). Recognition of natural capital in financial reporting in the context of the socio-economic paradigm: practice of the Republic of Moldova and international experience. *Scientific Papers. Series "Management, Economic Engineering in Agriculture and rural development"*, 22(3), 269-278. Retrieved October 2, 2023 from: [https://managementjournal.usamv.ro/pdf/vol.22\\_3/Art28.pdf](https://managementjournal.usamv.ro/pdf/vol.22_3/Art28.pdf)
11. Golochalova, I., & Cojocaru, M. (2022b). The Socio-economic model of financial reporting in the context of recognizing power over property as a criterion for assessing the ESG-behavior of business. In: 3rd International Exhibition Inventcor, 15-17.2022, Deva, Romania. Retrieved October 2, 2023 from: <https://www.corneliugroup.ro/inventcor.html>
12. Golochalova, I., Cojocaru, M., & Masko, L. (2023). *Problems of reporting the results of ESG-behavior in companies' reporting for the implementation of sustainable development goals*: Monograph - Chisinau, (Print-Caro).
13. Imaningati, S., Ghozali, I., & Yuyetta, E.-N. (2022). The role of investor pressure on the effect of integrated reporting disclosure on the intellectual capital disclosure. *Academy of Accounting and Financial Studies Journal*, 26(1), 1-7.
14. Kaz, E., Krakovetskaya, I., Nehoda, E., & Redchikova, N. (2020). *Business models of companies and sustainable development*. Tomsk State University Press.
15. Law on Accounting and Financial Reporting, No. LP287/2017 of December 15, 2017. Retrieved October 2, 2023 from: [https://www.legis.md/cautare/getResults?doc\\_id=120938&lang=ro](https://www.legis.md/cautare/getResults?doc_id=120938&lang=ro)
16. Lee, M., & Suh, I. (2022). Understanding the effects of Environment, Social, and Governance conduct on financial performance: Arguments for a process and integrated modelling approach. *Sustainable Technology and entrepreneurship*, 1(1), 1-12. <https://doi.org/10.1016/j.stae.2022.100004>
17. Murni, S., Sabijono, H., Trang, I., & Mangantar, M. (2022). Capital Structure and Firm Value Manufacturing at the Indonesian Stock Exchange. *Archives of Business Research*, 10(5), 1-17. <https://doi.org/10.14738/abr.105.12345>
18. Ofurum, C.-O., & Ngoke, O.-S. (2022). Corporate social responsibility cost and financial performance of listed oil and gas firms in Nigeria. *Archives of Business Research*, 10(5), 1-13. <https://doi.org/10.14738/abr.105.12282>
19. Pérez-Beneditos, M.-A. (2022). Explaining Accounting Structures Changes by Applying the Accounting Methodology of Radar-Polar Chart. *Archives of Business Research*, 10 (5), 39-64. <https://doi.org/10.14738/abr.105.12289>
20. National Bureau of Statistics of the Republic of Moldova (2021). Demografia întreprinderilor în Republica Moldova în anul 2021. Retrieved September 29, 2023 from: [https://statistica.gov.md/ro/demografia-intreprinderilor-in-republica-moldova-in-anul-2021-9557\\_60197.html](https://statistica.gov.md/ro/demografia-intreprinderilor-in-republica-moldova-in-anul-2021-9557_60197.html)
21. Richard, J., & Altukhova, Yu. (2017). Proposals on reforming the fundamental principles of the enterprise, joint-stock company and social interest through environmental accounting. *International Accounting*, 20(24), 1427–1448. <https://doi.org/10.24891/ia.20.24.1427>
22. Sustainable Development Report Kaufland Moldova (2021). Retrieved October 2, 2023 from: <https://kaufland.media.schwarz>
23. Sustainable Development Report Moldova Agroinbank (2023). Retrieved October 2, 2023 from: <https://maib.md/noutati>
24. Social & Human Capital Coalition. (2021). Social & Human Capital Protocol. Retrieved September 29, 2023 from: <https://capitalscoalition.org/capitals-approach/social-human-capital-protocol/>
25. Tsubulnikova, M. (2020). Role of natural capital for sustainable development of a region. *Bulletin of Moscow University*, 3, 53-60. Retrieved September 29, 2023 from: <https://cyberleninka.ru/article/n/rol-prirodnogo-kapitala-v-ustoychivom-razvitii-regiona>
26. United Nations et al. (2021). System of Environmental-Economic Accounting–Ecosystem Accounting (SEEA-EA). White cover publication, pre-edited text subject to official editing. Retrieved September 29, 2023 from: <https://seea.un.org/ecosystem-accounting>
27. United Nations et al. (2012). System of Environmental-Economic Accounting 2012: Central Framework (SEEA-CF). Retrieved September 29, 2023 from: [https://unstats.un.org/unsd/envaccounting/seearev/seea\\_cf\\_final\\_en.pdf](https://unstats.un.org/unsd/envaccounting/seearev/seea_cf_final_en.pdf)
28. Wilson, J. P. (2021). Making Information Measurement Meaningful: The United Nations' Sustainable Development Goals and the Social and Human Capital Protocol. *Information*, 12(8), 1-16. <https://doi.org/10.3390/info12080338>