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## **Application of IT in the Formation of Sustainable Reporting of Business Entities**

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**Abstract:**

*The article deals with information technologies applied in the formation of sustainable reporting of business entities and provides a review of current information solutions and their development trends.*

*Authors analyze the current situation in the field of non-financial reporting in the Russian Federation.*

*To improve the competitiveness of companies and industries, strengthen the business reputation of organizations, authors proposed to develop a digital platform that is capable to create, publish, store of non-financial reports, go through the verification process.*

**Keywords:** *Non-financial reporting, sustainable development, interaction with stakeholders, digital economy, digitalization, information technologies*

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## **1. Introduction**

Business transparency is of great importance in modern economic conditions. Companies are faced with the need to report on the consequences of their business activity manifested in the form of environmental, social and economic impacts. The tool for interaction of organizations with their stakeholders is non-financial reporting, which enhances the company's competitiveness, builds its reputation, and increases the degree of trust, being an addition to the basic financial reporting. Currently, non-financial reporting is becoming an integral element of corporate culture for dynamic companies (Alekseeva, 2015).

Non-financial reporting of organizations is published in an accessible form for stakeholders: websites, global and national registers of reports, media publications, corporate publications, conferences, public hearings, forums and presentations. The development of infocommunication tools providing a high level of transparency in the activities of companies is a relevant issue of their sustainable development (Boronina, 2017). This direction is of particular importance due to the need to run a business in the ecosystem of digital economy and information society. The term "Digital Economy" was first proposed by Don Tapscott, who in 1994 predicted the development of digitalization for the next two decades (Tapscott, 1996). The Strategy for the Development of the Information Society in the Russian Federation for 2017-2030 defines the digital economy as an economic activity, and the key factor of production there is the digital data, and processing and use of its analysis' results compared to traditional forms of management, can significantly increase efficiency of various types of production, technologies, equipment, storage, sale, delivery of goods and services. The main goals of such an economy are the formation of the information space, considering the needs of citizens and society in obtaining high-quality and reliable information, the development of information infrastructure, the creation and application of information and telecommunication technologies, and the formation of a new technological basis for the social and economic activity (DERF, 2017).

The processes of digitalization affected the social reporting. Appearing as a response to the challenge of time, it has passed through several stages for almost 60 years of its existence. Having emerged as booklets on the organization's results, which are of declarative nature, reporting has been transformed into complex multimedia reports, being a guarantee for meeting the needs of stakeholders in the long term.

The purpose of this study is to consider the application of modern information and communication technologies in the field of sustainable reporting and to develop the proposals for their implementation and application in strategies of development of organizations in particular and national economy as a whole.

## **2. Theoretical, Informational and Empirical, and Methodological Grounds of the Research**

Theoretical analysis of the literature allows us to identify a promising direction for the development: application of digital technologies in the field of social reporting, which is of particular relevance in view of systemic digitalization of business. Among the scientific domestic literature, there are only a few studies in the field of this problem. We note the study of Ostroumov (2016), which contains notable considerations on the application of Russian software “1C: Enterprise 8. Industrial Safety” and “1C: ERP 2” for automating the generation of sustainable development reporting. The authors see the grounds for such a weak elaboration of the topic in the lag of theoretical science from practice.

The practice of applying information solutions in non-financial reporting is quite limited. The first specialized software products appeared in 2005, however, most of the known software solutions were released since 2008 (75%). They are the tools that help reporters collect data on key sustainability indicators for use with existing reporting standards like GRI, or offer their own unique set of figures. They are also include software products of EHSMS (Environmental Health and Safety Management System) and ERP (Enterprise Resource Planning) class systems. The most widely used are the products of the following companies: SAP, Microsoft, Oracle, JD Edwards, Dakota Software, Enablon, e3 Solutions. The open-sourced eXtensible Business Reporting System (XBRL) is recognized as a potentially convenient platform for collecting and analyzing data. Thus, in the framework of the project “Reporting on the Environment, Society and Corporate Governance in the XBRL Format”, in 2020 Japan expects creating a platform for disclosing non-financial information ensuring the comparability of information and provide an opportunity for future artificial intelligence to conduct its analysis.

The international audit and consulting organization KPMG conducted a study on information solutions in the field of sustainable development and highlighted three stages in the development of a non-financial reporting system:

- application of office software (MS Excel, MS Access);
- application of specialized software (dedicated solutions or individual ERP-modules);
- application of integrated solutions for sustainable development reporting (Korotetsky, 2013).

In addition to the technologies above, there are many digital resources relevant to social reporting (Table 1). The authors classify them in two major ways: the scope of coverage (global and national resources) and purpose and function. The second group includes the following: resources - libraries (reporting bases and regulatory frameworks) and resources - news feeds. The digital economy dictates new trends for the business of developing the information space, and some companies turn their attention to a new area of reporting for themselves like mobile applications (for example, Sustainability app from STMicroelectronics).

**Table 1. Sustainable reporting resources classification**

Resource	Purpose	Features
Resource - library		
www.sustainability-reports.com	The international portal for sustainability reporting	1. Actual reporting news 2. Database of reports of international companies
www.corporate-register.com	The global online directory of corporate responsibility reports	1. Corporate Register World Map - global reporting statistics by country 2. Live Charts
www.reportingexchange.com	An online platform that connects users to reliable, comparable information on sustainability reporting requirements and resources	Database of actual reporting requirements
www.globalreporting.org	The portal for GRI's community	1. E-learning courses 2. Database of reports of international companies 3. Introducing the GRI Sustainability Reporting Process/ A step-by-step approach to the reporting process suitable for all types of organizations 4. Content index tool
www.duurzaamheidsverslag.nl	The Dutch national portal for sustainability reporting	1. Actual reporting news 2. Database of reports of national companies
www.rspp.ru	The Russian national register of non-financial reporting	1. Actual reporting news 2. Database of reports of national companies
Resource – news feed		
www.reportalert.info	The report announcement service for the global corporate responsibility community	1. Email distribution to users who have signed up to receive the report announcements 2. Distribution to more than 100CR and sustainability focused websites (ReportAlert.info, 3BL Media) and both mainstream online media (Google Finance, Google News)

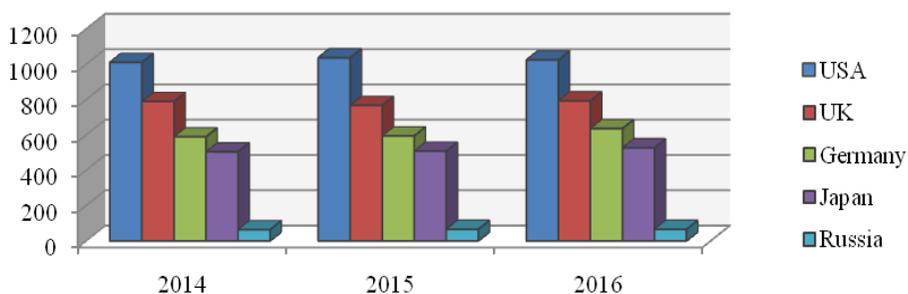
The regulations approved in recent years also testify the agenda:

1. "GOST R 54598.1-2015. National standard of the Russian Federation. Sustainable development management. Part 1. Guide "(approved and enacted by the Order of Rosstandart dated 11/18/2015 N 1858-c).
2. Order of the Government of the Russian Federation of 05.05.2017 N 876-p "On approval of the Concept of development of public non-financial reporting and the plan of measures for its implementation".
3. Order of the Government of the Russian Federation of 28.07.2017 No. 1632-p "On approval of the program" Digital economy of the Russian Federation ".

These regulations indicate that the principles of sustainable business are becoming increasingly common in the Russian Federation, along with the establishment of state regulation system and the formation of a unified concept for the development of public non-financial reporting in the digital economy. GOST R 54598.1-2015, 2015 indicates that development becomes a priority, satisfying regular needs without compromising the ability of future generations to meet their needs. The Order of the Government of the Russian Federation of July 28, 2017 N 1632-r states that the data become a new asset. At the same time, GOST R 54598.1-2015 implies free access to information and transparency in decision making on the development and evaluation of company strategies. That in turn will contribute to the development of corporate governance and business ethics, and as a result of this – to strengthening of reputation of Russian companies, increasing confidence in their business activities in Russia and abroad.

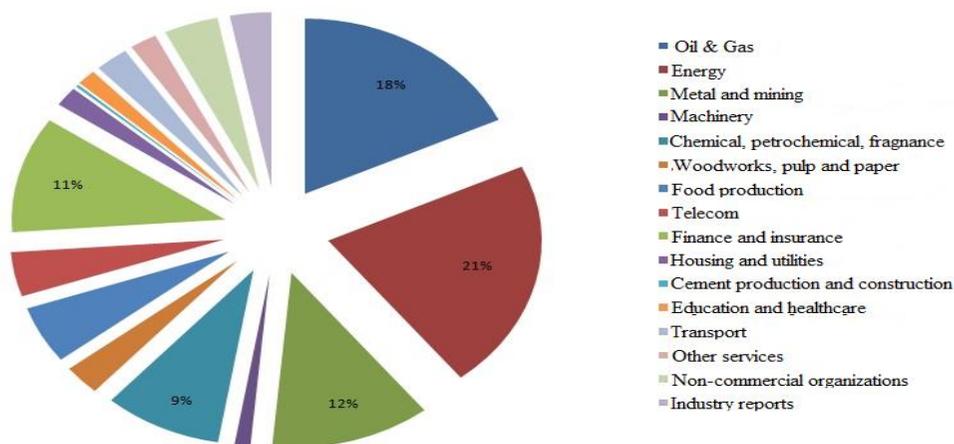
Currently, Russia is in the list of lagging countries in the field of sustainable development reporting according to the Global Corporate Registry. Figure 1 shows the continuing trend in the period from 2014 to 2016. The number of reports published by the countries leading in social reporting exceeds the number of reports of Russian organizations. As of June 2018, the National Register of Non-Financial Reports contains data on 167 organizations that have published 826 non-financial reports since 2000. The largest commitment to the principles of sustainable development in the field of reporting is characterized by the largest Russian companies in the energy, oil, gas, mining and financial and insurance industries. sectors, as shown in Figure 2. This is due to the fact that these organizations are subject to great demands from the government and the world market. However, the importance of regional enterprises' reporting should not be underestimated, since they have a direct impact on the ecology, society and economy of the region. A. Ostroumov (2016) concludes that it is necessary to develop a methodology for the implementation of automated reporting systems for sustainable development and its promotion among regional enterprises.

**Figure 1.** Number of non-financial reports published as of June 5, 2018 (Compiled using the data of CRDB, 2018).



The study of the Russian Union of Industrialists and Entrepreneurs is of great importance for our work. They highlight the process of reporting transformation. The completed reporting phase includes printed reports supplemented with information on the website, selected websites on sustainable development, software solutions that allow analyzing indicators and obtaining a combined result upon request. Whereas the future of non-financial reporting is seen in multimedia technologies, mobile applications and social networks (Alenicheva, 2015).

**Figure 2.** Industry reports distribution in Russia as of June 5, 2018 (RUIE, 2018).



Thus, summarizing all the above, authors proposed developing a platform for conducting a dialogue between economic actors via social reporting tools - the service 'Соцотчет.ру' (Socreport). The service will allow compiling, publishing, storing non-financial reports, proceeding through the reports verification. It will incorporate elements of an e-learning system. The developed platform will become a kind of social network analogue for companies leading a sustainable and responsible business and openly declaring this. The implementation of this project will bring Russian non-financial reporting to a qualitatively new level.

### 3. Results

The key results of this study are as follows. Authors Indicated a promising direction for research, namely the application of modern information and communication technologies in the formation of sustainable reporting due to the lag of theoretical science from practice, since the experience of their use is very limited (nearly over 10 years). This article provides an overview of existing technologies, identifies areas for their further development (mobile applications and platforms based on the open-sourced eXtensible Business Reporting System (XBRL)). The author's classification of resources dedicated to non-financial reporting in two ways is provided as well. Authors note that the transformation of the reporting format that is currently taking place in connection with the digitalization processes.

Moreover, basing on the results of an informational study of the Russian practice of disclosing non-financial information, authors concluded that it is significantly lagging behind other countries. The weak use of technology by domestic companies was also noted, and the need to automate reporting processes was justified. However, in recent years, the Government of the Russian Federation and other legislative bodies have adopted a number of regulatory acts, and as a result, the current situation tends to improve.

The authors proposed a new direction in the application of information technologies, namely the creation of a digital platform for generating, publishing and storing reports, for conducting a dialogue with stakeholders. Thus, it is important to emphasize that the ongoing changes in the field of non-financial reporting in our country will contribute to increasing the transparency of activities and the investment attractiveness of Russian companies.

#### **4. Conclusions and recommendations**

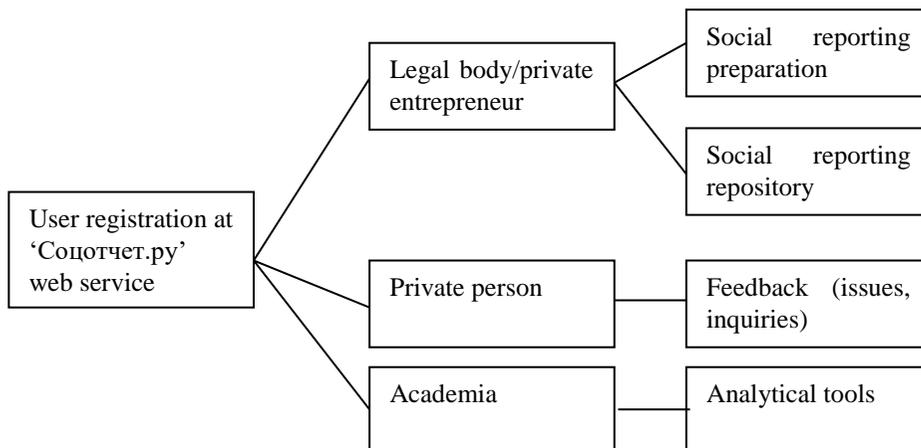
In conclusion, we provide a more detailed description of the proposed platform "Соцотчет.ру" (Socreport.ru). The developed project was submitted to participate in the competition held by the largest regional bank of the Russian Federation "Center-Invest" and recognized as one of the best projects, proving the relevance of the research. Among the objectives of the project authors outline the following:

1. Improving the worldwide competitiveness of companies and industries of the Russian Federation, strengthening the reputation of organizations and increasing their confidence in their business activities;
2. Improving the quality of life by increasing the availability and quality of goods and services, raising awareness and digital literacy;
3. Improving the incentive system for Russian companies to increase the information openness and transparency of the results of the impact of their activities on society and the environment;
4. Systematization of the process of introducing public non-financial reporting in the management practices of Russian companies;
5. Raising the awareness of a wide range of people about international standards in the field of social responsibility, sustainable development and public non-financial reporting.

The main obstacle to the introduction of the service into the practice of Russian non-financial reporting is the poor level of application of digital technologies by business structures in the Russian Federation compared to government agencies and the public. However, the regulations adopted by the Government of the Russian Federation and other legislative bodies are intended to eliminate this barrier.

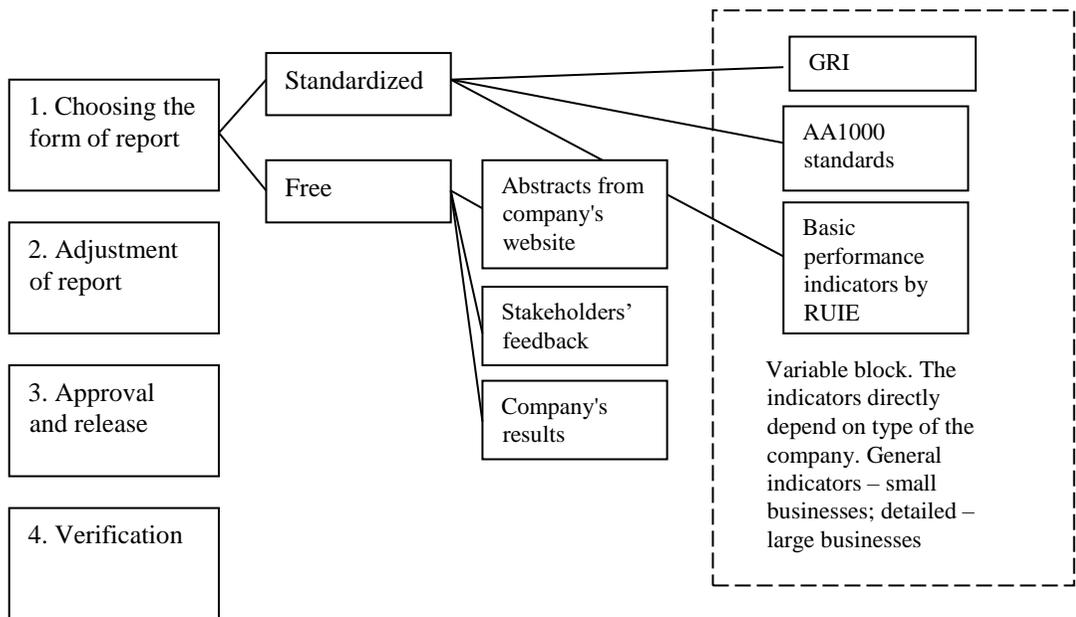
The introduction of the digital technologies proposed will contribute to the involvement in the process of disclosing non-financial information of representatives of small and medium businesses. The possibility of unfair manipulation of the disclosed information is among the negative consequences.

**Figure 3.** Options of service users (depending on the type of registration)



Let's consider the features of the service. When working with an online service, it is necessary to provide the choice of language (Russian / English), so representatives of different countries could easily work with it. The options of the service participants directly depends on type of registration: legal bodies / private entrepreneur, private person or academia (Figure 3). In addition to them, all participants of the service could check the existing reports in the database. Legal entities and individual entrepreneurs will be able to log in personal accounts containing general information: full name, field of activity, date of registration, location address, type of company depending on its size. This data could be filled out on the basis of information from the databases of the Federal Tax Service (nalog.ru, egrul.nalog.ru) when integrated with the service.

Companies will be able to prepare social reports using the service or download them in free form (Figure 4). When generating a report for each type of organization, depending on their size (large, medium and small business), certain sets of indicators characterizing the social, economic and environmental aspects of the activity will be proposed. Notable, that the list of indicators is temporary, i.e. in the case of the adoption of a legal act for disclosing non-financial information, the list is subject to adjustment.

**Figure 4.** Non-financial report preparation stages

So the typical structure of a social report on Socreport.ru includes the following sections:

I. Message from the management (text file);

Ii. Social role of the company (text file);

A sample list of issues covered:

- the mission of the organization;
- goals;
- values;
- goals and objectives for a certain period;
- the main achievements of the reporting period;
- The main directions of development.

III. Key indicators in the field of sustainable development (Table 2) in accordance with the approved list of indicators.

**Table 2.** Key indicators reflected in the report

№ п/п	Indicator	Current value	Previous value (las period)
1.	Economic dimension		
...			
2.	Social dimension		
...			
3.	Ecological dimension		
...			

Reporters could easily complement reporting with text messages and graphic objects. Analytical tools will be available for members of the scientific community. For example, the chart design tool basing on the reports repository. Signs for the construction of diagrams are contained in the personal accounts of the participants (industry affiliation, geographical location, report form) (Figure 5).

**Figure 5.** Chart design tool

Chart type	<ul style="list-style-type: none"> <li>• Bar chart</li> <li>• Pie chart</li> <li>• Graph</li> </ul>
Period	<ul style="list-style-type: none"> <li>• Value limits (from-to)</li> </ul>
Location	<ul style="list-style-type: none"> <li>• All</li> <li>• Selected regions</li> </ul>
Industry	<ul style="list-style-type: none"> <li>• All</li> <li>• Selected industries</li> </ul>
Report form	<ul style="list-style-type: none"> <li>• All</li> <li>• Standardized</li> <li>• Free</li> </ul>
Verification	<ul style="list-style-type: none"> <li>• All</li> <li>• Verified</li> <li>• Not verified</li> </ul>

The Socreport.ru service will include e-learning elements to introduce the concept of public non-financial reporting, quickly receive qualified advice, learn how to use the service, as well as a section on recent changes in non-financial reporting.

The main results of using digital technology will include changing of the technology of making a social report, encouraging market participants to conduct socially responsible business and improving the competitiveness of organizations in the local and global market. Thus, the service will contribute to increasing the transparency of activities and the investment attractiveness of Russian companies.

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