

Determination of Economically Sound Criteria to Assess the Effectiveness of Control Processes

Anna Bodyako, Roman Petrovich Bulyga, S.V. Ponomareva, Tatyana Rogulenko



Abstract: The article considers the issues related to the identification and establishing of economically sound criteria to assess the effectiveness of control processes in the modern context, as well as defines the characteristics of the new assessment format to address its main target, which is providing information support of development and making managerial decisions. The authors determine that the main problem, when assessing the effectiveness of control processes lies in the fact that many of the developments offered by specialists are based on outdated principles, while others put forward proposals, which cannot be used in practice. The authors offer their own vision of the content and functioning specifics of the intracorporate control services, as well as offer a flowchart reflecting control actions of specialists of institutional and intracorporate control services of companies with public ownership. The regulation on the quality assessment system of intracorporate control of the corporate accounting and control system is proposed, as well as the managerial actions in relation to its organization are defined. A new concept of intracorporate control in companies with public ownership, developed by the authors, focused on risks, will prevent misuse of budget allocations. Implementation of the proposals will allow developing science-grounded intracorporate control regulations, which are aimed at solving specific problems of corporate management.

Index Terms: criteria, assessment of the effectiveness of control processes, intracorporate control of managerial decisions, management functions, accounting control system.

I. INTRODUCTION

Contemporary scientific and practical publications of scientists and practitioners [1-5] offer various options for the selection of criteria to assess the effectiveness of intracorporate control procedures. The study and comparison of these options according to the criterion of "adequacy of modern practice" gave grounds to divide the views of researchers on the subject matter of this issue into three categories. The largest group of authors substantiates the

preference for assessing the functioning of the entire system of intracorporate control. The second group of authors of the studied publications recommends assessing the work performance of specific inspectors. Such proposals are made mainly by practitioners, who are in the minority. The third group of experts points to the need to assess the results of the completed monitoring procedures. The methodological support of such assessments is limited to the use of no more than five concepts (adaptive regression modeling; models obtained by the least squares method; integral estimation models; qualimetric methods, and piecewise polynomial correlations (splines), presented by authors in different combinations. It is also revealed that many of the developments of specialists are based on outdated principles, while some of them, on the contrary, put forward such innovative proposals whose application in practice is difficult to imagine.

In addition, the study has shown that some researchers, when revealing the methods of assessing control procedures, use the term *criteria*, characterizing indicators, while others when describing the essence of the criterion, call it an *indicator*. In this regard, a comparative analysis of scientific and practical developments is necessary to determine an option for updating the composition of criteria and indicators to evaluate intracorporate control procedures which would integrate the advantages of already used assessment models and new model methods to improve them in the context of contemporary economic conditions. First of all, let's define the differences between the terms *criterion* and *indicator*.

A criterion is an objectively permissible level of an indicator above or below which the state of the process being evaluated (subject, object or something else) will be considered abnormal. An indicator is a specific value that reflects the state of the estimated subject, object, or something else in different measuring units (% , rubles, etc.) at the time of assessment. In most cases, an indicator is a generalized characteristic of an object, process, or its result, usually expressed in numerical form. The value of indicator can indicate both the static state of the assessed subject, object, or something else, as well as its dynamical behavior (increase or decrease).

Proposals of researchers to assess the effectiveness of intracorporate control according to the criterion of the *work quality of a single or a group of inspectors* can be considered from two standpoints. On the one hand, such an assessment is offered by international standards, for example, the one applied in Russia since 1.01.2017,

Revised Manuscript Received on 30 July 2019.

* Correspondence Author

Anna Bodyako*, FGIBU VO "Financial University under the Government of the Russian Federation", Moscow, Russia.

Roman Petrovich Bulyga, FGIBU VO "Financial University under the Government of the Russian Federation", Moscow, Russia.

S.V. Ponomareva, Saint-Petersburg state University of Economics, Saint-Petersburg, Russia.

Tatyana Rogulenko, State University of management, Moscow, Russia

© The Authors. Published by Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP). This is an [open access](https://creativecommons.org/licenses/by-nc-nd/4.0/) article under the CC-BY-NC-ND license <http://creativecommons.org/licenses/by-nc-nd/4.0/>

entitled International quality control standard (note 1): "Quality control in audit organizations that conduct audit and review financial statements, as well as perform other tasks that provide confidence, as well as tasks associated with related services", as well as Recommendation p-44/2013-kpr "Guidelines for the organization and implementation of intracorporate control" (note 2).

In practice, such standards and recommendations to their application contain a huge set of colorful epithets describing the personality of inspectors, which cannot be checked in reality because of their absolute relativity, and in fact, there is no need for that. In practice, it is very common that good control results are shown by professionals, who ignore the ethical standards, whose observance require from him the above-mentioned regulations. On the other hand, the work of each inspector is unique, first of all, in relation to his professional knowledge of the industry specifics of the corporate financial and economic activities (weak links and promising development opportunities). In this regard, it is difficult to find indicators to assess the uniqueness of the skills of a particular inspector. Experts suggest using key performance indicators (KPI), i.e. performance indicators of the unit (enterprise), which help the organization in achieving strategic and tactical (operational) goals.

However, in practice, company employees specifically adjust their actions to these KPIs [6, 7]. This method of assessing the efforts of one or a group of inspectors or the so-called psycho-communicative-professional assessment (note 3) is inherent in the ergatic economy, while the Russian economic system and its management model practically do not illustrate such properties (the primacy of the human factor).

Practitioners, for example, A. Urusov believes that it is necessary to change priorities: the corporate interests are not more important than the interests of people.

Professor G.V. Maximova and K.A. Karetnikov, when evaluating the whole system of intracorporate control (ICS, as mentioned by the authors), offer considering the evaluation methodology of the ICS as an assessment of all the components, including control environment, risk assessment, and intracorporate control procedures [8]. The authors present an assessment of the ICS based on foreign standards, where, however, calculation formulas for each of these elements are not given. The elements (control environment, risks, and intracorporate control procedures), indicated by Maksimova and Karetnikov, are essentially so heterogeneous that it is difficult to find a method for their integrated assessment. In fact, each such element is a particular case, because there is neither the homogeneous environment nor typical risks, as well as no unified element-by-element estimation techniques are available.

The position of researchers, who recommend methods for assessing specific control procedures depending on the place (the whole company or its territorial units) and the time of their conduction (at the moment or for a number of past reporting periods) seems to be more relevant.

The scientific substantiation of this hypothesis is given below.

II. PROPOSED METHODOLOGY

A. General description

However, not everything is so clear concerning the choice of grounds for the application of certain assessment techniques. In our opinion, the addition of all the results of the completed specific control procedures for a particular reporting period provides exactly a comprehensive picture of the entire control process effectiveness. The effectiveness of the monitoring procedures and the process, in general, can be used to judge how skillful and impartial the inspectors are, and this is nothing more than an assessment of their work.

Therefore, to update the Concepts for evaluating the results of accounting and control processes (collection of information and control itself on its basis), it is necessary to find and use all rational kernels contained in the works of accounting and control methodologies, assessment professionals, as well as in official methodological and legal documents, and recommendations emanating from regulatory institutions (Bank of Russia, Ministry of Finance, control departments of ministries and agencies).

The results of intracorporate control procedures, other things being equal, are dependent on the information base, its sources, the range of data collected, their relevance, and other characteristics. All of this, in general, determines not only the outcome of control procedures of financial and economic processes but also confirms the skillfulness of the control subjects, when choosing methods of checking the state of objects and processes. The importance of information support for the control process is indicated by all specialists in the field of accounting and control. However, their opinions differ on the evaluation of information properties necessary for effective control.

Many researchers distinguish two sets of indicators, namely, quantitative and qualitative indicators, unfortunately, without specifying the content of each of them. For example, N.V. Zabelina, A.M. Sonin, T.V. Plakhotya, and other scientists propose to divide quantitative indicators of the ICS effectiveness into productivity indicators and performance indicators. In their opinion, productivity indicators characterize the measure of implementation capability of the intracorporate control service to fulfill its goals and objectives. Performance indicators describe the effect of the entire intracorporate control service. In the works of these researchers, a classification of productivity indicators is proposed depending on the functions of this service. Qualitative indicators of its performance evaluation are grouped in accordance with the selected elements of the intracorporate control system. For their assessment, these researchers suggested using the quality scoring method of the elements of the intracorporate control system as a basis to develop regulations on intracorporate control service. The authors [9] specified neither the difference between the productivity indicators and performance indicators nor the method of their calculation. Classification of productivity indicators depending on the functions of intracorporate control service is proposed by T.V. Plakhotya [9].

However, the relationship between productivity indicators and the functions of the intracorporate control service is not specified. Therefore, it is difficult to assess the practical significance of the proposed classification.

According to B.S. Butsikova and Yu. Kurucz, "the effective functioning of intracorporate control as a function of the organization's control system depends on an appropriate system of accounting and analytical support of this process, i.e., on the availability of objective, timely, reliable, and quality information" [10]. In this statement, the researchers define the essence of "an appropriate system of accounting and analytical support of this process as the availability of objective, timely, reliable, and quality information", where all the specified characteristics require to be specified in and of themselves, i.e. they require assessment indicators. The importance of information support of control procedures is indisputable beyond any doubt, however, their effectiveness, although it depends on information support, is, above all, determined by the interpretation (understanding and explanation) of the content of the audited reporting indicators. This important aspect of accounting and analytical work was noted in the works of V.V. Kovalev, V.F. Sheremet, Ya.V. Sokolov, M.L. Pyatov, and other scientists.

B. Algorithm

Contemporary researchers and practitioners offer different methods for assessing the accounting (financial) information quality (M. Myagmar, E.S. Sokolova, V.S. Mokrousov, O.L. Verkhoventsev, and O.D., Pozhidaeva). The very formulation

of such an issue seems to be legitimate, since the properties of accounting information (relevance, consistency of indicators, etc.), called information quality evidence, influence many parameters of managerial decisions and, above all, financial benefits in different forms, such as capitalization, investment attractiveness, etc. As it was mentioned in the thesis, "accounting is producing information about the results of certain economic process completion (purchase, sale, exchange, etc.)", each of them characterized by specific and significantly different indicators. However, the question arises with regard to the criteria for assessing the quality of accounting information, because there is no answer concerted by scientists and practitioners.

It is known that internal and external corporate information flows are systematized by document flow rules, which are developed taking into account many factors and approved by its management, getting the form of the legitimate document (which may be called differently). It is believed that if the content of the document flow rules complies with the basic principles of accounting, and they are not violated by employees when performing their duties, the accounting (financial) statements of such a company has every reason to be considered transparent.

C. Flow Chart

A flowchart in Fig. 1 gives a visual representation of the information management mission of accounting, which reflects only the basic blocks of document flow and the relationship of the main accounting processes.

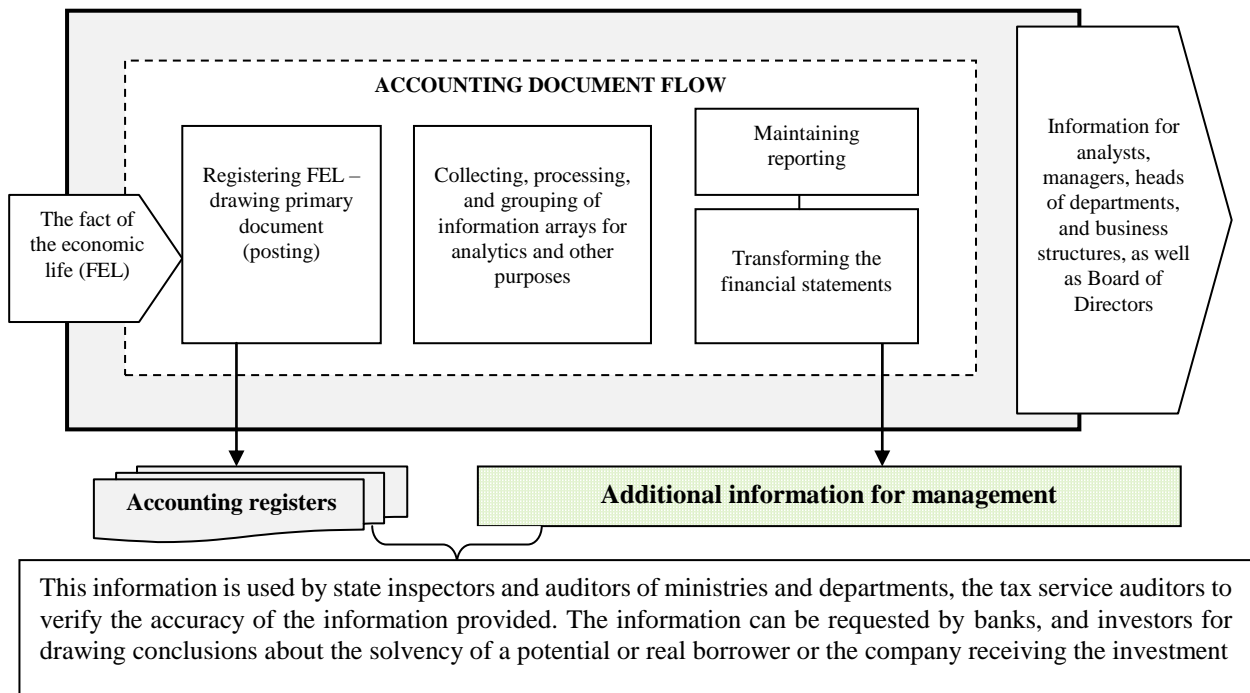


Fig. 1: A flowchart reflecting accounting document flow as a source of information support of intracorporate control procedures.

III. RESULT ANALYSIS

Striving to improve in practice the so-called quality of accounting information is confirmed by the regulatory and legal activities of domestic (Russian Ministry of Finance) and international regulatory institutions (IFRS Advisory Council,

etc.). On March 29, 2018, the IFRS Advisory Council has issued a new version of the financial reporting framework (Concept).

Determination of Economically Sound Criteria to Assess the Effectiveness of Control Processes

This event marks the completion of one of the most significant projects of the IASB over the past 20 years.

The new version of the Concept comes into force for mandatory application by companies with reporting for 2020. This innovation will require changes in the corporate accounting policies and the selection rules of objects of control procedures and their regulations, as well as

adjustments to the workflow of complexly structured companies, in particular, companies with public ownership, reporting under IFRS requirements. Figure 2 shows a flowchart representing the control actions of specialists of institutional and intracorporate control services of companies with public ownership developed in the course of the study.

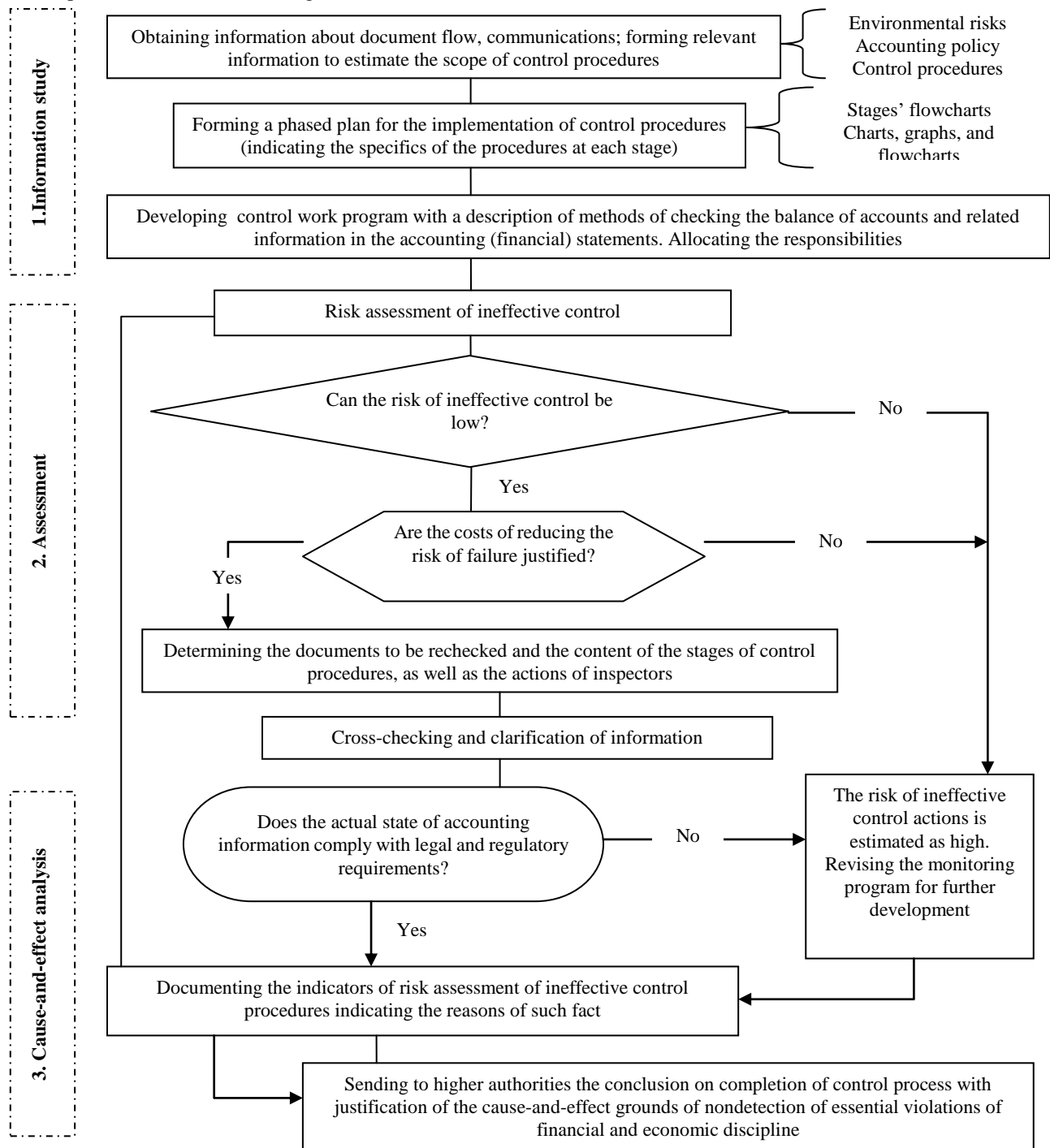


Fig. 2: Flowchart reflecting control actions of institutional and intracorporate control services specialists of companies with public ownership

According to the adopted innovations, the criteria of *appropriateness* and *truthfulness* are recognized as the main ones when evaluating the information. Besides, the concepts of *assets* and *liabilities* are clarified along with the rules of objects' recognition in accounting and reporting. All these

changes should be reflected not only in the accounting policy of the company but also in the Regulation on intracorporation control (Fig. 3).

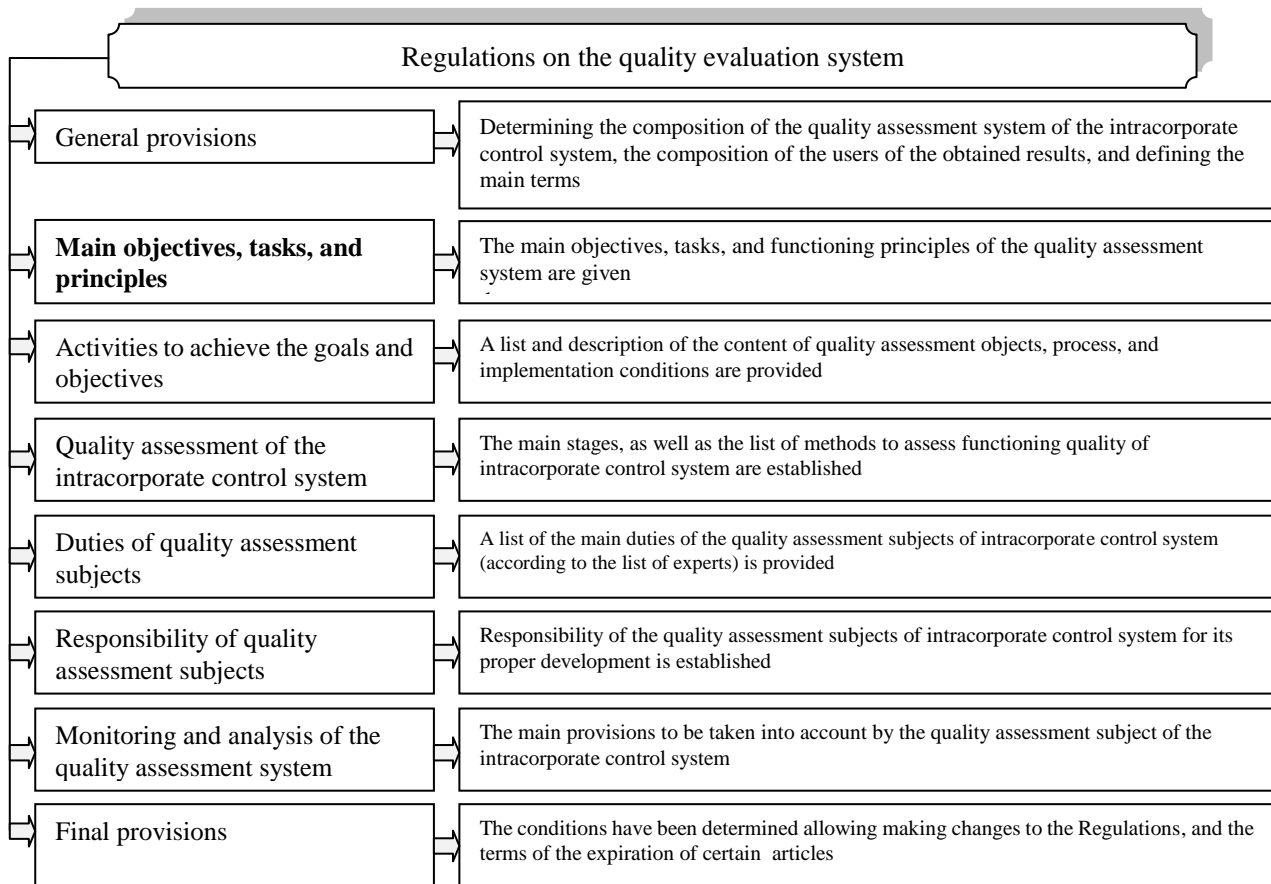


Fig. 3: Characteristics of the Regulation's sections of the quality assessment of the intracorporate control system [11]

Based on the company Concept, accounting policy is developed in situations, where there are no specific provisions in the existing standards or there are difficulties in choosing the accounting option due to the availability of several alternatives. The IFRS Advisory Council has identified a new objective for the preparation of financial statements, namely, providing information on assets, liabilities, capital, income, and expenses, useful to users when assessing the company's future net economic income and management's ability to use the company's economic resources. A new definition of *reporting organization* has been introduced, which means an aspect of economic activity with clearly defined boundaries. At that, the reporting organization does not have to be an independent legal entity. Thus, it is emphasized that the reporting organization can be in many forms, for example, as part of a legal entity. It is also noted particularly that consolidated reporting is more useful for users than unconsolidated one [12].

Therefore, the intracorporate control procedures result in a set of indicators recorded by inspectors as they progress in the study of documented information on operational accounting, as well as reporting indicators in accordance with the guidelines, instructions, control action plan, etc. Further, such records are systematized and summarized in accordance with the professional judgment of inspectors. The schematic content of the developed Regulations is illustrated in Fig. 3, which represents the intracorporate control quality assessment system in the form of a flowchart of control actions of specialists of institutional and intracorporate control services of companies with public ownership.

Such summary indicators are presented in the Report produced by inspectors, annexed to the basic Report reflecting the verification results of financial discipline addressed to institutional controls. "In addition, the effectiveness of the control subject increases (which can be considered as quality parameter) in case of obtaining the important information revealing a) identified illegal expenses, abuse and theft (a); means, which were reimbursed by the perpetrators (b); the number of financially responsible and officials brought to disciplinary responsibility (c); scope of entire record transferred to law enforcement and judicial authorities (d), and number of issued orders and decisions resulted from conducted control (e)" [3, p. 10].

The terms *control quality* or *inspector's work quality*, even when using the qualimetric methods, are still formalized in practice through specific quantitative meters (indicators).

As our research has shown, many experts build their models for assessing control procedures based on "the main purpose of the intracorporate control system, which consists in preventing the occurrence of various types of risks in the company's activities" [13].

One fragment of the Provision on intracorporate control is a model developed by the authors, which describes the sequence of actions of control service specialists. The main provisions of this model are illustrated in Fig. 4.

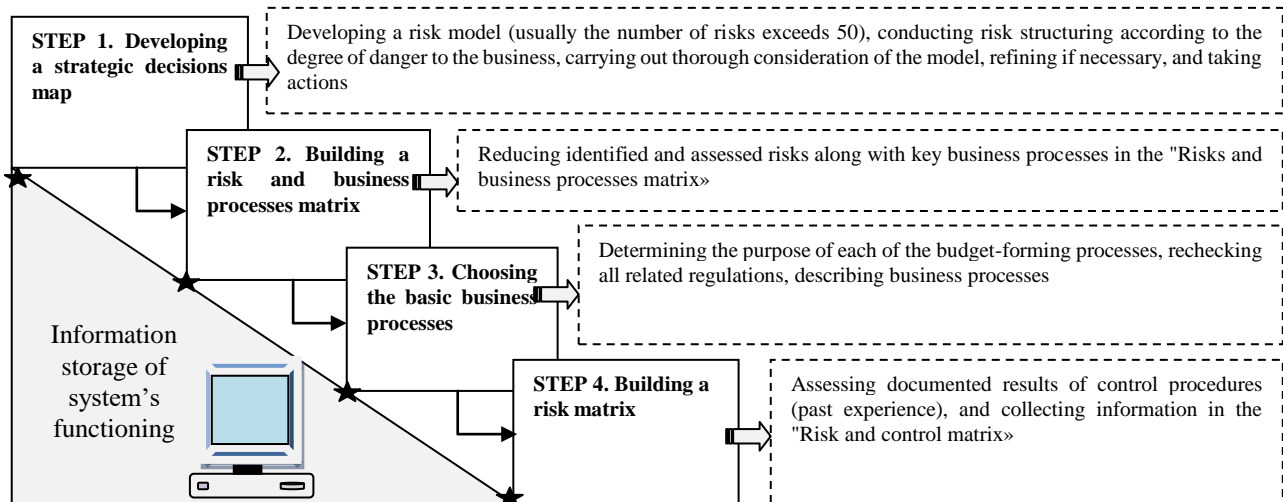


Fig. 4: The logical actions of the management with respect to the ICS organization.
 *Appealing, if necessary, to the accumulated information for the past periods.

In the authors' opinion, the effectiveness of intracorporate control procedures in large companies with public ownership can be enhanced through the collaboration of two control processes, namely, state financial control, and intracorporate control. Collaboration is the integration of something related (process, models, methods, etc.) without losing the essential properties of each component. Carrying out financial control in large companies with public ownership by joint efforts of specialists, for example, the Accounts Chamber of the Russian Federation, or other institutional entity with control powers, and specialists of the intracorporate control service, can ensure strictly targeted use of state budgetary resources allocated to projects of JSC Russian Railways, Gazprom, Rosneft, and others, as well as timely and complete transfer of dividends from these companies to the state treasury. For example, just one Russian monopoly – JSC Russian Railways (RZD) – requested from the government of the Russian Federation in 2017 indexation of tariffs by 5.8% to the level of 2017, rather than 2%, as expected based on the socioeconomic forecasting. At that, the company's management has committed to reducing the burden on shippers; to reduce the export surcharge by 20% (the maximum limit of the surcharge within the tariff corridor, as

promised, would be 8% rather than 10%), not to index the infrastructure tariff for long-distance passenger traffic, as well as to extend the single tariff to Yakutia Railways. Subject to the adoption of the proposals of Russian Railways by the government of the Russian Federation, the company's management committed to reduce costs in 2018 by 80 bln rubles, raise labor productivity by 5%, and implement an investment program of 5.8 trillion rubles by 2025. According to the President of JSC Russian Railways, the company is ready to start the project on the transport transition to Sakhalin and begin to construct a high-speed highway Moscow-Vladimir [14].

The intracorporate control model in JSC Russian Railways is based on the COSO concept with all formal attributes, while revealed misuse of budgetary funds only for 2016-2017 amounted to more than 245 mln rubles [15].

For owners and managers of large companies with public ownership, it is important to establish certain rules regulating the development of accounting and control procedures that do not allow the release of new commodity products or services with a risk factor of *misuse of budget allocations*. To do this, the authors propose a new concept of intracorporate control in such companies, which is focused on risks (Fig. 5).

GOAL ORIENTATION ON RISKS

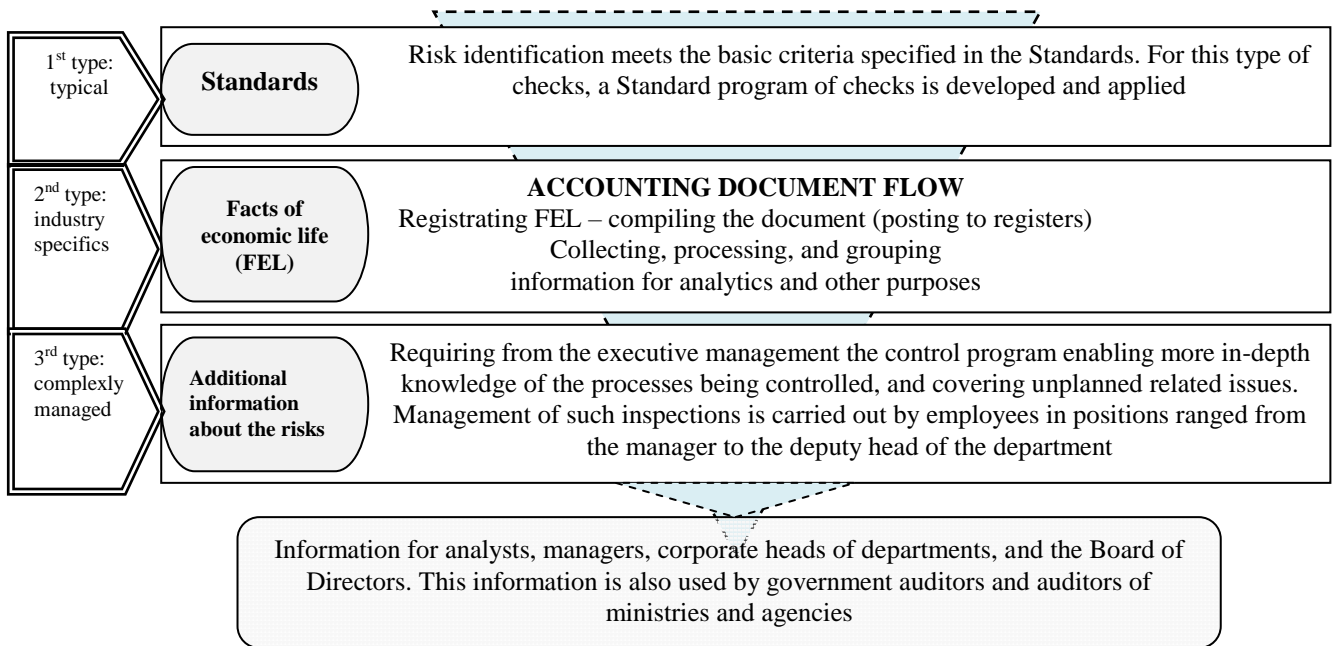


Fig. 5: Risk typification taking into account the specifics of the participants of the institutional and intracorporate financial control procedures (developed by the authors).

Consequently, to implement this concept in practice, one will need a new methodology for assessing the effectiveness of institutional and corporate financial control (ICFC) procedures, which is based on the division of risks into three types (Fig. 5). In the authors' view, such risk typification can contribute to the goal orientation of the efforts of inspectors according to their status. When conducting risk typification, first of all, important organizational issues should be solved. It is necessary to determine whether the specialists from the institutional regulatory structures involved in the inspections will be organizationally enrolled in the staff of the company's operating units, or a separate independent structure should be created that would not be directly subordinated to the company's management. Further, it is necessary to determine the subordination model of such ICFC service to higher authorities (for example, directly to the control department under the Russian government). Then the order and frequency of carrying out periodic control checks and informing on the received results are defined. Such a regulation, with its strict observance, will ensure within a particular campaign an acceptable level of independence of the analysis-control procedures and their effectiveness.

This model of accounting and control procedures performed by the joint efforts of specialists of the intracorporate control service and involved experts should ideally result in obtaining from the regulatory supervisory authority of the highest instance a qualified assessment of specific issues, i.e. the issues related to a particular area of financial and economic activity of the company, as well as the information concerning presence of systemic risks, with which the company's specialists cannot cope with their own efforts, rather than receiving just a list of points, which concern to violation of official instructions and regulations, as well as the requirement to align certain areas of activity.

An integral indicator to evaluate control procedures upon

their completion will be an indicator reflecting the ratio of their total positive effect and the total cost of implementation for a specific period. To obtain results, the company should develop a scale with the standards of such checks for the last five to six years. The authors have used two methods chosen as the most appropriate to solve the problem. The first one is the sociological method, based on the collection and analysis of opinions of managers, who use information available in the reports of inspectors, using special questionnaires. This method allows determining the numerical values of indicators to assess the effectiveness of control procedures. The second one is an expert method based on the analysis of the opinions of a group of highly qualified specialists-developers, and managers, who use the results of inspections (both in-house and involved). This method is used to enhance the reliability of the assessment by the first method (online interviewing).

IV. CONCLUSION

The search for indicators of assessment of the results of the control process has intensified with the appearance of signs of the downturn or the rise in the macroeconomic trend that is predetermined by the cyclical nature of the economy in general. An example is the research for 2005-2008 [16-20]. The authors have selected a number of methodically useful properties from this research, which are presented in Fig. 6.

Unfortunately, in these recommendations, all of these indicators themselves need to be specified, for example, signs of the inefficiency of control subsystems, quality of regulatory documentation, typical losses caused by the absence of ICS, and structural and operational efficiency of ICS.

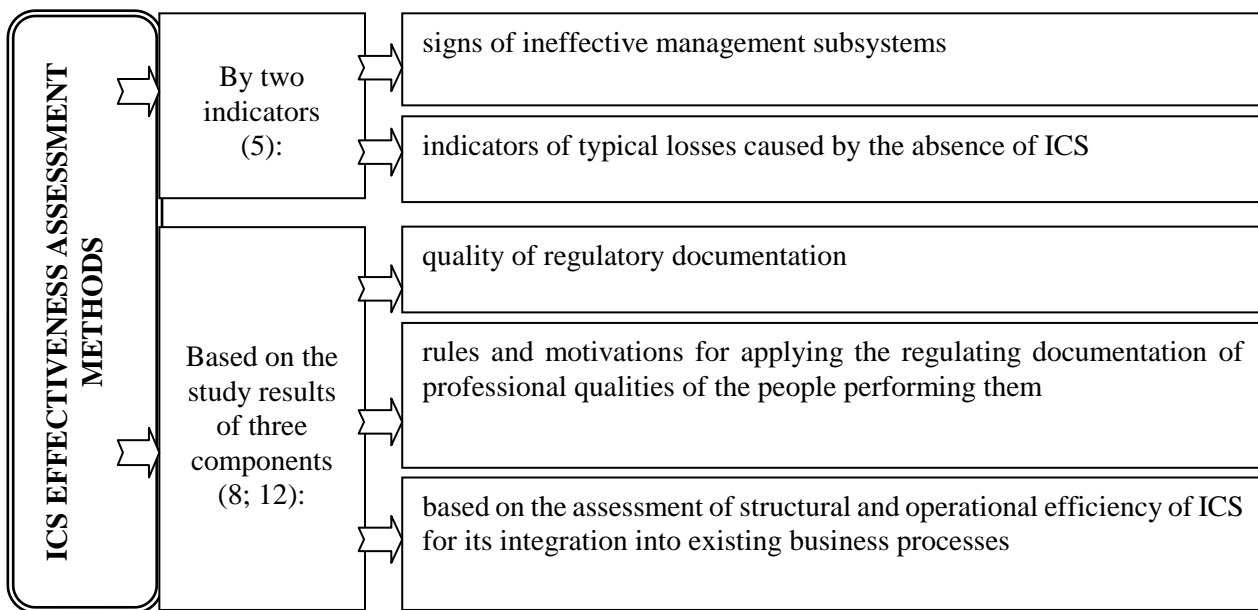


Fig. 6: Recommendations of different authors to determine the effects of intracorporate control service [16-18].

The terms *effectiveness*, *efficiency*, and similar ones should be used only when the criteria specifying the essence of these terms are set and formalized. As a rule, in legislation on economic, financial, and other issues, such criteria are not specified, which results in the fact that resulting indicators of efficiency, effectiveness, and the like are calculated according to standard algorithms, which are either outdated or do not reflect determining factors of a specific space and time. Nevertheless, it is obvious that the evaluation of control procedures and the search for adequate methods for this have long attracted the attention of scientists and practitioners, still remaining relevant today.

NOTES

- Note 1. Brought into force in the Russian Federation by the Order of the Ministry of Finance of 24.10.2016, No. 192n.
- Note 2. Accepted for use on 9.08.2013, by the Fund "National non-governmental accounting regulator "Methodological Accounting Center".
- Note 3. Ergatic systems are the reproductive process schemes, of which one element is a person or a group of people. The main features of such systems are socio-psychological and moral-ethical aspects.

REFERENCES

1. Plakhotya, T.V. *Razvitie metodiki ocenki sistemy vnutrennego kontrolya* [Development of methods to assess the intracorporate control system]. Ph.D. thesis in Economics. Rostov-on-Don, Rostov State University of Economics, 2015.
2. Skorlygina, N. *OAo RZHD poprosilo sebe dve nadbavki na 2018 god* [Russian Railways JSC has asked for two allowances for 2018]. 2017. Available: <https://www.kommersant.ru/doc/3487855>
3. Khan, D., and Hungenberg, H. *Planning and control. Value-oriented controlling concepts*. Trans. From German. Moscow, Finance and Statistics, 2005.
4. Khrutsky, V.E. *Ocenka personala. Kritika teorii i praktiki primeneniya sistemy sbalansirovannykh pokazatelej* [Staff assessment. Criticism of the theory and practice of the balanced scorecard]. Textbo

- ok. Moscow, Finance and Statistics, 2007.
5. Bodiako, A., Bulyga, R.P., Bondarenko, A.A., Rogulenko, T.M., and Ponomareva S.V. Identification of an intra-corporative accounting system in modern conditions. *International Journal of Civil Engineering and Technology*, 2018, vol. 9(7), pp. 1774-1784.
6. Sonin, A.M. *Vnutrennij audit: Sovremennij podhod* [Internal audit: Modern approach] [Text]. Moscow, Finance and Statistics, 2007.
7. Khmelnytsky, V.A., and Grin, T.A. *Kontrol' i audit* [Control and audit] [Text]. Minsk, Modern School, 2006.
8. Makeev, R.V. *Postanovka sistem vnutrennego kontrolya: ot proverok otchetnosti k ehffektivnosti biznesa* [Setting up intracorporate control systems: From audit reports to business performance] [Text]. Moscow, Vershina, 2008.
9. Maksimova G.V., and Karetnikov, K.A. Ocenka sistemy vnutrennego kontrolya [Assessment of the intracorporate control system]. *Bulletin of the Baikal State University*, 2017, vol. 3(27), pp. 372-379.
10. Butsykova D.S., and Kurucz Yu. Integrirovannaya informacionnaya sistema vnutrennego kontrolya [Integrated information system of intracorporate control]. *Young Scientist*, 2014, vol. 4(2), pp. 86-88.
11. Belik, V.D., and Skakun, L.S. Razvitie metodicheskikh podhodov k ocenke kachestva deyatel'nosti sub"ektov vnutrennego kontrolya: primeneniye kvalimetricheskikh metodov [Development of methodical approaches to assessment of quality of activity of intracorporate control subjects: Application of qualimetric methods]. *International Accounting*, 2012, vol. 42(240), pp. 48-59.
12. Vakaryuk, E. Novaya koncepciya MSFO – chto nas zhdet? [A new concept of IFRS: What awaits us?]. NOSK Training.
13. Boykov, O. Razvitie metodicheskikh podhodov k ocenke kachestva deyatel'nosti sub"ektov vnutrennego kontrolya: primeneniye kvalimetricheskikh metodov [Effective intracorporate control system: How to overcome risks] Financial Director. Retrieved from <https://fd.ru>
14. Skatershchikov, S., *Privivka ot Enron. Prakticheskoe rukovodstvo po organizacii komiteta po auditu, vnutrennego kontrolya i vnutrennego audita v akcionermyh obshchestvakh* [Vaccination against Enron. Practical guidance on the organization of the audit, intracorporate control, and internal audit in joint stock companies]. Moscow, Al'pina Business Books, 2005.
15. Bodiako, A.V., Ponomareva, S.V., Rogulenko, T.M., Karp, M., Kirova, E., Gorlov V.V., and Burdina, A. The goal setting of intracorporate control in the system of project financing. *International Journal of Economics and Financial Issues*, 2016, vol. 6(4), pp. 1945-1955.

16. Golovach, A.M. Vnutrennij kontrol' i vnutrennij audit v organizacii: razgranichenie kompetencii [Intracorporate control and internal audit in the organization: Differentiation of competence]. *Audit Bulletin*, 2007, vol. 1, p. 8.
17. Kasyanova, G.Yu. *Skidki, bonusy, premii, nadbavki: EHkonomicheskoe obosnovanie, pravovoe regulirovanie, buhgalterskij i nalogovyj uchet*. [Discounts, bonuses, awards, allowances: Economic justification, legal regulation, accounting, and taxation]. Moscow, ABAK, 2010.
18. Teoriya i praktika upravlencheskogo ucheta [Theory and practice of management accounting]. Theory and Practice of Management Accounting. Retrieved from <http://gaap.ru>
19. Vasenev, S.L., Ovanesyanyan, N.M., Rossinskaya, M.V., Volgina, S.V., Rokotyanskaya, V.V., Crisis Management of Regional Development: Cluster Initiatives in Russia and their Efficiency, *Journal of Advanced Research in Law and Economics*, 2017, vol. 8(2), pp. 644 – 657.
20. Vinogradova, E.V., Mukhlynina, M.M., Mukhlynin, D.N., Solovyeva, N.V., Lebedeva, O.Y., Economic and Legal Aspects of Environmental Safety, *Journal of Environmental Management and Tourism*, 2018, vol. 9(1), pp. 144-150.