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METHODS FOR CONDUCTING AN AUDIT OF THE EFFECTIVENESS OF INTERNAL CONTROL

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**Abstract.** The socio-economic orientation of the insurance companies' activity has identified this industry as one of the most strictly regulated by the state, which led to the obligatory implementation of internal control. The article discusses the methods of assessing the ICS and based on the studied researches; own methodology for conducting an audit of the effectiveness of internal control in an insurance company is proposed. This theme is especially relevant for insurance companies, where mechanisms of assessing the effectiveness of the internal control system are still being developed. The author proposes a new approach to assessing the effectiveness of the internal control system in an insurance organization based on quantitative and qualitative criteria of the use of an integrated indicator for assessing the effectiveness of ICS. An audit plan for the effectiveness of ICS in an insurance organization has been drawn up. The conditions for recognizing an effective system of internal control in an insurance organization are identified. The author proposed such components of the analytical procedure for assessing the effectiveness of internal control as testing and calculating an indicator characterizing the level of coverage of the internal control system.

**Keywords:** audit, internal control, insurance company, efficiency, assessment, integrated indicator, assessment methods.

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## **1. Introduction**

The internal control system is a process of activity of certain employees of the organization, aimed at minimizing risks by conducting internal control of organization's activities in accordance with the adopted internal documents (methods, regulations, procedures) to ensure the achievement of its goals. In modern economic conditions, the demand for developments in the field of internal control and audit, mainly in organizations with a specific activity, is becoming most urgent (Valentim et al., 2019). The reason for the need to improve the effectiveness of the internal control and audit system is due to the insufficient stability and high speed of changes in economic relations (Avvakumova et al., 2020).

In order to conduct internal control, there are various methodological approaches, which include a set of methods, modes and strategies for researching the activities of insurance organizations. Internal control tools are measures and processes used in the methods, such as: customer identification and study programs, tools for the prevention of economic crimes, methods for detecting and assessing business risks (Bykanova and Akhmadeev, 2019), internal control procedures for managing risks and processes, checking the reliability of information and protecting communications and elements of monitoring the internal control of an insurance organization (Zeibote et al., 2019).

Taking into account the specifics of building internal control and audit systems contributes to the achievement of static stability within the framework of global trends, as well as stimulating scientific and technological progress. Therefore, the effectiveness of the internal control and audit system should directly depend on the construction of the most acceptable methodology and tools for assessing the effectiveness, taking into account the specifics of the organization (Korableva et al., 2019).

## **2. Methods**

The regulatory document "Organization and implementation by an economic entity of internal control of the facts of economic life, maintaining accounting records and the making of accounting (financial) statements" presents the general elements of internal control.

The essence of assessing the effectiveness of the internal control system is defined in identifying the degree of achievement of results in accordance with the costs incurred.

In the writings of many authors who studied the issue of assessing the effectiveness of the internal control system, a hypothesis was proposed in accordance with which the criteria of effectiveness can be divided into qualitative and quantitative (Table 1).

**Table 1.** Approaches to the criteria for the effectiveness of the internal control system

№	Author	Qualitative criteria of assessment	Quantitative criteria of assessment
1.	V.V. Belaya (Belaya V.V.,2013)	identification of the percentage of effectiveness of the internal control system on the basis of developed tests that assign specific points to each element of the internal control system, as a result of which the general category of effectiveness is determined	aggregative assessment of data on the internal control system that can give an opinion on its effectiveness based on information on violations detected by the internal control system, the economic effect of prevented violations, the costs allocated to the internal control system, the ratio of planned and actually implemented internal control procedures, as well as comparison obtained values of effectiveness in dynamics
2.	V.I. Throat (Throat V.I.,2007)	determination of the organizational level of internal control, as well as the establishment of system losses at a certain level of the internal control system	assessment based on expert opinions to determine the effectiveness of the internal control system, using the average mathematical expected value of the event or result
3.	E.A.Kasyuk (Kasyuk, E.A., 2015)	Validity, the right choice of means to achieve the result, the purpose of the internal control determines the level of ICS	the results of the activity of the internal control system are assessed using indicators that allow to identify and eliminate arising violations in controlled entities
4.	Yu.A.Sokolov, A.A. Oskina (Sokolov Yu.A., Oskina A.A., 2013)	interpretation of information on the internal control system, based on a reliable, complete, reliable and timely information base, which is able to ascertain the effectiveness of the activities carried out in general, compliance with applicable laws and dishonesty of employees	obtaining a specific value in a numerical expression that can reflect the effectiveness of the internal control system on the basis of data on the revenues of the internal control system to the total costs allocated for its creation
5.	T.Yu. Serebryakova (Serebryakova T.Yu., 2013)	Logical assessment of ICS allowing to summarize the results using analytics to reduce potential risks	A generalized assessment in the context of economic and mathematical calculation that determines events or a specific process in the ICS

*Source:* own research

The problem of the effectiveness of the internal control system lies not only in determining the most suitable assessment criterion, but its comparability with organizations of a certain type of activity. In relation to an insurance organization, both quantitative and qualitative criteria can be applied. Consequently, it can be argued that a quantitative assessment of the effectiveness of the internal control system in an insurance organization can reveal how effective internal control is, i.e. making calculations, you can find out how much internal control fulfills its responsibilities (Akhmadeev et al., 2018). Qualitative assessment of the effectiveness of the internal control system in an insurance organization, in its turn, seems to be an analytical summary of the results, which is able to identify and also offer measures to minimize various risks. But in practice, most insurance organizations resort to a qualitative assessment, i.e. testing inside it.

### 3. Results

Assessing the effectiveness of the internal control system in insurance organizations is a many-sided aspect, including, according to E.A. Kasyuk criteria, which are presented in Figure 1.

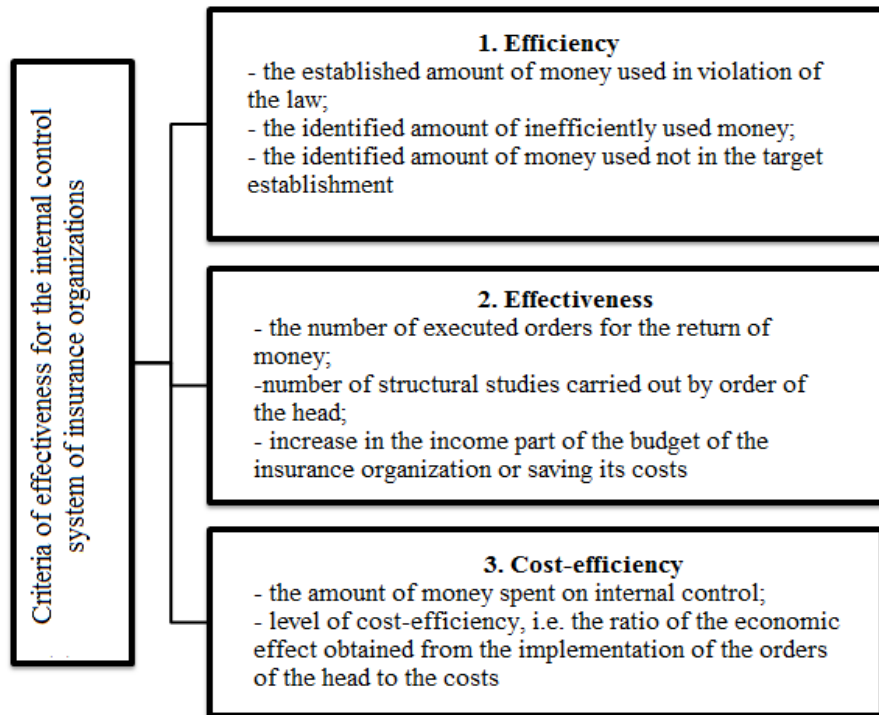


Fig. 1. Criteria of effectiveness for the internal control system of insurance organizations

Source: (Kasyuk, 2015)

Thus, the effectiveness of the internal control system can be assessed using the methodological foundations proposed above. As a result, they can be used in quantitative definitions to assess the functioning of the internal control system in dynamics. The organization must assess the internal control system and conduct an internal audit in order to identify and work out measures of develop and improve the internal control system.

Talking about the assessment of the effectiveness of internal control systems, the assessment of effectiveness can be divided into qualitative and quantitative assessment.

The quantitative assessment is based on economic and mathematical calculations, since one of them is the number of control procedures performed per specialist for a period, and a qualitative assessment is the level of qualification of inspectors; the presence of specialists with professional skills. These methods are presented in table 2.

**Table 2.** Description of methods for assessing the effectiveness of internal control systems in an insurance organization

№	Method	Characteristics	Advantages	Disadvantages
Qualitative assessment				
1.	Testing	The indicators are calculated on the basis of point and weight functions, put out in response to questions related to these indicators	Simple use of this method, the ability to touch upon the narrow and specific aspects of the internal control system	There are no clear objective assessment criteria; subjectivity of assessment
2.	Analytical review	Comparison and collation of own ICS in the company with the proposed practices of Russian and foreign experience	Simply to use. Helps you to compare your own ICS with the relevant standard and regulation. As a result, the minimum cost in assessing the effectiveness of ICS	There are no clear standards for the organization of ICS. Lack of information in the public domain about the organization of ICS in insurance companies
3.	COSO model	Contains recommendations for management on the assessment and improvement of control systems	Allows you to improve the ability to identify risks, as well as implement measures to neutralize them	-
Quantitative assessment				
4.	Statistical calculations	Designing an object, allowing to reflect the properties of the ICS in a mathematical form	Within the functioning of the internal control system, loss saving is determined	The penibility and complexity, does not take into account the influence of the human factor, and the difficulty to quantify indicators for assessing the effectiveness of internal control systems
5.	Expert assessment	Assessment by expressing the opinions of specialists or experts (auditors)	Comprehensive analysis of indicators, analysis based on expert knowledge and experience	The questionable reliability of the assessment, the assessment criteria are quite formal and subjective
6.	Calculation and analytical methods	Measurement of the effectiveness of ICS and a quantitative indicator	Gives a visual assessment of the result from the implementation of the internal control system in value terms	The lack of a real opportunity to calculate the economic effect of introducing an internal control system

Source: (Ambarnova O.Yu., Varkulevich T.V., 2017)

Thus, based on the above characteristics of the methods, we can conclude that the head of the company can use any of these methods that he considers to be the most suitable for business efficiency.

Of course, that there can be no unique method for assessing the effectiveness of ICS. Each method has its advantages and disadvantages. The proposed model by the author, who is T. Varkulevich combines some methods that are inter-connected and allow us to assess the effectiveness of the ICS, focused on various subsystems of internal control and their content (Figure 2).

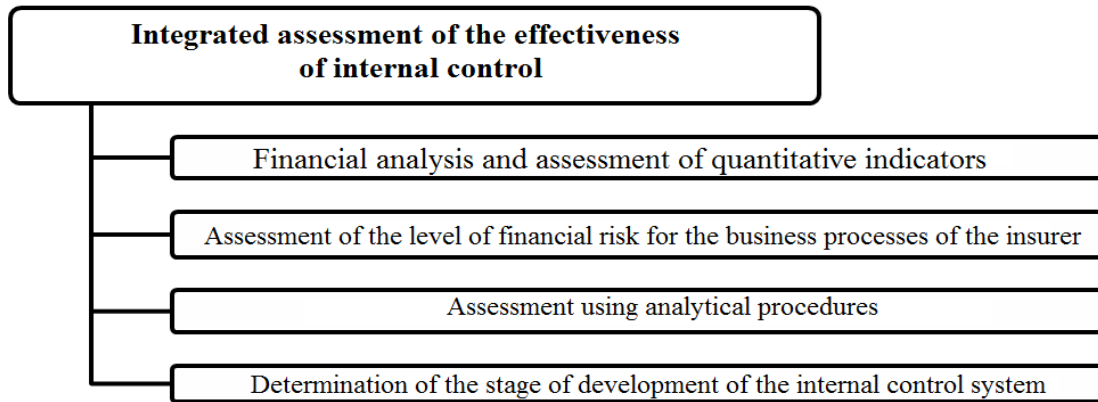


Fig. 2. Model of an integrated assessment of the effectiveness of internal control

Source: Ambarnova O.Yu., Varkulevich T.V. (2017)

This model is able to combine all the advantages of various methods for assessing the effectiveness of internal control and adapt them to the insurance company's management system, provide an assessment of the ability of internal control to perform its functions effectively. In addition to the analysis of calculated indicators of the effectiveness of internal control and the survey of employees of the internal control service, it is necessary to take into account the indicator "level of coverage of the internal control system".

This indicator or the so-called maturity indicator of the internal control system defines the boundaries of the control coverage of a particular business process: process characteristics, control environment, risk assessment, control procedures, information and communication, monitoring.

The risk of not covering ICS is determined at intervals:

ICS level from 0 to 0.4 - low;

ICS level from 0.4 to 0.8 - average;

ICS level from 0.8 to 1 - high.

To assess the level of risk, the following formula 1 is used:

$$RncICS = (0,2 * (Cnlr * Cs) + 0,6 * (Cnmr * Cs) + 0,9 * (Cnhr * Cs)) * 100\%$$

where RncICS - risk of non-coverage of ICS;

Cs - coefficient of significance determined by the test results (1 divided by the number of tests performed);

Cnlr - number of objects with low risk;

Cnmr - number of objects with medium risk;

Cnhr - number of objects with high risk;

The result of the calculations will be the overall risk of non-coverage or the risk will not be detected, or the detected risk will not be so significant for the company, or maybe the probability of the occurrence of risk is simply assumed. In this case, the ICS level indicator is determined by the formula 2:

$$LiICS = 100\% - RncICS$$

The obtained value of the indicator of the level of coverage of the internal control system reflects the percentage of areas covered by the ICS, and can be determined both by the business process and by the insurance company as a whole.

In table 3, we will assess the quality of the internal control system, which will allow us to form an idea of the effectiveness of control of the insurance company.

**Table 3.** Testing the assessment of the internal control system

Checklist items	Assessment	
	before implementation of ICS	after implementation of ICS
<b>1. Control environment</b>		
Availability of special documents or local acts on internal control	0	1
Availability of an internal control department in the company	0	1
Assessment of the level of competence of employees in comparison with the necessary level for high-quality accounting. Availability of activities aimed at staff development	0,5	1
Assessment of management competency in comparison with the necessary level for organization management	0,5	1
Correspondence of the organizational structure of the company to the volume of the insurance company	0	1
Responsibility in the field of internal control	0,5	1
<b>2. Risk assessment</b>		
Availability of risk assessment	0,5	1
Availability of analytical reports of financial and economic activities to increase the profitability of the organization	0,5	1
<b>3. Control procedures</b>		
Assessment of the list of control procedures for business processes	0,5	1
Availability of an approved program and schedule of inspections	0,5	1
Assessment of the availability of technology in ICS	0	1
Assessment of control over legality of transactions	0	1
Availability and description of a clear delineation of duties and powers	0,5	1
Assessment of control procedures for access to software products and databases of an insurance company	0,5	1
Maintaining the necessary documents based on the results of the control	0,5	1
<b>4. Information Systems</b>		
The organization has an automated accounting system	1	1
The organization has automated warehouse accounting	0,5	1
<b>5. Monitoring controls</b>		
Assessment of the formalization of measures for monitoring controls	0	1
Assessment of the availability of procedures that are aimed at changing the ICS	0	1
Availability of regular control activities	0	1
Assessment of staff responsibility. Availability of independent assessments of the reliability of control tools	0	0,5
<b>Total score:</b>	<b>6,5</b>	<b>20,5</b>

Source: own research

We define the significance level of the internal control system, which is defined as  $1/21 = 0.047$ .

Further, we calculate the risk level of CRS:

- implementation:

$$Rnc_{ICS} = (0,2 * (1 * 0,047) + 0,6 * (11 * 0,047) + 0,9 * (9 * 0,047)) * 100\% = 70,03\%$$

- after implementation:

$$Rnc_{ICS} = (0,2 * (20 * 0,047) + 0,6 * (1 * 0,047) + 0,9 * (0 * 0,047)) * 100\% = 21,62\%.$$

The risk level of JSC “Insurance” before implementation of the developed measures is 70.03% (high level), after which it decreased to 21.62% (low level).

We calculate the level of coverage of the internal control system in the insurance company in question. We get the following calculation results:

- before implementation:

$$Li_{ICS} = 100\% - 70,03\% = 29,97\%$$

- after implementation:

$$Li_{ICS} = 100\% - 21,62\% = 78,38\%.$$

Thus, the level of ICS coverage after events will increase from 29.97% to 78.38%, which suggests that the introduced improvements will help the effectiveness of the internal control system.

According to the results, the formation of the internal control service will improve the quality of the internal control system of the insurance company. The test results confirmed the need to create an internal control service will increase the quality assessment of ICS.

The formation of the internal control department is important both from the economic side and from the position of the company's security:

- costs in human potential - training and attracting new employees will improve the quality of the internal control system. This condition will occur due to professional control over the actions of employees, their compliance with the established legal regulations and internal acts;

- conducting preliminary control of insurance transactions will identify weaknesses and take certain measures to prevent adverse consequences;

- the risks of theft and fraud, losses will be reduced, the safety of the insurance company's assets will increase, and the costs of recovering losses will decrease. This condition can be ensured on the basis of the interaction of the internal control department with the security department and the legal department.

When auditing the effectiveness of ICS, it is necessary to take into account the types of business process. A business process can be divided into stages of internal control: process planning, process support and management. In this case, it is necessary to determine the goals of the business process, the regulatory framework and the participants in the process, as well as establish a list of questions and information for conducting the monitoring of the business process. All this can be summarized in a pivot table. (table 4).

**Table 4.** Description of the business process

№	The name of the stage of the business process	Introduction		Transformation			Withdrawal		The document defining the regulation of the business process stage	Benchmarks for the business process stage
		The name of the resource	The supplier	Procedure	Term	Responsible person	Result	Consumer		
...	...	...	...	...	...	...	...	...	...	...

Source: (Daudov and Kovaleva, 2017)

A qualitative description of the business process contributes to the effective analysis of its conducting. Testing is also used as a method of assessing the effectiveness of internal control. The advantage of testing for auditors is to identify the level of effectiveness of controls. The Ministry of Finance of Russia suggests assessing ICS by testing (Protocol N 25 of 04/22/2004, April 23, 2004). When conducting an internal audit assessment of the organization's internal control system, the results of the organization's actually executed and documented control procedures should be taken into account. Assessment of the level of organization of the internal control system in the company should include criteria with the assignment of certain points. Table 5 shows the components and criteria of the internal control system defined by the Federal Tax Service of Russia (<http://www.pravo.gov.ru> , 2017).



**Table 5.** Components and criteria of the internal control system in the insurance organization

№	Component	Criteria of the internal control system in the insurance organization
1.	Organization Control environment	Compliance with professional, ethical and behavioral standards
		The participation of the head of the organization
		Organizational structure, distribution (differentiation) of duties and responsibilities
		Competence and staff development
2.	Identification and assessment of risks by the organization	Identification by the organization of risks associated with the distortion of the accounting (financial), tax and other statements of the organization for tax monitoring purposes
		An organization's assessment of the risks associated with the distortion of the accounting (financial), tax and other statements of an organization for tax monitoring purposes
		Documentation by the organization of the risks associated with the distortion of the accounting (financial), tax and other statements of the organization for tax monitoring
3.	Organization Control Procedures	Description of organization control procedures
		Documentation of control procedures documentation
		Assessment of the effectiveness of control procedures of the organization
		Availability of automated organization management procedures
		Correlation of automated and manual organization management procedures

*Source:* own research

After assessing the components and criteria of the internal control system, it is necessary to argue and give the actual values of the points, which will reflect the organization and effectiveness of internal control (Table 6) (<http://www.pravo.gov.ru> , 2017).

**Table 6.** Assessment of the level of organization of the internal control system in the insurance organization

No	ICS elements	Criteria by which an organization is assessed	Maximum points per element	Actual scores per element	The level of organization of the internal control system	Link to organizational and administrative document
1.	Organization control environment	Compliance with professional, ethical and behavioral standards	...	...	...	...
		Compliance with professional, ethical and behavioral standards	...	...	...	...
		The participation of the head of the organization	...	...	...	...
		Organizational structure, distribution (differentiation) of duties and responsibilities	...	...	...	...
		Competencies and staff development	...	...	...	...
2.	Identification and assessment of risks by the organization	Identification by the organization of risks associated with the distortion of the accounting (financial), tax and other statements of the organization for tax monitoring purposes	...	...	...	...
		An organization's assessment of the risks associated with the distortion of the accounting (financial), tax and other statements of an organization for tax monitoring purposes	...	...	...	...
		Documentation of risks associated with the distortion of the accounting (financial), tax and other statements of an organization for tax monitoring purposes	...	...	...	...
3.	Organization Control Procedures	Description of organization control procedures	...	...	...	...
		Documentation of organization control procedures	...	...	...	...
		Assessment of the effectiveness of control procedures of the organization	...	...	...	...
		Organization automated control procedures	...	...	...	...
		Correlation of automated and manual organization management procedures	...	...	...	...
4.	Organization Information System	Internal and external audit of organization information systems	...	...	...	...
		Availability of protection against unauthorized access to source data	...	...	...	...
		Organization information systems for the organization of accounting and tax accounting	...	...	...	...
		Organization information systems used to control the correctness of the calculation (withholding) of taxes, fees, insurance premiums and for the preparation of accounting (financial), tax and other statements	...	...	...	...
		Availability of real-time controls	...	...	...	...
5.	Monitoring by the organization of control tools	Monitoring and assessment by the organization of the organization's internal control system	...	...	...	...
		Measures to improve the organization's internal control system	...	...	...	...
		Internal and external audit	...	...	...	...

Thus, nowadays, due to market volatility, the demand for economic goods is very variable. On the basis of the studied methods for conducting an audit of the effectiveness of the internal control system in an insurance organization, it is advisable to present the author's development in the form of a plan in accordance with which it will be possible to conduct an assessment (Table 7)

**Table 7.** The audit plan of the effectiveness of the internal control system in the insurance organization

№	Name of control action	Assessment method	Duration of effectiveness audit	Responsible persons
1.	Analysis of accounting policies of the insurance organization, including on ensuring the functioning of the internal control system	Analytical review	Annually	Position, full name
2.	Analysis of the internal environment of the insurance organization, including:	Analytical review	Annually	Position, full name
2.1	Analysis of the organizational structure of management	Analytical review	Annually	Position, full name
2.2	Management style analysis	Testing	Annually	Position, full name
2.3	Staff management analysis	Testing	Annually	Position, full name
2.4	Analysis of management and financial reporting of the insurance organization	Testing	Annually	Position, full name
2.5	Analysis of compliance with applicable law by an insurance company	Testing	Annually	Position, full name
3.	Assessment of the effectiveness of the internal control system in the insurance organization, including:	Calculation and mathematical	Monthly	Position, full name
3.1	Assessment of the effectiveness of the insurance organization	Calculation and mathematical	Monthly	Position, full name
3.2	Assessment of the effectiveness of the internal control system in an insurance organization	Calculation and mathematical	Monthly	Position, full name
3.3	Assessment of the effectiveness of the organization of labor by employees of the internal control service in an insurance organization	Calculation and mathematical	Monthly	Position, full name
3.4.	Determination of the integral indicator for assessing the effectiveness level of the internal control system	Expert	Monthly	Position, full name
4.	Assessment of the effectiveness of elements of the internal control system in an insurance organization based on testing, including:	Testing	Monthly	Position, full name
4.1	Assessment of the control environment of the insurance organization	Testing	Monthly	Position, full name
4.2	Risk assessment of an insurance company	Testing	Monthly	Position, full name
4.3	Assessment of control procedures in an insurance company	Testing	Monthly	Position, full name
4.4	Assessment of the information system in an insurance organization	Testing	Monthly	Position, full name
4.5	Assessment of monitoring the functioning of the internal control system in an insurance organization	Testing	Monthly	Position, full name
4.6	Determining the final score for assessing the level of effectiveness of the internal control system	Expert	Monthly	Position, full name
5.	Identification of the position of the insurance organization in the insurance market according to the criteria of the effectiveness of the internal control system	Expert	Annually	Position, full name
6.	Summarizing the results of evaluating the effectiveness of the internal control system in an insurance organization, incl.	Expert	Annually	Position, full name
6.1	Identification of risks of the insurance company as a result of the assessment of the effectiveness of the internal control system	COSO model	Ежемесячно Monthly	Position, full name
6.2	Identification of errors, violations and weak zones that reduce the effectiveness of the internal control system in the insurance organization	COSO model	Monthly	Position, full name
6.3	Development of measures to neutralize identified risks	COSO model	Annually	Position, full name

Source: own research

The plan for assessing the effectiveness of the internal control system in the insurance organization is at the head of the internal audit service. During the audit, responsible persons can be both the head of this service and his

specialists. These methods described in the plan may vary and change depending on the choice of the verified person.

The integration of insurance organizations in the banking system can be called a modern trend in the development of the insurance market. So the internal control system of the insurance organization is approaching the current model in the credit organization. But despite the shared goal of creating an insurance and credit organization, which is to redistribute the risks of its customers, their functioning proceeds differently due to the specifics. So, the assessment of the effectiveness of the internal control system in an insurance organization does not have to be completely identical with a credit organization due to different approaches to carrying out activities (Kolupaev et al., 2018; Morozova et al., 2020).

Within the framework of this work, one can propose an author's approach to assessing the effectiveness of the internal control system in an insurance organization based on quantitative and qualitative criteria.

With the help of selected indicators, which are presented in table 8, it is possible to conduct a qualitative assessment of the effectiveness of the internal control system in the insurance organization based on the costs incurred.

**Table 8.** Indicators of quantitative assessment of the effectiveness of the internal control system

No	Indicator	Characteristics	Threshold value	Formula
I. The effectiveness of the insurance organization				
1.	Profitability of insurance operations	reflects the effectiveness of an insurance organization in relation to its turnover for the study period	MAX↑	$Pio = (Prio / TA) * 100$ , where Pio is the profitability of insurance operations; Prio is the profit from insurance operations; TA is the total amount of insurance premiums (1)
2.	The coefficient of the level of insurance payments	reflects the break-even of insurance activities	MIN↓	$Cip = TP / TA$ , where Cip is the coefficient of the level of insurance payments; TP is the total amount of insurance payments (2)
3.	The coefficient of financial stability of the insurance organization	reflects the state of financial resources in accordance with the requirements imposed on the insurance organization	MIN↓	$Cfs = \sqrt{(1 - (Tr / 100)) / (Cc * (St / 100))}$ , where Cfs is the coefficient of financial stability of the insurance organization; Tr is the tariff rate; Cc - this is the number of contracts concluded (3)
4.	The coefficient of financial stability of the insurance fund	reflects the ratio of the income of the insurance organization to its expenses in order to identify the level of solvency	MAX↑	$Cfsf = (I + Rf) / (TP + Eic)$ , where Cfsf is the coefficient of financial stability of the insurance fund; I is the amount of income of the insurance organization; Rf - this is the amount of funds in reserve funds; Eic is the total amount of expenses for the introduction of insurance activities (4)
5.	The efficiency coefficient of the insurance organization	reflects the effectiveness of insurance activities	MAX↑	$Ceio = Cip * Cfs * Cfsf$ , where Ceio is the coefficient of efficiency of the insurance organization (5)
II. The effectiveness of the internal control system				

6.	Cost-effectiveness of the internal control system	reflects the efficiency of management of the internal control system in the insurance organization	MIN↓	$CEics = (Cics / AAics) * 100$ , where CEics is the cost-effectiveness of the internal control system; Cics - this is the cost of maintaining an internal control system; AAics is the average annual number of employees employed in the internal control system (6)
7.	Profitability of the Internal Control Service	reflects the degree of effectiveness of funds spent on the maintenance of the internal control service	MAX↑	$Pics = ((Ptp - Ppp) / Cics) * 100$ , where Pics is the profitability of the internal control service; Pcp - this is the profit of the insurance organization of the current period; Ppp is the profit of an insurance company of the previous period (7)
8.	Coefficient of possible lost profits	reflects discovered, but not mobilized sources of improving the efficiency of the insurance organization, attributable to 1 RUB. costs of maintaining the internal control system	MIN↓	$Cplp = Spe / Cics$ , where Cplp is the coefficient of possible lost profits; Spe - these are the sources of performance improvement in monetary terms identified during the audit (8)
9.	Coefficient of acquired benefits	reflects the translated sources of improving the efficiency of the insurance organization, attributable to 1 RUB. costs of maintaining the internal control system	MAX↑	$Cab = Mr / Cics$ , where Cab is the coefficient of acquired benefits; Mr - this is the mobilized internal reserves detected by the internal control system in monetary terms (9)
10.	Utilization coefficient of identified reserves	reflects the validity of the functioning of the internal control system due to mobilized internal reserves in the activities of the insurance organization	MAX↑	$Cuir = Mr / Spe$ , where Cuir is the utilization coefficient of identified reserves (10)
11.	Detected violations coefficient	reflects detected errors and violations per 1 RUB. costs of maintaining the internal control system	MIN↓	$Cdv = No / Cics$ , where Cdv is the coefficient of violations detected; Dv - this is the sum of detected violations by the internal control system in monetary terms (11)
12.	The coefficient of possible losses due to violations of settlement operations	reflects the saving of resources of the insurance organization due to the timely detection of violations and errors in the settlement operations per 1 RUB. costs of maintaining the internal control system	MAX↑	$Cpl = Af / Cics$ , where Cpl is the coefficient of possible losses due to violations of settlement operations; Af is the amount of possible financial sanctions in cash (12)
13.	The coefficient of effectiveness of the internal control system	reflects the effectiveness of the functioning of the internal control system per 1 RUB. costs of maintaining the internal control system	MAX↑	$Ceics = Cuir * Cdv * Cpl$ where Ceics is the coefficient of effectiveness of the internal control system (13)
14.	The effect of the functioning of the internal control system	reflects the absolute value of the savings obtained by the internal control system of the insurance organization	MAX↑	$Rfics = Mr + Dv + Af$ where Rfics is the result of the functioning of the internal control system (14)
III. The effectiveness of the organization of labor of the internal control service				
15.	The stability coefficient of	reflects the level of constancy and	MIN↓	$Css = Nq / Namne$ , (15)

	the staff of the internal control service	stability of the internal control service in the insurance organization		where $C_{ss}$ is the coefficient of stability of the composition of the internal control service; $N_q$ is the number of employees who quit the internal control service ; $N_{amne}$ is the average monthly number of employees of the internal control service
16.	Employee default coefficient	reflects the level of poor performance of their duties to ensure the functions of the internal control system	MIN↓	$C_{ed} = N_f / N_{amne}$ , where $C_{ed}$ is the employee default coefficient; $N_f$ is the number of employees of the internal control service who received a reprimand, a fine, and a penalty for failure to perform their duties (16)
17.	Employee Qualification coefficient	reflects the level of knowledge, qualifications and professional skills, and skills of employees of the internal control service	MAX↑	$C_{qe} = N_{he} / N_{amne}$ , where $C_{qe}$ is the coefficient of qualification of employees; $N_{he}$ is the number of employees with higher education (17)
18.	The coefficient of automation of internal controls	reflects the level of automation of internal controls at which productivity increases, and the optimization of internal control procedures	MAX↑	$C_{ac} = M_{aic} / M_{tv}$ , where $C_{ac}$ is the coefficient of automation of internal controls; $M_{aic}$ is the number of procedures performed using automated internal controls; $M_{tv}$ - this is the total volume of procedures performed as part of internal control (18)
19.	The efficiency coefficient of the organization of labor of the internal control service	reflects the effectiveness of organized work in the internal control service of an insurance organization	MAX↑	$C_{lics} = C_{ss} * C_{ed} * N_{bo} * C_{ac}$ , where $C_{lics}$ - is the coefficient of efficiency of the organization of labor of the internal control service (19)
<b>IV. Integral level of effectiveness of the internal control system</b>				
20.	Integral indicator for assessing the level of effectiveness of the internal control system	reflects the final level of effectiveness of the created and functioning system of internal control in an insurance organization	MAX↑	$I_{iics} = (C_{eio} * 0.2 + C_{eics} * 0.5 + C_{lics} * 0.3) / 3$ , where $I_{iics}$ is an integral indicator of assessing the level of effectiveness of the internal control system (20)

*Source: own research*

According to the developed author’s methodology, the assessment of effectiveness is directed in three blocks, namely, the effectiveness of the insurance organization, the effectiveness of the internal control system and the effectiveness of the organization of labor of the internal control service. By determining the effectiveness of the internal control system through the proposed indicators, it is supposed to establish the place of the insurance organization in the insurance market.

This ranking should be done in order to determine the position of the insurance organization in the field of competitiveness and improve activities in the long term.

The integral indicator for assessing the effectiveness level of the internal control system is calculated using weight coefficient, where the coefficient of effectiveness of the internal control system made the largest contribution to the efficiency level of the internal control system. Therefore, the determination of the effectiveness of the internal control system is determined in accordance with Figure 3.

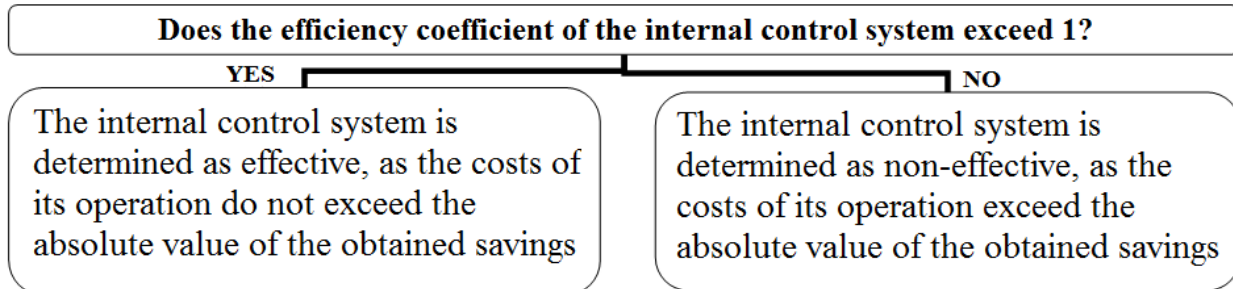


Fig. 3. Conditions for recognizing an effective internal control system in an insurance organization

Source: own research

If the condition under which the costs of operating the internal control system do not exceed the absolute value of the savings due to errors, violations and shortcomings discovered by it remains, then the internal control system in the insurance organization is considered to be effective. Otherwise, if the costs of operating the internal control system exceed the amount of the savings due to it, then the internal control system in the insurance organization cannot be recognized as effective (Frolova, I. and all, 2019).

Having studied the essence of testing in the insurance organization of the internal control system, table 9 will present the author's work on the proposal of testing to assess the effectiveness of internal control in the insurance organization.

Table 9. Testing in the insurance company to assess the organization of the internal control system

№	Question	Scores	Actual scores
I Control organization environment			
1.	The regulation on the internal control system is approved in the insurance company	5	...
2.	Professional and ethical standards approved or not	3	...
3.	The insurance company adheres to the hiring standard	5	...
4.	The authorities are defined according to service instructions providing control over the internal control system	3	...
5.	The head of the insurance organization participates in the assessment of the internal control system	4	...
6.	Total scores	20	...
II Identification and assessment of organizational risks			
7.	Organizational and legal documents for monitoring risks in an insurance organization are approved	5	...
8.	Risk identification and assessment are carried out in a timely manner	5	...
9.	Risk management strategy in an insurance organization is approved	3	...
10.	Risk identification system is automated	4	...
11.	Identified risks are reflected in the documents	3	...
12.	Total scores	20	...
III Control organization procedures			
13.	The procedure for performing control procedures is fixed in organizational and administrative documents	5	...
14.	The structural unit that checks the correctness of the control procedures is organized in an insurance organization	3	...
15.	Employees performing control procedures are fixed in organizational and administrative documents	3	...
16.	Frequency of conducting the control procedures is approved	5	...
17.	Risk matrix and control procedures in an insurance company approved	4	...
18.	Total scores	20	...

IV Organization Information System			
19.	The procedure for conducting an internal audit of information systems is determined in an insurance organization	3	...
20.	Audit frequency is approved	2	...
21.	Access restriction in the information systems of insurance organizations is organized depending on the position and job duties	3	...
22.	An information security policy has been created in the insurance organization	2	...
23.	Electronic storage system is automated	5	...
24.	Tax returns are carried out automatically in a common system for accounting and tax accounting	5	...
25.	Total scores	20	...
V Monitoring by the organization of the internal control system			
26.	Standards (rules) for assessing the internal control system in the insurance company are approved	5	...
27.	Frequency of conducting the assessment of internal control system is established	3	...
28.	The insurance company provides the result of the assessment of the internal control system to third parties	2	...
29.	Strategy on improving the internal control system in the insurance company is approved	2	...
30.	The insurance company has established the procedure for conducting an internal audit, which is carried out by the structural unit	5	...
30.	All internal control system assessments are documented	3	...
31.	Total scores	20	...
32.	<b>Integral total scores</b>		...

Source: own research

The insurance organization must conduct testing, that allows assessing the ICS and identification of the weaknesses in the system, leading to the development of measures to improve ICS and effective development.

#### 4. Discussion

As a result, organizations must assess the effectiveness of internal control systems through internal auditing, where strengths and weaknesses can be identified. Such an assessment of such an element as the control environment is very important because in an organization where there is no support for the principle of honesty, there is a lack of qualifications for the staff. And the internal control system will simply be a system without the ability to fulfill the responsibilities that confront it.

#### Conclusions

The methods for assessing the effectiveness of the internal control and audit system in an insurance organization are diverse. Such methods can be testing in an insurance organization, the COSO model, thanks to which it is possible to find measures of minimization for identified risks and further to neutralize these risks. A commonly used method is the expert method, where the expert, having examined all the data on the assessment, gives his opinion on the effectiveness of the internal control and audit system. “By its nature, internal control should always undergo reformation, addition in accordance with the changing conditions of the development of the economic life of the state” (Turgaeva, 2019).

So, the assessment of the effectiveness of the internal control system for insurance organizations implies methods, proposed for assessing the effectiveness of the internal control system of credit organizations, since insurance organizations are getting closer to the banking system, and it will be incompetent to assess the internal control and audit system using the methods proposed for credit organizations. In this regard, the author proposed the development of methods for assessing the effectiveness of internal control and audit systems for insurance companies.



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