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IMPROVING THE METHODOLOGICAL TOOLS USED BY AUDITORS OF THE NATIONAL AUDIT OFFICE IN APPROACHES TO RISK ASSESSMENT

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ABSTRACT
PURPOSE: The main goal of this paper is to present guidelines for improving the methodological tools used in approaches to risk assessment.
METHODS: The IBM SPSS Statistics software application was used for a correlation analysis of a survey conducted in May through June 2020 among the auditors of the Bulgarian National Audit Office. The analysis is based on Spearman's rank correlation coefficient.
RESULTS: The correlations between the observations were identified. A strong positive correlation of r_s= 0.571 was observed between the Basic risk assessment and the lack of competent employees in the organization and no correlation was found between the standard risk assessment and the risk of material misstatement.
CONCLUSION: The auditors' awareness and application of appropriate procedures allows them to assess correctly the risks regardless of whether they choose to carry out a standard or a basic risk assessment. This is due to the fact that in certain cases management uses inappropriate control activities for certain situations or events.

Key words*:* Approach, Audit, Public sector, Risk Assessment

INTRODUCTION

Public sector auditors perform audit risk assessment as one of the most important elements of the planning stage. It enables them to obtain understanding the audited organization, determine the scope of the audit, and plan the audit procedures. Assessment of audit risk includes "the assessments of its three main components – Inherent Risk (IR), Control Risk (CR), and Detection Risk (DR.)" (1)

In order to achieve a better understanding of the impact of each type of risk on the audit process, a brief description of their essential characteristics should be presented. Audit risk (AR) is defined as "the risk that the auditor expresses an inappropriate audit opinion when the audited object (activity, function, programme, etc.) is materially misstated in terms of the current regulatory framework" (2). Inherent risk is "the natural risk that some activities, including programmes, programme implementation goal-achievement strategies may not be carried out or completed" (2). Control risks are identified and assessed to determine "what internal controls are in place to mitigate or control inherent risks. These controls are assessed in terms of their adequacy and application" (3). Detection risk is defined as "the risk that the procedures performed by the auditor to reduce audit risk to an acceptably low level will not detect a misstatement that exists and that could be material, either individually or when aggregated with other misstatements." (4).

Therefore, auditors should choose an appropriate approach to risk assessment. There are two main approaches – Standard Risk Assessment (SRA) and Basic Risk Assessment (BRA). Standard Risk Assessment is carried out through the following stages (5):

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- Stage One – assessment of inherent risks;
- Stage Two - assessment of control risks;
- Stage Three - assessment of detection risks;
- Stage Four - assessment of the audit risk and determining the volume of and the ratio between tests of controls (TC) and substantive tests (ST) and the amount of audit evidence.

Basic Risk Assessment uses data from past audits carried out within three years prior to the current audit period. This approach is appropriate when "no significant changes were made to the regulatory framework, the operations and the structure of the audited entity between the date of the assessment and the end of the audited period" (5).

METHODS

The research is based on a correlation analysis (performed using the software application IBM SPSS Statistics) of a survey conducted in May through June 2020 among the auditors of the Bulgarian National Audit Office, the methods of induction and deduction, comparative and scientific analyses of the regulatory framework. Based on the conducted empirical research and the data obtained from it, a correlation analysis was carried out using Spearman's rank correlation coefficient, which is a commonly used statistical analysis technique to describe the relationship between variables. The correlation coefficient is a key measure of rank correlation.

RESULTS AND DISCUSSION

The results of the survey show that public-sector auditors always (35.29%) perform standard risk assessments. They sometimes (32.35%) perform basic risk assessment (BRA) in "two forms (5):

- complete BRA – when the basic risk assessment covers all significant aspects of the work of the organization and there are no significant changes;
- partial BRA – when a BRA is appropriate for certain components."

The results of the analysis show that there is no correlation between the standard risk assessment approach and the components of the risk of material misstatement (RMM). A certain trend was observed in terms of preferred risk assessment approach. The respondents prefer the standard risk assessment approach to assess the audit risk and the basic approach to assess RMM. Since the latter is based on information from past audits, it is not appropriate to identify and assess current risks, which requires current audit procedures. They are used to assess each risk at the relevant stage.

The basic risk assessment approach is in correlation with the external pressure (political or public) on the audited entity. The correlation is moderately positive (r_s=0.545), which means that the more significant this pressure is for the audited entity, the more likely the auditors are to apply the basic risk assessment approach, i.e. to use the assessment from past audit procedures. Therefore, auditors should take into account the constantly changing economic, political, and public processes because they are essential for their risk assessment.

The correlation between BRA and the lack of competent employees in the audited organization is highly positive (r_s=0.571***).*** This means that this relationship is directly proportional, i.e. the greater the shortage of competent employees, the more appropriate it would be to use the basic risk assessment approach. This is also due to the fact that when there is a shortage of such employees, auditors rely on substantive tests (8.89%), i.e. a limited number of employees is used to update the assessment of the inherent risks.

The note after **Table 1** states that the coefficient is statistically significant ($p \leq 0{,}05$), i.e. there is a proof that it is not zero. T-stat checks the linear relationship of the correlation without measuring its strength. There is a moderately positive correlation (r_s=0.538) between the lack of competent employees in the audited organization and the reliability of its accounting system. This means that the fewer competent employees an organization has, the less reliable its accounting system is. This correlation is logical, because the lack of knowledge, skills, and competences has negative consequences for the organization, such as poor quality of its accounting policy and its accounting system in general. This is why auditors rely on substantive tests (8.89%) to assess this risk since this type of test is used to assess individual units.

Nevertheless, in such cases the use of tests of controls would be more appropriate because they assess the efficiency of control systems while

substantive tests measure the compliance of activities with the regulatory framework and contracts. Auditors can resolve this problem by using appropriate procedures and tests.

There is a moderately negative correlation (r_s= -0.495) between the lack of mechanisms for reporting of misstatements, non-compliance, and/or fraud and the reliability of the accounting system. This means that the relationship between these two values is inversely proportional. The value of the correlation coefficient shows that the methodological tools are applied correctly and the audit procedures are relevant to the audited risk types since the auditors assume that the reliability of the accounting system is a factor with a significant risk (10.42%) as it is intended to ensure the reliability, comprehensiveness and correctness of the financial and non-financial information disclosed to the auditing authorities. This is why the auditors use more substantive tests (8.89%) and analytical procedures (4.44%) while tests of controls are used in only 3.33% of all cases.

The correlation between the lack of competent employees in the audited organization and the information from past audits is moderately positive (r_s=0.491) and shows a direct proportionality of these values. This means that the fewer competent employees the audited organization has, the more reviews of reports from past audits should be carried out. This correlation stems from the fact that past audit findings are used to determine whether the organization has taken relevant measures to lay off, train, and/or provide additional or alternative qualification to certain employees. The fact that "past audit reports" are considered "less significant" for the identification of inherent risk (IR) means that the respondents do not consider them essential, i.e. they believe that even if these findings are not taken into account, this would not lead to significant misstatements.

Table 1. *Spearman's rank correlation between the procedures to determine specific circumstances (horizontal) and risk factors that are significant for identification of the inherent risk*

	Internal controls circumvention		Lack of competent employees in the audited organization		Lack of misstatement, non-compliance and/or fraud reporting mechanisms		Lack of management reviews		Lack of internal controls	
	r_s	**t-stat**	**r_s**	**t-stat**	**r_s**	**t-stat**	**r_s**	**t-stat**	**r_s**	**t-stat**
External pressure (political or public) on the audited organization	-0.051	0.839	-0.089	0.726	0.343	0.164	-0.253	0.312	-0.205	0.414
Staff experience and competence	-0.417	0.085	-0.121	0.632	0.182	0.470	-0.247	0.322	-0.091	0.719
Reliability of the accounting system	-0.067	0.792	0.538*	0.021	-0.495*	0.037	-0.021	0.933	-0.465	0.052
Organization's control environment	-0.122	0.630	0.574*	0.013	-0.538*	0.021	0.470*	0.049	-0.504*	0.033
Past audit reports	-0.368	0.133	0.491*	0.038	-0.423	0.081	-0.071	0.779	-0.372	0.129
Events and matters audited by the organization's internal audit	0.292	0.240	0.173	0.492	0.131	0.605	-0.065	0.797	0.073	0.772
Events and matters audited by external control institutions (NRA, NSSI, SFIA, etc.)	0.181	0.474	0.401	0.099	0.094	0.710	0.389	0.110	-0.123	0.625
Negative disclosures and media publications	0.306	0.217	-0.298	0.229	0.273	0.273	-0.189	0.453	0.133	0.599

*. Correlation is significant at the 0.05 level (2-tailed).

Another relationship that should be considered is the correlation (if any) between the controls implemented at the audited organization and the risk factors that are significant for identification of IR **(Table 2**). Thus we can determine which controls are used in respect to risk factors to identify the inherent risks.

Table 2. *Spearman's rank correlation between organization's internal controls (horizontal) and risk factors that are significant for identification of the inherent risk*

	Preventive		Identifying (detective)		Corrective (subsequent)		Detective		Access controls		IT controls	
	r_s	**t-stat**	**r_s**	**t-stat**	**r_s**	**t-stat**	**r_s**	**t-stat**	**r_s**	**t-stat**	**r_s**	**t-stat**
External pressure (political or public) on the audited organization	-0.107	0.672	0.297	0.232	0.019	0.940	0.411	0.090	-0.048	0.851	-0.068	0.787
Staff experience and competence	-0.237	0.344	-0.121	0.632	-0.325	0.188	0.479*	0.044	-0.087	0.731	0.102	0.686
Reliability of the accounting system	0.043	0.867	-0.047	0.853	0.123	0.628	0.005	0.985	0.298	0.230	0.031	0.904
Organization's control environment	0.232	0.354	-0.167	0.507	-0.048	0.850	-0.191	0.447	-0.066	0.795	-0.340	0.167
Past audit reports	0.246	0.324	0.001	0.996	-0.165	0.512	-0.017	0.947	0.127	0.615	0.073	0.773
Events and matters audited by the organization's internal audit	0.348	0.157	0.069	0.785	0.110	0.665	-0.507*	0.032	0.235	0.347	0.127	0.615
Events and matters audited by external control institutions (NRA, NSSI, SFIA, etc.)	0.033	0.898	-0.030	0.906	-0.310	0.210	0.186	0.460	-0.028	0.913	-0.372	0.129
Negative disclosures and media publications	-0.102	0.688	0.366	0.136	0.328	0.183	0.126	0.617	-0.009	0.971	0.110	0.663

*. Correlation is significant at the 0.05 level (2-tailed).

The correlation is statistically significant at $p \leq 0.05$ as all values above or below this are not taken into account. The table also shows that there is a moderately positive correlation (r_s=0.479) between staff experience and competence and the detective controls. This is determined by the fact that more controls are used to detect staff experience and competence in terms of acquisition of new qualifications and/or re-qualification, hiring of new employees, implementation of new software, etc. Although they rank fourth of a total of nine choices (66.67%), these controls can be accepted as significant and relevant for the assessment of inherent risks, especially those related to experience and competence.

There is a moderately negative correlation (r_s= -0,507) between events and circumstances checked by the internal audit of the organization and detective controls. This means that the more internal audit is relied on to detect specific facts and circumstances, the less detecting controls are used. In such case, the use of preventive and especially corrective controls is more appropriate because the former aim to prevent the occurrence of risks and the related negative consequences and events, while the latter aim to mitigate the undesirable consequences of such risks after the occurrence of the undesired results. This correlation is also acceptable and to some extent understandable, for the reasons already mentioned.

CONCLUSION

The analysis of correlation relationships was used to reveal the problems and formulate the following guidelines for improving the methodological tools in risk assessment approaches:

1. Basic risk assessment is appropriate when the change in the assessment of individual risks will have an insignificant effect on the ongoing processes and activities of the organization. This approach does not take into account the current situation, and the changes in the legal framework, the activities and the structure of the audited organization that occurred after the audit procedures.
2. The change in the approach to assessing audit risk and the risk of material misstatement shows that auditors do not apply a unified approach to risk assessment. Basic risk assessment is appropriate when the changes that have occurred in the audited entity are not significant and would not affect the assessment of other risks. In all other cases, the most appropriate approach is the standard risk assessment.
3. Ensuring reliability and adequacy in the performance of audit procedures and choosing the right approach to risk assessment is ensured by auditors' in-depth knowledge and competencies.

The interrelations and interdependencies established through the analysis of risk assessment approaches lead to the following conclusions:

First. No correlation has been established between the standard risk assessment and the components of the risk of material misstatement. Although the respondents always use this approach, it has no relation or rather no connection with the identification and assessment of inherent and control risks. This may be due to the fact that the standard assessment does not rely on previous assessments, but on current ones, which requires new and timely assessment.

Second. The concrete procedures to be performed should be specified. They must be accurate, timely, adequate and innovative in order to be able to identify and assess risks correctly. The use of measures that are inaccurate or misleading may increase some risks, which in turn will lead to a larger volume of audit procedures to be performed by external auditors. These flaws and shortcomings are also likely to affect the audited organization.

Considering the results, it can be summarized that auditors' knowledge and application of the correct procedures would help them assess the risks, regardless of which approach they choose (standard or basic risk assessment). The controls introduced and applied by the organization do not always lead to the desired results. This is due to the fact that in certain cases the management uses control activities that are not relevant to the specific situation or event. Knowledge of the specifics of the controls and their effect is essential for the mitigation of risks and their negative impact on the overall activity of the audited entity.

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