

The Correlation between Staff Sufficiency and Risk Management Effectiveness in Territorial Administrative Units

Daniela SOLOVASTRU (IVAN)

"Gheorghe Asachi" Technical University of Iasi, Romania
daniela.ivan@student.tuiasi.ro

Ion VERZEA

"Gheorghe Asachi" Technical University of Iasi, Romania
ion.verzea@academic.tuiasi.ro

Abstract. *In an increasingly complex social and economic context, the most efficient risk management is a necessity in local public administration. The effectiveness of risk management consists in proactively identifying, evaluating and mitigating threats, ensuring the success of an entity. This aspect can be fulfilled under conditions where there are sufficient trained personnel, who can identify and implement the specific risk management processes as efficiently as possible. Starting from this aspect, a risk management model was developed that integrates principles, processes and tools that support organizations in making effective management decisions. The objective of the research is to identify, adapt and develop a new risk management model, respectively, its application and fictitious testing during the normal development of the activities of the territorial administrative units. Regarding the research methodology, the quantitative method was used, which is based on interactive methods of statistical data analysis. The purpose of the research is to concretize aspects related to improving the risk management process by eliminating negative effects and increasing the capacity to identify them within an administrative-territorial unit. The results obtained in a quantitative analysis help to test hypotheses based on exploratory statistical analysis. The research facilitated the proposal and adjustment of a risk management model, designed to improve the effectiveness, efficiency and economic sustainability of each activity carried out within an administrative-territorial unit. The main contribution consists in providing a practical perspective on the optimization of human resources in public administration, with direct benefits on the application of a risk management model.*

Keywords: territorial administrative unit, risk management, administrative effectiveness, staff size, staff sufficiency.

Introduction

The role of territorial administrative units is to implement local policies, manage resources and provide essential services for their community. Each organization, but also each individual, which aims to achieve certain objectives, establishes its activities that lead to the achievement of the proposed goals and, at the same time, seeks to identify as many of the "threats" that would prevent it from doing so, in order to take the necessary measures in time.

Risk management is directly intertwined with the performance of people and, in general, of the public organization as a whole. It requires changing the operating style of the entity, up to dealing with the consequences of certain events.

This paper aims to test and validate the risk management model proposed as a result of a very extensive study in the first part of the scientific research. The model is adapted to the specifics of city halls, providing a methodological, structured framework for identifying, assessing and dealing with risks. The main purpose of the paper is to demonstrate the effectiveness of the

proposed model in improving the decision-making process and at the same time reducing the impact of risks on the functionalization of local administration.

In the last two decades, the issue of risk management has been strongly criticized by several researchers, who have emphasized the multidimensional nature of risk (Crişan, Afrăsinei-Zevoianu, Crişan-Mitra, Roxana Stegorean, 2018). Some entities apply a robust strategy, which is based on core competencies that have long-term value and are versatile and difficult to replicate. Such strategies create competitive advantages, allowing entities to differentiate themselves. The value chain retains only those activities that cannot be outsourced, and operations maximize simplicity, while balancing costs, risks, speed and quality considerations. (Werner Gleißner and Thomas B. Berger, 2024).

In the literature, the authors (A.K. Siti-Nabiha^{1,*}, Noriza Mohd Jamal², M. Rozaidy, 2025) argue that there is a “technical barrier” as a constraint or obstacle within an organization or institution that hinders its overall functioning, efficiency or progress. The barrier could manifest itself in various ways, such as inadequate infrastructure, outdated technology, poor communication systems or inefficient workflows. The barrier also refers to the methods of using relevant tools, which could hinder the organizational ability to achieve objectives, adapt to changes and maintain a competitive advantage in the market.

Practically, risk management helps the organization to do what is right on the one hand and, on the other hand, reduce employee fears by increasing satisfaction levels.

Risk management is directly intertwined with the performance of people and, in general, of the public organization as a whole.

Risks are inherent and their occurrence always affects and disrupts the activity of an organization. In particular, the public administration in modern Greece, operating in a period of economic crisis, had to identify, analyze, classify, and visualize risks in order to function properly. Combining the poor functioning of public administration with the effects of risk, the work becomes more difficult and the need arises to develop a predictive management process to reduce risk and increase the chances of performance.

To develop the risk management model, standards from number 5 to 10 were selected from the List of internal managerial control standards for public entities approved according to Order 600 / 2018 and which were integrated with the stages that underlie the risk-based thinking approach. At the same time, the research is based on an extensive analysis of risk management models applied and studied over time. (reference to an older article). The established model involves going through the risk management process through the 5 stages. The component elements are positioned in a logical order of this process, but, in reality, these components combine harmoniously to create a whole. Noting that risk management is a linear process, its components interact. The model also tries to suggest that risk management does not consider an isolated organization but, as is the case in reality, an organization integrated into its environment of existence, often called context.



Figure 1. Risk management model

Source: Own processing according to scientific research.

Risk management is currently a core component of any quality management system. According to (Sitnikov, Bocean, Berceanu, Pîrvu, 2017) it is considered as a "risk-based thinking" and that risk management must now extend to "external provision of goods and services" and should not stop only at the core processes.

The philosophy of job satisfaction must aim at both problem solving and collaboration between management and employees. Any action for a job task should not be unilateral orders by senior management, but collaboration. (Iordanis Eleftheriadis, Vasilios Vytas, 2018).

Research methodology

Regarding the research methodology, qualitative and quantitative methods were used. In the first part of the research, qualitative research was applied by conducting a focus group and through an extensive research on the specialized literature. Later, in the second part of the work, the quantitative method was used by establishing hypotheses, items, respectively, by applying a questionnaire that leads to the collection of data in order to perform an exploratory statistical analysis.

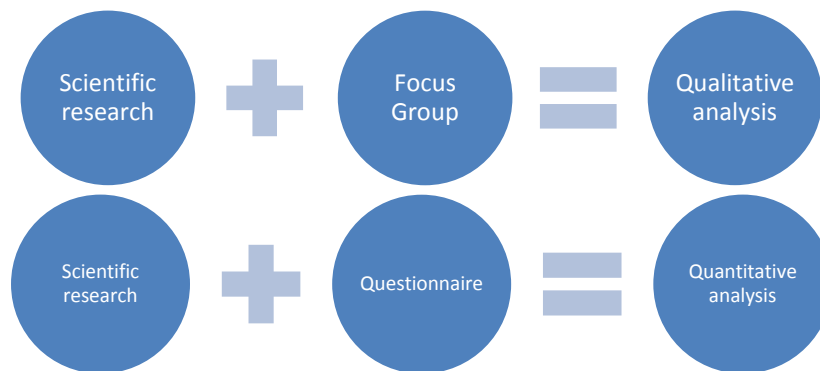


Figure 2. Applied research methodology

Source: Own processing according to scientific research.

In order to analyze the correlation between the sufficiency of personnel and the effectiveness of risk management in the administrative-territorial units, 2 hypotheses were tested:

- Entities developed with sufficient personnel resources have a lower degree of risk exposure;
- Staff awareness and involvement in the management evaluation process leads to increased responsibility in managing risks within the organization.

In order to test the risk management model, the sample was selected taking into account the target population, the available resources and the need for representativeness. Therefore, we chose the non-probabilistic method, selecting 30 administrative-territorial units in Romania out of a total of 3228 units, to which the survey questionnaire was sent. The quantitative research method is applied through the survey questionnaire, which is a technique used to collect measurable data and obtain objective information, namely, statistical data about the target group. The questionnaire had 34 items, consisting of closed questions, with predefined answer options, grouped into 7 categories:

- Risk Identification
- Risk Assessment
- Attitude towards risk
- Risk control

- Risk monitoring and reporting
- Additional section for hypothesis testing
- Socio-demographic variables

The correlation between staff sufficiency and risk management effectiveness in Territorial Administrative Units

PICBE |
2083

In the next part of the paper, the results of the questionnaire were analyzed according to the stages of the risk management model, which involves a set of very well-structured procedures and processes for identifying, analyzing and treating risks.

a) **Risk identification** involves a detailed analysis of the ATU processes and internal and external resources, external factors, more precisely a detailed knowledge of the entity. These aspects substantiate the results of the model and often identify the causes of the manifestation of risks. This stage can be:

- initial risk identification and is specific to organizations that initiate the management process and that have not previously identified and structured their risks in a concrete and efficient manner. Usually this type of risk identification is used in the design phase, more precisely before the actual initiation stage of a process.
- Continuous risk identification – is frequently found in entities where risk management activity is consolidated and regular. This method is very useful for identifying risks that have not manifested themselves until that moment due to certain circumstances, as well as for establishing risks that have manifested themselves previously, but which no longer present any importance in the context of the new objectives set and/or future actions.

In order to eliminate subjectivity, inspired by experts in the field of reference, it was proposed to use two methods of risk identification:

Table 1. Risk identification methods.

Self		Designation of an external team	
Advantages	Disadvantages	Advantages	Disadvantages
➤ Better knowledge of the organization and the problems it faces in achieving the objectives of the investment project; ➤ Promotes awareness of the problems by the team formed at the organization level for the implementation of a project; ➤ Increases responsibility in risk management.	➤ Subjectivity increases in the risk identification process; ➤ Less relevant risks can creep into the risk identification process, which can be collectively addressed as important or vice versa.	➤ The subjectivity of the risk identification process is mitigated ➤ A correlation of the risks identified in relation to each managerial level is obtained;	➤ There will be a number of seemingly unimportant risks that can be ignored and/or excluded from the category of those identified.

Source: Own processing according to scientific research.

According to the questionnaire applied at the level of scientific research, the potential impact of an external team on the objectivity of the risk identification and assessment process was analyzed.

The assessment of the potential impact of an external team on the objectivity of the risk identification and assessment process shows an approximately equal distribution, with 41.4% anticipating a positive effect (scores 4 and 5) and 37.9% a limited one (scores 1 and 2). The divergence of opinions can be interpreted through the lens of the resource dependence theory,

which suggests that organizations can benefit from external expertise to improve their internal processes, but can also be reluctant to external influences.

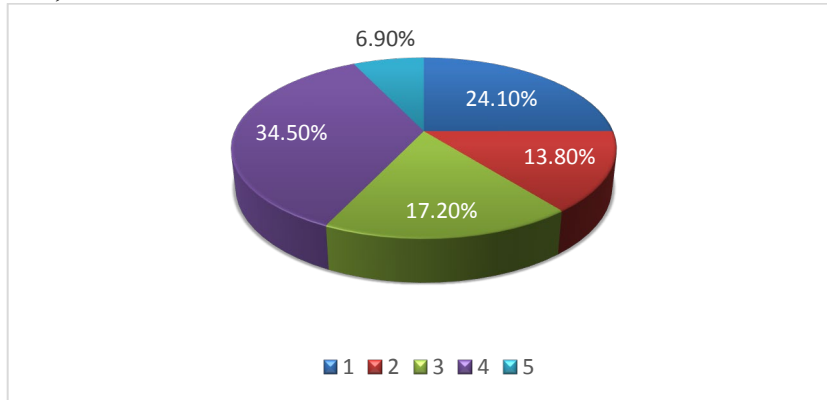


Figure 3. Assessing the potential impact of an external team on the objectivity of the risk identification and assessment process

Source: Own processing according to scientific research.

Finally, the impact of the self-assessment process on staff responsibility in risk management is evenly distributed, with 34.5% perceiving a positive effect (score 4) and 34.5% a limited one (scores 1 and 2). This polarization possibly reflects variations in the implementation and integration of self-assessment processes into the organizational culture. Self-efficacy theory suggests that self-assessment practices can contribute to increasing awareness and individual responsibility, but their effectiveness depends on contextual factors and the design of the process.

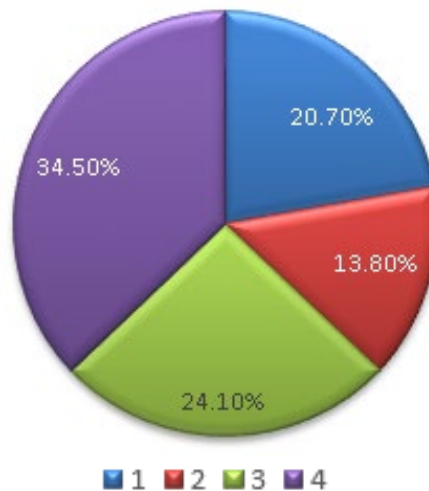


Figure 4. Assessing the impact of the self-assessment process on staff responsibility in risk management

Source: Own processing according to scientific research.

- b) Risk assessment and analysis** involves analyzing the probability of occurrence and the impact of each risk, using quantitative or qualitative techniques. Given the potential for risks to be harmful to the company, they are evaluated taking into account the probability of occurrence and the estimated impact. At the end of this stage, the risk is classified on a scale from low to high based on the risk analysis criteria and taking into account the degree of their materialization.

According to the analysis carried out, a particularly worrying aspect is the limited use of formal risk analysis and assessment tools. The risk assessment matrix, a fundamental tool in the process of prioritizing and managing exposures, shows an alarming level of underuse, with 75.8% of respondents giving scores of 1 or 2 (Fig. 6). The situation is aggravated by unfavorable assessments regarding the process of establishing the level of materialization of risks and estimating their impact on organizational objectives.

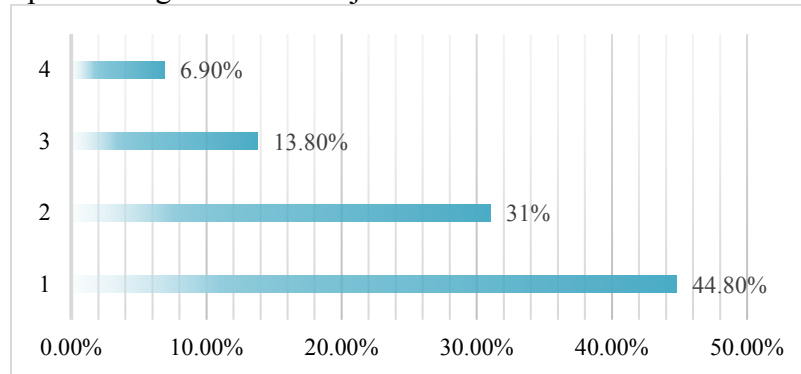


Figure 5. Distribution of responses regarding the extent to which the risk assessment matrix is used (in percentages of the sample)

Source: Own processing according to scientific research.

- c) **Establishing the attitude towards risk**, the entity at this stage must determine which of the 3 strategies it fits into so that the final result is as economical, effective and efficient as possible.

The familiarity of staff with the types of risk response presents an approximately equal distribution: 37.9% of respondents indicate a very low level of knowledge, and 41.4% report a moderate level (fig. 12). The highlighted disparities suggest significant inequalities in the training and expertise of staff in the field of risk management. The substantial segment of employees with limited knowledge can compromise the ability of organizations to implement effective response strategies to the identified risks.

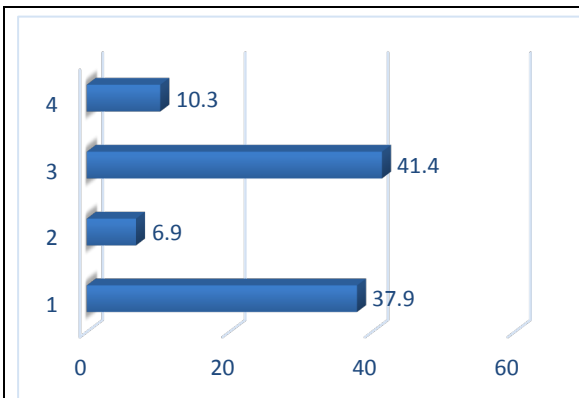


Fig. 6. Distribution of responses regarding the extent to which the types of risk response are known (1- to a very small extent, 5- to a very large extent) (in percentages of the sample)

Source: Own processing according to scientific research.

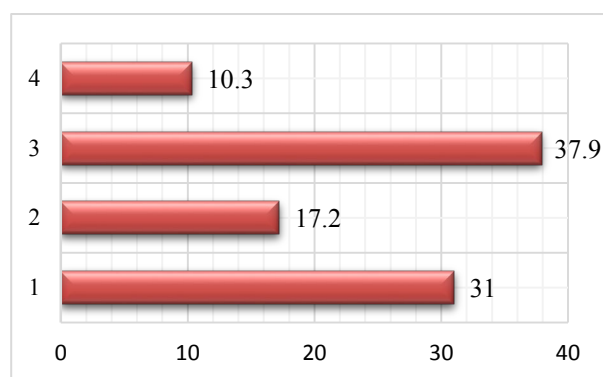


Fig. 7. Distribution of responses regarding the frequency of analysis of risks identified and within the tolerance range (in percentages of the sample)

Source: Own processing according to scientific research.

- d) Examining the frequency of analysis of risks identified and within the tolerance range reveals a worrying trend. In total, 48.2% of respondents indicate a low frequency (scores 1 and 2), while only 10.3% report a high frequency (score 4). The predominance of occasional analyses (37.9% giving a score of 3, fig. 13) suggests a reactive, rather than proactive, approach to risk management. In order to ensure the correctness of the risk management process, the developed model supports the periodic analysis of risks, by updating the risk register. Based on the records made over time, including the values of the indicators being monitored and reported, dashboards can be generated that show exactly what risks the entity is exposed to. Also, for each indicator, a series of tolerance thresholds must be established, more precisely the minimum and maximum limits that, once reached, indicate the need to adopt the intervention plan.
- e) **Risk control** - the risk control stage involves identifying the causes that lead to the emergence and manifestation of a risk. The person responsible for implementing the risk management model centralizes and analyzes all identified risks, their degree of occurrence and the impact caused.

The design and operation of internal risk control also show notable deficiencies. Cumulatively, 48.2% of respondents provide negative assessments (scores 1 and 2), while only 20.6% perceive the system as effective (scores 4 and 5, fig. 16). These data indicate potential vulnerabilities in risk control and monitoring mechanisms.

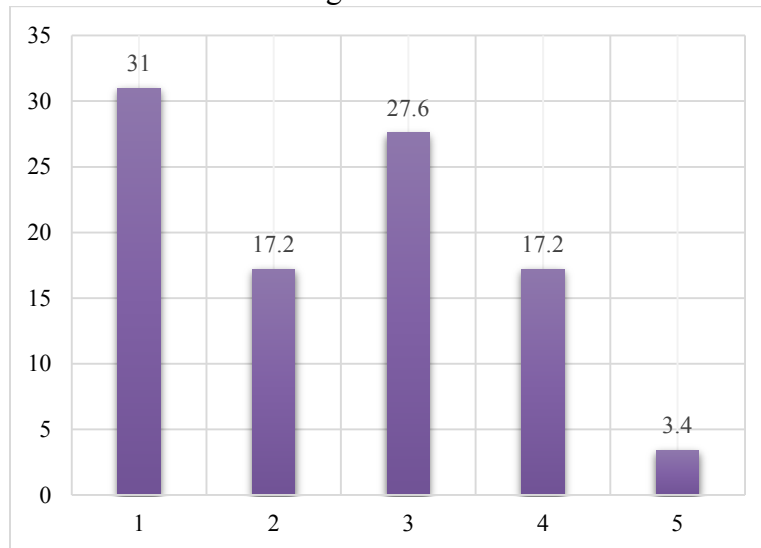


Fig. 8. Distribution of assessments regarding the design and operation of internal risk control (in percentages of the sample)

Source: Own processing according to scientific research.

The level of coordination between the entity's departments in implementing risk control measures presents an interesting distribution. While 48.2% of participants report a low level of coordination (scores 1 and 2), 31% indicate a high level (score 4, fig. 20). This polarization suggests the existence of divergent practices regarding the integrated approach to risk management at the organizational level.

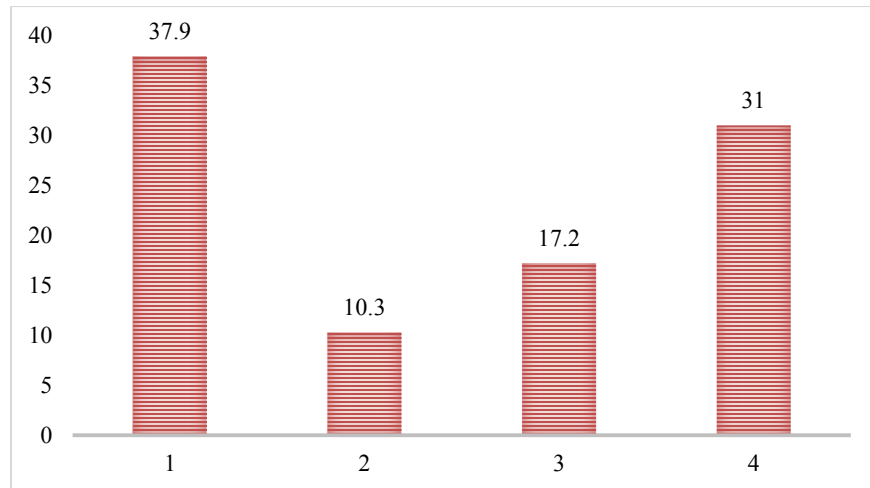


Fig. 9. Distribution of assessments regarding the level of coordination between the entity's departments in implementing risk control measures

Source: Own processing according to scientific research.

- f) Risk monitoring and reporting - With this clear evidence, the entity knows both the level of damage produced and the types of risk it faces. Therefore, the entity is at the risk monitoring and review stage. Usually, in this step, solutions and causes of the risk manifestation are identified, the goal being to improve their impact in the future.**

Finally, the development of a risk register at the entity level appears to be a widespread practice, with 72.4% of respondents confirming its existence. However, the absence of a register in 24.1% of cases represents a significant vulnerability (Fig. 21), indicating potential gaps in the systematic documentation and monitoring of risks.

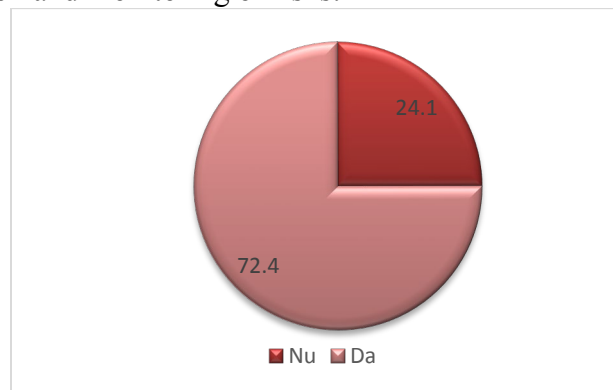


Fig.10. Distribution of assessments regarding the development of the risk register at the entity level

Source: Own processing according to scientific research.

The perceived limited impact of practices such as the use of risk registers or the establishment of tolerance ranges indicates potential deficiencies in the implementation and operationalization of these tools - and which can be understood through the perspective of organizational learning theory, developed by Argyris and Schön (Robinson, 2001). Thus, the effectiveness of risk management tools depends not only on their formal existence, but also on the

organization's ability to integrate the information generated into decision-making processes and to facilitate continuous learning.

In the final part of the paper, hypotheses were tested in order to identify correlations between staff sufficiency and the effectiveness of risk management in Territorial Administrative Units

In order to test hypothesis no. 1, the relationship between staff sufficiency and their capacity to help the entity respond to risk was analyzed.

From the analysis of the data obtained based on the questionnaire, a positive correlation results, and according to the graph below, we can see that entities with higher scores (3-4) tend to have higher results in terms of staff training and their capacity to distinguish exposure and tolerance to risk.

For a more detailed analysis of this hypothesis, the following graph illustrates the relationship between staff sufficiency and risk indicators. The graph was created in Excel and took into account the grouping of entities according to staff sufficiency:

- High score (3-4): 8 entities
- Low score (1-2): 21 entities

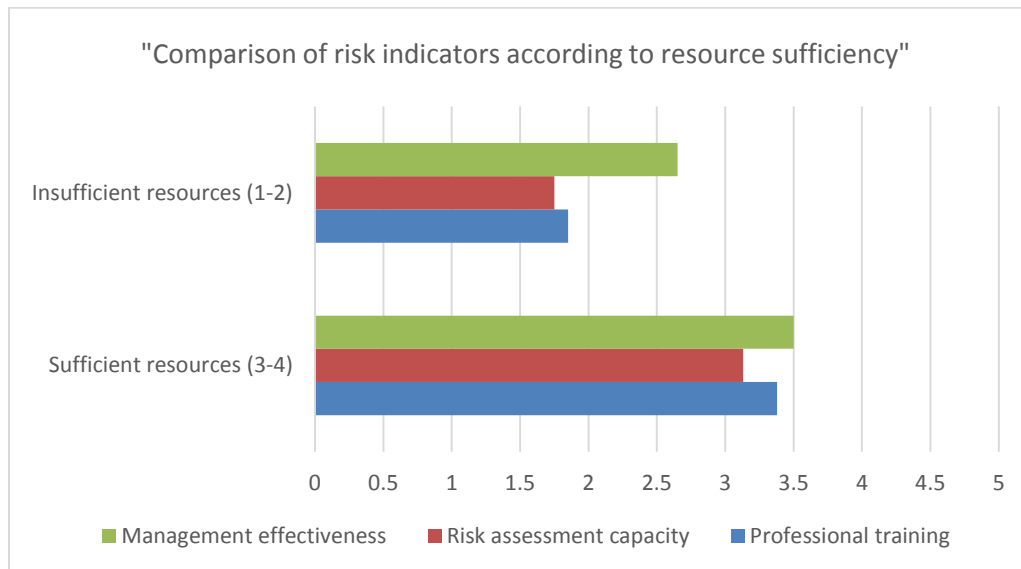


Figure 11. Comparison of risk indicators according to resource sufficiency

Source: Own processing according to scientific research.

We can see from simple analysis that personnel resources have a very large impact on the way an entity's activity is carried out. In order to demonstrate whether the established hypothesis is validated or not, a broader test was carried out by analyzing the following key variables:

- Independent variable: Sufficiency of personnel resources
- Dependent variable: Degree of risk exposure

Regarding the data collection method, as previously presented, the necessary information was collected based on the questionnaire, selecting 4 items that directly help to test hypothesis number 1.

A correlation analysis was created in Excel between the indicators of personnel sufficiency and risk response capacity, identifying positive correlation patterns.

The test results can be viewed in the following graph:

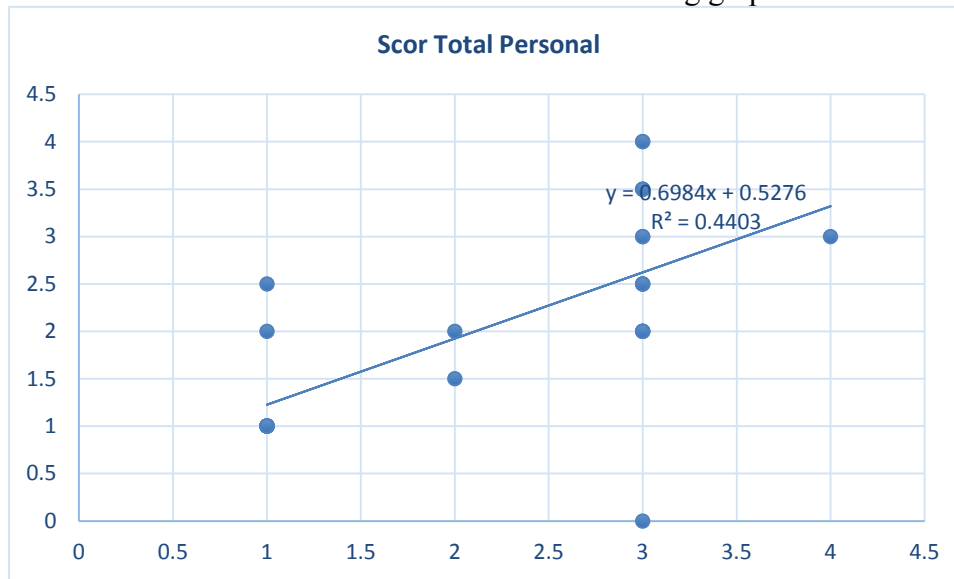


Figure 12. Scor Total Personal

Source: Own processing according to scientific research.

- **The equation on the graph ($y = mx + b$)** - is the equation of the linear trend line

Where:

- y = dependent variable (risk exposure)
- x = independent variable (personnel resources)
- m = slope of the line (regression coefficient)
- b = intercept (where the line intersects the y -axis)

The R-squared value (R^2) is the square of the correlation coefficient (R), Excel calculates it automatically using the formula: $R^2 = 1 - (\text{Sum of squares of residuals}) / (\text{Total sum of squares})$.

Interpretation of the R^2 Value, (R^2 always has values between 0 and 1), the closer R^2 is to 1, the stronger the correlation:

- $R^2 < 0.3$: weak correlation
- R^2 between 0.3 - 0.7: moderate correlation
- $R^2 > 0.7$: strong correlation

The graphical analysis of the relationship between personnel resources and the degree of risk exposure reveals a positive correlation. The R^2 value of 0.4403 indicates a moderate relationship between the two variables. This confirms our initial hypothesis that entities with sufficient personnel resources have a lower degree of risk exposure.

It was found that in most of the surveyed entities there is a major shortage of personnel and implicitly the capacity of the entity as a whole to establish a correct attitude towards the risks to which it is exposed.

Recommendations:

- Assess the actual staffing needs
- Develop a recruitment and retention plan
- Optimize processes to make the most of existing resources
- Implement training programs to increase the efficiency of existing staff
- Develop risk assessment and management capacity.

Hypothesis no.2

In order to test the hypothesis, the analysis of entities that have a development program (1) and those that do not (0) was carried out. Entities with a development program (1) are: 19 entities, average responsibility score 3.05. Entities without a development program (0), in number of 10 entities, average responsibility score 2.00.

Subsequently, the analysis of the correlations between the variables regarding the existence of the program and responsibility was carried out, using the CORREL function, with a value of 0.33125837, resulting in a positive correlation.

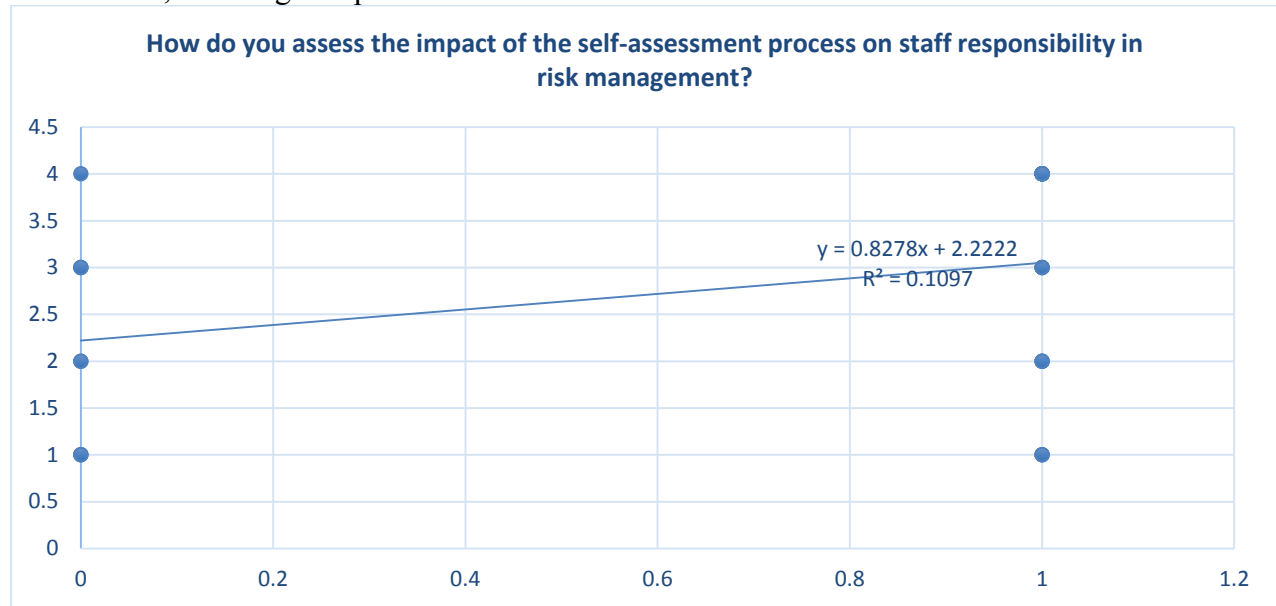


Figure 13. How do you assess the impact of the self-assessment process on staff responsibility in risk management?

Source: Own processing according to scientific research.

The correlation is positive, indicating a direct relationship between the variables, more precisely when there is a development program, there is a tendency for staff responsibility to increase.

There is a positive relationship between the variables, but not very strong, approximately 11% ($r^2 = 0.3312^2 = 0.1097$) of the variation in responsibility can be explained by the existence of the program. The relationship is present, but other factors can significantly influence responsibility in risk management

In conclusion, the correlation of 0.3312 provides partial support for the hypothesis, indicating that there is a positive, but moderate, relationship between the existence of the program and increased responsibility. This result suggests that although the program contributes to increased responsibility, other factors should be taken into account for a complete picture of the phenomenon studied.

A second correlation analyzed is between the level of controls and responsibility, resulting in a strong positive correlation, in the value of 0.59277882.

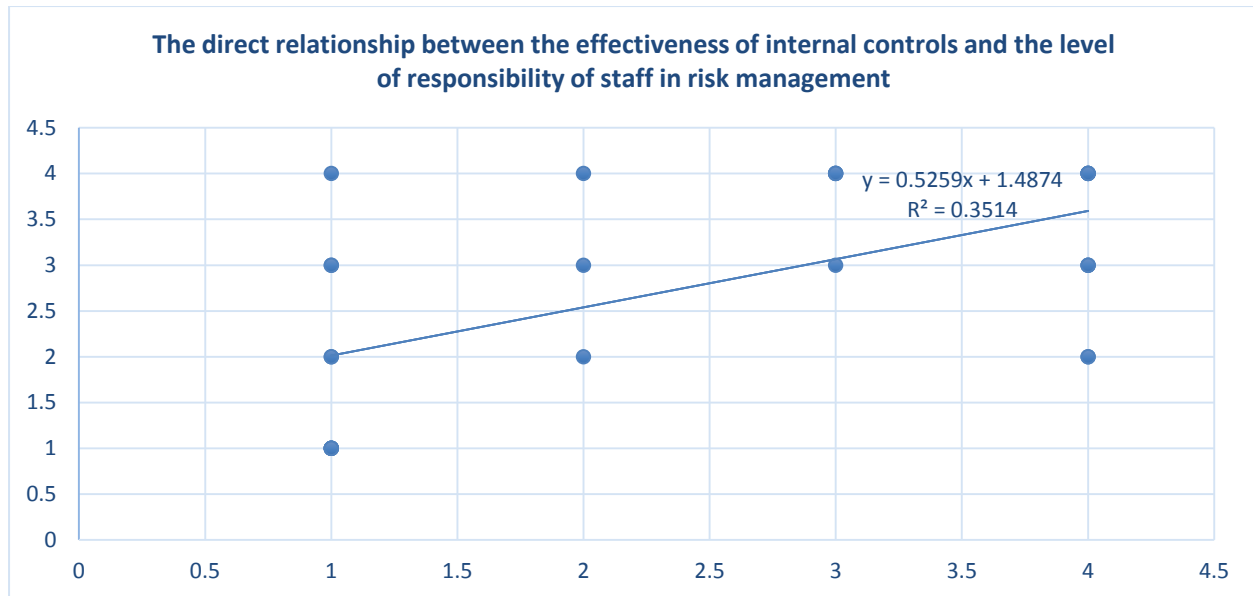


Figure 14. The direct relationship between the effectiveness of internal controls and the level of responsibility of staff in risk management

Source: Own processing according to scientific research.

According to the graph, we can observe a strong positive correlation (>0.50), which indicates a significant direct relationship between the effectiveness of internal controls and the level of responsibility. The coefficient of determination ($r^2 = 0.351$) shows that approximately 35.1% of the variation in responsibility is explained by the level of controls.

Internal control and self-assessment of the risk management method is associated with increased responsibility on the part of staff. There is a substantial link between the control system and the responsible behavior of staff.

This analysis suggests that improving controls can lead to increased responsibility, and at the same time indicates the need to maintain effective controls to support responsibility in risk management.

In conclusion, the strong correlation (0.59277882) confirms that there is a significant relationship between the level of controls and responsibility in risk management, thus providing empirical support for the hypothesis studied. This result suggests that improving internal controls can be an effective strategy for increasing staff responsibility in risk management.

Entities with a development program tend to have higher accountability scores and at the same time there is a clear trend: higher scores on internal controls and coordination are associated with higher accountability scores:

- Of 19 entities with a program, 12 have a responsibility score ≥ 3
- Of 10 entities without a program, only 3 have a responsibility score ≥ 3

Recommendations:

- Implement the development program in entities that do not have it
- Improve existing internal controls
- Increase the level of interdepartmental coordination
- Continuously monitor the impact of these measures on risk management accountability

Conclusion

Considering the two hypotheses analyzed and tested, it was concluded that entities developed with sufficient personnel resources have a lower degree of risk exposure. This fact underlines the idea that a well-sized personnel helps prevent events and reduces the organization's exposure to vulnerabilities.

Also, the awareness and involvement of personnel in the evaluation process leads to increased responsibility within the organization. The role of personnel not only as a numerical resource, but also as an active factor in risk prevention and involvement in decision-making regarding the attitude towards risk.

The research highlighted the importance of a structured and proactive approach in risk management at the level of administrative-territorial units.

Validating the hypotheses provides clear directions for creating a risk management model specific to city halls, based on the correct allocation of resources and the involvement of personnel. Thus, city halls can reduce vulnerabilities and manage administrative and operational risks more effectively.

The risk management model involves coordinating the activities of an institution by establishing a direction in approaching risks. Opening up to the evaluation of potential events harmful to the activity can halve the degree of manifestation.

At the same time, continuous improvement of the risk identification stage through learning and experience is crucial, so that the results are as economical, effective and efficient as possible.

The solutions presented focus on achieving objectives at a high level of performance, using a modern risk management process. According to studies conducted, this type of process would contribute to simplifying and optimizing procedures, having as a short-term effect a significant impact on increasing the level of absorption of European funding available in Romania, as well as on improving the quality of life.

Following the actions taken within the research, it was concluded that the main difficulties encountered in implementing a management model are closely linked to the concept of risk. At the same time, it was found that these can be managed effectively only by applying a specific management model adapted to the situation.

References

- Boghea F. (2015) Risk management in the decision-making of Romanian entities, University "Stefan cel Mare" of Suceava, Romania, Universitatii Street No 13, 720229;
- Robinson V.M.J. (2001), Descriptive and normative research on organizational learning: Locating the contribution of Argyris and Schon, *The International Journal of Educational Management* 15/2 [2001] 58±67;
- A.K. Siti-Nabiha, Noriza Mohd Jamal, M. Rozaidy (2025) Implementation Barriers to Management Accounting Practices in the Malaysian Public Sector, *IPN*, 14(1):75-87;
- Boghea F. (2015) Risk management in the decision-making of Romanian entities, University "Stefan cel Mare" of Suceava, Romania, Universitatii Street No 13, 720229;
- Callahan C. Soileau J. (2017), Managementul riscurilor pentru întreprinderi îmbunătățește performanța operațională?, *Progrese în contabilitate*, 10.1016 / j.adiac.2017.01.001;
- Crișan E. Zevoianu C. A. Crișan C. M. Stegorean (2018). Managementul riscurilor organizaționale o abordare procesuală aplicativă. Risoprint, Cluj-Napoca;
- Dobre E., D. Petrascu, M. Botina, (2015) Risks Management Profile in Local Public Services Administration, *Procedia Economics and Finance*, Volume 27, ,Pages 204-208;

- Durst S. C. Hinteregger. M. Zieba (2019), Legătura dintre managementul riscului de cunoștințe și performanța organizațională, *Journal of Business Research*, Volumul 105, paginile 1-10[46]
- Eckerd (2014) A. Risk management and risk avoidance in agency decision making. *Public Administration Review*, 74(5), 616-629. Retrieved from <https://doi.org/10.1111/puar.12240>
- Eleftheriadis I.; Vytas V. (2018), The measurement of risk and performance in public organizations, University of Macedonia;
- Felício T Samagaio A R, Rodrigues (2021) Adoptarea sistemelor de control al managementului și performanța în organizațiile din sectorul public, *Journal of Business Research* Volumul 124, paginile 593-602,
- Gleißner W.; Berger T. B. (2024), Enterprise Risk Management: Improving Embedded Risk Management and Risk Governance, *Risk* 12: 196.
- Miccolis, J.(2000) Enterprise Risk Management in the Financial Services Industry, [2017]Fonseca Luis Miguel, *Accesul calității pentru succes*, Vol. 16, Nr. 148, 2015.
- Motta Zanin G. A. Barbanente, Claudia Romagnoli, Alessandro Parisi, Renata Archetti (2023) Traditional vs. novel approaches to coastal risk management: A review and insights from Italy, *Journal of Environmental Management*, Volume 346, 119003, ISSN 0301-4797,
- Neide P. Areia, Alexandre O. Tavares, Pedro J.M. Costa (2023) Public perception and preferences for coastal risk management: Evidence from a convergent parallel mixed-methods study, *Science of The Total Environment*, Volume 882, 163440, ISSN 0048-9697,
- Office of the Comptroller of the Currency (OCC) and Board of Governors of the Federal Reserve System (FED) (2012);
- Oliveira, Varlei & Abib, Gustavo, 2024, Risk in public administration: a systematic review focused on a future research agenda, *Revista de Administração Pública*
- Opran C. S. STAN(2008) Managementul proiectelor, comunicare.ro București;
- ORDIN nr. 600 din 20 aprilie (2018) privind aprobarea Codului controlului intern managerial al entităților publice;
- Oscash C., R. Khan Tengeh, 2023, The relationship between SME owner-manager characteristics and risk management strategies, *Journal of Open Innovation: Technology, Market, and Complexity*, Volume 9, Issue 3, 100112, ISSN 2199-8531;
- Pashkov P. M. (2021) Metropolitan Governance University, Moscow Improving the Effectiveness of the Risk Management System, Article in *Vestnik Universiteta*;
- Pongsiri, N. (2002). Regulation and public-private partnerships. *International Journal of Public Sector Management*, 15(6), 487-495;
- Radut, C. (2009). The Enterprise Information System and Risk Management. *Annals of Faculty of Economics*, 4(1), 1030-1034
- Sitnikov C., C. G. Bocean, D. Berceanu și R. Pîrvu(2017), Model de management al riscurilor din perspectiva implementării standardului iso 9001:2015 in cadrul companiilor de servicii financiare, Universitatea din Craiova, Romania;
- The Orange Book Management of Risk – Principles and Concepts, 2003, https://assets.publishing.service.gov.uk/media/6453acadc33b460012f5e6b8/HMT_Orange_Book_May_2023.pdf
- Valtonen E., H. Falkenbach, Erwin van der Krabben(2017) Risk management in public land development projects: Comparative case study in Finland, and the Netherlands, *Land Use Policy*, Volume 62, Pages 246-257, ISSN 0264-8377.
- Yang Z. ,Zhuo J. , Zhang Y.(2024), Risk management and optimal investment with inalienable human capital, *Finance Research Letters*, Volume 61, 104970, ISSN 1544-6123.