Digital Transformation of Supreme Audit Institution (SAI) — A Mini-Review on the Case of Romanian Court of Accounts (RCA)

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Abstract: The present endeavor compellingly addresses the issue of the necessity and importance of IT support for the control and audit activities of the Romanian Court of Accounts (RCA), making reference to the institution’s operations in the context of the digitization of central public administration and the implications for the conducted control/audit. Subsequently, we highlight the most significant strategic elements recently established regarding the digitization of the RCA’s activities, as well as the potential advantages. The final part is dedicated to conclusions, the limitations of our research, and future research directions, focusing on addressing issues that have been inadequately addressed so far. The paper is intended for specialists in the field, audit professionals, the academic community, etc. In addressing the topic, we considered relevant literature, including our previous research, as well as bibliographic material provided by the RCA, indicated in the „References” section.

Keywords: Control/audit; digital transformation; Court of Accounts; Romania.

Introduction

The Romanian Court of Accounts (RCA) came into existence with the advent of modern Romanian statehood in 1864, undergoing several changes in terms of organization, functioning, and assigned competencies thereafter (Murgescu et al., 2014). The Romanian Constitution of 1991 placed this institution among the essential bodies of the democratic state, and the following year saw the adoption of the Law on the Organization and Functioning of the Court of Accounts (RCA, 2022a, 2023ab, 2024). Essentially, the institution has the firm responsibility to oversee the formation, administration, and utilization of the financial resources of the state and the public sector. The control exerted by the Court of Accounts is materialized through rigorous procedures of external public audit, in accordance with its own audit standards developed in line with internationally accepted internal audit norms. Any disputes arising from the institution's activities are resolved by specialized judicial courts (Aniţei, 2011; Bostan, 2010a,b; Bostan & Dascălu, 2016; Florescu et al., 2010; Luchian, 1996). Specifically, financial audits, performance audits, and compliance audits are conducted on over 15,000 entities, including central and local public administration institutions and authorities, state-owned banks, associations and foundations managing heritage and public funds, and majority state-owned economic agents, among others (RCA, 2023b). The RCA is led by a collegial body (Plenary of the Court) consisting of 18 dignitary members who are councilors of accounts, appointed by Parliament for a non-extendable and non-renewable term of nine years (Bostan, 2010b; RCA, 2024). The executive leadership, headed by the president and supported by two vice-presidents, both members of the Plenary, ensures rigorous coordination of the institution's activities in strict accordance with legislation and resolutions adopted by the Plenary. In accordance with Article 140, paragraph (5) of the Constitution, the Court of Accounts is periodically renewed by replacing one-third of the councilors of accounts every three years (RCA, 2021). To fulfill its obligations regarding external audit as a member state of the European Union, Romania operates the Audit Authority as an independent entity, operationally separate from the Court of Accounts and other authorities responsible for managing and implementing non-refundable community funds (Bostan, 2010b; RCA, 2024). The Audit Authority, structured centrally into five directorates and regionally into eight directorates, is the sole national body competent to conduct external public audit on the use of non-refundable European funds received from the European Union, in accordance with European and national legislation.
(Bostan, 2010b; RCA, 2024). As our theme relates to the Digitization of Control and Audit Processes, we assert that digital technologies have the potential to address numerous challenges faced by the targeted system (RCA, 2023c). The increasing volume of data in the audit domain, technological advancements, and sector dynamics have brought about significant changes in auditors' work in recent years (Făniță, 2024). Therefore, it is essential for the leadership of the supreme audit institution to incorporate aspects specific to IT governance, derived from the institutional development strategy, contributing to meeting requirements related to the efficiency, effectiveness, confidentiality, integrity, and availability of data and information. Certainly, information and communication technology represents a key tool in ensuring the efficiency and effectiveness of organizations in the public sector and beyond (RCA, 2016). Recently, the analyzed institution has publicized its vision for transforming the RCA into a nationally fully functional digital institution with fully integrated digital processes for auditing, monitoring, and ensuring measures to reduce irregularities in entities using public funds (RCA, 2023c). The intention is for the RCA to be considered a trusted partner by creating a well-articulated vision—of national interest, concurrently identifying potential behaviors, issues, and risks using digital analysis. Figure 1 outlines the areas related to the digital transformation framework of the RCA.

Figure 1. The digital transformation framework of the RCA (RCA, 2023c)
In the context of drafting a strategic document aimed at the digitalization of the RCA, the most relevant principles to be considered should be those related to ensuring digital security and resilience, digital empowerment, and interaction of the same nature (external and internal communication and information exchange supported through digital channels) (RCA, 2023c). Against the backdrop of increased transparency of activities for the general public, two additional principles are crucial: agility and data-driven decision-making, as well as interoperability and partnerships („creating digital relationships within and outside the RCA to enable the design of digital solutions that can be used by multiple public institutions to communicate information while respecting interoperability and data exchange criteria.” (RCA, 2023c). In addressing the topic at hand, we have considered the following structure: (1) Introduction; (2) Organizational structure and key aspects of the activity of the RCA; (3) The need and importance of IT support for the control and audit activities of the Court of Accounts; (4) The activity of the Court of Accounts under the impact of the digitalization of central public administration and its implications for the conducted control/audit; (5) Recently established strategic elements regarding the digitalization of the activity of the RCA; (6) Conclusions. This work is intended for specialists in the field, audit professionals, the academic community, etc. In terms of documentation for this endeavor, we rely on specialized literature, including our previous research, as well as the bibliographic material provided by the RCA, indicated in the „References” section.

**Organizational structure and key aspects of the activity of the RCA**

The institution carries out its specific activities through departments at the central level and through audit chambers at the territorial level of the counties (RP, 1992). The central structure is responsible for auditing ministries, national agencies, etc., and comprises 12 departments (headed by department chiefs, appointed from among the councilors of accounts) (RCA, 2020): ten audit departments, as well as two specialized departments - one for legal matters and another for coordinating territorial audit chambers (Figure 2).
The territorial structure includes county audit chambers (42 – empowered to audit entities of local public administration at the local level), each operating under the coordination of a director and a deputy director, and that of the municipality of Bucharest. The personnel structure of the Court of Accounts at the end of 2022 included 1,966 approved positions, of which 1,690 were filled as follows: 1,379 positions for audit activities (1,109 positions for the Court of Accounts and 270 positions for the Audit Authority), as well as 106 positions for civil servants and 205 positions for contractual staff (RCA, 2023a). External public auditors within the institution are predominantly graduates in the economic field (85%), but also in legal or other specialized fields (engineering and public administration) (RCA, 2023a). The Court of Accounts is fully funded from the state budget, with the Court's budget project being approved by its Plenum (e.g., the 2022 budget = 362 million lei, of which 82% are personnel expenses), after which it is submitted to the Government to be included in the state budget project (RP, 1992). The institution's activity for the year 2022 can be illustrated with the following figures (RCA, 2023a): 2,168 entities verified, of which 1,512 financial audit missions (1,510 audit opinions were expressed, issuing 82 certificates of conformity), 32 performance audit missions, 442 compliance audit missions. A total of 5,588 follow-up actions were carried out. The
identified damages amounted to 1,755 million lei; 103 criminal complaints were drafted. Starting in 2023, the relationship between the institution and the audited entities is based on partnership with the verified entities, adopting a new regulation on external public audit activity (RCA, 2022b) that replaces the old regulation adopted in 2014. Thus, the Court of Accounts no longer issues decisions with measures for recovering damages, eliminating irregularities, and holding decision-makers accountable in audited entities regarding the use of public funds. According to the new procedure (RCA, 2022b), for each completed audit mission, an Audit Report and a Letter to the leadership of the audited entity are elaborated. The same procedure involves: (i) providing by the audited entity of a Point of View, including any objections to the findings mentioned, including an Action Plan for implementing the recommendations; (ii) reconciling the findings and conclusions of the audit, RCA recommendations, possible objections, and the Action Plan for implementing the recommendations with the audited entity; (iii) finalizing the draft report and presenting it to the Plenum for approval; (iv) approving and transmitting the audit report and the letter to the leadership to the audited entity. In conclusion, audit reports, follow-up reports, and their syntheses are published on the RCA website within 30 days from their approval.

The necessity and importance of IT support for the control and audit activities of the Court of Accounts

The significant transformations driven by the evolution of the information society towards a knowledge-based society constitute a process that completely redefines the framework of work in the audit domain, adapting to the new qualitative requirements of global-level auditing. The RCA demonstrates sustained interest in implementing appropriate information policies to facilitate the efficient conduct of audit tasks and fully exploit the potential offered by technological advancements. The increased complexity of activities within the Court, coupled with the constant need for monitoring, is continuously expanding. Additionally, the emergence of new situations demanding a prompt response from the IT department adds to these challenges (RCA, 2010). The major strategic objectives aim to ensure IT support in strengthening the institutional capacity of the Court of Accounts of Romania, establishing itself as an independent, professional, and credible institution in the field of external public funds control and audit (RCA, 2016). Given these aspects, the substantial endowment with IT equipment is of high importance for the success of the institution's management activities, as well as for control/audit activities. A historical
overview of the institution’s IT equipment (RCA, 2010) reflects that initially, IT equipment was procured using financial resources from the state budget and community funds (through the PHARE 2000, PHARE 2002, PHARE 2004, PHARE 2005, and PHARE 2006 programs) or through repayable loans from the World Bank. For instance, in 2011, the institution had 88 servers, 900 desktops, and 1,200 laptops, along with video conferencing systems, printers, scanners, projectors, switches, etc. (RCA, 2010). In the subsequent period (2011-2014), 499 laptops and 119 desktops were acquired to replace physically and morally worn-out equipment; simultaneously, 4 servers and a storage system were procured (RCA, 2016). The RCA operates a data communication system (email, information applications, video conferencing) through an INTRANET network between the central headquarters and the 42 chambers of accounts, using copper technology (in 28 chambers of accounts) and fiber optics (in 14 chambers of accounts) (RCA, 2016). The INTRANET network is provided by the Special Telecommunications Service (STS) and facilitates secure communications between the central headquarters of the RCA and its territorial structures; through the government INTRANET network, the Court of Accounts has access to certain information systems of public institutions. These applications cover: (i) state budget justification; (ii) updating data on public officials employed within the Court of Accounts; (iii) electronic correspondence with European Union structures (RCA, 2016). To achieve the established objectives regarding the assurance of a secure, protected, and available information system, as well as secure and quality communications, the institution has adopted suitable IT solutions, including user authentication, access authorization, centralized server administration, and consistent application of network policies. It's worth mentioning that all structures of the Court of Accounts are connected to the INTRANET and the Internet, ensuring the necessary technical conditions for accessing web pages, email, proprietary information applications, portals, etc. (RCA, 2016). Currently, through a series of projects and activities funded by the European Union and the national budget, the process of digital transformation is experiencing new trends (RCA, 2023a). Nevertheless, in the upcoming period, a better correlation of the general objectives of the CCR with digital technologies and the improvement of services offered to auditors and audited entities are imperative.
The activity of the RCA under the impact of central public administration digitization and its implications on the conducted control/audit

Having a basis in EU legal norms, Romania has requested technical support in the field of public administration digitization from the European Commission (EU, 2021). The Court of Accounts Strategy (RCA, 2023d) aims to develop professional capacity by promoting modern audit procedures and enhancing adaptability to changes in the external environment. The expressed desire is to increase the implementation rate of formulated recommendations, etc. For this purpose, in order to harmonize with technologies and best practices in the audit domain, the Court of Accounts has sought support through the General Directorate for Structural Reforms (DG REFORM) of the European Commission to access funds and be included in the „Digital Transformation Process of Public Administration in Romania” program. Moreover, the Digitalization Strategy of the Court of Accounts for the period 2023-2027 (RCA, 2023a,c) aligns with the general digitization strategy of the administration in Romania. The purpose and expected results of its implementation range from introducing emerging technologies and reducing the time required for audits to increasing compatibility between new IT&C systems and current IT&C solutions. Additionally, it includes improving the overall satisfaction of external auditors and audited entities in the context of efficient resource utilization and enhancing the overall performance of the institution (RCA, 2023c). Through digital transformation, the Court of Accounts aims to achieve a level of maturity where activities are defined through formalized procedures, monitored, and quantified in digital format, with possibilities for continuous optimization (Figure 3).
In this context, the institution aims to attain the status of a "fully functional digital entity" at the national level. The progression toward this status is expected to occur concurrently with an increase in credibility among its partners, providing timely and accurate information resulting from its specific control and audit activities.

Recently established strategic elements regarding the digitalization of the RCA's activities

Discussing the priorities outlined in the Digitalization Strategy of the RCA for the period 2023–2028, we observe that the overall objective is the „Digital Transformation of the Court of Accounts of Romania and its interactions with public institutions in Romania”. Undoubtedly, achieving this goal requires extensive digital transformation and automation of processes, the introduction of new methods for data collection, detailed analysis of qualitative and quantitative data, as well as improved communication with all stakeholders interested in the results of the RCA's activities. In addition, it involves developing the digital skills of auditors in a suitable learning environment. To ensure that public institutions use public funds in the interest of the citizens of Romania and that decision-makers have timely and adequate information, the mentioned strategy encompasses several specific objectives (Table 1).
Table 1. Specific objectives outlined in the Digitalization Strategy of the RCA for the period 2023–2028 (RCA, 2023c)

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<tr>
<th>No. crt.</th>
<th>Specific objectives Explanations</th>
<th>Explanations</th>
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<tbody>
<tr>
<td>1</td>
<td>Legality</td>
<td>Implementation of a legislative framework to facilitate the internal and external flows necessary for the digital transformation process</td>
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<tr>
<td>2</td>
<td>Standards, Optimization, Collaboration</td>
<td>Supporting the reform of the regulatory framework of the specific activity in order to increase the performance of audit missions and the quality of audit reports</td>
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<tr>
<td>3</td>
<td>Quality, Collaboration</td>
<td>Increasing the level of transparency of audit mission activities through the use of digital platforms</td>
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<tr>
<td>4</td>
<td>Personal, Optimization, Standards</td>
<td>Improving employees' digital skills and streamlining activities within audit missions</td>
</tr>
<tr>
<td>5</td>
<td>Security, Data, Optimization, Collaboration</td>
<td>Increasing the level of interoperability between RCA systems, audited entities and public institutions</td>
</tr>
<tr>
<td>6</td>
<td>Personnel, Standards, Optimization, Management</td>
<td>Streamlining the use of human resources and materials at the RCA level</td>
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<tr>
<td>7</td>
<td>Impact, Standards, Data, Security</td>
<td>Increasing the level of digital maturity of RCA through the use of emerging technologies</td>
</tr>
<tr>
<td>8</td>
<td>Impact, Personal, Collaboration</td>
<td>Creating an innovative, collaborative and open communication culture internally and with RCA's external partners</td>
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<tr>
<td>9</td>
<td>Security, Data, Quality</td>
<td>Maintaining a high level of IT environment security</td>
</tr>
<tr>
<td>10</td>
<td>Optimization, Standards, Personnel, Quality, Management</td>
<td>Optimizing and streamlining operational activities at the level of the RCA's functional structures</td>
</tr>
<tr>
<td>11</td>
<td>Management, Staff, Collaboration, Impact</td>
<td>Defining an effective governance mechanism adapted to the digital transformation needs of RCA</td>
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The strategic initiative we are referring to is meant to yield multiple benefits for the RCA by mid-2028. (Figure 4).

Currently, a process of updating procedures, methods, and practices is underway to integrate new digital technologies and data analysis frameworks in accordance with international audit standards. The focus is on automating repetitive tasks to reduce the daily workload of staff and transition from manual activities to digital data analysis, simultaneously optimizing processes to enable efficient remote work conditions for auditors. The implementation of the new digital data analysis platform within the RCA will facilitate all audit procedures, adhering to impartial risk analysis principles for all public institutions audited by the RCA. Once the majority of data held by public institutions becomes structured and exclusively available in electronic format, technologies such as big data analysis, blockchain, machine learning, natural language processing, process mining, and Robotic Process Automation (RPA) are anticipated to transform and optimize the audit practices of the RCA. In the short term, process automation technologies through robotics will be reviewed and attempted to be integrated, enhancing audit quality through data analysis. In the long term, as auditors gain trust in technology and acquire necessary skills, technologies such as machine learning and artificial intelligence will be integrated into the RCA's activities for the rapid identification of issues and the conduct of fully digital audit missions (RCA, 2023c). A crucial component - cybersecurity - is expected to be addressed by establishing a specialized central function, exclusively responsible for protecting RCA operations and informing staff about potential dangers and vulnerabilities. It
is important to emphasize that, although new technologies will have a significant impact on external public audit activities, they will act as determinants for intelligent and innovative audit practices. However, interpreting audit analysis results and presenting information to decision-makers will remain human tasks, the responsibility of auditors.

Conclusions

In the context of the institution we referred to in the paper (RCA), whose role is to exercise control over the formation, administration, and utilization of the financial resources of the state and the public sector, it becomes imperative for its activities to reach the maximum level of performance. According to the presented strategic directions focused on the digitization of Control Processes, the leadership of the supreme audit institution must integrate IT governance aspects, following the institutional development strategy, contributing to meeting requirements for data and information efficiency, effectiveness, confidentiality, integrity, and availability.

Certainly, information and communication technology represents a key tool for the efficiency and effectiveness of organizations in the public sector. In this regard, the analyzed institution has expressed its vision to become a fully functional digital entity at the national level, with integrated digital processes for auditing, monitoring, and reducing irregularities in the use of public funds. By implementing a digital data analysis platform, TCA aims to adopt advanced technologies such as big data analysis, artificial intelligence, machine learning, and blockchain, simultaneously focusing on the development of human resources, capabilities, and organizational culture.

The constant evolution of data and technological progress pose both challenges and opportunities for improving the quality of public audit. Through the proposed strategy, RCA aims to become a trusted partner by 2028, addressing a nationally articulated vision and using digital analysis to identify potential behaviors, issues, and risks.

In the paper, we emphasized the importance of IT support for the control and audit of the RCA, exploring the impact of digitization on central public administration and control/audit. We highlighted recent strategic elements related to the digitization of the activities of the RCA and detailed the advantages that can arise through strategic initiatives related to digitization. These advantages are directly linked to achieving specific objectives, such as increasing interoperability between RCA systems, audited entities, and public institutions, streamlining the use of human and material resources of RCA, creating an innovative and collaborative culture, maintaining a high level of IT security, and optimizing RCA's operational activities.
However, despite anticipating that new technologies will have a significant impact on external public audit activities, they will only serve as determinants for intelligent and innovative audit practices. Interpreting the results of audit analysis and presenting information to decision-makers will remain tasks of the human factor, namely the auditor.

The limitations of our research are due to the fact that this paper does not emphasize the costs of the transformations we refer to and does not comparatively address the thematic situation in relation to what is happening at the level of audit courts in other countries.

For this reason, future research directions will focus on including these issues in our sphere of concerns.

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