

SPRING ISSUE

# 2024

# ECOSAI CIRCULAR

Economic Co-operation Organization  
Supreme Audit Institutions





The ECOSAI is a regional forum of the Supreme Audit Institutions of South and Central Asian regions. Founded in 1994, ECOSAI aims at promoting the state auditing profession in member countries through exchange of ideas, experiences and by holding seminars, conferences, workshops and training courses.

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President ECOSAI,  
President Supreme Audit Court,  
Islamic Republic of Iran (SAI Iran)

**Muhammad Ajmal Gondal**  
Secretary General ECOSAI,  
Auditor-General,  
Islamic Republic of Pakistan (SAI Pakistan)

### ECOSAI Governing Board Members

- SAI of Iran
- SAI of Türkiye
- SAI of Pakistan
- SAI of Kyrgyz Republic
- SAI of Kazakhstan

The term of the Governing Board Members will expire during 10th ECOSAI Assembly to be held in 2025. The ECOSAI Circular is the official organ of ECOSAI and has the objective of providing member SAIs with the forum of sharing experiences in different areas of public sector auditing.

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# MESSAGE OF THE SECRETARY GENERAL ECOSAI



Dear ECOSAI Members,

I am pleased to present this latest edition of the ECOSAI Circular. This publication serves as a vital platform for us to share important updates, insights and developments in our community.

In this edition, you will find comprehensive coverage of our recent activities, including reports on the latest training sessions, seminars, and collaborative projects undertaken by our member organizations. Additionally, we have included insightful articles that highlight best practices and innovative approaches in public sector auditing.

The ECOSAI Circular is designed to foster knowledge sharing and professional development among our members. Your contributions and feedbacks are invaluable for making this Circular a dynamic and enriching resource for all.

I would like to extend my gratitude to everyone who has contributed to this edition. Your efforts and insights help us maintain the high quality and relevance of our publication. As we continue to enhance our communication and collaboration through the Circular, I am confident that we will further strengthen our collective capabilities and impact.

Thank you for your continued engagement and support.

Warm regards,

A handwritten signature in blue ink, appearing to read 'Ajmal Gondal'.

**MUHAMMAD AJMAL GONDAL**  
**(AUDITOR-GENERAL OF PAKISTAN)**



## NEWS FROM THE SAIs



## DR. DASTGHEIB'S RE-ELECTION AS THE PRESIDENT OF SAC BY AN UNPRECEDENTED VOTE OF THE PARLIAMENT

At the beginning of the new term of the Iranian Parliament on 24 July 2024, Dr. Seyed Ahmadreza Dastgheib, the incumbent President of SAC and the ECOSAI President, won 211 votes out of 272 votes cast by the Members of the Iranian Parliament and accordingly was re-elected as the President of SAC for a four-year term 2024–2028.

It is noteworthy that Dr. Dastgheib holds Postdoc in Economic Law and Ph.D. in Political Science and he has had important responsibilities in the Parliament, including Member of the Presidium of the Parliament, Advisor to the Speakers of the Parliament, Deputy Chairman of the Integration Commission of the Parliament, Deputy Chairman of Internal Regulation Commission of the Parliament and Member of the Article 90 of the Constitution Commission.



## ONLINE ECOSAI TRAINING COURSE ON COST AUDITING HOSTED BY SAI IRAN

The ECOSAI Online Training Course on Cost Auditing, as part of the ECOSAI syllabus for Training Courses of 2023-2025, was held on 5 March 2023 via the Zoom platform for 3 hours.

More than 70 participants from ECOSAI member SAIs including Kazakhstan, the Kyrgyz Republic, Tajikistan, Türkiye, Pakistan, Palestine, Afghanistan, the Turkish Republic of Northern Cyprus and Belarus attended this course alongside the Iranian auditors and senior auditors from SAC's provincial offices. In addition to SAC experts and authorities, Dr. Alireza Saraf, International Lecturer on Performance and Cost Auditing and Mr. Hashim Reza, Director from Office of the Auditor General of Pakistan, presented their views on Cost Auditing and shared their knowledge and experiences regarding the topic.



## MR. ALIKHAN SMAILOV APPOINTED AS A CHAIRMAN OF THE SUPREME AUDIT CHAMBER OF THE REPUBLIC OF KAZAKHSTAN



By Decree of the President of the Republic of Kazakhstan dated April 1, 2024 No. 512, Mr. Alikhan Smailov was appointed as a Chairman of the Supreme Audit Chamber of the Republic of Kazakhstan.

### General information (education);

Was born on December 18, 1972 in Almaty (Kazakhstan).

In 1994, he graduated from Al-Farabi Kazakh State National University with a degree in Applied Mathematics.

In 1996, he graduated from the Kazakhstan Institute of Management, Economics and Forecasting under the President of the Republic of Kazakhstan, awarded a Master's degree in Public Administration.

### Career;

*In 1993-1999*, he has served at the “A-Invest” Investment and Privatization Fund; the National Statistics Agency of the Republic of Kazakhstan; as a Deputy Chairman of the Committee on Statistics and Analysis of the Agency for Statistical Planning and Reforms of the Republic of Kazakhstan; as a State Inspector at the Executive Office of the President of the Republic of Kazakhstan.

*In 1999-2003* – Chairman of the Agency of the Republic of Kazakhstan for Statistics.

*In 2003-2006* – Vice-Minister of Foreign Affairs of the Republic of Kazakhstan, Chairman of the Governing Board of “State Insurance Company for Insurance of Export Credits and Investments” JSC.

*In 2006-2009* – Vice-Minister of Finance of the Republic of Kazakhstan, President of “KazAgro” National Holding” JSC.

*In 2009-2014* – Chairman of the Agency of the Republic of Kazakhstan for Statistics.

*In 2014-2015* – Chairman of the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan.

*In 2015-2018* – Assistant to the President of the Republic of Kazakhstan.

*In 2018-2019* – Minister of Finance of the Republic of Kazakhstan.

*In 2019-2021* – First Deputy Prime Minister - Minister of Finance of the Republic of Kazakhstan.

*In 2022-2024* – Prime Minister of the Republic of Kazakhstan.

## OPENING MEETING FOR THE PARALLEL AUDIT OF İĞDIR-NAKHICHEVAN NATURAL GAS PIPELINE CONSTRUCTION IMPLEMENTATION PROJECT

The meeting on the “Parallel Audit of İğdir-Nakhichevan Natural Gas Pipeline Construction Implementation Project” was held on 29.04.2024 with the participation of Mr. Metin YENER, the President of the Turkish Court of Accounts (TCA), Mr. Vugar Gulmammadov, the President of the Azerbaijan SAI, Mr. Abdulvahit FİDAN, the General Manager of BOTAŞ, delegations from both SAIs and the BOTAŞ General Directorate.

During the meeting held in İğdir, within the scope of the protocol made in the framework of the Memorandum of Understanding previously signed between the TCA and the Azerbaijan SAI, the TCA and Azerbaijani SAI agreed to cooperate for the audit of the construction work of the İğdir-Nakhichevan Natural Gas Pipeline Implementation Project.



**VISIT OF MR. VUGAR GULMAMMADOV, CHAIRMAN OF THE CHAMBER OF ACCOUNTS OF THE REPUBLIC OF AZERBAIJAN TO OFFICE OF THE AUDITOR-GENERAL OF PAKISTAN ON 29TH FEBRUARY TO 3RD MARCH, 2024.**

The delegation from the Chamber of Accounts of the Republic of Azerbaijan visited SAI Pakistan on 29<sup>th</sup> February to 3<sup>rd</sup> March, 2024. The delegation was headed by Mr. Vugar Gulmammadov, Chairman of the Chamber of Accounts of the Republic of Azerbaijan.

The delegation arrived in Pakistan for bilateral meeting and presentation of the Peer Review Report of the external audit of the Financial Statements of SAI Azerbaijan by SAI Pakistan for the year 2023. The relations between SAI Azerbaijan and SAI Pakistan are built on years of cooperation and ties. With the signing of MOU on bilateral cooperation in the field of public sector auditing, the relationship between the two SAIs has further strengthened.





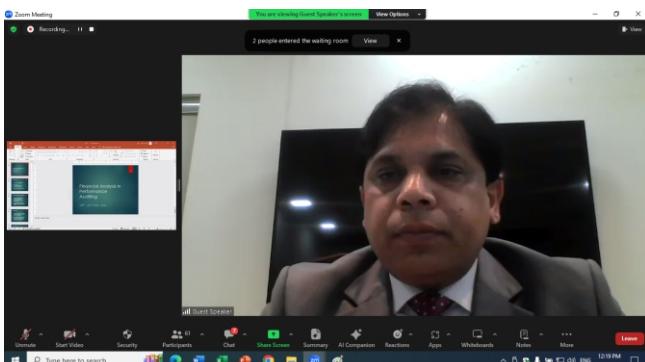
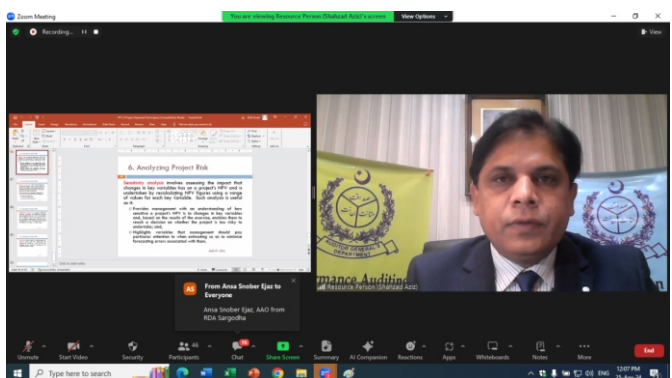
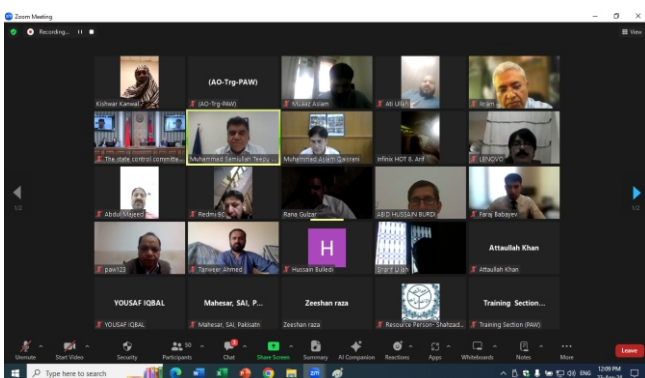


## SAI PAKISTAN CONDUCTED 3-DAYS ONLINE ECOSAI COURSE ON FINANCIAL ANALYSIS IN PERFORMANCE AUDITING FROM 23RD - 25TH APRIL, 2024.

From 23<sup>rd</sup> - 25<sup>th</sup> April, 2024, SAI Pakistan organized a three-day online ECOSAI Course titled "Financial Analysis in Performance Auditing". The course attracted a diverse group of eighty (80) participants from seven (07) SAIs, including Azerbaijan, Belarus, Kazakhstan, Palestine, Turkish Republic of Northern Cyprus, Türkiye, and Pakistan.

The training commenced with a warm welcome from the Head of the training institute, followed by comprehensive lectures delivered by Mr. Shahzad Aziz Khan, Director General Audit, renowned for his expertise in the field. Participants gained insights into assessing financial performance, evaluating positions, identifying trends, measuring liquidity and solvency, and making informed decisions based on thorough analysis of financial statements.

The course curriculum was designed to cover all essential areas of financial analysis in performance auditing, equipping participants with practical concepts and techniques for efficient professional duties and stakeholder satisfaction. Key topics included Introduction to Financial Analysis, MS Excel Tools and Techniques, Time Value of Money, BCR and Discounted BCR, NPV, IRR, Sensitivity Analysis, Vertical & Horizontal Analysis of Financial Statements, Industry Trend Analysis, Liquidity, Efficiency, Leverage, and Profitability Analysis. SAI Pakistan's initiative underscores its commitment to enhance audit capabilities, promoting collaboration among ECOSAI member states, facilitating knowledge exchange and excellence in financial governance.





## SAI PAKISTAN HELD ONLINE MEETING WITH SAI AZERBAIJAN REGARDING IT AUDIT IN PAKISTAN

An experience exchange meeting to discuss IT Audit in SAI Pakistan with SAI Azerbaijan was held on 29<sup>th</sup> May 2024. Mr. Vasif Rasulov- Head IS management and support to IT from Azerbaijan SAI participated in the meeting. Mr. Hasan Masud, Director General IT, Mr. Ali Farooq Gheba, Additional Director, Civil Services Academy and Mr. Imran, Assistant Auditor General (Personnel) represented SAI Pakistan.

This meeting was in continuation of an earlier meeting held in December 2023 between the two SAIs on exchanging IT Audit knowledge. Issues like methodical documents adopted in the field, the number of human resources involved in IT audit, the number of audits conducted during the year, required certifications, knowledge and skills for IT auditors, IT audit planning stage, access to auditees' information systems, inquiry forms in IT audits, approaches to IT assets management issues, approaches to IT procurement procedures, classification of IT audit findings, ensuring efficient and effective organization of ICT complex of auditees and application of remote audit solutions were discussed at length.

The image shows a Zoom meeting interface. At the top, there are three video thumbnails: one for SAI Pakistan (showing three people at a table), one for Vasif Rasulov/Sai Azerbaijan, and one for SAI Pakistan Muhammad Ali Farooq Gheba. Below the thumbnails is a Zoom control bar with options like Join Audio, Start Video, Participants, Chat, Share Screen, Summary, AI Companion, Record, Reactions, Apps, Whiteboards, Notes, and More. A status bar at the bottom indicates the meeting ID (524808) and the current time (12:11 PM, 5/29/2024). The main content area displays a shared slide titled "2. Walkthrough of AMIS functionalities - 1. Conduct of an Audit". The slide features the SAP logo and a process flow diagram with four stages: Master Data, Audit Planning, Audit Engagement, and Audit Follow-up. The Audit Planning stage is highlighted in green. The diagram shows a flow from "Get Approval" to "Audit Planning" (involving DAG, DAG, AMLAG, and AGP) and then to "Audit Engagement" (involving DG Director and AGP Assistant). A box labeled "Manage Audit Plans" with the number "982" is also visible. The slide footer includes the number "4/23".



## **DIGITALIZATION IN SAI PAKISTAN**

The Department of Auditor-General of Pakistan is entrusted under Constitution of Islamic Republic of Pakistan with the audit of all the revenues, receipts and expenditures of Federal and Provincial Government departments, autonomous bodies, corporations and institutions financed by or working under their administrative control. The DAGP has adopted the International Organization of Supreme Audit Institutions (INTOSAI) code of ethics and auditing standards. The Financial Audit Manual (FAM) and audit guidelines adopted for auditing are consistent with the International Standards of Supreme Audit Institutions (ISSAIs).

The DAGP conducts audit and presents its reports to the President and the Governors of the Provinces in case of Federal Government, and Provincial Governments respectively, who cause them to be laid before respective Assemblies. The Reports of the Auditor-General are discussed and deliberated upon by the respective Public Accounts Committees. This system of accountability gives confidence to the public that their resources are rightfully utilized and assets are well guarded. The donor organizations, countries and international development partners also repose their trust in the AGP for the accountability of their loans and grants.

### **AMIS Project**

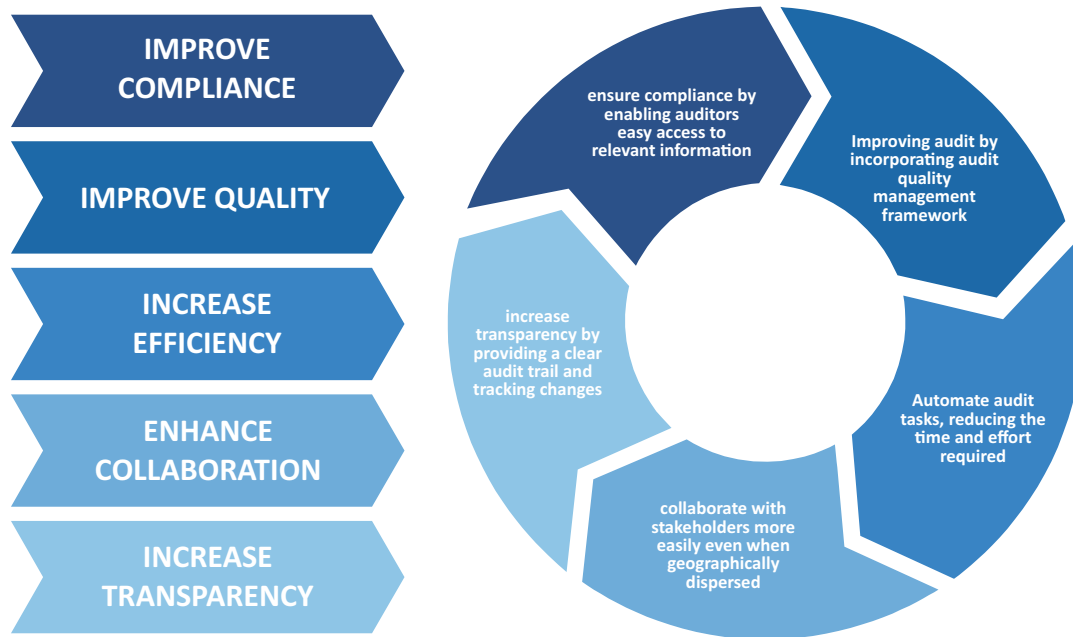
#### **Audit Management Information System**

In order to fulfill its mandate, the Department of the Auditor-General of Pakistan has embarked upon a project to establish Audit Management Information System (AMIS) to assist in managing audits efficiently and provide transparency and consistency in audit processes through automation of planning, scheduling and execution of audits, digitally documenting Audit observations, and replies, having a central repository of working papers and collaboration between audit teams. The System also allows online and real-time monitoring of audit teams in field.

#### **Objectives of the project**

The AMIS project aims to improve Public Financial Management through digitization of all audit processes and ensuring their sustainability through replication of Audit Management Information System (AMIS) and Improving quality at each step of audit process through adoption of audit quality management framework. The main purpose of this project is to provide a computerized audit management system, capturing the entire auditing process beginning with audit planning to audit monitoring including follow-up and reporting.

## Project objectives



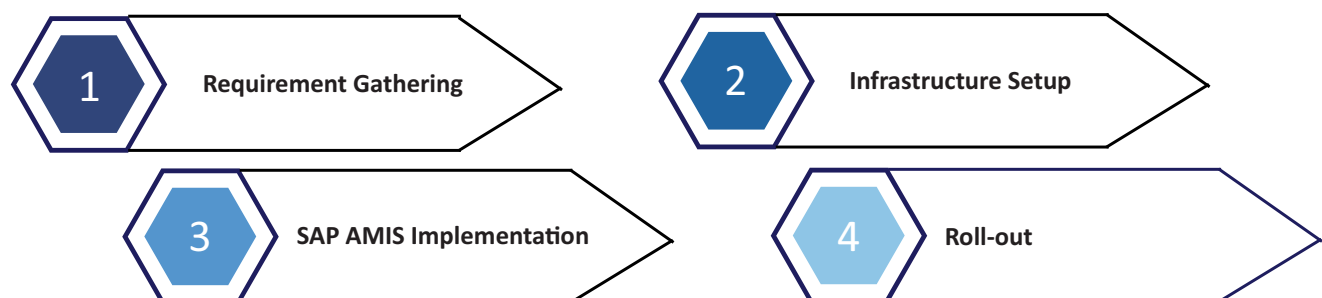
## Why and How Conceived

### Inception of the project

During the conception phase of the Project, it was envisaged that all observations will be recorded by the auditors on the system and the management will be able to monitor in real-time, the work being done by the audit teams while they are still in field. There are places where, at times, online connectivity is limited or unavailable and therefore for this, it was conceived that the AMIS System would have the provision of offline functionality.

A need analysis of an automated and digital audit management system was also undertaken by DAGP for identifying the requirements and objectives to effectively manage the audit processes. Some of the key areas that were identified included Audit process requirements, user requirements, reporting requirements and security requirements.

### Implementation phases



## **Audit planning in AMIS**

The auditors can perform risk profiling of audit formations through system on the basis of available information of risk parameters and can prepare annual audit plan taking into account available human resource.

## **Audit execution in AMIS**

AMIS automates preparation of audit reports in standardized formats and categorization of recorded paras. It features work-flow based review, approval and publication of audit reports. It can allocate work and type of audit among team members of an audit party and can automate the preparation and submission of audit reports and manages the entire process effectively.

## **Follow up of audit in AMIS**

Online management of paras allows seamless communication between audit officials and executive and enables the auditee formations to submit replies in electronic form.

## **Reporting and dashboards**

The system provides separate dashboards for different types of users like Public Accounts Committee (PAC), audit teams and higher management of DAGP. Information in the dashboard is presented graphically through charts, tables, metrics, maps and widgets. Reporting and dashboards provide several benefits to stakeholders, including improved decision-making, increased visibility by giving visual representation of data and better forecasting.

## **Security in AMIS**

AMIS is a web-based system, that can be utilized both by auditors of DAGP and government auditee organizations securely. It provides a complete audit trail of all transactions (add, edit and delete) using transaction log reports. Access controls are also provided to ensure that databases are not tampered or modified unauthorizedly.

## Key Features

### Features and capabilities

The audit process in Audit Management System is divided into six phases and can be used to build audit plans, prepare audits, analyze relevant information, document results, form an audit opinion, communicate results, and enables the management of DAGP to monitor audit progress in real-time. The ability to enter responses directly in the system enables the Principal Accounting Officers (PAOs) to have their input instantly recorded in the system.

### Audit phases in AMIS

<b>Planning</b> - <i>Creation of Audit plans and auditable Items</i>
<b>Preparation</b> - <i>Prepare Audit intimation and Work Program</i>
<b>Execution</b> - <i>Create Working Paper, findings and Action Plan</i>
<b>Reporting</b> - <i>Prepare review and issue Audit Report</i>
<b>Follow up</b> - <i>Track, open findings and respond to actions</i>
<b>Departmental Accounts Committee</b> - <i>Management response, DAC directives and compliance</i>
<b>Public Accounts Committee</b> - <i>PAC notices, meetings, DAC directives and compliance</i>



System Administration



Audit Planning



Audit Report Management



Audit Scheduling and Tracking



Document Management and Electronic Working Papers



Lead Auditor & Management Approvals



Dashboards and Reporting



Consolidated Audit Report

## Benefits Of AMIS

AMIS will benefit DAGP and the Government through:

- Digitalization of audit process, thereby reducing the cost and effort in preparing Audit reports
- Detailed analytics to provide summarized information to management
- Efficient planning process will help to enhance utilization of organizational resources
- Risk-based audits to enable the auditors to identify risks correctly
- Complete documentation of the audit process in the form of electronic working papers allows detailed review of the audit opinions made during audits
- Effective collaboration amongst the audit team and across various teams
- Automatic generation of reports based on the audit findings
- Real-time review by supervisors and higher management
- Approval by supervisors at multiple levels of the audit process
- Tracking of issues in real-time to monitor compliance
- Effective management of available resources to maximize outcomes
- Maintenance of complete Audit Universe to ensure completeness of entities audited
- Direct interface with PAOs and PAC
- Functionality for the PAOs to have their responses recorded in the system

The Data Analytics Software can perform various kinds of trend analysis such as providing a visual trend analysis of number and types of Audits conducted and categories of Audit observations. It can thus provide insight about consistent or changing trends to develop conclusions and provide support in decision making to both the DAGP top management and PAOs.

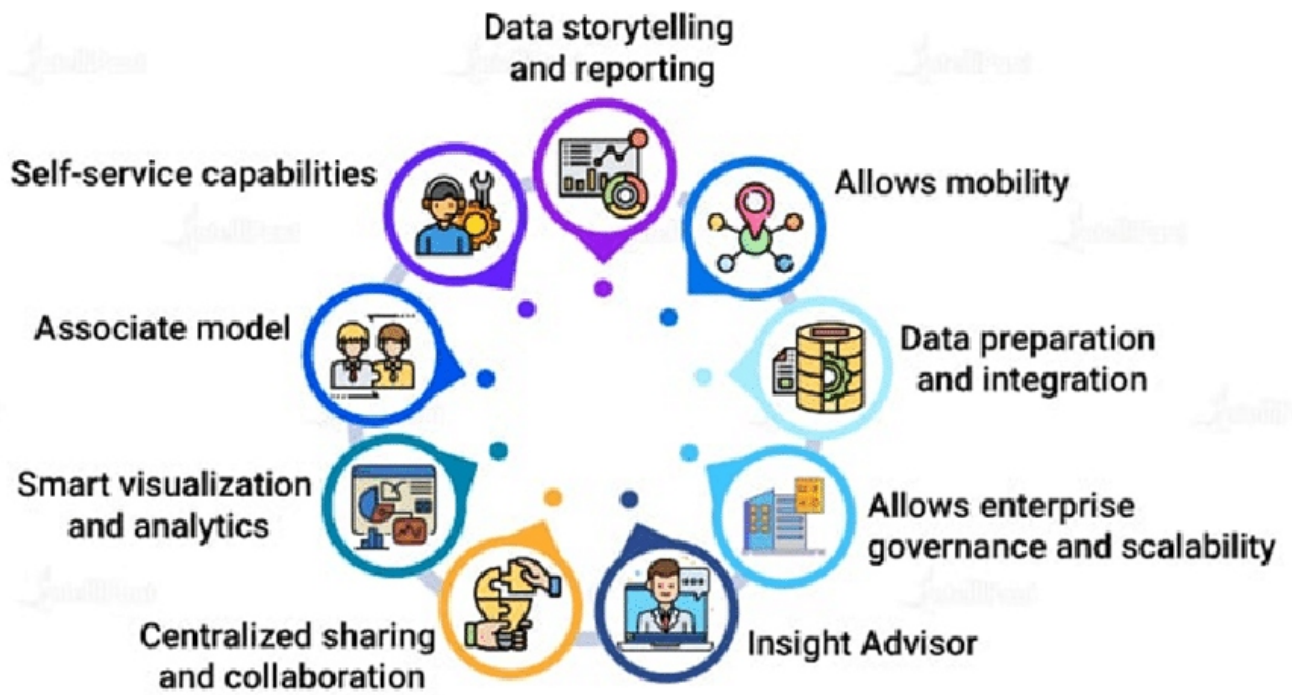
## Data Analytics

### Data analytics software

Data Analytics enables Audit Institutions to apply various techniques to obtain insights such as pattern, relationship, and cluster in a set of data. In order to harness the power of Data Analytics, DAGP has procured Qlik Sense Data Analytics and data visualization software that provides Auditors easily flexible, interactive visualizations. Qlik Sense can easily combine, load, visualize, and explore data.

The software will allow DAGP to perform audit procedures, eliminate redundancies and other risks including fraudulent and anomalous transactions. Prior to adoption of Qlik Sense Software, DAGP was Using ACL. Qlik Sense software has the ability to seamlessly migrate the existing work/scripts/table etc. created through ACL software.

## Capabilities



## Challenges In Implementation

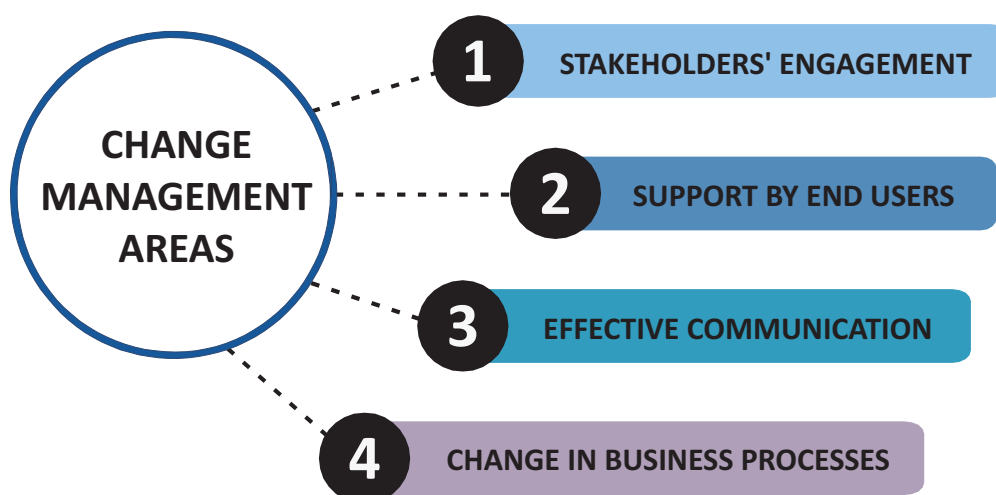
### Training and capacity building

It was a challenge to identify training needs, develop training materials, schedule training sessions at a convenient time and location, provide hands-on training and evaluate the effectiveness of the training.



### Change management requirements

AMIS required changes to some business processes and workflows, which proved to be challenging for employees to adapt to. There were other change management challenges such as stakeholders' engagement and support by end users.





## **What We Can Offer**

### **What we can offer to our clients**

The DAGP has pivotal role in enforcing accountability over the use of government money and it can provide better Auditing, Risk Assessment and Risk Management services to its clients after implementation of AMIS.

### **Better communication and engagement**

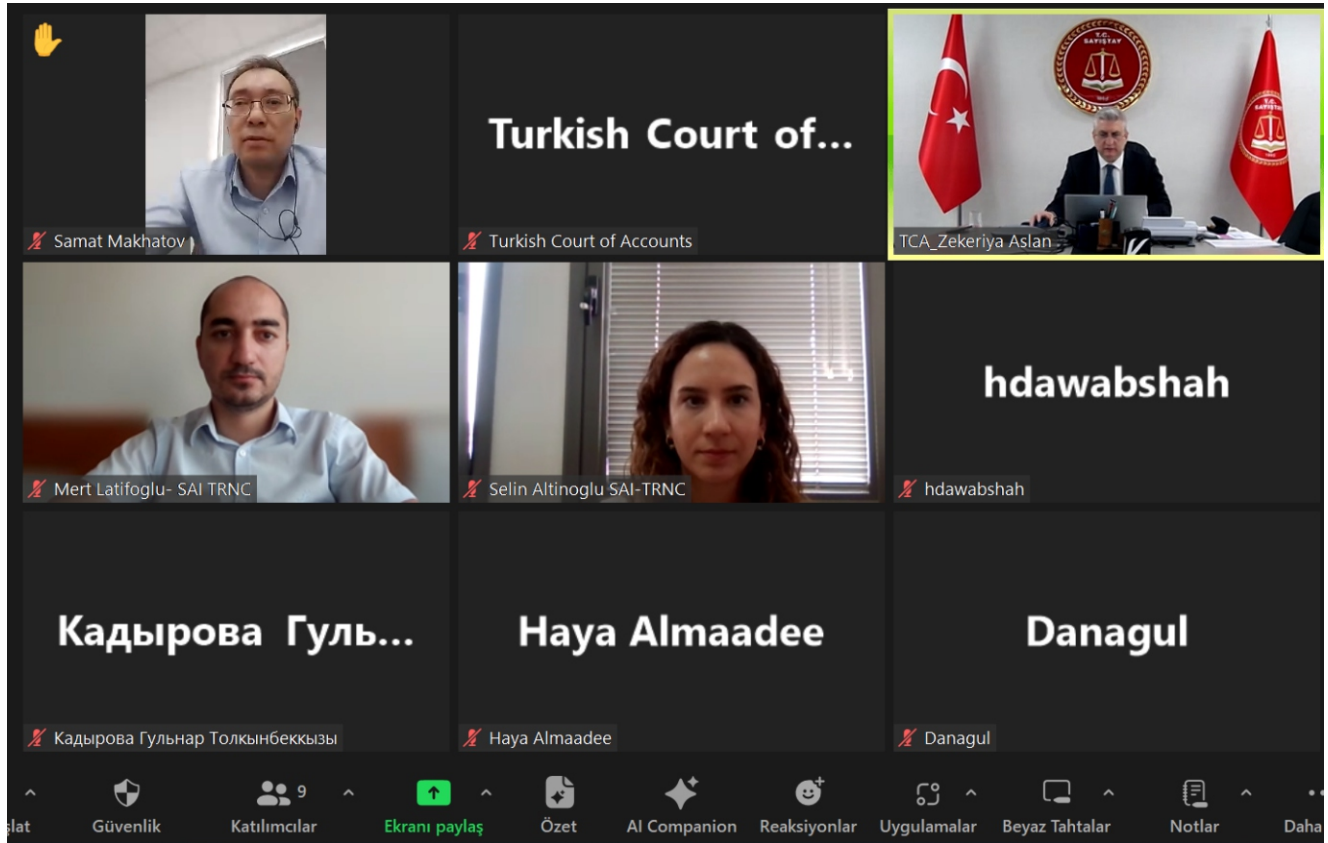
The Audit Management Information System will offer to Public Sector stakeholders better communication and engagement with Audit and the Auditors will be able to know stakeholder expectations by engaging with them through seamless online connectivity and without any interruptions or delays.

## ECOSAI TRAINING COURSE ON ETHICS IN AUDIT (17<sup>th</sup> - 18<sup>th</sup> APRIL, 2024)

Turkish Court of Accounts virtually conducted “Ethics in Audit” training program for ECOSAI member and observer SAIs on April 17<sup>th</sup> - 18<sup>th</sup>, 2024.

After the opening and welcoming speech of Mr. Hacı Ömer Köse, Director General at the TCA, Mr. Zekeriya Aslan, TCA Auditor, presented the following topics in the program:

- Conceptual Framework and Importance of Ethics
- ISSAI 130 Code of Ethics (Overall Responsibilities of the SAIs and Fundamental Ethical Values)
- Ethics in Turkish Court of Accounts
- Ethics Cases in Audit





## **ARTICLES FROM THE SAIs**



**Vugar Gulmammadov**

*Chairman,  
Chamber of Accounts of the Republic of Azerbaijan*

## INVOLVEMENT OF SUPREME AUDIT INSTITUTIONS IN CLIMATE PERFORMANCE ASSESSMENT: INTERNATIONAL AND LOCAL EXPERIENCE. REALITIES AND CHALLENGES

Climate change is one of the biggest global problems of modern time. Greenhouse gas emissions, melting glaciers, forest fires, deforestation and misallocation of water resources have a negative impact on the environment, economic and social conditions.

Despite the national and international measures taken by governments to reduce the greenhouse gas emissions in the last two decades, the warming process in the climate system is still observed. According to the 2023 Report of the Intergovernmental Panel on Climate Change (IPCC), the global surface temperature in 2011-2020 is 1.1°C higher than in 1850-1900.

Although the global climate action is a shared responsibility of many stakeholders in the public and private sectors, the dominance of the former in this field up to the present is felt to be significant. Thus, national governments play an important role in climate action by allocating public resources, implementing state policies, and through various governance mechanisms to combat climate change and its consequences. Political commitment by governments, an institutional framework, good strategic management, and broad access to finance and technology can contribute to effective climate action.

Considering the use of significant financial, including state (public) resources for the implementation of this activity, SAIs conducting external public financial control can contribute to this issue via their audits.

The conducted analysis show that the experience of conducting environmental audits by SAIs, including their involvement in climate performance assessment, has been expanding in recent years.

The assessment of climate action by SAIs aims to achieve **the outcome** - "*contributing to the improvement of accountability, effectiveness and inclusiveness of government climate change adaptation measures*" through the following three outputs:

- High-quality audits and recommendations in various areas (disaster risk reduction, water resources management, sea level rise, implementation of climate change adaptation plans/ activities etc);
- timely submission of audit reports in accordance with legislation;
- audit impact throughout the audit process.

In general, although the SAI mandates differ, they all have a mission to provide independent evaluation of management and use of public resources. Audit on management and use of resources in most cases is conducted as a component of compliance, financial and performance audits. For this reason, SAIs do not need special authority to assess the effects of funds allocated to climate action. In a number of countries, including Azerbaijan, this has been established by Law and attributed to the direct duties of SAIs.

According to INTOSAI WGEA, in the last 5 years, the number of environmental audits by SAIs is more than 400, and more than 50 of them are directly related to climate performance assessment. Performance audits are significantly predominant here.

Considering the topicality of the issue, SAI Brazil, current INTOSAI Chair, together with INTOSAI WGEA, experts and international organizations (UNDESA, the World Bank, UNDP, etc.) launched Climate Scanner initiative.



Climate Scanner assessment final results are expected to be announced at the 29<sup>th</sup> session of the Conference of the Parties to the United Nations Framework Convention on Climate Change - COP29, to be held in our capital by SAIs.

A number of fiscal diagnostic tools also encourage the active involvement of SAIs in assessing the climate action. For example, the PEFA Climate (Climate Framework) prepared by the Public Expenditure and Financial Accountability (PEFA) Secretariat also envisages the involvement of SAIs in this activity. PEFA's Climate Framework tool is a set of indicators based on the PEFA framework to gather information on the readiness of the public financial management system to support and promote the implementation of government climate change policies.



### ***The experience of the Chamber of Accounts of the Republic of Azerbaijan in assessing the national climate activity related to climate changes.***

In our country, a number of important measures have been taken to achieve the goals of combating climate change and the State Commission on Climate Change has been established. In the past, the Republic of Azerbaijan prepared its National Information and Biennial Update Reports on Climate Change and submitted to the UNFCCC Secretariat.

In accordance with the Paris Agreement, the Republic of Azerbaijan submitted its Nationally Determined Contributions (NDC) document in 2016 and set a target of reducing greenhouse gas emissions by 35% by 2030 compared to 1990.

Climate change mitigation measures are reflected in the "Socio-economic Development Strategy of the Republic of Azerbaijan for 2022-2026", "State Programs on the Socio-Economic Development of Regions" and other documents.

Although substantial work has been done by the Azerbaijani government within the framework of the fight against climate change, the global development trends of the world economy have determined the issues of climate change as an actual problem in the Republic of Azerbaijan. The results of various assessments show that the agricultural sector, water resources sector, coastal zones and forest sector are more sensitive to climate change in Azerbaijan.

To assess the effectiveness and efficiency of the government's national climate and environmental activities, a number of audits (mainly performance audits) have been carried out by the Chamber of Accounts recently.

***On the assessment of efficient use of irrigation water.*** Due to the recent drought, the trend of depletion of fresh water resources has also been observed in Azerbaijan. According to the results of scientific studies, Azerbaijan is currently ranked 20<sup>th</sup> in the list of countries that may face water shortage in 2040. Efficient use of fresh water resources is one of the urgent and priority issues for Azerbaijan, under the circumstances that more than 75% of fresh water resources in our country are formed from sources outside the country. Nevertheless, the fact that the main part of the irrigation canals are underground caused a large amount of water loss, and the lack of necessary infrastructure for accurate measurement of the amount of water used did not allow to determine the amount of water loss.

***Assessment of the efficiency of the "Pirshaghi" wastewater treatment plant" project.*** Due to insufficient funding, the lack of infrastructure for drinking water supply and sewage system in the scope of the facility has made it impossible to deliver sewage water to the facility and use it for its intended purpose.

***Performance audit of Forestry Development Service.*** The conducted audit shows that a strong legislative base has been formed to regulate forest-related issues in the country, and the Forest Code has

been adopted. Alongside the strong legal framework, the previous forestry works that are the basis of forestry activities, have not been completed, efficient use of forest areas has not been ensured, although certain measures have been taken against illegal deforestation, measures to protect and safeguard forests from the effects of other anthropogenic factors and pests have been insufficient.

The conducted control measures have determined that there are **a number of challenges** in the government's activities related to the national climate and environment.

- The restoration of the areas liberated from occupation, the forests in those areas and the ecosystem as a whole requires a lot of resources and time. In 2021-2022, more than 3 billion dollars have been allocated to the restoration of liberated territories from the state budget. This creates new challenges for the government to organize and implement the efficient use of those funds, and for the Chamber of Accounts, to assure the efficient use of the funds.
- As renewable energy, the production of electricity in hydropower plants requires the availability of large sources of running water. Large water sources are mainly transboundary waters and thus 75% of fresh water resources are formed outside of Azerbaijan. The recent drought and the use of water by the origin countries cause a decrease in the water resources of the transboundary rivers until they reach the territory of Azerbaijan. This creates difficulties in the construction of new hydropower plants and the more efficient use of existing plants. In addition, the pollution of transboundary rivers beyond the relevant norms before reaching the territory of Azerbaijan, requires additional time and resources to adapt those waters to be used for domestic and economic purposes.
- Azerbaijan is among the most mine-contaminated countries in the world, and it is estimated that there are more than 1.5 million unexploded mines and munitions in Azerbaijan. In the period from 08.11.2020 to 27.02.2024, 345 people became victims of 205 mine explosions. The threat of landmines has made it impossible to use the lands in the liberated territories for both residential and agricultural purposes, as well as for ecosystem restoration.

The above-mentioned issues were mostly related to the factors characterizing the impact on the country. In addition, there are other factors that affect the activity of almost every SAI in this field. These may include the following;

Above all, it is crucial to have a **strategic management framework** and for **public financial management (PFM) system** to consider **the climate issue** in the field of climate action. Although concepts such as climate finance, green budget, etc. are currently becoming popular in the field of public finance management, there are still few examples that can be noted as good practice in this field. **It is very important to include budget indicators**, along with specific policy goals in the strategic documents adopted in the country in the field of climate action. Also, references to these documents should be increased during the preparation of the MTEF and other strategic budget documents. This will also enable to determine the sufficiency of the budget commitments to implement the adopted strategic documents on the national climate action.

At the same time, the inclusion of more institutions in the **program budget initiative** can create acceptable conditions for monitoring the costs of climate actions. Another approach is **the application of budget tagging**. Climate change budget tagging should be viewed more within the framework of budget classification. The first reference point is the GFSM (including COFOG).

**The second issue is the variety and timeliness of climate action data.** As it is known, in some cases financial data on activities are submitted to SAIs shortly after the end of the year. It is difficult to say this about non-financial information. Of course, relatively favorable conditions are formed in the countries where the program budget is applied.

It is crucial for SAIs **to agree on KPIs** for non-financial climate action data. Timely and high-quality presentation of data also requires the integration of IT systems in the relevant field.

**As the third issue,** we can mention **the formation of personnel potential** for climate action assessment. As it is known, audits in this field require not only knowledge on financial issues and performance audits, but also specific knowledge. Currently, there are various trainings in this field. There is a great need to proceed in this area.







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## SAI AND THE UNDERLYING REASONS FOR DECREASED EFFECTIVENESS

In the field of public governance, the effectiveness of regulatory institutions in ensuring accountability, transparency and efficient use of public resources is of great importance. Accordingly, each of these regulatory bodies has specific duties and responsibilities in the monitoring process. However, SAI Iran is in the forefront of these supervisory institutions; A special and unique regulatory body that has the heavy responsibility of reviewing the allocation and use of public funds and acts as the axis of financial accountability within the framework of the country's governance as well as the main custodian of public audit in Iran.

As a governance body, SAC supervises the performance of the executive bodies of the public sector through conducting audits and preparing annual audit reports in order to play a role in protecting the treasury, preventing corruption, and timely disclosure of violations. Given the growing corruption in the public sector, the effectiveness of this regulatory body is severely criticized by the public.

Despite its central role, SAC often struggles with challenges that hinder its optimal productivity. These obstacles range from intra-organizational complexities to external socio-political influences, each of which plays a distinct yet interdependent role in shaping the operational landscape and they need a precise and systematic approach to solve the concerned problems.

As such, identifying, understanding and reducing these factors is of great importance for the effective functioning of any democratic system and thus strengthening the pillars of democratic governance. To address these challenges, it is important that stakeholders understand the importance of providing adequate resources and support to the SAC as its role in ensuring accountability and transparency in government operations is critical to a functioning democracy.

This may include allocating adequate funds, providing modern technological infrastructure and investing in the professional development of the staff of the SAC. In order to identify the factors reducing the productivity of the SAC, some interviews were conducted with SAC experts during 2022 and 2023.

After analyzing the interviews and coding the answers, the consensus of the research team and some of the interviewees was to divide the factors into two dimensions inside the organization and outside the organization.

The factors that exist within the organization and cause a decrease level of productivity were divided into two individual and organizational components. The individual components were divided into four indicators of low accuracy of the auditor due to the high volume and variety of audit activities, low accuracy of received data, human error, non-discovery or late discovery of many violations and crimes. The organizational component were divided into thirteen indicators of the complexity of violations and corruptions, lack of comprehensiveness of proceedings due to sampling, high dependence of audit results on the individual ability of the auditor, serious weakness in the audit of internal controls of executive bodies, multiplicity of executive bodies and lack of auditors, partial and incomplete access to information and as a result weakness in providing macro analysis, dependence on the executive body, the availability of grounds for the auditor to clash with the officials of the executive body, resistance of the executive body to access the systems, creating an island information systems, the island performance of audit units, the time-consuming process of receiving and validating information, and the provision of incomplete and misleading organizational information.

Environmental factors, or in other words, factors from outside the organization that can affect the efficiency of the court were classified into 7 components: Expediency Council including index: request for special reports; Legislature including indicators: requests for reports of special importance, requests from the presidium and Committees for information and reports, requests for expert opinions in some meetings of the Committees, high volume of personal requests from MPs and interference with the audit program; The Executive includes indicators of Planning and Budget Organization, General Treasury of the country, universities and higher education centers (trained manpower, weakness in education and training); Judiciary includes indicators of sending criminal cases, requesting the annulment of unlawful approvals; the media includes indicators reporting important cases; the mass of people including indexes of popular reports; other regulatory, security and policy-making institutions such as the Ombudsman organization, supreme councils, etc., including indicators of high parallel work, lack of a system for timely and complete information about each other's output, lack of clarity on the regulatory limits of each regulatory agency, receiving separate information from the agencies, enforcement by different regulatory bodies, weak and unsystematic cooperation. In total, based on the obtained results, factors reducing the productivity of SAC were identified with 2 general dimensions, 9 components and 34 indicators.



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## **THE IMPORTANCE OF DETECTING AND REPORTING WRONG POLICIES AND PROCEDURES IN PUBLIC SECTOR THROUGH PUBLIC AUDITING SYSTEM**

Although public auditing system has played a key role in maintaining financial and economic sustainability and improving government accountability and transparency, the main issue is how it can act successfully in reducing abuse, fraud, etc.

The environment of public auditing is changing, with greater access to public information through the internet now being widespread. The public sector auditing is an area full of complex and comparatively unexplored auditing practices.

In this paper, the main discussion is about performance of public auditing that has been provided essential arrangements to improve effectiveness of auditing regarding the efforts subject to post-auditing process.

Government auditing aims at preventing corruption in government services and establishing a balance between optimal expenditure and services by managing government assets and government sources in the most efficient way. This balance can be established only by obtaining complete and accurate information from government accounting system on time.

Let us see how public accounting has been defined as well as the emergences and changes it has within its historical process in order to put forward the importance of public auditing:

- Auditors are experts in detecting fraudulent financial reporting (Hu, 2005; Gong, 2010).
- There is a growing body of public sector accounting literature, which concentrates on management accounting and other accounting issues (Goddard, 2010, p. 76)
- Role of internal audit is not to manage fraud-risk on behalf of the organization subject to the effect of audit government except for providing limited assurance
- Congress (U.S.A) was more interested in the accountability of the management of the departments and the agencies including audit for efficiency and economy of particular

operations of the organization in the past

- Modern government accounting system suggests that government accounting should include and recognize the payables, receivables, and assets of the government as well as its revenues and expenses on the contrary to traditional view
- Administrative factors related to the quality of government audit is such as determining the nature of irregularities, making the right decisions and checking on rectification results (Jin lu & Bin lin, 2012)

Most of the concerned literatures, studies, researches and historical background focus on detecting and reporting fraud, abuse, embezzlement, bribery, kickbacks, power-for-money deals and so on by highlighting the efficiency and economy of particular operations of the organization in the past. Nevertheless, some researches imply to recognize “correction” or “rectification” effort made by the audit institutions as an important factor to promote government transparency and accountability (Huang and Wang (2010) and Wei et al. (2010)), but they do not pay sufficient attention to identify and trace some procedures which cause such some adverse problems.



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## RISK ASSESSMENT THROUGH NEURAL NETWORK APPROACH: A CONCEPT PAPER

### Introduction

Most of the Supreme Audit Institutions (SAIs) have touted plans to invest a lot of money in audit technologies in the coming years, intending to enhance the effectiveness, efficiency, and economy through audits. Among them, the most advanced technology is an application of Machine Learning (ML)<sup>1</sup>, Deep Learning (DL)<sup>2</sup>, or Artificial Intelligence (AI). In doing so, SAIs are developing and deploying narrow Artificial Intelligence (AI) systems that perform specific tasks having some parameters. These systems use the historical data taken from the auditee to predict or forecast future audit assignments.

The kind of use that can be made of these systems includes risk assessment. This is a rather cautious process in which professionals' recommendations on key risks and adverse events are taken into account in terms of selecting activities for auditing. Risk assessment is critical since it aids the SAIs in directing their major resource on audit activities.

The risk assessment in cyber environments<sup>3</sup> containing much information is the definition of the regularity of data, which can be used to determine the errors or risks. Neural networks<sup>4</sup> which are still a new type of AI model, are effective for pattern recognition and optimization of nonlinear problems.<sup>5</sup>

Cognitive tools<sup>6</sup> such as neural network modeling can be used to enhance and increase the speed of audits while concentrating on financial, operational, and compliance areas that give signs of risk. This

<sup>1</sup> **Machine Learning** is a branch of artificial intelligence (AI) that focuses on developing algorithms and statistical models that enable computers to learn from and make predictions or decisions based on data, without being explicitly programmed to perform those tasks.

<sup>2</sup> **Deep Learning** is a specialized subset of machine learning that focuses on neural networks with many layers, known as deep neural networks. These models are designed to automatically learn representations and features from data through multiple layers of processing.

<sup>3</sup> **Cyber Environments** refer to the digital spaces and networks where information is processed, shared, and stored.

<sup>4</sup> **Neural Networks** are a fundamental concept in artificial intelligence (AI) and machine learning. They are designed to mimic the way the human brain processes information, enabling computers to learn from data and make decisions or predictions.

<sup>5</sup> **Nonlinear Problems** refer to situations or equations where the relationship between variables is not linear, meaning it cannot be represented as a straight line when graphed.

<sup>6</sup> **Cognitive Tools** are technologies or strategies that support and enhance human thinking, learning, and problem-solving.

paper will explain how one of the algorithms of Artificial Neural Networks works and how it can improve audit processes. However, it will not go into the detailed mathematical calculations.

An efficient and successful audit program responds to risk assessments and ensures that proper controls are in place to reduce or eliminate risks. Since unexpected deviations or variations indicate risk, identifying patterns is essential in risk assessment for auditing. Neural network technology is based on the idea that a neural network model can determine important input-output relationships from a large number of examples, given a set of input variables and expert opinions.

## Risk Assessment Model

In a knowledge-based economy, assets like reputation, information, human skills, and experience are becoming more important, even though they are hard to measure or record. It's essential to consider these qualitative risk factors,<sup>7</sup> but gathering this information takes time and a lot of effort. On the other hand, quantitative risk factors are easier to find and provide important risk data. Our approach to risk assessment includes both qualitative and quantitative elements. One of the challenges is how to combine these rankings to achieve the best results.

## Artificial Neural Network Architectures

Neural network architecture typically refers to the design of neural networks, that consist number of nodes in different layers and the pattern of connectivity among them. Some well-known neural network architectures are Multi-Layer Perceptron (MLP), Radial Basis Function (RBF) networks, recurrent networks, and self-organizing systems such as the Kohonen self-organizing map, and Grossberg's adaptive resonance theory. For this concept paper, the discussion is limited to a description of a Multi-Layer Perceptron (MLP) that uses backpropagation (Taud, H., & Mas, 2018). A set of sensory units<sup>8</sup> that make up the input layer, one or more hidden layers of calculation nodes, and an output layer of computation nodes make up the mathematical model of an MLP. The input and output nodes are connected by the units in the hidden layer. The hidden units are crucial because they take the most valuable characteristics from the input vector and use them to forecast values on the output vector. Every unit has an activation flowing into it from the units in the layer above; the activation values are multiplied by the related weight's strength, which may be positive or negative.

## Artificial Neural Network Architectures

The Back Propagation (BP) algorithm is like a learning process for neural networks (Lillicrap, et al, 2020). Imagine the network as a student taking a test. First, the student answers all the questions (makes guesses). Then, the teacher (the algorithm) checks the answers and tells the student what they got

<sup>7</sup> *Qualitative Risk Factors* refer to non-numeric elements that influence the assessment and management of risk.

<sup>8</sup> *Sensory Units* refer to components in neural networks or biological systems that receive and process sensory input.



wrong. The student then reviews his mistakes and changes his thinking to improve answers next time. This process of guessing, checking, and learning from mistakes helps the neural network get better and better at making accurate predictions.

Neural networks as their name suggests form the simple layer of understanding of how the human brain works, and mimic the working of a brain in quite a simple manner. However, before going any further, there is the need to describe exactly what an artificial neural network including propagation is. An ANN consists of layers of nodes or neurons, such as;

- **Input Layer** - This layer serves as an input layer to the following layer in the system being developed.
- **Hidden Layers** - These hidden layers help in processing the input data through the weighted connections and activation functions. In a network, there can be more than one hidden layer.
- **Output Layer** - These layers generate the output from the information that has been processed in the preceding hidden layers.

Every connection between neurons has a weight that defines the strength of the signal that is being transferred from one neuron to the next. The weights in a neural network are what the three layers try to adjust, to achieve the lowest possible prediction errors.

## The Learning Process

Neural network training is an iterative process in which the network makes some predictions. These are then compared to the real values and it reads just itself in light of the differences. This is the process where Back Propagation comes into play because this is an iterative process that follows the following steps (Shanmuganathan S., 2016):

- **Data Collection** - First of all, it is essential to obtain information on the topic under consideration in various online resources, including websites, platforms, and databases. This can be achieved through simple, specific, and focused searches conducted incorporating the use of keywords and web crawlers.
- **Feature Selection** - Select the features/variables that you deem to carry great significance in classification. The rationale behind this step is to eliminate any unnecessary elements that would slow down the model.
- **Data Preprocessing** - Organise the data that was collected according to the experiment specifications to make it fit for analysis. This may include erasing mistakes, amalgamating various selected data sets, changing the format, and much more reducing the complexity of the data. As mentioned, good preprocessing is crucial when working on a given problem.
- **Data Grouping** - Divide the given data into a training set and a test set so that the results can be generalized. The training set is used to train the model while the test set is used to check the competency of trained model. This is useful in assessing the model's ability to perform with the new data.



- **Building the Model** - Develop the various forms of audit risk identification models adopting the methods such as the support vector machines, neural networks, and the random forests. All the methods aid in the prediction of risks and the identification of risks in different ways.
- **Model Testing** - When training the models is done using the training data, test them using the test data. Determine how well the models are at detecting risks by using this testing.
- **Evaluating Results** - Compare the findings of the model tests to the planned results. Some possible alterations include modifying the parameters of the model to obtain the best outcomes for the given job of analyzing risks.

## Conclusion

In the coming years, the role of accounting professionals is expected to expand significantly; primarily due to advancements in information technology and the emergence of AI tools. With these technological advancements, accountants are expected to take on a more prominent role in not only providing crucial financial information but also serving as advisors in risk management.

The integration of information technology and AI tools will significantly boost the capabilities of accounting professionals in analyzing data, spotting trends, and making informed decisions. This advancement will empower them to provide valuable insights and strategic guidance to organizations, helping effectively mitigate risks. Incorporating AI models into audit procedures will simplify the creation of decision-support tools. Among the recent developments in AI, neural networks, inspired by the structure of the human brain, have proven highly effective in various real-world applications. They have the potential to become a standard resource for internal auditors in the twenty-first century.

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## ROLE OF INTERNAL AUDIT FOR CHANGE MANAGEMENT IN PUBLIC SECTOR

### Internal Audit and its types

Internal Audit (IA) is a dynamic and ever-evolving function of management that not only assures of risk management, internal control's effectiveness but also provides advisory and consultancy role in an organization. The approach of a proactive IA is always systematic and disciplined which assures objectivity that is, further, subjected to the decision-making process of the management.<sup>1</sup> IA not only covers, periodically, various components of an organization with multifarious objectives but also carries out query-based special audits for management of risks, errors rectification and evaluation of effectiveness of a process within organization. That is how value is added to governance processes of an organization and stakeholders are enlightened to the performance and future of the businesses.<sup>2</sup> With the changing roles of the organizations in public sector, there has been a lot of emphasis on transparency and accountability not only by indigenous actors in a country but also from international organizations and forums.<sup>3</sup>

IA's role of a management's check over payment's verification, accuracy of transactions, stock verifications and reporting of past events has been limited to its financial realm only. As it has to offer much more like Compliance Audit, Financial Audit, Environmental Audit, Technology/IT Audit, Performance Audit, Operational Audit, Construction Audit and Special Investigations etc.<sup>4</sup> which makes it unique, dynamic and insight oriented tool within the institution to review, evaluate and follow-up operations. This unique mechanism not only requires but also provides broad skillsets to the auditors as they are involved not only in trainings, demonstrations, simulations, technology transfer and reporting versatility. They can also play the roles of a watchdogs in a complex environment where the elements of fraud and corruption are hard to detect.

<sup>1</sup> *Good Governance and its Impact on Internal Audit* by Ms. Flavia Meachiel, 6 ECOSAI Circular, Spring Issue, 2020

<sup>2</sup> <https://www2.deloitte.com/iq/en/pages/risk/solutions/internal-audit-services.html>

<sup>3</sup> Goal 16: PEACE, JUSTICE AND STRONG INSTITUTIONS

<sup>4</sup> *Internal Audit: What It Is, Different Types, and the 5 Cs* (investopedia.com)

As part of the management, IA provides insights through spot issues, operations' efficiency and quality assurance to both management and the board (Regulatory and Law Making bodies in Public Sector).

## Five (05) Cs of Internal Audit (IA)

Internal Audit reports, both assurance and advisory, contains 5 Cs which is a benchmark of objectivity and systematic evaluations. The 5 Cs are Criteria, Condition, Cause, Consequence and Corrective Action.



*Figure 2.1 Five (05) Cs of Internal Audit*

IA not only has organizational rules / regulations but also core principles, code of ethics and International standards that provide for the 'independence' of IA.

## What is Change Management?

Change is a perpetual and pivotal factor for any organization both at strategic and operational level.<sup>5</sup> Change is inevitable and unavoidable in all walks of life but for a productive outcome of change, it needs to be directional, controlled and calculated. There are two different approaches vis-à-vis change is concerned; either to embrace and anticipate it or resist it. Change is not a single event but a continuous process that comprises of series of events.<sup>6</sup> Organizations, where change is considered as a threat and resisted, possess a low potential to grow and deliver, but those organizations who embrace and consider change as an opportunity not only develop but create a potential environment to improve business and productivity. Four (04) organizational techniques to make change a concern for all are Management by Objectives (MBO), Survey Feedback, Team Building and T-groups.

## Change Management in Public Sector

Change Management in Public Sector ranges from policy level to rules, regulations, procedures, customs, work ethics, work environment, employees' attitude, technological intervention, public service delivery and customer's confidence etc. Additionally, unlike corporate environments, it is difficult,

<sup>5</sup> Burns, 2004

<sup>6</sup> Baker, David, "Strategic Change Management in Public Sector Organizations"

rather complex to quantify, evaluate and study the change impact patterns as the change in public sector organizations is slow and unwelcomed most of the times. There are other issues of political appointments, short-tenure administrations and strict governing rules concerning personnel, procurements, budgeting etc. which make public sector organization less flexible. That is why and how the change is not so visible, if significant, in government sector. At the same time, introducing a change and its implementation is difficult due to public-interest watchdogs, media, administration and budget constraints etc. Goal of public-sector organizations is not to maximize the profits of stakeholders but promotion of particular aspect of public welfare. That is why efficiency and effectiveness is what on which public money is spent. There are, therefore, a **five-step strategy** to incorporate change in public sector:

- Dedicate a team for change management.
- Create and organize a plan for change.
- Improve workplace environment and engagement.
- Provide trainings.
- Set metrics that evaluate.

Planned processes of change or planned changes in government sector are always executed in top-bottom approach. That is why employees' participation in any change management is not overwhelming and it is not even lead by the higher management contrary to the concept of 'leaders' in a corporate environment. Objectives of the change is, sometimes, not so clearly or comprehensively communicated. If a deliberate effort is even made to communicate the objectives, they remain generic as in public sector organizations objectives and goals keep evolving during long-term change management in ever-changing socio-politico-economic environment. Due to these multiple reasons, a steadfast planned approach of change is difficult to implement as compared to a flexible and multidimensional approach of change.

Government sector has not-so-appreciable record of major change exertions, not because of deficiency of resources but due to inconsistent program implementation. Dispersed accountability and contending benefits make substantial makeovers challenging. Even then, big-scale reforms remain the only option for many governments to reduce costs and provide services more efficiently.

There are **Nine (09) key principles** of changing public sector organizations:

- Forming a guiding coalition
- Recognizing and responding to resistance
- Establishing a need for change
- Articulating envisioned outcomes
- Establishing a process to implement planning
- Focus on continuous improvement
- Developing a commitment plan
- Managing by walking around
- Changing structures and HR Systems

Sutherland and Canwell (2004) have suggested following not-for-profit organizations categories:

- Special Interest organizations
- Government entities
- Educational or Medical organizations
- Charities
- Religious groups
- Social groups

## Need of change in the contemporary worlds' public sector

Within a global environment, public sector organizations are bound to get influenced by both internal and external constituents either as Developmental Change and Transformational Change.<sup>7</sup> High scale usage of technology equipment, interconnectivity, competitiveness, economically hostile environment and politically driven goals have made 'change' a significantly visible factor in public sector organizations across the world. Apart from operations and procedures, there has been a strong emphasis on transparency and accountability in public sector by tax payers as well as international watchdogs. Private sector, on contrary, has flexibility to reform policies, redefine objective and redesign procedures corresponding to externally changing socio-economic patterns. Information Technology, Artificial Intelligence and Data Analytics are in line with production line and marketing strategies. That's why for an even quality service delivery, public sector is bound to incorporate strategic planning deploying the tools like Information Technology and Data Analytics. Secondly, with snail-paced change in any public sector organization is to be measured and quantified for achieving long-term goals and taxpayers' confidence. Only then projected and directional development can be made possible.

## Good governance and change management

Good governance is a concept of effective and efficient result oriented thinking, policy making and implementation of the policy both in political and corporate realms. It's a shared concept of both sectors and IA in public sector concerns with both of them.



*Figure. Eight principles of Good Governance as defined by UN*

<sup>7</sup> Greiner, L.E. (1972) *Evolution & Revolution as organizations grow*, Sutherland & Canwell (2004) and Amado, G. & Ambrose, A.(2001) *The Transitional Approach to Change*.

In business, Good Governance has versatile connotations for Corporate Management and Employee Standards in the workplace. Therefore, change management has to be translated in all the terms set by the principles of good governance in both business and public sectors. Change is to be administered at by both policy and implementation levels. Whistleblowing is also a kind of concept of good governance that emerged in early 21<sup>st</sup> century for ensuring good governance. There are three (03) stakeholders in good governance i.e. Government, Civil Society and Private Sector. A strong, credible and reliable reporting of the performance of institutions can be ensured by proactive IA mechanism.

Implementation of large-scale reforms and change in public sector is often a high-risk area where reputations, credibility, political confidence and tax-payers' money is at stake. In private sector, where the management has deep concentration of thinking, planning and flexible change implementation processes, rate of failure of change efforts can be very high. Government sector has more complicated, thorough and long processes of policy making, planning and implementation for change management. In post-COVID scenario, when governments are facing financial hardships, retirements are on the rise and due to increased social-media opinion making trails, there is a lot of pressure on the government to modify the way of carrying out their businesses. That is why, the only solution, instead of resisting large-scale reformations and changes, is to carry out multipronged changes from the highest level of policy level to the farthest level of impression making and citizens' confidence.

### **Internal Audit: an agent of change in public sector**

There is a huge room of improvement in field of IA especially in developing and underdeveloped economies. First issue is the availability of the qualified internal auditors. The other one, which is somehow associated with this, is lack of their continuous professional development as essential job requirement. Although, there is awareness among organizations regarding IA but growing significance and role redefining is not being realized particularly in public sector. Role of IA has to change in proportion to the operations' scope and complexity within the public sector institutions.

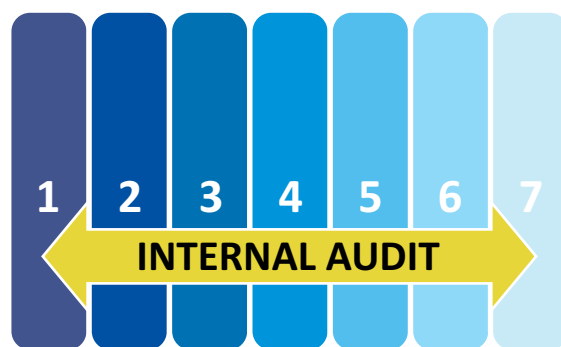
Another challenge is scarcity of funds and expenditure over IA as most of the institutions and organizations consider IA as a duplication to management checks and controls. So hardly any budget is spent on trainings, provision of latest equipment for reporting and workforce with will and skill for effective IA. IA has the capability of real-time reporting using traditional means of auditing as well as data analytics. Advisory Role of IA makes it more crucial as it can generate performance reports which are concerned with Economy, Efficiency, Effectiveness, Ethics and Environment (5 Es of Performance Audit).

IA has the capability to advise for the review of policy and rules prescribed in terms of applicability, practicality, compliance with statutory requirements and requirements of international organizations. It can point out anomalies, dichotomies and contradictions among prescribed requirements of various statutory and regulatory bodies. IA, due to its broad skill set, can gauge the spectrum, pace and impact of change provided it has objective, independent and value-adding approach.

**Five (05) Cs of IA** makes it the most systematic, relevant and readily available tool for implementation, evaluation and improving change management strategy. Objectivity in IA provides for application of qualitative and quantitative techniques of data analysis for decision making over change management.

Apart from developmental change which is more concerned with organizational culture, transformational change is what we really mean by 'change' that is more sustainable.<sup>8</sup> There are seven steps for transformational change as follows:<sup>9</sup>

- Define the change strategy
- Gain management commitment
- Create a change strategy
- Build commitment from the workforce
- Develop a new culture
- Reconfigure the organization
- Manage performance



IA connects all steps of transformational change:

- **Define the Change Strategy:** Either the organization assesses the need of change or the stakeholders of public sector organizations mobilize to change so under the statutes, policy, rules and regulations, process of change may be managed and controlled and IA may be employed as a stakeholder.
- **Gain Management Commitment:** Change managers familiarize and create the 'ownership' within organization that drives the change individually and collectively. IA may be employed to gauge and quantify the commitment at each level of public sector organizations.
- **Create a Change Strategy:** Through an organized and directed communication, change strategy may be made significant, relevant and concern-for-all. IA may develop follow-up audit strategy to report to higher management for recognition of change at middle and lower management levels.
- **Build Commitment for the workforce:** Identification of prospective resistance to change and rationale determination to highlight the needs and benefits of change are critical for an organization and IA help carrying special studies, performance audit and offering advisory roles.

<sup>8</sup> Baker, David. (2007) *Strategic Change Management in Public Sector Organization*.

<sup>9</sup> Amado, G. & Ambrose, A. (2001) *The Transitional Approach to Change*.

**Develop a New Culture:** Values and behaviours are integral parts of a culture and new values and behaviours emerged with the new culture. With every change, a new culture emerges and new values and behaviours need to be encouraged. IA would have a pertinent role for multipronged assessment of new evolving culture, values and behaviours through well-defined TORs (Terms of References).

**Reconfigure the Organization:** With a change, in a public sector organization, roles may be redefined, competencies may relatively change, structure may be redesigned and new appointments may be made. IA may develop a holistic approach for this reconfiguration to comprehensively report to change managers, administrators and other stakeholders.

**Manage Performance:** At this culminating stage of public service delivery, valuation of the performance of a public sector organization is really pertinent. IA has various tools like performance audit, operational audit, compliance audit, thematic audit (Special studies), financial audit and anticipatory audit (advisory) etc. to check the direction and quantum of the change.

## Challenges to Internal Audit

IA, in most of the public sector organizations, is underestimated as it's not potentially utilized by the administration. The reason behind is uncertainty and fear of raising objections and questions against management decisions and changes envisioned. That is why allocation of funds towards IA always remains issue of less importance and there is hardly any improvement proportional to ever-evolving and complexity of processes.

Training of the staff is, ideally, a permanent feature but it is also ignored primarily. IA teams need to be familiarized with technology, accounting policies, cultural changes, environmental parameters and accepted international goals so that relevant reports may be generated for facilitation of the management. Advisory role of the IA is ignored in most of the public sector organizations as they are not considered competent enough to provide constructive input in formulation of policies, strategies and procedures. Their input is also not considered for public impact and change dissemination within a public sector organization.

IA is not equipped with data analytics, Audit management and data forecasting softwares that is why it is limited to its traditional role of transaction verifications and general compliance reporting. Whereas, administration and management can employ IA for efficiency and effectiveness of strategy execution including change management. Only component available within a government organization is IA which is flexible enough to produce multiple and multidimensional reports like surveys, studies, financial and certification audit, performance and compliance audit, real-time operational audit, environment and construction audit, advisory reports etc. for management but despite of all its potential, it is not given due importance, trainings, funds and opportunities which result in imprecise assessment of implementation of policies, strategies, procedures and change.



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## **A DIFFERENT PERSPECTIVE ON PARTICIPATORY AUDITING**

Citizens' expectations from public services have increased considerably with globalization. Global integration and the innovations brought by information technologies have led citizens to see and demand better services and to request that these services be provided in the fastest and easiest way possible.

Citizens want easy access to public services, and they want those services to meet their expectations. They want to know who is responsible for providing the services they want to use, how to access these services, to be able to access services through any channel, where to apply when they encounter a problem, and to be treated as a citizen rather than a customer.

Citizens also expect public services to be provided more cost-effectively and efficiently while ensuring that justice and equity are not disregarded. They want public resources not to be misused and wasted, and the public interest to be prioritized in resource utilization. In short, citizens no longer accept public services that are not transparent, difficult to access, do not try to understand citizens' needs, and are inefficient and inadequate.

This approach refers to a service approach called citizen-oriented public service. It takes into account citizens' wishes, expectations, and concerns at every stage of the design, provision, and audit of public services. It involves citizens in the processes by making them more transparent, easily accessible, and of high quality through some private sector tools. It is based on citizen satisfaction and continues to pursue justice, equality, and public interest. Citizens now want to be involved in all decision-making mechanisms, to shape their country in every aspect, and to ensure that better and more is produced. In light of all these developments, the main purpose of the citizen-oriented public service approach is to make citizens the priority of service, to involve citizens in service provision, to provide high-quality and fast services, and to ensure efficiency in resource allocation.

In light of all these developments, the need for a new audit has become inevitable for auditing public



services from different angles. In other words, this development has led to the idea that the audit of the offered services, as well as the provided services, should be carried out from a citizen-oriented perspective. Such an audit questions to what extent public services are citizen-oriented and tries to realize this by involving citizens in the process and taking into account their opinions, demands, and expectations. Participatory audits directly involve citizens and civil society groups in the audit process. It is thought that this audit can be possible, especially with the facilities provided by information and communication technologies. This audit approach, which both focuses on citizens and involves them in the audit process, can be realized in different ways. For example, social auditing, citizen contracts, joint budgeting systems, and citizen report cards are tools that enable citizen-oriented auditing.

Participatory audits directly involve citizens and civil society groups in the audit process with the help of these tools. They are based on a collaborative framework between civil society and SAIs, where Non-Governmental Organizations (NGOs) provide useful, qualified and well-supported information on the quality of services provided by government agencies. As NGOs tend to focus on service provision, it is assumed that being close to direct service users and having the ability to monitor specific issues in the field can enrich the audit by an SAI and the auditors' understanding of the situation. Of course, these tools and practices are necessary and important for a citizen-oriented audit. However, to achieve the desired benefit from the citizen-oriented audit, it is necessary to first develop citizenship awareness and reflect this awareness in the management processes.

However, while the above-mentioned issues sound good in theory, participatory or citizen-oriented audits have some practical challenges. In participatory auditing, citizens and NGOs are expected to be actively involved in the audit process. However, it is unclear which citizens and non-governmental organizations will actively participate. In particular, while those in power are trying to show that their services are accepted by wider society, those who are close to the opposition are likely to try to create the opposite perception.

Participatory audits and practices are therefore particularly relevant at the local level rather than at the national or central level, and are traditionally better suited to performance audits rather than financial or compliance audits. They are also expected to be more successful in practice in small, relatively ethnically homogeneous countries. However, it is very difficult, if not impossible, to implement participatory services and audits at the national level, especially in countries that are geographically large, ethnically diverse, and where there are large gaps in development between regions within the country. In countries with more diverse ethnic groups and larger socio-economic gaps between citizens, these groups have different expectations of life and of the state, which can lead to difficulties in almost all areas, from what should be audited to how it should be audited.

On the other hand, the course of the world, especially after Covid-19, makes us question whether citizen-oriented auditing is sustainable. In this context, we can say that the existence of the participatory audit mechanism, which is good in theory but in practice provides performance and efficiency locally, is also in jeopardy. This is because in times of epidemics, wars, and famine, people are more concerned

with how well their basic needs are met than how much they participate in public service or audits. In such a case, if the theoretical assumptions and actual realities do not match, it can be said that human nature tends to follow the actual reality in general, so he or she will not be interested in audits that have no sanctions compared to other audits and that are known to have no effect other than public pressure.

For this reason, the SAIs should focus on audit models that can open the vision of societies and the world, read globally and apply locally. The SAIs, which cannot realize where humanity is going or trying to be taken in the globalizing world and cannot offer a vision to their countries and communities, do not have much to offer to their societies and other people in the world with classical audit models. The SAIs should now go ahead of society, evaluate the present with historical readings, anticipate the changes that may occur both in their own country and in the world in the next 10, 20, 30, or even 50 years, and ensure that necessary measures are taken. Only then can the SAIs truly conduct citizen-oriented audits.





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