

Agenda Item 4: Information and Communication Technology in support of Supreme Audit Institutions – Challenges, opportunities, and support approaches

Summary of discussion

INTOSAI Donor Cooperation Steering Committee Meeting

Tokyo, 04/07/2019

1. Rationale

ICT has the potential to increase SAIs efficiency, effectiveness, and impact and can affect SAI performance in different ways:

With e-government, access and interconnectedness of the SAI need to be secured and the role of the SAI vis-à-vis large government IT-projects reflected upon. ICT has the potential to support the audit flow as well as to streamline and improve the efficiency of internal admin processes. The growing amount of available data (big data, open data) and increasing use of artificial intelligence, might lead SAIs to reflect about adapting their current practices for data mining, analysis and interpretation.

The importance of ICT is increasingly being recognized in the INTOSAI community. This finds expression in the growing number of working groups on the topic (AFROSAI-E's Working Group on Information Systems Audit and Support WGISAS being the last addition) as well as the choice of Theme I for the upcoming INCOSAI "Information technologies for the development of the public administration". This theme is divided into two sub-themes: a. "Digital data application for public administration development and b. "the place and the role of big data in the activity of Supreme Audit Institutions".¹ The INTOSAI Donor Cooperation (IDC) has also identified it as a strategic priority for the next strategic plan.

In the survey for Discussion Paper for Theme I, SAIs have identified data as an important resource for public administration, but their answers also indicate that countries are at different stages in terms of legal framework, data mining and sharing, and ICT use. The Discussion Paper focusses mainly on what SAIs could do to reap of the benefits of big data and on the role of INTOSAI to support them in their endeavour. As this is not the intention of the discussion paper, it is silent on the role that development partners can play an important role in supporting SAIs in developing countries.

The use of big data in auditing is often linked to broader reforms regarding the use of ICT in SAIs. Experience shows that - while ICT reforms bear huge potential- it is not a panacea and needs to be carefully implemented. Though the potential to increase SAI performance is substantial, ICT reforms have a mixed track record. Incomplete adaptation, inadequate overall strategy, island solutions, overrun of costs, lack of qualified staff might be just a few challenges that SAIs might face.

The IDC meeting in July 2019 provided an important forum to reflect on the position of the IDC concerning ICT. It was an opportunity to take stock of ongoing ICT reforms and support provided by development partners as well as to identify prerequisites for the use of big data in terms of previous ICT reforms.

¹ www.incosai.ru

2. Objective of the session

The objective of the session was to discuss the experiences of IDC members concerning ICT reforms in order to identify:

- the current relevance in terms of support by development partners (stock-taking) and reform initiatives of SAIs,
- dos and don'ts with regard to support to ICT reforms (e.g. sequencing, time lines, type of support, skills set),
- possible next steps for the IDC to address this subject, if wished, linked to upcoming INCOSAI Theme I and Strategic Plan of the IDC.

3. Outline

The session combined an introductory panel with a world café in order to also benefit from the experience of the participants in the room.

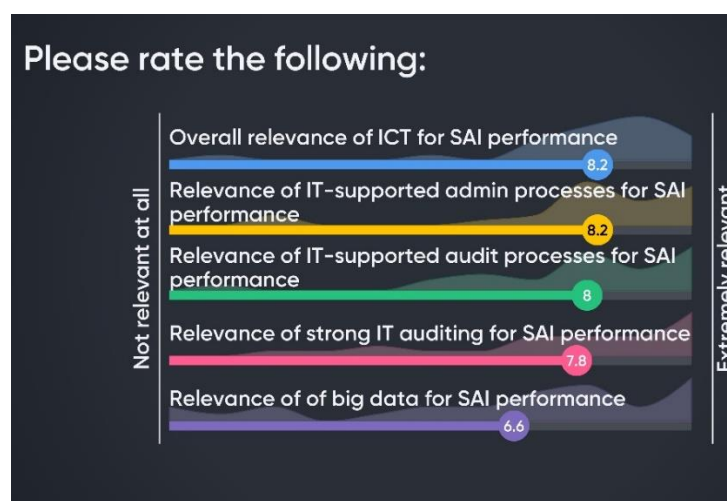
The introductory panel consisted of:

- Mr. Ed Olowo-Okere, Global Director, Governance Global Practice, World Bank, and.
- Mr. Jacek Jezierski, Special Advisor on International Relations and former Head of SAI Poland, and was moderated by
- Ms. Julia Bastian, Advisor on external audit in the Sector Programme Good Financial Governance of GIZ.

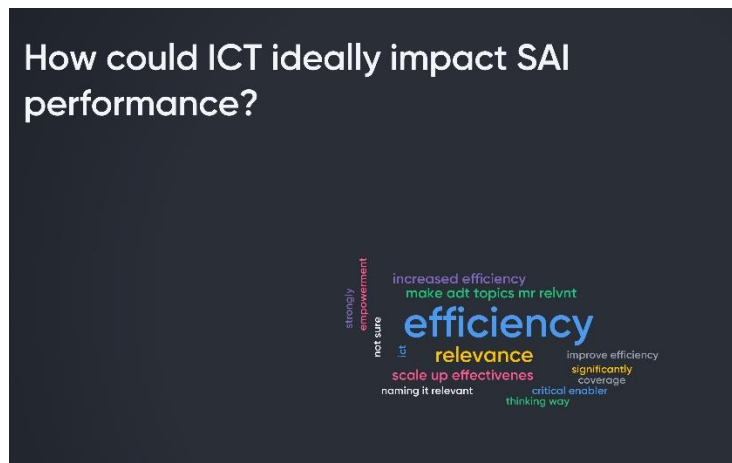
After the introductory panel, all participants joined a discussion group to answer one or two questions per group.

4. Summary of discussion

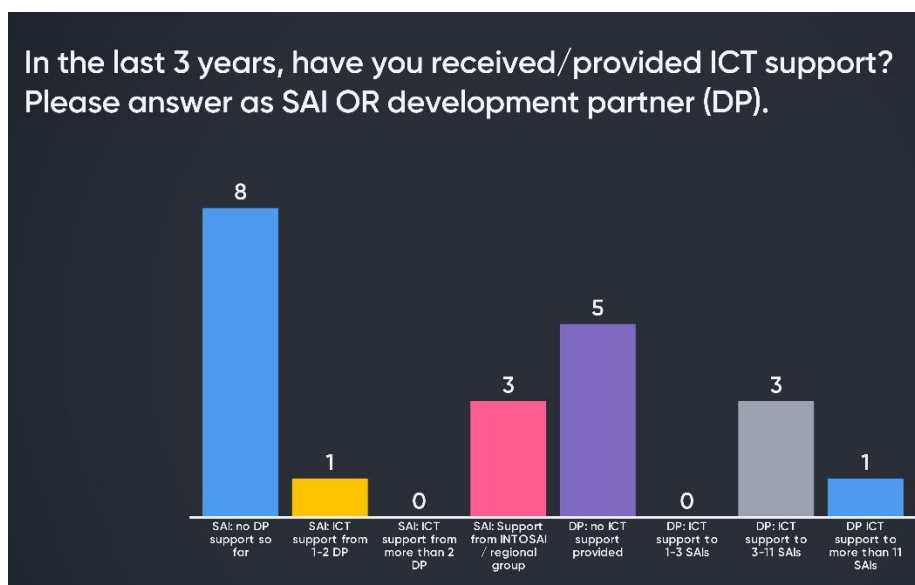
The session kicked-off with some introductory questions that were posed to the audience with an online engagement tool.



Graphic 1 Relevance ratings from 1 to 10 (27 participants)



Graphic 2 Word cloud on expectations on ICT (20 participants)



Graphic 3 Support on ICT (21 participants)

The introductory panel answered SAI-related questions...

1. **What have your SAI's experiences been with the introduction and use of ICT?**
2. **What were key success factors?**
3. **What role do SAI working groups in the field have?**

Mr. Jacek outlined the journey towards ICT implementation that his office started in the beginning of the 1990s. He highlighted the following lessons learnt:

- High awareness and political will by SAI leadership needs to be accompanied by dialogue work between auditors and ICT-specialists
- Implementation took longer than expected and was accompanied by regular reflection / evaluation processes
- SAI learnt through the audit of IT procurement of other government entities which created awareness for common implementation errors
- Reform took off once auditors saw the benefit for their daily work

This value added also inspired SAI Poland to participate and chair the EUROSAI IT Working Group to jointly explore the potential of ICT for audit with other SAIs. Ways on how the EUROSAI ITWG has supported the ICT competencies of its member are:

- Support to the virtual IT manual
- Twinning of SAIs
- IT-related parallel audit
- Development and application of the IT Self Assessment (ITSA) and IT-Audit Self Assessment (ITASA).

... and donor support-related questions:

4. How have you supported ICT reforms in SAIs?
5. What have been lessons learnt from your support?

Mr. Olowo Okere detailed that the World Bank provides ICT support to SAIs in two main ways: 1) Direct support on the use of ICT by SAIs and 2) larger Government PFM/IFMIS projects that also benefit SAI. Direct supports includes the provision of general audit software, use of CAAT and SCARF (systems control audit review files), capacity building with regards to the audit of information systems. He highlighted the need to carefully consider the environment and political economy of reform processes, especially to use the introduction of ICT as an opportunity to engage in the reform of business processes instead of digitizing the analogue process. Another crucial success factor he mentioned was the need for ongoing change management as resistance might become only visible once the increased transparency through. In the era of artificial intelligence, SAIs have the opportunity to change the way in which they assess audit risk, determine audit techniques and generate findings. Machine learning algorithms are great at detecting patterns that the human eye cannot identify, such as the identification of anomalous transactions, or patterns indicative of fraud & corruption. In addition, machine learning can help automate routine tasks that are currently performed by auditors. Moreover, the traditional sources of data (books of accounts, supporting documentation and interviews) could become supplemented by non-traditional sources of data – mobile, social media, satellite imagery, Internet of Things (IoT) sensors. SAIs could collect and analyze real-time accounting and business information, such as quality of inventory, presence of employees, actual usage of equipment, etc... that could be highly relevant for financial and value for money audits.

The results of the group discussions are detailed below each question.

1. What kind/forms of support for ICT have you received / provided? Name approach, context of support (e.g. a programme), durations of support etc.

In the group, no one had received ICT support, but various examples of support given to others in terms of providing hardware as well as training & methodologies:

- Hardware (SAI Zimbabwe), Audit management system (SAI North Macedonia)
- Training on ICT (support & audit) through regional group, e.g. through pilot audits
- Work sessions / Seminars on critical IT elements such as CISA, support to IT practitioners to scope, develop, pilot Audit management systems (AMS) as well as to train users and administrators
- Develop audit software (AFROSAI-E)

2. What are key success factors for successful ICT reforms in SAIs?

- Clear strategy / roadmap
- SWOT/Assessment of the current status including existing/available skills
- Assessment of costs and available resources
- Keeping in mind the audit process as core process of the institution

- Capacity development for staff
- Change management strategy
- Buy-in of users
- Ensure that procured ICT is fit for purpose as often systems are not used to the full extent

3. What are good practices?

- Benchmarking with others before engaging in ICT reform
- Conscious decision whether to revamp an existing system or start on a clean sheet to avoid white elephants

4. What are the prerequisites that need to be in place in a SAI before development partners start supporting ICT reforms in SAIs? What are lessons learnt? How can development partners best support ICT reforms in SAIs?

- There needs to be a commitment for change that is expressed in a specified objective
- That is why ICT needs to be carefully defined (do we mean infrastructure/hardware only, software, does it include (soft) skills, need to differentiate between ICT audit, IT auditing, ICT for admin, as well as between digitization and digitalisation)
- Project and staff management is key
- Staff management includes dealing with age gap (incoming youth that is more affine to ICT vs. mature staff that need to be kept in the loop of technological development and see the benefits)
- Clear distribution of roles and avoidance of working in silos, existence of an implementation plan sourced by the SAI itself
- Full commitment and leadership by the SAI leadership is necessary (i.e. genuine interest and consequent use of ICT Tools by leadership itself)
- Introduction of ICT as an opportunity to strengthen processes, not just to digitise
- Need to streamline the reform process and link it to overall strategy
- Connectivity to other systems
- Understanding of types of data to be used to make systems future-proof
- Based on SAI strategy, support by development partners should take the form of long-term, specialised support to accompany SAI in implementation and ensure system use

5. What role could INTOSAI play with regard to ICT?

a. On ICT reforms

- Suggest sequencing of reforms matching maturity
- Establish ICT reform programme for SAIs
- Free of charge / simple solutions are available and could be used in fragile situations and in cases of severe budget restraints. INTOSAI could look into why they are not used and provide training on the basic systems
- Create a pool of ICT specialists

b) On IT audit

- Launch ICT audit programme
- Advocate for mandate to audit ICT
- Partner with professional organisations for ICT
- Integrated team approach, provide orientation on how to best recruit and integrate IT expertise into the SAIs.

6. How could big data and artificial intelligence (AI) support SAIs? What needs to be in place before big data auditing and AI can be established in a SAI? How could development partners support?

- SAIs all over the world are currently in an exploratory phase with regards to big data and AI
- Potential lies in:
 - new audit topics,
 - increased coverage, e.g. the audit of a full sample,
 - more efficient audit processes,
 - and easier detection of irregularities that might be linked to fraud / corruption in e.g. procurements / payments
- Prerequisites
 - Large upfront costs in IT infrastructure in both SAIs and Governments
 - Train staff in advanced IT skills & analysis
 - Clarification of access of SAIs

5. Closing remarks

The closing remarks highlighted the need to leverage technology for SAI performance in the future. The potential of AI incl. machine reading that is currently mainly tested in the private audit sector was seen to have a disruptive effect on government audit as it allows to audit more transactions than humans ever could. To really use big data sets SAIs need to continuously invest in data analytics and data analysis skills. Moreover, auditors need to continue to be aware of developments such as the Internet of Things (e.g. use of sensors for tracking or issues of data security linked to the IoT) or Blockchain, though the latter is not a guarantee against irregularities, e.g. if the information going in is already fraudulent. It was also highlighted that the discussion on this topic is currently ongoing in two INTOSAI working groups, one on big data (WGBD) and one on IT (WGITA) and will be dealt with as Theme I during the 2019 INCOSAI in Russia. It was also mentioned that a new working group on engineering, science, and quantum computing might be founded, if approved by INCOSAI.