IT GOVERNANCE IN SAIs
EXPERIENCE OF OAG OF UGANDA

IT

OFFICE OF THE AUDITOR GENERAL (OAG) OF UGANDA

Abstract: IT governance is an important element of an SAI's strategic development and risk management framework. An SAI needs to develop an integrated IT strategic plan to address the various issues relating to the changing audit environment and the possibility of automating the audit process to make efficiency gains.

Faced with the challenge of conducting its mandated audits in the fast changing audit environment, OAG Uganda during the past three years has successfully implemented an IT strategic plan which seeks to develop the capacity of its staff in conducting their audits in complex IT environments, upgrade its audit methodologies, create an Information & Communication Technology (ICT) infrastructure and introduce an automated audit management /electronic work papers system.

OAG has worked together with the Government to make sure that the recently introduced financial management system was auditable and OAG auditors had unrestricted online access to financial and system data. Establishment of an IT governance structure has been a crucial factor in successfully managing the risk associated with the implementation of new initiatives.

Introduction

A Supreme Audit Institution should have its own IT governance framework. The IT strategy for an SAI should be aligned with its business objectives and should cover not only the use of ICT as a tool for increasing internal efficiencies but also to build and sustain a capacity for auditing in complex IT environments.

During the past three years the Office of the Auditor General of Uganda (OAG) has successfully implemented an integrated action plan to enhance its internal capacities in conducting audits in IT environments and creating its own ICT infrastructure. The necessity to take radical measures to enhance its own IT capacities arose primarily from the introduction of an ERP based financial management package by the Government of Uganda with funding assistance from the World Bank. This new system, called IFMS, now covers most of the government ministries and local authorities who form bulk of OAG's auditees.

The purpose of this paper is to describe the experience of Office of the Auditor General of Uganda (OAG) in this regard. The various topics discussed in the paper are

Need for IT Governance in SAIs

Organisation and structure of OAG

Impact of IFMS system

Online audit interface

IT audit capacity building

Introduction of audit management software

OAG IT infrastructure

IT governance in OAG

Need for IT governance in SAIs

In today's world, ability to use IT effectively is a key success factor for almost all types of organisations. Of late the concept "IT governance" has gained currency because of the perceived need to integrate IT related issues in the standard governance framework. Simply put, IT governance is the process by which the top management and those in charge of governance of an organisation ensure that ICT is optimally used to achieve the organisation's business objectives and at the same time the risks, arising from the use of IT is also properly managed. Some of the issues IT governance seeks to address are:

■ taking advantage of IT to improve organisational efficiency and effectiveness

■ leveraging IT to create new business opportunities and to enhance competitiveness

■ managing IT risks

■ obtaining value for money from investments made in IT

■ empowering personnel with appropriate hardware and software tools and new work techniques

IT governance is an important issue for a Supreme Audit Institution. In fact, IT impacts the work of an SAI in more ways than one. To begin with, IT enables a SAI to improve the efficiencies of its internal processes in areas like accounting, HR, internal communications and so on. However, the main business of an SAI is to provide high quality audit services. This must be supported by other essential activities like development of policy, planning and management of audits, management of staff and resources, and other related support activities. To manage these activities successfully, the SAI must make full use of available information by organising it appropriately taking advantage of the latest developments in information and communication technologies.

governance

Nowadays most auditors use various software tools for automating the audit related business processes like audit planning and scheduling, time and cost management. Electronic working paper software is being widely used for automating the audit planning, execution and reporting process and issues management. Use of automated audit tools takes the drudgery out of the audit documentation process enabling the auditors to concentrate more on performing the audit procedures per se. One of the important benefits of using an electronic working papers solution, is the need to have a fresh look at the audit methodology and upgrade the audit programmes and working paper templates used during an audit.

Finally, a requirement which is not always associated with the IT strategy of a SAI, is the need for capacity building for auditing in IT environments. This is absolutely vital for a SAI to remain effective in a ever changing audit environment. As computer technology has advanced, Government organisations have become increasingly dependent on computerised information systems to carry out their operations and to process, maintain, and report essential information. As a consequence, the reliability of computerised data and of the systems that process, maintain and report these data are a major concern to audit. The new International Standards on Auditing (ISAs 315, 330 and 500), make it mandatory for all auditors to assess the reliability of computer generated data and to evaluate IT systems controls.

Clearly, the use of IT by Government agencies poses both a challenge and opportunity to SAIs. The challenge is to acquire the capacities to conduct audits in a computerised environment where records of transactions and the processing of financial information takes place electronically and the usual hardcopy audit trail may not be available. The opportunity is to acquire the capability to conduct audits by means of collecting information from electronic sources. The availability of the data in electronic format, throws open the possibility of testing vast quantities of data using Computer Assisted Audit Techniques (CAATs).

In fact, the use of statistical sampling techniques, assessment of risk, and use of CAATs have become increasingly interrelated and incorporated as such into the auditing standards. The biggest risk the SAIs – especially those in the developing countries – face is the failure to develop capacities in using these techniques and loosing the effectiveness of the audits. It is a very challenging task and only a proper IT governance framework within the SAI can ensure success in handling these challenges.

"SAI MUST MAKE FULL USE OF AVAILABLE INFORMATION BY ORGANISING IT APPROPRIATELY TAKING ADVANTAGE OF THE LATEST DEVELOPMENTS IN INFORMATION AND COMMUNICATION TECHNOLOGIES"

The Office of the Auditor General (OAG)

The Auditor General of Uganda is the constitutionally appointed independent external auditor of Government. His essential role is to provide assurance regarding the accuracy and regularity of Government Accounts and to ensure economy and effectiveness in the use of public resources. The Auditor General heads the office (OAG) which currently consists of more than 300 staff, who assist him in the performance of his duties. A significant number of OAG professional staff possess professional accounting and auditing qualifications.

The office is organised into four directorates dealing with audits of Central Government agencies, Local Authorities, Statutory Corporations and Donor Funded Projects, respectively. The OAG headquarters office is located in the capital city of Kampala and there are 10 branch offices which conduct the audits of the districts and other local authorities.

Impact of IFMS

In 2003, the introduction of an automated financial management system called IFMS by Government of Uganda had a major impact on the way OAG performed its work. The IFMS application is based on a well known ERP software supported by a complex network based technology infrastructure which connects the users in the Ministries and Local Authorities located all over the country. With the implementation of the IFMS all central government ministries and agencies as well most of the districts were covered by a single integrated system. Since these constitute a large percentage of OAG's audit clients, it created an immediate need for building OAG's internal capacities in performing its mandated audits in the complex IT environment of the IFMS.

The rapid computerisation of government financial management process poses a number of important challenges to a Supreme Audit Institution like the Office of the Auditor General of Uganda:

- First, traditional paper based auditing techniques are not effective in the online real-time environments of ERP systems where paper based audit evidence is mostly absent and intermediate processes take place inside the system

- Second, reliability of computer generated data is a major concern for auditors. The new international standards on auditing (ISAs prescribed by the IFAC – effective from 2004) make assessment of IT risks and evaluation of IT systems controls an integral part of the financial audit process

- Third, the vulnerability of computers systems to risks of associated with errors, system failures and fraud and computer crime is an important consideration for management and auditors. OAG would be required to perform IT System audits on an ongoing basis for ensuring data integrity and security of the systems such as the IFMS

- Fourth, the Public Sector is expected to furnish the administration and the Parliament with various types of analysis and reports regarding utilisation of public resources. The opportunity the computerised accounting systems provide in terms of sheer volume of information for performing various types of reporting and analysis (e.g. value for money audit reports) need to be fully utilised for this purpose.

IT strategic plan

To deal with this situation, OAG Uganda came up with its own IT strategic plan with the assistance of an external consultant. The OAG IT strategic plan which is a critical component of the OAG's IT Governance framework analysed the existing situation using a SWOT approach and came up with a number of strategies in order to address the various issues .The major objectives of this IT strategic plan are to:

- Fupdate and modernise OAG's audit methodologies and procedures

- create a sustainable capacity in OAG in auditing in a computer environment and use of advanced computer assisted audit techniques

- Acquire and implement computerised solutions for audit management, automation of audit workflow and communications to facilitate better management of audit resources and enhance efficiency and productivity of OAG staff.

- create an appropriate technology infrastructure consisting of adequate number of computers and a local area network

"THE INTRODUCTION OF AN AUTOMATED FINANCIAL MANAGEMENT SYSTEM CALLED IFMS BY GOVERNMENT OF UGANDA HAD A MAJOR IMPACT ON THE WAY OAG PERFORMED ITS WORK"

In order to achieve the above-mentioned objectives, the IT plan envisages implementation of the following main strategies

■ Strategy A: IT audit capacity building

■ Strategy B: Use of automated audit tools

■ Strategy C: Information and communication systems (ICT) infrastructure

All three components of the IT strategic plan are interrelated. The primary objective is building capacity in IT audit (Strategy A). This will ensure that OAG auditors are able to perform audits in complex IT environments and to adhere to international auditing standards.

Use of automated tools like CAATs (Strategy B) is essential for auditing in IT environments. International standards on auditing make specific mention of CAATs. Use of audit management software like TeamMate makes the management of audit operations more efficient.

However, software cannot be utilised without the necessary hardware. For utilising CAATs software and the TeamMate audit management software adequate numbers of computers and a network are required. Accordingly, creation of an adequate ICT infrastructure (Strategy C) comprising IT hardware such as computers, network, is an integral part of the strategy.

In order to efficiently implement the IT strategic plan the following actions were taken

■ A project management structure comprising a Project Steering committee with the Auditor General as its Chairman and representatives of the development partners (donors) as its members was set up

■ A project task manager was appointed

■ The OAG IT 2005-2006 Project plan was prepared which was approved by the Project Steering Committee

■ An ongoing review mechanism for monitoring the progress of the project implementation through periodic progress reports, meetings of OAG top management and the Project Steering Committee, was established.

IFMS Online audit interface

As already mentioned, the introduction of the online real-time financial management system IFMS in the government posed a major challenge for OAG . In order to ensure that the IFMS system was auditable the Office of the Auditor General was involved in the IFMS design process. Right from the inception stage in 2003 when the functionalities of IFMS were being designed, OAG officers under the guidance of a consultant worked closely with the IFMS project management team to ensure that the IFMS system provided for an adequate audit trail and baseline security controls were established.

An online audit facility containing computers connected to the Government of Uganda IFMS system was set up in OAG headquarters office. In the IFMS application OAG audit responsibility was created and logon ids / passwords were issued to selected OAG staff This IFMS audit interface enables OAG personnel to view on a read only basis all transactions, all payment details, and all journal and budget allotment details pertaining to any period from the Government of Uganda and Local Authority IFMS system. It enables them to perform journal inquiries and drill down from account balances and download data for further analysis using CAATs software IDEA and ACL.
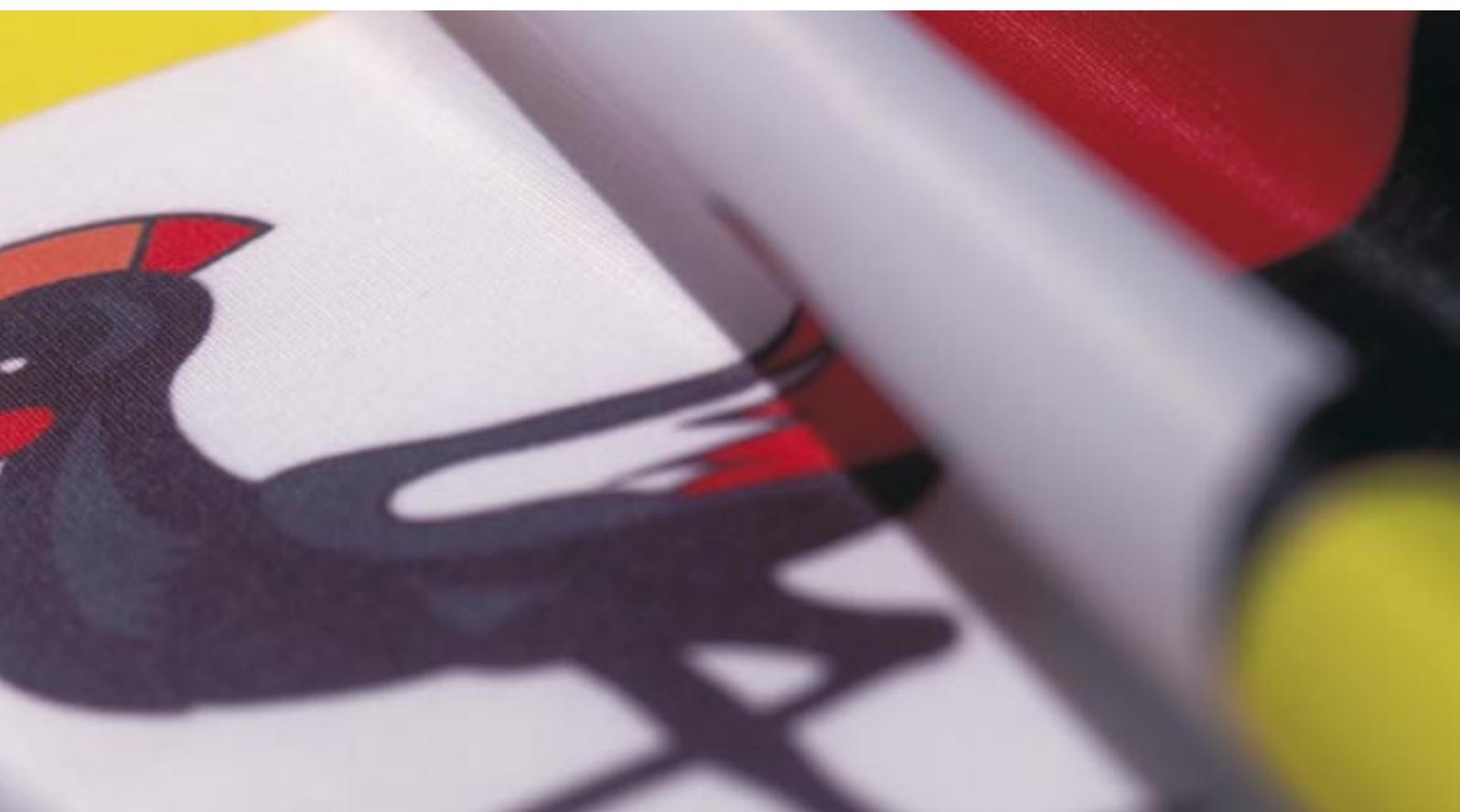
This ability to analyse and examine data from the entire government system on a real time basis is a very useful tool which significantly enhanced the efficiencies of the audit planning and execution processes. After the facility has been set up, training on its use is being provided to key OAG staff on an ongoing basis. The IFMS audit interface and CAATs software IDEA are being used regularly by the trained auditors for conducting audits.

Approach to IT audit capacity building

It can be argued that computerisation of financial management entails a more intensive training and development need for the auditors than that required for the general users of the system. For example, it is generally sufficient for users of an accounting system to system to be proficient in only relevant parts of the system in accordance with their respective responsibilities. However, the OAG auditors needed to have a good understanding of not only of the all processes and functional modules of the IFMS system, but also of the underlying ICT infrastructure comprising the network, hardware, system software, database and network components, and the facilities, the policies and IT organisation and the risks, to be able to review the entire gamut of IT general and application controls as prescribed by the international standards on auditing.

In order to be able to conduct their work in complex IT environments such as that of the IFMS, the auditor would need to receive training on a variety of topics:

- Developments in information and communication technologies, IT processes, IT risk, control and security issues, IT governance and quality assurance

- Operation of the IFMS and its functional modules

- Review of IT general controls relating to security, data integrity, confidentiality, availability, IT organisation, system development and change controls, business continuity, facilities and network controls

- Review of application controls over completeness, accuracy and validity of data input and control over data files

- Ability to use the system interfaces to query and download information

- Use CAATs to test and analysis data, use audit sampling techniques

- Use automated audit management tools like TeamMate to perform the audits

Considering the fact that the exposure to the OAG staff to these types of advanced auditing techniques has been very limited in the past, capacity building in IT auditing is a particularly challenging task, which needed to be approached in a phased manner.

In the first phase of the training programme, the members of the IT specialist group, IFMS pilot site auditors and members of the OAG top management attended training on IFMS functional modules in order to develop a thorough understanding of the IFMS modules and processes. They also attended awareness workshops, which sensitised them on the impact of the IT on auditing and the impact of financial management reforms on OAG auditing processes. Training of OAG general auditors on basics IT skills such as using Windows, MS Office suite etc. were being imparted using outside vendors on an ongoing basis

In the second phase of the training, members of the IT specialist group, IFMS pilot site auditors were given intensive hands-on training by the IT audit consultant on using the IFMS audit interface and use of CAATs software IDEA. They also attended the training for trainers course delivered by the Consultant on the IT audit fundamentals course. The Consultant and the IT specialist group members then delivered this course on an ongoing basis to different batches of the OAG financial auditors.

In the third phase of the training the focus is on advanced techniques like statistical sampling for audit, TeamMate audit management software suite and advanced IT auditing.

Implementation of a risk-based audit methodology and audit management software

OAG has introduced the well known audit management software TeamMate developed by PricewaterhouseCoopers. The intention is to enable the audit teams to conduct their work on the basis of pre-programmed steps; record their findings electronically, capture the findings in reports and enable management to monitor the progress of the audit assignments on a regular basis providing for better control over the audit process.

Development of a structured methodology is an essential prerequisite for using electronic working paper software. Accordingly, the existing audit methodology has been upgraded to a risk-based audit methodology in order to make it compliant with the International Standards on Auditing and detailed audit procedures and audit programmes, ICQs and templates have been developed which incorporate the use of CAATs and statistical sampling. These have been put together in a TeamMate library.

A TeamMate champion group has been formed which has the responsibility to customise the software in accordance with OAG auditing practices and conduct pilot audits using the new methodology and the software.

In the interest of quality assurance, the audit methodology and TeamMate programme library was peer reviewed by officers from another SAI.

OAG IT infrastructure

In order to effectively utilise the new capacities that are being created in the area of auditing of IT systems, OAG must also ensure that its employees have the right information technology resources to perform their work and to gather and share information. Therefore the second major challenge before the OAG is building an integrated and reliable information technology infrastructure that supports the achievement of the OAG's operations efficiently and effectively.

OAG officers are located in three separate buildings in Kampala and nine up-country branch offices. A wide-area network for OAG linking its three offices in Kampala and branch offices has been constructed. The network will improve communication amongst OAG staff, enable it to use network based software like TeamMate, email etc. and provide for better management control of operations.

To obtain the maximum benefit from the deployment of software tools like TeamMate and CAATs, it was necessary to provide the users with facilities like mobile and networked computing, ability to share information and participate in collective planning exercises. It was considered necessary and essential to provide OAG managers and IT core group members with laptop and desktop computers to enable them to effectively utilise the various functionalities of the TeamMate software. Accordingly with funding assistance received from the African Development Bank, a large number of laptop and few desktop computers have been procured.

IT governance in OAG

The active support and involvement of the top management is the key feature of OAG IT governance structure. The OAG IT Governance structure comprises the:

- IT Steering committee – members of top management chaired by the Auditor General

- IT work group – a group of IT specialist officers who meet frequently and

- IT section – an IT section has been created headed by an IT manager

- Consultancy support – A consultant has been appointed with funding from World Bank to provide technical assistance

- OAG IT project steering committee – Major components of the OAG IT Strategic plan are being implemented with funding provided by a number of funding partners such as the African Development Bank and some Governments. The OAG IT project steering committee chaired by the Auditor General with representatives of the donor agencies as its members, meets periodically to review the progress of the implementation of the various components of the project.

The IT steering committee members as well as the members of the various working groups are well aware of the risks associated with the new initiatives. These are regularly discussed and risk mitigating strategies are formulated. To efficiently manage the corporate risk OAG has appointed a risk manager who reviews the implementation of the risk mitigation strategies.

Conclusion

OAG Uganda's experience in implementing its various IT initiatives has been very positive. However ability to manage change effectively is a key requirement. So is the need to address the risk.

The fact that the IT strategic plan was formally adopted by OAG top management and the progress of the implementation of the plan was being periodically reviewed by the IT steering committee ensured its success.