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## Research Article

# Audit Management Information System in Pakistan: Challenges and Future Road Map

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## ABSTRACT

The Department of Auditor General of Pakistan is the constitutional institution that works to support parliamentary oversight at the federal and provincial levels. Improvements in the Government's audit processes will contribute to sound financial management, transparency, and accountability in the use of public funds. Improved auditing will contribute to better monitoring and oversight of SDGs and service delivery, by legislature. DAGP is established to ensure that the Executive complies with the various laws and Schedules of Authorized Expenditure passed by the Legislature in letter and spirit. The research is based on transforming the traditional audit cycle to a digitized process; the challenges being faced and the anticipated results of successful implementation of digitized Audit. Accountability in public sector organizations is not only necessary for financial governance but it is also imperative for improvement in public service delivery. This role of accountability has primarily been assigned to the Department of Auditor General of Pakistan. Keeping in view the increased role of Audit in public financial management DAGP has taken a bigger reform initiative this time which is automation of the whole audit Cycle.

**Keywords:** Auditor General of Pakistan, Audit Management Information System, Audit Quality Management Framework.



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## INTRODUCTION

The Federal Government is committed to addressing the institutional constraints that continue to hamper the delivery of services. It is implementing a holistic PFM Reforms Strategy (2016-2025) in collaboration with the World Bank, European Union, IMF, and DFID<sup>1</sup>. A major development on the PFM front has been the enactment of the PFM Act 2019 to overcome weaknesses and gaps in Pakistan's PFM framework. The PFM Act is aligned with erstwhile PIFRA reforms and has envisaged a greater role of AGP in ensuring transparency in expenditures and strengthening internal controls and financial management. Already under PIFRA reforms, DAGP has taken concrete actions to modernize Public Sector Auditing. Significant milestones achieved, and reforms initiated by DAGP are as follows:

- A new Financial Audit Manual (FAM) has been developed based on international best practices in the field of Government auditing. It provides DAGP auditors with a set of modern auditing standards, concepts, techniques, and quality assurance arrangements. The Manual covers the entire audit cycle from planning to follow-up.
- The audit cycle has been reduced from thirty-three (33) months to eight (8) months enabling timely reporting to the legislature on findings of the previous financial year.

- Data analytics through Computer Aided Audit Techniques (CAATs), including usage of Audit Command Language (ACL) has been introduced in Field Audit Offices (FAOs) where computerized data is available.
- Risk based audit methodology has been introduced at all three tiers of Government, i.e. Federal, Provincial, and District levels.
- Sectoral Audit guidelines have been issued to facilitate the audit of specific areas of Government and a complete list of Sectoral Audit Guidelines can be found on the DAGP website.
- Enhanced focus on conducting IS Audits/ Performance audits/ specialized studies.
- Audit Quality Management Framework has been developed to maintain the quality of the audit activity across the entire audit cycle.
- Support in the development of the Internal Audit Charter, the constitution of the Internal Audit Board, and in establishment of Internal Audit function within ministries/divisions.
- Piloting of Audit Management Information System (AMIS) to use technology for improving audit processes to enhance the capacity of DAGP.

With the World Bank's assistance, the Auditor General's office is implementing this state-of-the-art software platform for building audit plans, preparing audits, analyzing relevant information, documenting results, and forming an audit opinion, communicating results, and monitoring the progress of the audit parties. These initiatives will radically change the core auditing processes, being re-engineered to be built and pivoted around modern techniques and technologies such as CAATS.

## LITERATURE REVIEW

This huge clientele demands that audits conducted should be timely, transparent and efficient. Audit is a tool for making public entities responsible and accountable for their duties. Digitization of the Audit cycle aims at improving the quality of audits which will ultimately improve service delivery.

The project will contribute to the Federal Government achieving its vision as articulated in the Vision 2025 document of the Planning Commission. Further, it will directly support Pakistan in making progress toward several of the Sustainable Development Goals (SDGs) as per its international commitment. World Bank sponsored Program for Results for improved service delivery through better public financial management, including implementation of AMIS by DAGP as a key requirement. According to the Disbursement Link Indicator 6 of the project:

“Eighty percent of PAC recommendations for health and education sectors are to be processed through the Audit Management Information System and Effectively-Followed-Reports to be published on the official website that would be implemented by existing deadlines i.e. June 2021.”

After piloting AMIS under PforR, it is now a challenge to ensure replication, mainstreaming and sustainability of AMIS and its benefits.

Replication of AMIS at sites other than the pilot sites covered under the PforR project in the financial year 2020-21, and mainstreaming of AMIS and processes within relevant Field Audit Offices (FAO) through capacity enhancement and change management, are the main objectives of this initiative. Such replication, mainstreaming, change management, and capacity enhancement are essential for benefitting from the AMIS introduced under the PforR project, as well as to meet the challenges of the enhanced scope of work and overall capacity requirement of DAGP.

## REPROJECT COMPONENTS

### **Implementation and Mainstreaming of Audit Management Information System- PKR. 635.5 Million**

AMIS implementation involves the configuration and activation of the SAP Audit Management module powered by SAP HANA and SAP Business Objects at replication/roll-out sites. AMIS will enable real-time linkage of field auditors with audit managers, data analytics for enriched audits, automated risk registers with risk profiling of Government organizations based on financial risk, compliance risk, environmental risk, operational risk, system-based audit planning, budgeting, reporting, and exit meetings, and facilitation in work of Public Accounts Committees through system-based oversight of PAC directives, and data analysis.

### **Project Oversight, Change Management, and development of HRMIS-PKR. 79.6 Million**

The objectives of this project component are to:

- I. Ensure proper oversight and execution of the proposed project
- II. Promote stakeholder awareness and acceptance of AMIS and allied audit reform objectives.

- III. Align various components of P for R
- IV. Anchor the change process in the organization of DAGP
- V. Develop and implement HRMIS

Outputs include Change Management Workshops, Seminars, Focus Group discussions, hand-holding activities, and communication materials for (a) inculcating a culture of change required for sustained adoption of technology within the DAGP and by PACs (b) acceptability among audited entities for data-sharing with DAGP under defined protocols. The Project Implementation Unit (PIU) will be critical for oversight and implementation of the proposed project. The PIU will develop a change management plan, with support from a change management consultancy, based on business demand, challenges, and implications. It will also help coordinate the capacity development of auditors. The PIU will evaluate the project plan and identify change initiatives required for successful project execution and will support audit managers to change management plans including communications, training, stakeholder engagement, and impact analysis.

Apart from change management at all tiers of the organization, in PACs, and at the level of audited entities, the consultant/firm will also help design, develop, and implement HRMIS and its integration with AMIS.

#### **Capacity Development of Auditors for effective utilization of AMIS-PKR 288.3 Million**

Under this component capacity building of all audit personnel (more than 3500 field auditors and audit supervisors across the DAGP) as per international auditing standards will be ensured, with provision for targeted professional certifications for up to 800 auditors.

The focus of capacity building will be on newer areas of audit that include special sector audits and thematic audits about Public Private Partnerships, Energy Audits, Gender Audits, AML/CFT Audit, Environmental Audit, Forensic Audit/Fraud Examination/AML focus, audits of Public Debt, Impact Audits, etc. Such capacity building is essential for enabling enriched and value-added utilization of AMIS and will help transform audit culture by infusing professionalism and skills. The areas of capacity building required over the next three-year duration of the project are identified based on the Training Needs Assessment (TNA) carried out earlier with support from USAID, and subsequently updated by DAGP itself.

#### **PROJECT STATUS**

The software was substantially aligned with the normal business processes of DAGP. However, detailed discussions were conducted for custom development and applications to capture end to end audit process from raising an audit observation to the departmental accounts committee to the public accounts committee and to ringing a final audit report for the parliament. For each business process, a specific module was configured. Rich text editors (fonts, tables, media) were configured in custom applications in pre-defined templates. Interactive audit reports were utilized. For quality assurance, the functionality of shared roles was used. Risk analysis metrics were automated. Enhancements were made, whereby Department Accounts Committees and Public Accounts Committee meetings were recorded. Separate workflows were configured for 15 different types of Audits to cater to the business process requirements of DAGP, with 15 custom report templates developed for the output of these various audit types.

The contract commenced on February 16, 2021. Go-live for 3 pilot sites was achieved on June 9, 2021. Verification of World Bank Disbursement link indicators conducted by Ernest and Young team from June 15-21, 2021 User Acceptance Testing/ Operations acceptance testing activities concluded at 7 sites. UAT ongoing at 1 Field Audit Office. End User Training is ongoing at the 10 FAOs located in Punjab. UAT is planned to be concluded for the 10 sites in Punjab by November 19, 2021. UAT is planned to be concluded for all the FAOs by January 14, 2022.

Provision of capturing DAGP work processes through apps; including apps for the following: FAM-based calculation of materiality and sample size, including Monetary Unit Sampling. Annual Audit Plan as per DAGP's approved format. PDPs (Proposed Draft Para application). DAC (Departmental Accounts Committee Meeting application). PAC (A whole module for Parliament as Public Accounts Committee application). PSR (Performance audit Preliminary survey report application). Interactive audit reports, which allow for modification of audit information (Executive Summary, Findings, Action Plans). Customized report templates for various types of audits. Shared roles provide users with certain authorization.

#### **ANALYSIS OF OVERALL IMPACT OF AMIS**

The impact of AMIS can be summarized as shown in Figure II.

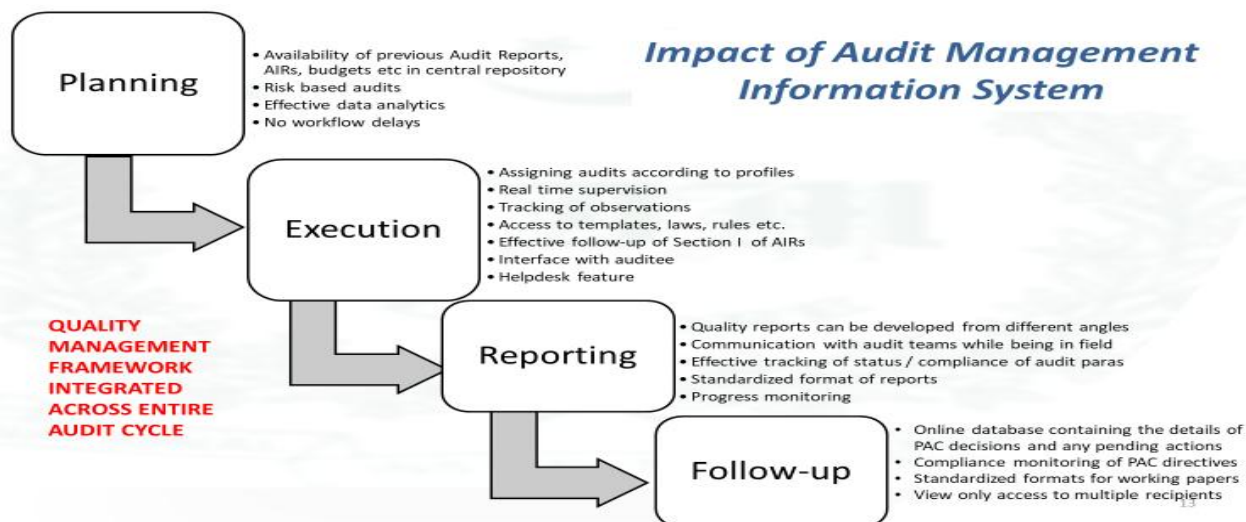


Figure II Impact of AMIS  
**Standardization of Audit Processes**

The FAM (financial audit manual) was introduced in 2006 under PIFRA for the standardization of audit processes but could not achieve the required objective due to limited time and laborious manual work involvement.

AMIS would enable real-time linkage of field auditors with audit managers; provide data analytics for enriched audits; automate risk registers with risk profiling of Government organizations based on financial risk, compliance risk, environmental risk, and operational risk; provide system-based audit planning, budgeting, reporting and exit meetings; and facilitate in the work of Public Accounts Committees through system-based oversight of PAC directives, and data analysis.

#### **Improved Quality Management Framework**

Alignment of AMIS and Audit Quality Management Framework (AQMF) to provide a structured approach to create an effective Quality Information Management System that governs the entire audit cycle

#### **Enhanced Transparency**

Proper planning through AMIS will ensure transparency. An auditor will be sent to the field with risk areas identified and high value items list to be audited. Connectivity with the head office will further enhance the monitoring. Every step of execution will be visible to the stakeholders involved so it will no longer be based on the auditor's discretion. A transparent system would lead to ...

- 1) Real-time monitoring of paras and compliance status through the dashboard
- 2) Functionality to record PAC/DAC meeting sessions and directives against respective Paras
- 3) Functionality to upload Minutes of DAC/PAC meetings as an attachment
- 4) Functionality to upload Audit Reports as attachments via a Fiori App; maintaining a repository of audit reports
- 5) Functionality to upload PAC notices as attachments via an AMIS App; maintaining a repository of notices.
- 6) The Audit Management Information System (AMIS) will automate the whole life cycle of an audit para, from its inception as an audit observation to its final disposal by the Public Accounts Committee.

#### **Effective Supervisory Mechanism**

The attitude and supervision of top management can considerably improve the outcome of the audit. Each field Audit office plans hundreds of audits every year depending on its size. It was not possible for higher management to inspect them all for their input or to keep an eye on the auditor's work.

This system would give chance to management to play its part at the right time if any issue requires their intervention. Sharing of information will have a positive impact on audit quality.

The performance Supervisory mechanism to be established under AMIS would reflect:

- a) Planned vs. Actual time for an Audit.
- b) The number of Audits at each stage (e.g. Completed) by Month
- c) The number of Live Audits at the end of each month
- d) The achievement of Key Dates/Milestones by the Audit team/FAO

- e) The achievement of Key Dates/Milestones by Audit Universe
- f) Number of overdue actions on audit observations
- g) Overdue milestones/key dates for audits
- h) Upcoming PAC meeting and number of Paras that will be discussed
- i) Status of PAC Directive

### **Availability of Central Repository**

Record keeping has always been an issue in the sector so has the availability of it with demand. There is no central database where we can find all the rules regulations, annual audit reports, Audit inspection reports, PDPs, or any other important information related to audit. AMIS will provide that very central database where any material or information for help/support of the auditor will be readily available.

## **CHALLENGES IN IMPLEMENTATION**

### **Change in Organizational Culture**

People don't like to upset the status quo. They have grown so used to 'the way things are' that they will fight anything new, even if it's better, just to keep what's familiar. Successfully changing the culture of any organization is an extremely difficult job and more often results in rejection from the employees or failure of attempt. However, with clear vision and consistent efforts do ultimately result in successful cultural transformations. The challenges faced during culture change are ...

1. Status Quo
2. Resistance to Change
3. Leaving Comfort Zone
4. Lack of Motivation to Change
5. Lack of Ownership

Changing Human nature is one of the most difficult tasks and implementation of AMIS would greatly depend on how fast the Culture Change is embraced.

### **Digital Transformation Challenges**

The current Audit Cycle is based on pen and paper culture. Most of the offices are not even equipped with the latest ICT infrastructures and over and above the ICT literacy of employees is way less than what is required for successful implementation of AMIS. Public sector digital transformation can be hindered by the following factors ...

1. A large amount of unconsolidated data.
2. Several complicated processes exist in digitally unconnected departments.
3. Resistance to the status quo from stakeholders,
4. lack of Information & Communication Technology (ICT) infrastructure,
5. Budget for ICT procurement
6. Low ICT literacy.

Equipping offices with ICT infrastructures, developing ICT literacy of staff and securing data against Cyber-attacks is going to be a big challenge for successful implementation of AMIS.

### **Cost Overrun**

Cost overrun is another major hurdle in the successful implementation of AMIS as the budget allocation in a public sector organization is usually a lengthy and complicated process that often faces unwarranted delays. The initial estimate for the implementation of AMIS is below.

Capital cost estimates = PKR 1,003,356,014(PKR 1.003 Billion approximately)<sup>1</sup>

Annual operating and maintenance cost after completion of the Project = PKR 41,000,000 (PKR 41 million)

1. Annual License fee (newer version and upgrades) = PKR 10 million
2. Networking and cloud solution = PKR 20 million
3. Payment to AMIS consultant = PKR 11 million

### **Procurement Delays**

Procurement of new items in Public Sector organizations usually faces a chain of approvals before finally taking on board the required items. The whole process involves delays and corrupt elements also try to compromise on

quality/quantity for the sake of their benefits. As AMIS involves setting up of ICT network nationwide with procurement of fast end terminals in offices all over Pakistan, so timely procurement of all these necessities is going to be a big challenge for the implementation of this project.

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#### **Professional Development of HR**

Professional Development of HR is another big challenge for successful transformation from traditional Audit practices to digitization. Capacity building is essential for enabling enriched and value-added utilization of AMIS, so the capacity building of all audit personnel (more than 3500 field auditors and audit supervisors across the DAGP) as per international auditing standards will be a big challenge for the successful implementation of AMIS.

In addition to capacity building, annual training programs would be required to equip the Auditors with the latest developments in the ICT sector.

#### **AQMF Implementation**

Implementation of the Audit Quality Management Framework is a big challenge in the current Audit Cycle as the Audit is completed first whereas the formalities of AQMF are completed later on due to no visibility of the Audit Cycle. The department, with support from ADB, has developed an Audit Quality Management Framework (AQMF), to enable it to assure quality at each step of the audit cycle, and thereby dispense its responsibilities by international standards and good

practices. Implementation of AQMF would be enabled by linking it with the AMIS. This poses a challenge that requires capacity building, change management, and effective replication of AMIS in integration with AQMF

The first phase of AQMF is the Planning Phase which includes:

Availability of previous Audit Reports, AIRs, budgets, etc. in the central repository

Risk based audits

Effective data analytics

No workflow delays

The 2<sup>nd</sup> phase is the Execution Phase which includes:<sup>i</sup>

Assigning audits according to profiles

- Real time supervision
- Tracking of observations
- Access to templates, laws, rules, etc.
- Effective follow-up of Section I of AIRs
- Interface with auditee
- Helpdesk feature
- The 3<sup>rd</sup> phase is the Reporting Phase which includes:
  - Quality reports be developed from different angles
  - Communication with audit teams while being in the field
- Effective tracking of status/compliance of audit paras
- Standardized format of reports
- Progress monitoring

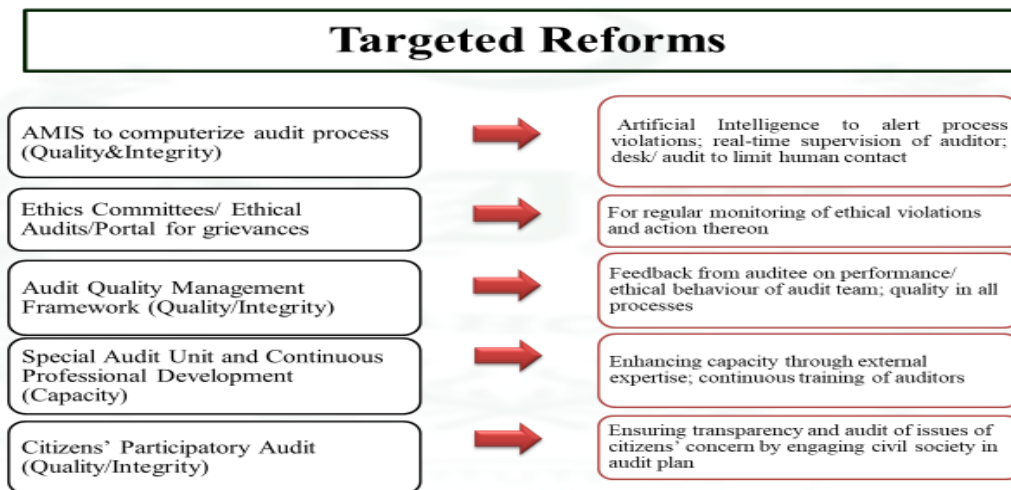
And the 4<sup>th</sup> Phase is Follow up Phase which includes:

- Online database containing the details of PAC decisions and any pending actions
- Compliance monitoring of PAC directives
- Standardized formats for working papers

View only access to multiple recipients

#### **Steering Reform Agenda holistically**

This digitization of the Audit cycle is going to play a key role in the implementation of the Reform agenda of the Auditor General of Pakistan holistically. Targeted reforms are shown in *Figure III*.



**Figure III Targeted Reforms Future Road Map**

To give a future road map, comprehensive feedback from the employees of one pilot site, that is DG Audit Punjab, has been taken and key informants were interviewed. Keeping in view the response and comments, it is deduced that the comprehensive change management strategy is to be devised by the AGP office as it is the responsibility of top management to set the tone. A dedicated team that is already in place at the AGP office, the SSA wing, is to be utilized to mobilize public opinion first. The people are always uncomfortable with the change or they even fear as shown in their responses in the Questionnaire. Change is a slow process and cannot be achieved overnight instead it is highly important to get the employees familiar with the new ways of doing audits and their impact rather than imposing it on employees.

## CONCLUSION

As digital innovations are speeding ahead, the audit profession is forced to follow. It is no longer a question of whether the Auditor needs to change but rather when and how fast. The digitalized audit process is highly affected and does address several issues being faced in traditional Audit Process i-e standardization of Audit Process, transparency, effective monitoring, Quality of Audit, central repository, and effective follow up of Audit Observations etc. It will also enable Auditors to concentrate on data analysis rather than data collection which will not only improve efficiency and save time but also quality of Audit. However, the successful transformation from the traditional way of doing an Audit to the digital transformation of the Audit Cycle is full of challenges i-e pen and paper culture, Status Quo, Procurement issues, ICT setup, Cyber Security, and above all professional development of HR due to low ICT literacy. The auditors must keep up with the digital change by rethinking their audit approaches and possibly their profession as a whole. So, the digital transformation of the Audit Cycle is the need of the time and successful transformation must be ensured irrespective of the challenges posed by the current environment.

## RECOMMENDATIONS

- The software used for digitalizing Audit Cycle (AMIS) is required to be more user friendly.
- Effective counseling sessions with Auditors and Auditees are highly recommended so that the fear of coming out of comfort zones (Status Quo) can be addressed.
  - Regular Seminars and workshops are recommended to be arranged across the country to give awareness about digital transformation and how could it help to address the issues that are built in part of traditional Audits.
  - ICT courses are required to be introduced and qualification of those courses is required to be incentivized for the Auditors so that ICT literacy issues could be addressed.

- There should be a Regular interaction of all the stakeholders i-e Audit, Auditee, DAC and PAC to create a consensus in adopting the use of technology.
- A strong commitment is required from top management to expedite the procurement of hardware and ICT equipment for the smooth implementation of the project.

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