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#### **Bridging Automation and Innovation: Evaluating e-**FOAS and AI Synergies for Better Governance **Outcomes**

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#### Abstract

This assessment reviews the current progress of the e-Filing and Office Automation System (e-FOAS) in Punjab, a significant ICT project initiated by the provincial government to enhance administrative efficiency, ensure transparency, and improve public service delivery, however, its implementation varies across different regions and continues to encounter various systemic and structural challenges. The initiative has nonetheless produced tangible results, supported by key provincial policies outlined in the Punjab Rules of Business, 2011. To date, over four million files have been handled through the system, and communication among departments has become more streamlined (Latif, 2025). However, several challenges persist. Adoption across departments is inconsistent, with only 30 out of 50 administrative units reaching Level 3 implementation. Training coverage remains incomplete, with just 34 of the planned 70 sessions conducted so far. Many offices still depend on a hybrid of manual and digital processes, data security standards are insufficient, and there is notable resistance from mid-level officials. Public confidence in the system's security is also relatively low, with only 38.3% of users expressing trust in data protection measures. This analysis indicates that incorporating Artificial Intelligence (AI) for functions like predictive routing, workflow analysis, and automatic document categorization could significantly enhance service delivery.

**Key Words:** Assessment Reviews, E-Filing, Provincial Government, Artificial Intelligence, Punjab Rules.

#### Introduction

Information and Communication Technology (ICT) initiatives play a vital role in the public sector by boosting efficiency, promoting transparency, and enhancing the quality of public service delivery. These initiatives also foster greater accountability. Additional advantages include increased convenience for both citizens and

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Revised: March 07, 2025 & March 31,

Published: June 21 2025 government staff, cost savings, and expanded administrative reach. When effectively implemented, ICT tools can accelerate development and help achieve broader progress goals (Atique, Htay, Mumtaz, Khan, & Altalbe, 2024).

In an interview with the Director General of e-Governance at the Punjab Information Technology Board (PITB), it was emphasized that top-level leadership drove the automation of office management systems, especially during the COVID-19 crisis. The pandemic forced the government to adopt digital solutions to streamline governance processes. It was also noted that the e-Filing and Office Automation System (e-FOAS) is just one of more than 25 digital initiatives launched by the Punjab government to modernize office management. Nevertheless, despite strong government commitment, several challenges continue to obstruct the full-scale implementation of e-FOAS across the province, even though the system offers a wide array of features (Latif, 2025).

#### RECEIPT & ISSUANCE MANAGEMENT IMPLEMENTATION 01 MEETING 02 MOBILE APPLICATION SCHEDULER 03 (e-FOAS) 10 **ELECTRONIC NOTING SMS GATEWAY DEPARTMENTAL** DOCUMENT ARCHIVAL & RECORDS WORKFLOW & 04 09 IMPLEMENTATION COLLOBORATION **INFORMATION &** 05 08 HELPDESK KNOWLEDGE SHARING PERFORMANCE 07 SECURITY & CONTROL MONITORING & EVALUATION

#### e-Filling & Office Automation System (e-FOAS)

Figure 1: e-FOAS Features<sup>1</sup>

Artificial Intelligence (AI) holds considerable promise for boosting the effectiveness of e-FOAS, particularly in enhancing efficiency and transparency. Several potential AI applications are well-suited to Punjab's administrative environment. However, a clear action plan is needed to guide the integration of these AI capabilities into e-FOAS, along with user readiness and acceptance of the proposed features.

This study seeks to pinpoint the key obstacles preventing the full-scale implementation of e-FOAS and to examine potential AI functionalities that could be incorporated. The ultimate goal is to achieve greater efficiency, stronger transparency, and better quality in public service delivery.

#### 1.1. Statement of Problem

Since 2022, Pakistan has climbed 14 places in the e-Government Development Index, reaching the 136th position in 2024 (Editor, 2024). The Government of Punjab has also taken significant steps to advance e-governance, including automating office operations through the e-FOAS system. However, despite these efforts, the system's comprehensive adoption remains uneven across different

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<sup>&</sup>lt;sup>1</sup> (PITB, User Guide for e-FOAS, 2020-)

provincial departments. Although institutions like the Punjab Information Technology Board (PITB) have laid down the necessary e-infrastructure, several challenges persist—such as organizational resistance, limited technical expertise, insufficient training, and data security issues—which continue to hinder province-wide implementation of e-FOAS. Integrating Artificial Intelligence (AI) could strengthen e-FOAS by automating repetitive tasks, classifying documents, intelligently routing files, and providing real-time support for decision-making, ultimately improving public service delivery. Yet, experts differ in their views about the universal effectiveness of AI in this context.

#### 1.2. Research Questions

- **i.** What is the current status of e-FOAS implementation in Punjab?
- **ii.** What challenges obstruct the system's implementation, and what strategies can address these barriers?
- **iii.** What AI features could be integrated into e-FOAS to enhance public service delivery, drawing insights from international best practices?

#### 1.3. Scope and Significance

This study primarily investigates the barriers to implementing e-FOAS across provincial departments and their associated bodies, including directorates, authorities, and agencies. It also explores potential AI features that, if embedded within e-FOAS, could further optimize public service delivery. The practical significance of this research lies in its focus on providing policymakers and practitioners with clear guidance on the institutional frameworks, infrastructure requirements, human resource development, and robust data security measures needed for the system's sustainable rollout.

The study relies mainly on data spanning from 2020 to 2025. Additionally, it aims to present a comprehensive operational plan and a contingency strategy, detailing specific actions for system upgrades, resource allocation, training initiatives, timelines, and key performance indicators (KPIs).

#### 1.3. Literature Review

(Acemoglu & Restrepo, 2019) argue in their research that automation technologies have become increasingly prevalent across various sectors, promising increased efficiency, reduced costs, and improved quality.

One key area where automation enhances public service delivery is through process optimization. For instance, automating repetitive tasks such as data entry, form processing, and email management, frees public sector employees to focus on higher-value activities. (Wirtz, Weyerer, & Geyer, 2018) in their work have highlighted that this practice in public administration reduces operational costs and improves service speed, contributing to efficiency gains.

Adoption in public sector organizations faces significant impediments. These challenges are multifaceted, spanning technological, organizational, environmental, and ethical dimensions. Employee resistance represents one of the most significant non-technical barriers to automation adoption. (Frey & Osborn, 2017) also note that

concerns about job displacement and technological unemployment frequently generate resistance to automation initiatives. Their research, moreover, suggests that up to 47% of jobs in developed economies could potentially be automated, fueling worker anxieties.

On the other hand, according to the World Economic Forum (2020), approximately 54% of all employees will require significant reskilling or up skilling by 2025 due to increasing automation (WEF, 2020). The skills required to implement, operate, and maintain automated systems often differ significantly from those possessed by existing workforces. In their work, (Autor, 2015) highlight the skills mismatch as a significant barrier to automation adoption. His research indicates that middle-skill jobs face the greatest displacement risk, while high-skill technical roles related to automation implementation remain difficult to fill.

With respect to emerging technologies like AI-powered systems can improve the speed and accuracy of data handling by automating the extraction of relevant information from large volumes of documents. Moreover, Artificial Intelligence can also be integrated with existing digital archives for easy access to and retrieval of documents. Leveraging Artificial Intelligence for automating routine administrative tasks is a significant development (AIplusinfo, 2024).

AI-powered chatbots and deployment of virtual office assistants to handle internal queries, schedule meetings, and manage office workflows can reduce the burden on human employees, allowing them to focus on more strategic tasks. Furthermore, in their study (Smith & Smith, 2024) AI algorithms can analyze patterns in administrative processes, providing insights for optimization and efficiency improvements. However, it has been enunciated that despite the numerous advantages, the adoption of AI in digitizing internal office procedures is not without challenges. One significant concern is the ethical implications of AI deployment, including biases in algorithms and the potential for misuse of data (Smith & Smith, 2024).

#### 1.4. Research Methodology

Mixed research methodology has been employed to conduct the research. The users' review feedback was taken from 94 officers currently working hands-on in the Civil Secretariat Punjab in Communication & Works, Home, Finance, S&GA Departments, Punjab Disaster Management Authority, etc. The said primary data extracted from the survey is expected to draw situational analysis regarding impact on the system has made on the efficiency and efficacy of the offices along with its bearing on public service delivery.

In addition, primary data was also obtained during the structured interviews conducted on 14.05.2025 with:

- i. Mr. Ahmed Raza Sarwar, Additional Chief Secretary, Punjab (Annex A)
- ii. Mr. Sajid Latif, Director General (e-Governance), Punjab Information Technology Board (PITB), Punjab (Annex B)
- iii. Ms. Kiran Khurshid, Director General, Monitoring & Evaluation, Punjab (Annex C)

Further, unstructured interviews were also conducted on 14.05.2025 and 15.05.2025 with:

- Mr. Rafaqat Ali Nissoana, Secretary (Implementation & Coordination), S&GAD, Punjab
- ii. Mr. Syed Masood Nouman, Special Secretary (B&R), Finance Department, Punjab
- iii. Mr. Umer Mela, Additional Finance Secretary (Budget), Finance Department, Punjab

Secondary data and ideas were also compiled from multiple sources including PC-I of the project, reports by international organizations, websites, periodicals and research publications.

#### Validation / Triangulation

The findings from the primary data and interviews were cross-referenced to ensure consistency and accuracy to help validate the key findings derived from this effort.

#### **Situational Analysis**

#### i. Pakistan's position in e-Government Development Index

According to data from the World Bank, Pakistan advanced to the 136th position out of 193 countries in the e-Government Development Index in 2024, marking a 14-place improvement since 2022 (World Bank, 2025). This progress reflects the country's growing commitment to strengthening e-governance and promoting more inclusive decision-making processes. In line with this national trend, the Punjab government has launched more than 25 ICT-driven initiatives (Latif, 2025). Among these, the e-Filing and Office Automation System (e-FOAS) aims to transition departmental communication and decision-making processes to a paperless format—a significant and progressive move toward digital governance.



**Figure 2:** *e-Government Development Index* (World Bank, 2025)

#### ii. Current Implementation Status of e-FOAS

Since the COVID-19 pandemic, there has been a sustained effort to implement e-FOAS across the secretariats of all provincial departments. The stages of

implementation are outlined in Figure 3, which also indicates, in parentheses, how many of the 50 administrative departments fall within each level. Of these, only 30 departments have reached Level 3 — where e-Noting and Digitized Receipt & Issue (R&I) are fully operational, Departmental Financial Approvals (DFA) are partially operational, active files have been fully scanned and archived, while legacy files have been partially digitized.

Meanwhile, 13 departments are at Level 2 — with partially operational e-Noting and Digitized R&I, and active files partially scanned and archived (Latif, 2025). Unfortunately, the remaining 7 departments are still at Level 1, where only the movement of summaries and notes is fully functional.

## Levels of Implementation in Administrative Departments



**Figure 3:** Levels of Implementation (Latif, 2025)

Over the last five years, the development and integration of various features of e-FOAS are exhibited in figure below. Starting from pilot in 3 departments, it was expanded to 15 departments in 2021 and at present it is a mandatory functional unit in all departments.

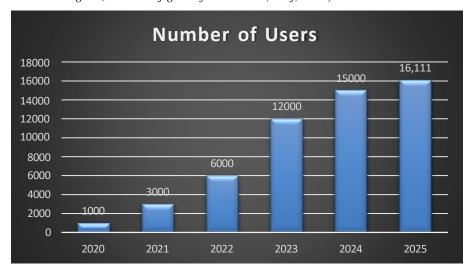


**Figure 4:** *Scale of Implementation since 2021 (Latif, 2025)* 

Further, it has been brought to the group's notice that around 233 organizations' systems including departments, attached / autonomous bodies and field offices have been configured and number of users registered for use of e-FOAS has risen to around 16,111 at present (Latif, 2025). This reflects on the stakeholders' willingness to implement across-the-board change in the province. However, the implementation remains fragmented and residual. As highlighted earlier, the focus at present seems only to implement the system across all the Administrative Department.

Sr. No.	E-FOAS Organizations	Configured	
1	Administrative Departments	<u>50</u>	
2	South Punjab Secretariat (Departments)	<u>21</u>	
3	Attached / Autonomous Bodies / Companies	<u>70</u>	
4	Commissioner's Offices	<u>9</u>	
5	Deputy Commissioners Offices	<u>38</u>	
6	Police Range	<u>45</u>	
	Total		

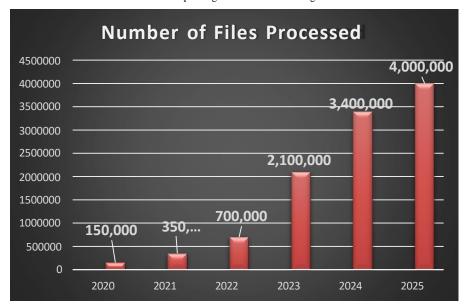
**Table 1:** Organizations configured for e-FOAS (Latif, 2025)



**Figure 5:** *Number of Registered Users on e-FOAS (Latif, 2025)* 

#### iii. Impact Assessment of the System

Since its implementation, the number of files processed through the system has increased to over 4,000,000 in the year 2025 as compared to just over 150,000 in 2020 (Latif, 2025).



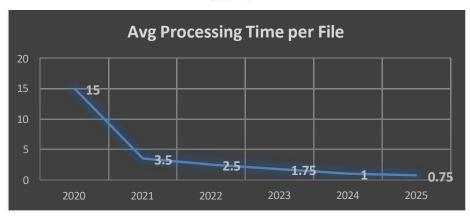
**Figure 6:** Number of Files Processed on e-FOAS (Latif, 2025)

Moreover, the number of meetings scheduled using e-FOAS has also increased from around 5,000 in 2020 to around 59,969. The numbers appreciate the utility of the feature built into e-FOAS by the users.



**Figure 7:** *Number of Meetings scheduled on e-FOAS (Latif, 2025)* 

Further, it has also been claimed that the average processing time per file has decreased from around 15 days back in 2020 to less than a day at present highlighting the benefits of increased efficiency of the system.

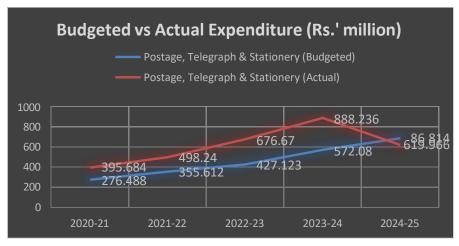


**Figure 8:** Average time to process files (Latif, 2025)

#### iv. Capacity building & Savings

Out of a total of 70 planned training sessions, 34 had been conducted by April 2025, with the remaining sessions expected to take place soon (Latif, 2025). Before e-FOAS was introduced, the traditional operating costs for stationery—including paper and postage—were estimated at Rs. 2,500 million. With e-FOAS now in place, the operational expenses, which cover IT hosting and training, have dropped to Rs. 300 million. This has led to an estimated annual savings of Rs. 2,200 million (Latif, 2025).

To further verify the Punjab Information Technology Board's (PITB) claim of savings on 'Postage & Telegraph' and 'Stationery', budget allocations and expenditures for these heads across administrative departments were gathered from the Finance Department, Government of the Punjab (see Figure 9 below) (Mela, 2025). Although the actual spending on these items has continued to rise over the last five fiscal years, the potential cost savings from transitioning to a paperless system still hold significant merit and should not be dismissed.



**Figure 9:** Postage, Telegraph & Stationery Expenditure (Mela, 2025)

#### v. Users' Review

The responses to survey conducted to gauge the users' review (complete responses available at  $\mathbf{Annex} - \mathbf{D}$ ) are summarized below

S.No.	Response Sought	Majority's Response (% users)		
1	Primary Role using e-FOAS	File creation, forwarding and monitoring movement (73.9%)		
2	Whether efficiency has been improved	Affirmative (95.8%)		
3	Ease of use	Affirmative (73%)		
4	User interface is intuitive and friendly	Affirmative (74.4%)		
5	Impact on Workflow and Daily Tasks	Significantly Improved or improved (93.6%)		
6	Perceived speed of public service delivery	Improved (94.7%)		
7	Improved inter-department coordination and communication	Improved (71.3%)		
8	Confidence about data security on e-FOAS	Doubtful (57%), Confident (38.3%)		
9	Technical issues confronted with use of e-FOAS	Frequently or occasionally (73.3%)		
10	Perceived Impact on Public Service Delivery	Positively Impacted (62.4%)		
11	Improvements sought	Better training (30.1%), Faster System Performance (30.1%), AI integration (18.3%)		
12	Perceived improvement in ensuring transparency & accountability	Affirmative (81.1%)		
13	Need for AI integration into e-FOAS	Strongly Desired or Desirable (75.6%)		

**Table 2:** *Users' review of e-FOAS* 

The majority of users (73.9%) rely on e-FOAS for creating files, forwarding them, and tracking their movement. A significant proportion—95.8%—believe that the system has boosted their efficiency. Additionally, 73% find the system easy to use, and 74.4% regard its interface as user-friendly. Most users (93.6%) feel that e-FOAS has streamlined their daily work processes. About 58% of the surveyed officers believe it has noticeably improved the speed of public service delivery. However, this perceived benefit largely pertains to internal workflow within the Civil Secretariat and related departments, rather than having a direct, system-wide impact on broader service delivery.

One key goal of e-FOAS has been to strengthen interdepartmental coordination and communication—an objective that 77% of users believe has been achieved. Despite these positive aspects, only 38.3% of user's express confidence in the system's data security, while 39.4% remain uncertain and 22.4% lack confidence altogether. Furthermore, 73.3% have reported frequent or recurring technical issues with the system.

Nevertheless, around two-thirds of users feel that the system has improved the public's perception of government offices. Most users also want enhancements such as faster performance, better training, AI integration, and greater encouragement for officers to use the system more consistently. More than three-quarters of users recognize that e-FOAS has increased transparency and accountability, and a similar proportion agree that valuable AI features should be incorporated into the system.

#### **Global Best Practices**

#### **Estonia**

Estonia is leading examples of digital governance, having fully digitized

government meetings, memos, decisions, and file notes. This digital transformation allows ministers to participate remotely and is integrated with national ID and data registries. As a result, meeting durations have been cut by 60% and interdepartmental collaboration has improved (Espinosa & Pino, 2025). Estonia also leverages AI and blockchain technologies to automate routine tasks through smart contracts (Hamer, 2024).

- a) Estonia's Automated Decision-Making (ADM) system includes: **Bürokratt:** AI-powered virtual assistants for scheduling and interacting with government offices.
- **b) Online Töötukassa Teenused (OTT):** A system that streamlines processing of unemployment insurance claims.
- c) Automated Border Control (ABC) Gates: Use of biometrics for automated border and passport checks—a function that could inform automation of compliance-heavy, repetitive tasks in e-FOAS.
- **d) Security Measures:** Blockchain solutions secure these systems against cyber threats and ensure data protection (Estonia, 2025), offering a model PITB could adopt.
- **e) Fairness and Transparency:** Estonia has begun auditing algorithms and checking data quality to prevent bias—practices that should be institutionalized regularly (Kerikmäe & Feklistov, 2025).

It is important to note, however, that Estonia's smaller population of just over 1.3 million (Worldometer, 2025) makes its governance structure much leaner than Pakistan's, which affects scalability.

#### South Korea

South Korea pioneered its digital government initiatives with the launch of Government 24 in 2002, offering citizens access to 5,000 civil services and real-time application tracking (Choi, Chung, & Cho, 2022). This was further strengthened by the On-Nara System in 2004, which unified online governance across government levels and departments (Moon, 2019). The On-Nara System enables electronic noting, digital file circulation, e-approvals and signatures, secure inter-agency communication, and digital archiving. Additionally, the 'eGovFrame' provides a standardized software development platform for government agencies and the public, supporting document management and workflow automation (Portal, 2025).

Today, South Korea is moving beyond e-governance toward "Digital Platform Governance (DPG)," which aims to deliver integrated, personalized, and proactive citizen services (Thian, 2025). To achieve this, the government is engaging local private companies rather than developing or importing foreign AI tools. It is also working to merge databases and enhance interoperability, prioritizing openness and connectivity over efficiency (Thian, 2025). While e-FOAS is currently focused on automating internal file management, South Korea's systems integrate back-end automation with AI-enabled citizen services under a single, cohesive digital government framework. This shows that while advanced countries have made

significant progress in using ICT to improve public services, many now prioritize integrated digital ecosystems over just basic office automation.

#### vi. AI Integration in e-FOAS

Following features are already enabled in e-FOAS except for Voice to Text which is in development phase (Latif, 2025):

- Optical Character Recognition (OCR) Scanners compatible with desktops and laptops only
- Voice to Text to create ease in initiating documents / notes
- Geo-fencing for restricting use of e-FOAS on different devices to firm up data security

Moreover, PITB has also planned to PITB plans to integrate the following AI features (Latif, 2025):

S.No.	Feature	Resources Required
1	AI-based drafting	Skilled AI developers & data
2	Fraud detection or miscalculation identification	scientists • Scalable Infrastructure (GPU-based
3	Referential search for precedence cases	<ul><li>servers, secure cloud hosting)</li><li>Enhanced data pipelines and storage</li></ul>

**Table 3:** Planned Prospective AI features

#### vii. Project Planning

#### i. Threat to groups with vested interests

In addition, there is resistance due to the accountability associated with the implementation of e-FOAS, which can create obstacles for those who are seeking prioritised treatment via influence or have vested interests.

#### ii. High Infrastructure Maintenance Costs

There are high costs of maintaining such volume of data – whether on cloud or at datacentre (Latif, 2025). Moreover, costs such as those associated with energy, security, human resource, etc. are also high. Enhancing storage capacity also requires huge costs to be incurred.

#### iii. Economic Cost of Creativity Vs. AI

It is a concern that reliance on AI-powered drafting would result in reduction of human creativity skills (Zhou & Lee, 2024). It would enhance generic content instead of responding to new situations through creativity as presently AI is relying on precedents. Further, researchers argue that economic cost of using AI is more than using human labour, i.e., for example, cost to complete visual inspection

through AI across different occupational departments is more than salaries of human labour required from this task (Smith S., 2024).

#### iv. Change Fatigue

The enthusiasm for "another system" will be low if employees have already experienced several poorly implemented changes or reforms in the past (Kayani, Haq, Perwez, & Humayun, 2011). Over the years public sector employees in the province have seen many previous reforms initiatives that either completely failed or lost momentum, leading to "change fatigue" and mistrust about new initiatives like e-FOAS (UNDP, 2020).

#### v. Cultural Cynicism

A cultural cynicism exists against machine-driven decision-making and a strong societal inclination for paper-based processes (Diplomat, 2023). Moreover, due to little training opportunities, workers believe that automation might lead to loss of their jobs (South Asia Foresight Network, 2024)

#### vi. Public Perception and Trust Issues

Citizens have expressed their mistrust for AI-driven public services owing to lack of transparency and perceived data security issues with automation. This perception is further aggravated by the existing bureaucratic structure which remains unable to perform efficiently and transparently to secure public confidence (Rizvi, 2013).

#### vii. Limited Digital Literacy and Capacity Deficits

Public sector employees in Punjab generally do not have basic digital skills necessary for working with the automated systems, which fuels resistance against automation process and AI. The lack of capacity to perform tasks efficiently by employing automation has stirred a sense of fear of making mistakes with digital tools and thus boosts passive or active reluctance to use new technologies (Singh & Sahu, 2017).

#### viii. Data Availability and Quality Issues

Punjab's public sector organizations are devoid of comprehensive and digitized data for the Effective AI implementation which is a key requirement for storage of large and high-quality datasets. Hence, inconsistent data collection practices and manual record-keeping method strains the ability to teach/update AI algorithms effectively (Sumra, Alam, & Aftab, 2021).

#### ix. Limited Local Expertise

Public sector is presumed to have limited number of skilled AI professionals. Likewise, Punjab Government also has limited capacity to develop and maintain AI systems, thus, forcing it rely on external developers which leads to increased cost of maintenance (Qazi, et al., 2020) and (Sarwar, 2025). Moreover, the inherent weakness of the departments' IT sections makes them rely extensively on PITB to have the issues resolved / addressed.

#### x. Cybersecurity Risks

In Punjab, AI integration is hampered by the public sector's susceptibility to breaches and insufficient cyber security measures. Sensitive government information and activities could be compromised by data leakage/hacks, which may further shatter public trust (Diplomat, 2023) and (Sarwar, 2025). It is also observed that e-FOAS can be used anywhere on any device despite the fact that option of "Geo-fencing" is provided in e-FOAS. No Standardized Operational Procedures (SOPs) are present for ensuring security across the board. However, PITB claims to have addressed the issue by already taking the following measures (Latif, 2025):

- Encrypted APIs and connection strings
- Microsoft has conducted a security audit of e-FOAS and is ISO27001 certified
- Regular backups and disaster recovery protocols
- Security audits and logging mechanisms for traceability
- Providing users an option to enable two factor authentications for login

#### **Analysis and Findings**

#### ii. Fishbone Analysis of the Impediments

Following from the discussion regarding impediments in the previous section, the primary factor that hinders the province-wide implementation of e-FOAS is resistance to change that seems to persist and creates the organizational inertia especially at middle management and below (Latif, 2025) (Sarwar, 2025). Such factors appear to have contributed to this hindrance that may deem to include economic, cultural, personality, managerial, technological and process-oriented factors that are enumerated (Fig. 10). All such factors have led these organizations to remain stagnant and hence, resist change.

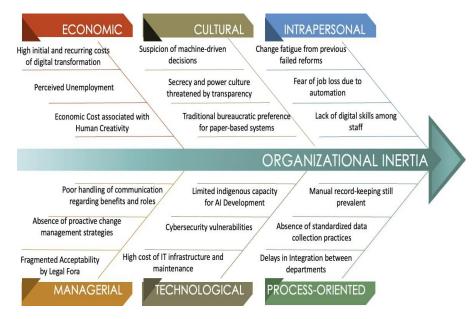


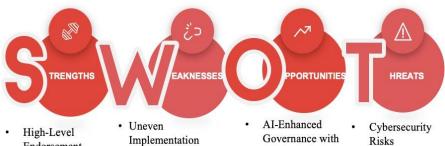
Figure 10: Fishbone Analysis

#### iii. Swot Analysis: Implementation of E-Foas & Potential Use of Artificial Intelligence

Despite facing various obstacles that contribute to maintaining the status quo, e-FOAS demonstrates notable strengths, including user endorsement for its role in enhancing efficiency, transparency, and public service delivery. It also benefits from solid institutional support, as reflected in notifications issued by the Services & General Administration Department (S&GAD) under Rule 11(1) of the Punjab Rules of Business, 2011. Moreover, the anticipated cost savings from transitioning to a paperless system remain significant.

The positive feedback from users, their willingness to adopt AI-driven features, and the integration of the Cabinet Management Information System (CMIS) into e-FOAS all point to strong potential for future expansion and effectiveness. Leveraging these strengths can open up new opportunities, such as employing AI to improve governance, expanding the system's reach to the grassroots level, and linking performance metrics and KPIs to system usage—each a progressive step forward.

Adopting a citizen-focused strategy—such as developing dashboards to address grievances and track responses at operational levels—can also help build greater public trust in the system. However, certain inherent weaknesses need urgent attention, including gaps in training and implementation, concerns about data security, insufficient skills within the public sector, and the ongoing reliance on parallel manual file processing. Furthermore, cybersecurity threats, resistance to change, skepticism about AI, and the lack of local AI expertise pose continuing risks. Overall, the SWOT Analysis (Figure 24) provides a comprehensive overview of these dynamics.



- Endorsement
- Cost Savings
- **Efficiency Gains**
- Users' Review
- AI Readiness
- **CMIS**
- Training Deficits
- · Low Confidence in Data Security
- · Technical Complexity & Dependence
- · Change Fatigue
- · Redundant Manual-Parallel Processing
- prospective

features

- Implementation at . lower levels
- **KPI** Integration
- Performance Dashboards
- Citizen Integration .
- Estonia & South Korea's model replication

- Organizational Inertia
- AI Skepticism Digital Literacy
- Gaps Data Quality & Availability
  - Dependence on external AI developers

Figure 11: SWOT Analysis

#### Section V: Conclusion

To conclude, it may be appropriate to state that among others, e-FOAS is a progressive initiative taken by the provincial government that has shown great potential in terms of efficiency, transparency and improved public service delivery. The factors leading to the public sector organizations' inertia, however, need to be effectively overcome to ensure the system's full-fledged adoption and implementation. The institutional framework coupled with a push from the top will aid in overcoming impediments, given the efforts are sustained over time. Moreover, it is observed from the global best practices that integration of customized AI features into office management systems can lead to efficient public service delivery. However, the efficacy can be increased if adoption/implementation of the e-FOAS is tied to the performance evaluation of the officers in departments and their field formations. The world is progressing, as observed from the cases of South Korea and Estonia. The province of Punjab, too, needs to expedite the journey to progression it started ten years ago by adopting a firm set of policy objectives and its allied operational plan.

#### Section Vi: Recommendations & Operational Plan

Following from the preceding sections, the following policy recommendations and the allied operational plan along with a contingency plan may be adopted to clear the hurdles and hence, lead to the ultimate objective of improved service delivery via, *inter alia*, enhancing efficiency and transparency:

#### i. Short Term Strategy (0-6 Months)

#### Completion of Secretariat e-FOAS implementation

Even at the secretarial level, several departments have still not adopted e-FOAS or are at levels 1 or 2. Deadlines will need to be established and implemented for complete adoption through the use of rewards and punishments. Stringent measures to monitor the assigned responsibility is required to be communicated and its implementation to be monitored from the top.

#### **Trainings & Skill Enhancement**

The 36 remaining scheduled trainings should be completed at the earliest. Frequent training sessions at different levels should be arranged for officials / officers working in the field positions. This will create awareness of the latest features of e-FOAS and develop their minds to adapt to the upcoming change.

#### Assessing the infrastructure gaps at the grass-root level

Reviewing the basic IT infrastructure (computers, scanners, reliable Internet access) in the field offices is also necessary to identify and bridge existing gaps (if any) that would form the foundation of the implementation at the grass-root level.

#### Selection of a model pilot district

A model district in Punjab should be selected in close proximity to Lahore for full implementation of the e-FOAS system. Due to its proximity to the provincial capital, resources and skills can be supplemented on a need-to-know basis, furthering the goal of implementation. In that district, the entire office and field administration should be automated. Additionally, this should be replicated at the tehsil level at that

district in order to build the capacity of its officers. This will also serve as an incentive for other districts to follow suit.

#### ii. Medium Term Strategy (06-18 Months)

#### Policy Enforcement through performance evaluation

The S&GAD has issued various notifications from time to time requiring e-FOAS to be implemented for internal communications within the Secretariat and allied departments. In order for its enforcement to be effective, however, it may be enforced through incorporation of the KPIs into the Performance Evaluation Reports (PERs). The push for such a measure i.e. adoption of e-FOAS at all levels should come from the top i.e. Administrative Departments' heads.

#### **Preparation of field formations**

Using John Kotter's 8-Step Change Model from "Leading Change: Why Transformation Efforts Fail", it is imperative to create a "sense of urgency" in mapping field formations (districts, tehsils) to deliver a push — one that has to be made from top.

Additionally, the enhanced features of AI may be beneficial in this regard, as Personal Assistants in the field formations are already using AI to draft letters. Thus, creating ease for them with the necessary resources may assist them in adapting to change.

#### **Document Classification & Routing**

In e-FOAS, documents are being created and manual documents are being uploaded through Optical Character Recognition (OCR) Scanners. This can easily allow a supervised machine learning model to read all documents and classify these into different types. This classification would enable the system to automatically suggest the route of movement of a file from initiator (e.g. Section Officer) to the final decision-maker. As of now, the sender of the file manually assigns documents. Nevertheless, the need for human supervision cannot be completely shrugged away.

#### **Virtual Office Assistants**

Voice to Text feature in e-FOAS has been developed and is being piloted within PITB. Once rolled out for all users, it will allow dictation for drafting. However, the said capability is only limited in terms of the language i.e. English only. If the system allows dictation in Urdu or Punjabi and automatically translates it into English in drafting it will increase efficiency of users and would reduce resistance to adaptability of e-FOAS. Additionally, these Virtual Office Assistants can also be used for meeting scheduling in future.

#### **Predictive Workflow Analytics**

After enabling automated document classification & routing of files, e-FOAS can be trained to predict workflow of specific tasks through supervised machine learning. It will allow the system to send alerts to all concerned persons who can contribute in decision making based on the precedents. This would give ample time for in-house deliberation and preparation to concerned officers from different

departments leading to increased efficiency alongwith improving quality of work which would ultimately translate into better public service delivery. This feature is being offered by different software houses including Microsoft.

#### **Intelligent Dashboards for Performance Evaluation**

Instead of manually updating dashboards, AI-powered intelligent dashboards may be introduced that can update themselves automatically on the basis of real time data. Additionally, these dashboards also provide performance insights, i.e., efficiency of different officers and workload distribution along with prediction of time for accomplishment of certain tasks by a specific person.

#### **Anomaly Detection**

In large datasets, AI can be leveraged to analyse these datasets for finding anomalies. e-FOAS will eventually have huge datasets once it is fully implemented by administrative departments, attached departments, autonomous bodies and their field formations across the province.

#### iii. Long-Term Strategy (18-36 Months)

#### Complete adoption at the Tehsil level

It is also important to implement the program at the tehsil level offices as part of the long-term strategy. Using e-FOAS for all official communications and field reports, not just internal memos, should become a requirement. To achieve this, rigorous training at the subordinate level is required as part of the capacity building process.

#### e-FOAS link to Service Delivery

The e-FOAS should be integrated with the grievance redress and public service applications systems currently in use at the Issue and Receipt (R&I) branch in order to provide better service delivery. Citizens could track their application's progress using a dashboard and receive live support through this service.

#### Incentivisation

At field offices of each department, monetary rewards may be offered to implement e-FOAS. Moreover, rewards should be quantified on the basis of the performance as apparent from e-FOAS dashboard.

#### Smart Database Search based on Keywords

Once documents are properly classified, this would allow the system to provide predictive database search based on keywords being used in the noting. As of now, e-FOAS is allowing search of documents (based on title of documents only). By incorporating this feature, e-FOAS would enhance efficiency and quality of work.

#### **AI-Driven Decision Support System**

Through supervised machine learning, e-FOAS can be trained to predict proposals for resolving issues after analysing the situation based on available data (created in the system or uploaded through OCR scanning). After overcoming the data security issues, databases of different departments can be integrated which would allow machine learning, deep learning, and natural language processing (NLP) which are essential features for AI-Driven Decision Support System.

#### **Monotonous Process Automation through Smart Contracts**

Through incorporation of smart contracts in the shape of rigid rules and by leveraging supervised machine learning, e-FOAS can be trained to decide routine matters without hierarchical approvals by online forwarding files. Estonia has already employed this in border and passport controls using biometric data in its Automated Border Control (ABC) Gates (Kerikmäe & Feklistov, 2025).

#### **Intelligent Access Controls**

It is recommended that SOPs be notified and incorporated in the system for ensuring access rights to relevant persons on recognized devices by training e-FOAS's AI component through supervised machine learning.

#### **Data Quality and Cybersecurity**

Digital Nation Pakistan Act, 2025 envisions national data security policy through the establishment of Pakistan Digital Authority (PDA). The National Digital Commission (NDC) under the Act serves as the apex body for digital governance. It is chaired by the Prime Minister and includes the Chief Ministers of all four provinces. This structure ensures that provincial leadership is directly involved in shaping and overseeing the national digital agenda.

Computer Emergency Response Team (CERT) response teams envisaged under the CERT Rules, 2023 should be established and functionalized at the provincial level at the earliest. Further, data governance policies should also be formulated under the said rules by declaring datacenters of PITB and allied agencies as critical infrastructure.

#### References

- [1] Azeem, M. (2020). Islam, Pakistan and women leadership: A case study of Benazir Bhutto. *Journal of Politics and International Studies*, 6(02), 29-41.
- [2] Azeem, M., Rifat, F., Sarfaraz, A., & Khan, S. O. (2020). Studies in Female Leadership in Pakistan: Benazir Bhutto as Prime Minister of Pakistan (1988-90). *Studies in Female Leadership in Pakistan: Benazir Bhutto: JRSP*, 57(4). https://doi.org/10.1093/ww/9780199540884.013.U7482
- [3] Chawla, M. I., & Riaz-ul-Huda, A. (2015). Islamization in Pakistan: *An overview. Journal of the Research Society of Pakistan*, 52(1).
- [4] Fleschenberg, A. (2010). Military Rule, Religious Fundamentalism, women's empowerment and feminism in Pakistan. Women's movements in Asia: Feminisms and transnational activism, 166.
- [5] Gul, S., & Farooq, M. (2020). Women's Political Empowerment: A Historical Overview in Pakistan. *Journal of Languages, Culture and Civilization*, 2(1), 59-71.
- [6] Ikram, M., & Kiran, N. (2022). Legislation on Women Issues: Musharraf Regime. *SADIQ Journal of Pakistan Studies*, 2(1).
- [7] Imran, F. I., & Shahzad, A. (2019). Political Empowerment of Women in Pakistan: Performance of Female Parliamentarians in Punjab Assembly (Case Study of Lahore District: 2002-2007). *J. Pol. Stud.*, 26, 135.
- [8] Khalid, J., Othman, N., & Zakaria, W. N. W. (2023). Women development related policies in Pakistan: A preliminary gap analysis. *Journal of Science*, *Technology and Innovation Policy*, 9(1), 39-44. Doi: https://doi.org/10.11113/jostip.v9n1.132
- [9] Khan, A., & Tobawal, M. U. (2017). Constitutional Development in Pakistan since 1947 till 1956. *Pakistan Study Centre*, *5*(1), 238-344.
- [10] Khan, M. M. A., Hussain, M., Khan, S. N., & Aslam, S. I. (2024). Legal Protection of Women Rights: An Inquisitive Study into Their Struggle during the Ayub and Zia Regimes. *Journal of Arts and Linguistics Studies*, 2(2), 919-929.
- [11] Khan, S. (2013). Women and state laws and policies in Pakistan: The early phase, 1947-77. Proceedings of the Indian History Congress,
- [12] Murshed, S. I. (2010). The hudood ordinances of Pakistan and the denial of justice. *The Denial of justice Liaquat Ali Khan-an unheralded sultan M Hali 132 founding father of Pakistan 1971-Lessons Et Cetera Iqbal Ahmad Khan 170 Essays*, 108.

- [13] Noareen, S., & Naz, A. (2021). Women's Emancipation during Musharraf Era (1999-2008). *Global Political Review*, *VI*. http://dx.doi.org/10.31703/gpr.2021(VI-I).15
- [14] Qadri, S., Gilani, S., & Khurram, P. (2018). An Analysis of Women Empowerment in Pakistan with Reference to Musharraf's Regime. *Pakistan Journal of Gender Studies*, 17(1), 299-316.
- [15] Qadri, S., & Umer, N. (2015). Women empowerment and political democratization in Pakistan with reference to general Parvez Musharraf regime. *Public Policy and Administration Research*, 5(10), 111-115.
- [16] Shaheed, F. (2010). The women's movement in Pakistan: challenges and achievements. *Women's Movements in the Global Era, Boulder*, 1-26.
- [17] Tabassum, D. (2016). Women in Pakistan. *Higher Education Commission Pakistan. http://prr. hec. gov. pk/jspui/handle/123456789/28*.
- [18] Weiss, A. M. (1985). Women in Pakistan: implications of the current program of islamization. Citeseer.
- [19] Weiss, A. M. (1990). Benazir Bhutto and the future of women in Pakistan. *Asian Survey*, *30*(5), 433-445. https://doi.org/10.2307/2644837
- [20] Willmer, D. (1996). Women as participants in the Pakistan movement: Modernization and the promise of a moral state. *Modern Asian Studies*, 30(3), 573-590. DOI: https://doi.org/10.1017/S0026749X00016607
- [21] Zaheer, S., & Chawla, M. I. (2023). The Iron Lady: Assessing the Fatima Jinnah's Role against Ayub Khan's Dictatorship. *Annals of Human and Social Sciences*, 4(1), 307-316.
- [22] Zia, A. S. (2013). Faith-based politics, enlightened moderation and the Pakistani women's movement. *Journal of International Women's Studies*, 11(1), 225-245.

iv. Operational Plan						
Category	Objective Specific Activity / Impact	KPI	Timeline	Target	Responsibility	Budgetary Requirement (In Millions)
Gap assessment of infrastructure in field formations	Field formation readiness	Number of districts mapped for digital readiness and nomination of focal persons	01 months	All districts	S&GAD & Divisional Commissioners / RPOs, DC/DPOs	0
Infrastructure Development for e-FOAS	Bridging the infrastructure gaps	Readiness of field offices for e- FOAS and Provision of IT Infrastucture where req'd	04 months	100%	PITB, Divisional Commissioners / RPO, DC/DPOs	60.5
Human Resource Development	Upskilling of HR	Number of officers trained	06 months	3000+ officers	MPDD/PITB	50
Human Resource Development	Training of IT Professionals for Development of localized Machine Learning Softwares	Number of IT Professionals trained	24 months	100+ IT Professionals	PITB, NUST (AI Lab), LUMS	60
e-FOAS Implementation	Completion of Secretariat- level adoption	Number of departments transitioned to Level 3	03 months	All Admin Depts and Aut. Bodies	S&GAD, Admin Secretaries, heads of respective bodies	05
e-FOAS Implementation	e-FOAS deployment in pilot district	Selection and notification of model district and end-to-end automation at district and tehsils	06 months	01 district	S&GAD, PITB, Commissioner / RPO offices and DC/DPO Offices	01
e-FOAS Implementation	Deployment of e-FOAS in the remaining districts	Number of field offices using e-FOAS	12 months	All districts	S&GAD, PITB, Commissioner / RPO offices and DC/DPO Offices	40
e-FOAS Implementation	Policy enforcement	% of administrative departments rejecting manual files and establishment of inter-dept. centres	02 months	100%	S&GAD, Administrative Secretaries	0
Technology Development	AI for document classification	ML model trained on e-FOAS file data	06 months	1 working model	PITB, NUST AI Labs & LUMS	02

#### Bridging Automation and Innovation: Evaluating e-FOAS and AI Synergies for Better Governance Outcomes

Technology Development	AI for anomaly detection	Pilot anomaly detection system developed	15 months	System live for 3 pilot dept.	PITB	05
Technology Development	Intelligent dashboards	Deployment of auto-updating dashboards at field offices	15 months	Available in all field offices	S&GAD, PITB, Commissioner / RPO offices and DC/DPO Offices	05
Technology Development	Predictive file workflow	Predictive routing module deployed	20 months	Pilot in 5 depts.	PITB & S&GAD	06
Technology Development	Smart database search	Predictive keyword search deployed	24 months	Feature live in all depts.	PITB & S&GAD	02
Technology Development	Smart document routing	% of documents auto-routed based on classification	12 months	100% Compliance	PITB	0.5
Technology Development	Virtual Assistants	Voice-to-text Urdu/Punjabi to English translator deployed	18 months	Urdu & Punjabi supported	PITB	5.5
<b>Technology Development</b>	AI-powered decision support	Proposal suggestion engine developed	36 months	Pilot in 2 departments	PITB & S&GAD	72
Technology Development	Intelligent Access Control	SOPs for device-linked secure access	24 months	100% compliance	PITB + IT Security Cell	10
Technology Development	Smart Contract Automation	Legislative measures taken and Number of contracts executed per 1000 files	36 months	100% Compliance	PITB + Law & Parliamentary Affairs Dept.	30
Sustainability	Change Management Sustainability	% of user feedback addressed quarterly by Key Users Group	18 months	100% Compliance	S&GAD	0.5
Sustainability	Policy embedding	% of PERs with e-governance indicators	30 months	Legal Framework Revised	Law Dept., S&GAD and Regulation Wing	0
Sustainability	Service Delivery Integration via establishing dashboards	Avg. processing time for disposal of applications	24 months	Live integration	PITB & S&GAD	5.5
Sustainability	Tehsil-level adoption	% of tehsils using e-FOAS	36 months	80% of 145 tehsils	S&GAD, Commissioners/RP Os and DCs/DPOs	80

v. Contingency Plan						
Risk Area	Potential Risk / Issue	Impact	Contingency Strategy	Responsibility		
Infrastructure Readiness	Delays in hardware procurement	Delay in field offices' readiness	Use phased deployment where possible     Leverage existing IT infrastructure temporarily if need be	PITB, Divisional Commissioners/RPOs and DCs/DPOs		
Human Resource Development	Low training turnout or slow officer uptake	Skills gap & underutilization of e-FOAS	Offer online training modules through online forums to ensure flexibility     Offer online practice exercises     Introduce mandatory e-governance credits in government professional institutes	PITB & MPDD		
Technology Development	Delays in ML model or AI features development	Fragmented or delayed rollout of AI features	Dashboards and Document classification features should be prioritised to improve service delivery     More research partners can be engaged if need be	PITB, NUST, LUMS		
Data Integration & Migration	Data from older files is inconsistent or incomplete	Loss of critical information	Close monitoring of data migration through already implemented directives for weeding of legacy files after thorough process	PITB, S&GAD		
Stakeholder Resistance	Resistance to change persists	Parallel manual system may still exist after implementation	Carrot & Stick policy already discussed in recommendations	S&GAD, Administrative Secretaries		
Cybersecurity & Access Control	Threat of data breach or unauthorised access	Loss of public trust & may lead to legal consequences	<ul> <li>Deploy provincial and departmental CERTs at the earliest</li> <li>Data governannce policy to be formulated at the earliest</li> </ul>	PITB		
Internet & Connectivity	Unreliable Internet Connectivity in remote tehsils	Inefficiency and Service disruptions	Establishment of local data centres in all tehsils and enabling offline syncing capabilities with main e-FOAS cloud	PITB, DCs/ DPOs, Local Admin		
Budgetary Delays	Delay in budgetary releases	Milestones may not be achieved in a timely manner	Priorities to be set before launch of the operational plan	Finance Dept., S&GAD		

#### Bridging Automation and Innovation: Evaluating e-FOAS and AI Synergies for Better Governance Outcomes

			A bridge-gap block fund may be established to overcome such hurdles	
Legal/Policy Bottlenecks	Legislative delays may impede implementation of Smart Contracts	Missed milestone	Operational SOPs may be formulated after seeking approval from competent executive heads     Law & Parliamentary Affairs dept. to prioritise the task	Law & Parliamentary Affairs Dept., S&GAD
System Scalability	Simulataneous roll out may burden the central system's capabilities to handle the load	Degraded performance	Pilot load testing prior to the launch / roll-out	PITB
Monitoring & Evaluation	KPIs may not be effectively deployed and hence, weakly monitored	Poor implementation of e-FOAS	Monthly progress reviews     Critical delays should be highlighted on dashboards to the supervisory officers	S&GAD, PITB

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#### References

- [1] Atique, M., Htay, S. S., Mumtaz, M., Khan, N. U., & Altalbe, A. (2024). An analysis of E-governance in Pakistan from the lens of the Chinese governance model. *Heliyon*, 1-10.
- [2] Latif, S. (2025, May 14). e-FOAS Implementation Status and AI integration prospects. (A. Mushtaq, A. Wahab, & S. Saleem, Interviewers)
- [3] Editor. (2024, September 18). Pakistan rises to 136th position in UN egovernment index. *The Nation*, p. 1.
- [4] Acemoglu, D., & Restrepo, P. (2019). Automation and New Task: How technology displaces and reinstates labour. *Journal of Economic Perspectives*, 3-30.
- [5] Wirtz, B. W., Weyerer, J. C., & Geyer, C. (2018). Artificial Intelligence and the Public Sector Applications and Challenges. *International Journal of Public Administration*, 596-615.
- [6] Frey, C. B., & Osborn, M. A. (2017). The Future of employment: how suceptible are jobs to computerization. *Technological Forecasting and Social Change*, 254-280.
- [7] Wef. (2020). *The Future of Jobs Report*. World Economic Forum.
- [8] Autor, D. (2015). Why are there still so many jobs? The History and Future of Workplace Automation. *Journal of Economic Perspectives*, 3-30.
- [9] Espinosa, V. I., & Pino, A. (2025). e-Government as a development strategy The case of Estonia. *International Journal of Public Administration*, 86-99.
- [10] AIplusinfo. (2024, December 19). *AIplusinfo*. From aipulsinco.medium.com: https://aiplusinfo.medium.com/ai-for-managing-administrative-tasks-4e433cb560fe
- [11] Smith, P., & Smith, L. (2024). Artificial Intelligence (AI) and Ethics. *International Journal of Computer Auditing*, 69-76.
- [12] WorldBank. (2025, May 14). *Data 360*. From World Bank Data: https://data360.worldbank.org/en/dataset/UN EGDI
- [13] Mela, U. (2025, May 15). Interview with Additional Finance Secretary (B&R). (A. Mushtaq, Interviewer)
- [14] Hamer, C. (2024, October 15). Case Study: AI Implementation in the Government of Estonia. From Public Sector Network: https://publicsectornetwork.com/insight/case-study-ai-implementation-in-the-government-of-estonia
- [15] Kerikmäe, T., & Feklistov, V. (2025, April 9). Estonia and automated decision-making: challenges for public administration. From e-Estonia: https://e-estonia.com/estonia-and-automated-decision-making-challenges-for-public- administration/#:

  ~:text=Estonia%20is%20celebrated%20as%20a%20global
  - %20pioneer%20in, taking%20further%20innovation%20with%20automated %20decision-making%20%28ADM%29%20systems.

- [16] Thian, S. Y. (2025, May 15). *Govinsider*. Retrieved May 15, 2025 from Robust, open data foundations power South Korea's AI digital government vision: https://govinsider.asia/intl-en/article/robust-open-data-foundations-power-south-koreas-ai-digital-government-vision
- [17] Worldometer. (2025, May 15). Retrieved May 15, 2025 from Estonia Population: https://www.worldometers.info/world-population/estonia-population/
- [18] Mubeen, G. (2025, May 14). Interview with Director Evaluation, M&E, Punjab. (A. Yasin, & F. Wagha, Interviewers)
- [19] Rasheed, K. (2025, March 1). State officers unprepared for paperless filing. *The Express Tribune*.
- [20] Kayani, M. B., Haq, I. M., Perwez, M. R., & Humayun, H. (2011). Analyzing Barriers in e-Government Implementation in Pakistan. *International Journal for Infonomics*, 494-500.
- [21] Zhou, E., & Lee, D. (2024). Generative artificial intelligence, human creativity, and art. *Pnas Nexus*, 1-8. From https://academic.oup.com/pnasnexus/article/3/3/pgae052/7618478
- [22] Smith, S. (2024, January 24). Using AI is actually more expensive than human labour, study says. Retrieved May 16, 2025 from Dazed: https://www.dazeddigital.com/life-culture/article/61798/1/using-ai-is-more-expensive-than-human-labour-study-says#:~:text=In%20their%20research%2C%20the%20team,costly%20than%20hiring%20human%20workers.
- [23] Diplomat, T. (2023). Unleashing the Potential of AI in Pakistan's Public Sector. *The Diplomat*.
- [24] South Asia Foresight Network. (2024). Embracing AI in Pakistan's Public Sector Challenges Initiatives, and Future Prospects.
- [25] Transparency International. (2020). Corruption Perception in Public Sector of Pakistan: Annual Report 2020. Karachi: TI Pakistan.
- [26] Rizvi, S. B. (2013, May). *Global Marketing*. From https://www.slideshare.net/slideshow/pest-analysis-of-pakistan/26430810
- [27] Undp. (2020). Public Sector Innovation in Pakistan: Navigating Challenges and Opportunities. Islamabad.
- [28] Heeks, R. (2006). Implementing and Managing eGovernment: An International Text. *Sage Publications*.
- [29] Singh, M., & Sahu, G. P. (2017). Study of e-governance implementation: A literature Review using classification approach. *International Journal of Electronic Governance*, 1-20.
- [30] PITB. (2018). Punjab IT Policy. Lahore: Pitb.

- [31] Sumra, D. K., Alam, D. M., & Aftab, R. (2021). Artificial Intelligence for Strengthening Administrative and Support Services in Public Sector Amid Covid-19: Challenges and Opportunities in Pakistan. *Application of Artificial Intelligence in Business, Education and Healthcare*, 153-172.
- [32] Qazi, A. M., Qazi, S. A., Ahsan, N., Saqib, M., Saleem, F., Ahmed, R. M., Rauf, Y. (2020). Current Challenges of Digital Health Interventions in Pakistan: Mixed Methods Analysis. *Journal of Medical Internet Research*, 1-10.
- [33] Sarwar, A. R. (2025, May 14). Interview on Reviewing Implementation of e-FOAS. (A. Mushtaq, A. Wahab, & S. Saleem, Interviewers)
- [34] PITB. (2020-). *User Guide for e-FOAS*. Lahore: Punjab Information Technology Board.
- [35] Estonia, G. o. (2025, May 15). *Cyber Security*. From e-Estonia: https://e-estonia.com/solutions/cyber-security/secure-data-sharing/
- [36] Mumtaz, Q. (2025). Evaluation Report of e-Filing & Office Automation System (e-FOAS). Lahore: Directorate General (Monitoring & Evaluation), Planning & Development Board, Punjab.
- [37] Moon, M. J. (2019). *The on-nara system for task and document management*. Sejong: KDI School of Public Policy and Management. From https://www.kdevelopedia.org/Resources/view/99202006300152915.do
- [38] Choi, H., Chung, C. s., & Cho, Y. (2022, October 12). Changes in planning approach: a comparative study of digital government policies in South Korea and Denmark. *European Planning Studies*, *31*(05), 905-924.
- [39] Portal, e. (2025, May 18). *Introduction*. Retrieved May 18, 2025 from eGovFrame Portal: https://www.egovframe.go.kr/eng/sub.do?menuNo=7
- [40] PITB. (2025, April 15). PC-I, 5th Revision. Lahore, Punjab, Pakistan: Planning & Development Board.

#### Annex - A: Questionnaire for ACS, Punjab

## Reviewing Implementation of e-FOAS and Potential for AI Integration in the system for improving Public Service Delivery in Provincial Departments

43<sup>rd</sup> MCMC – Simulation Exercise

(for w/ACS, Punjab)

- 1. What legal measures have been taken to ensure enforcement of e-FOAS across the government machinery in Punjab?
- **2.** Have any measures been taken to ensure the reform is not temporary and is continued sustainably?
- **3.** Upskilling of the HR seems to be one of the constraints that is holding back digitalization of office management to e-FOAS. Have any efforts been taken to rectify the capacity issue?
- **4.** Are there any measures in place to gauge performance based on implementation? /use of e-FOAS for disposal of official business?
- **5.** Is there a timeline by which, all government departments/line departments/authorities/agencies/companies/etc are expected to reach level 3 and 4 on e-FOAS?
- **6.** What other impediments/challenges to complete implementation of e-FOAS are observed to hinder the progress?
- 7. Are there any efforts being made to integrate data under different e-governance initiatives of the government of Punjab?
- **8.** What Artificial Intelligence features, in your opinion, may further improve the efficiency, transparency and public service delivery by being incorporated into e-FOAS?
- **9.** Are there any ethical or administrative concerns that may or not be associated with the use of AI in the official environment / e-FOAS?

#### Annex - B: Questionnaire for DG e-Governance, PITB

## Reviewing Implementation of e-FOAS and Potential for AI Integration in the system for improving Public Service Delivery in Provincial Departments

43rd MCMC – Simulation Exercise

(for DG,e-Governance,PITB, Punjab)

- 1. What has been the impact on average processing time of a standard file before and after the implementation of e-FOAS?
- 2. How has the number of users of e-FOAS changed since 2020?
- **3.** In total, how many departments / line departments / authorities / agencies / etc. are using e-FOAS at present and are categorized under level 3 or above?
- **4.** Apparently, line departments/authorities/agencies/companies lag in implementation of e-FOAS. How is the gap expected to be bridged?
- 5. Has there been a strategy to smoothen out the fragmented digital workflows that may or may not exist?
- **6.** How frequently were hands-on trainings imparted to departments? Where /are there any reinforcement sessions scheduled for the trainees?
- **7.** What is/are the enforcement mechanisms adopted by the departments to ensure implementation of e-FOAS?
- **8.** What are the major impediments to province-wide implementation?
- **9.** To what extent has Artificial Intelligence been incorporated into e-FOAS?
- **10.** What are the prospective AI features that PITB intends to incorporate in e-FOAS and what is the expected timeline and the additional resources required?
- **11.** What are the data security measures that have been taken to ensure the sanctity of the databank?
- **12.** What measures are in place to ensure responsible data handling?
- **13.** Whether there is any key users group for providing live feedback to the developer / PITB?

#### Annex - C: Questionnaire for DG M&E, P&D Board, Punjab

## Reviewing Implementation of e-FOAS and Potential for AI Integration in the system for improving Public Service Delivery in Provincial Departments

43<sup>rd</sup> MCMC – Simulation Exercise

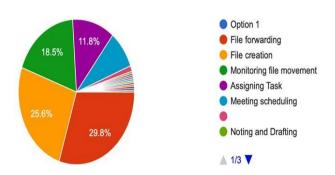
(for DG M&E, P&D Board, Punjab)

- 1. Are there any measures in place to gauge performance based on implementation? /use of e-FOAS for disposal of official business?
- **2.** What impediments/challenges to complete implementation of e-FOAS are observed to hinder the progress?
- 3. What Artificial Intelligence features, in your opinion, may further improve the efficiency, transparency and public service delivery by being incorporated into e-FOAS?
- **4.** Are there any ethical or administrative concerns that may or not be associated with the use of AI in the official environment / e-FOAS?
- **5.** What were the objectives of e-FOAS? To what extent the objectives were realistic?
- **6.** Has the desired outcome been achieved through implementation of e-FOAS? What limitations (if any) are observed in achieving the desired outcome?
- 7. Has there been any cost-benefit analysis conducted into the efficacy of e-FOAS? If so, what conclusion has been drawn?

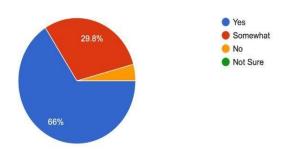
#### Annex - D: Users' Review

Q1) What is/are your primary role(s) when using the e-FOAS system? (Multiple options can be selected)

94 responses

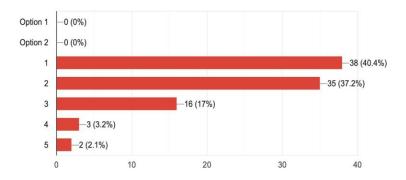


## Q2) Has e-FOAS met your expectations in terms of improving work efficiency? 94 responses

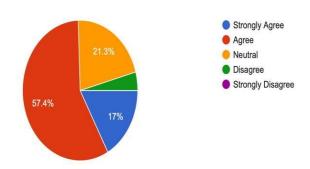


#### Q3) How easy is it for you to use e-F0AS on a daily basis?

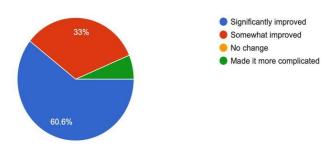
94 responses



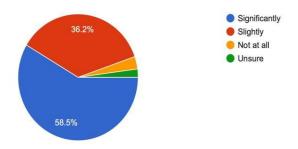
## Q4) Do you feel that the user interface is intuitive and user-friendly? 94 responses



### Q5) How has e-FOAS affected your workflow and daily tasks? 94 responses

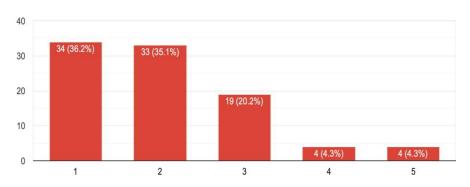


#### Q6) Has e-FOAS improved the speed of public service delivery in your department? 94 responses

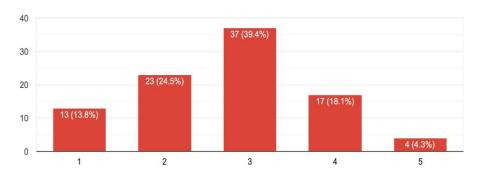


## Q7) Has the system improved coordination and communication within and across the department(s)?

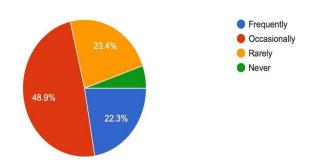
94 responses



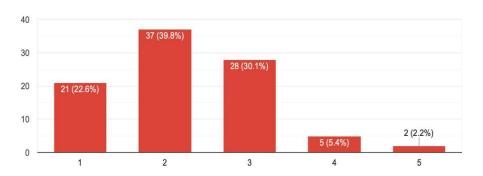
## Q8) How confident are you about the security of data on e-FOAS? 94 responses



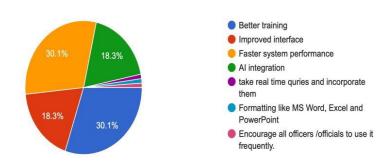
## Q9) Have you experienced issues with data entry, management, or retrieval on e-FOAS? 94 responses



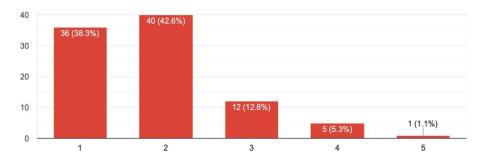
## Q10) Has e-FOAS positively impacted public perception of government services? 93 responses



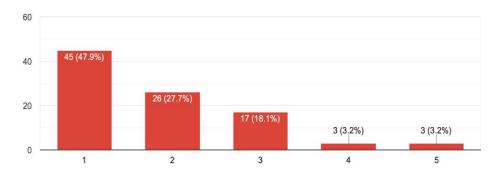
## Q11) What improvements would you like to see in e-FOAS? 93 responses



## Q12) Do you believe e-FOAS is improving transparency and accountability? 94 responses



## Q13) Do you feel that AI features should be integrated with e-FOAS? 94 responses



### **ANNEX E: Notifications by Punjab Government**



#### NO. SU(1&C-1) 5-8/2U25 GOVERNMENT OF THE PUNJAB SERVICES & GENERAL ADMINISTRATION DEPARTMENT

(IMPLEMENTATION & COORDINATION WING)

Dated Lahore the 14th February, 2025

To

- 1. The Senior Member, Board of Revenue, Punjab
- 2. The Chairman, Planning & Development Board, Punjab
- 3. The Additional Chief Secretary, Puniab
- 4. The Chairman, Chief Minister's Inspection Team, Punjab
- 5. The Additional Chief Secretary, South Punjab
- 6. All Administrative Secretaries to Government of the Punjab

Subject:

## MANDATORY USE OF E-FOAS FOR INTERNAL FILE MOVEMENT AND COMMUNICATION IN ATTACHED BODIES AND DIRECTORATES.

I am directed to refer to the subject cited above and to convey that, in pursuance of the Government of Punjab's policy to ensure complete digitalization of official correspondence and file movement, it has been decided that henceforth, all internal file movement and communication with / within directorates, attached bodies, and subordinate offices shall exclusively be conducted through the Electronic Filing and Office Automatic System (E-FOAS).

- 2. In this regard, a system-generated compliance report for each Administrative Department and its attached bodies shall be forwarded to this office by the Punjab Information Technology Board (PITB), detailing the usage and progress of E-FOAS implementation. This report will be reviewed and discussed in the forthcoming Administrative Secretaries' Committee Meeting.
- 3. I am, therefore, directed by the Competent Authority to request to personally ensure strict compliance and oversee the implementation of E-FOAS in your respective department / attached bodies/ directorate and subordinate offices.
- 4. In case of any query / assistance, please contact Mr. Ishfaq Ali, Joint Director, PITB (0321-4367628).

(SHAHID IQBAL)
SECTION OFFICER (I&C-I)

#### PC:

- 1. Additional Secretary (Gen) / Staff Officer to Chief Secretary, Punjab
- 2. Secretary (Regulations), S&GAD
- 3. Chairman, PITB
- 4. PS to Secretary (I&C), S&GAD



#### SERVICES & GENERAL ADMINISTRATION DEPARTMENT (I&C) WING

Dated the 23td April, 2019

To:

All the Administrative Secretaries,

Government of the Punjab.

Subject:

TRAINING OF FILE TRACKING SYSTEM UNDER PERFORMANCE

MANAGEMENT REFORMS UNIT, PUNJAB

Reference to the subject cited above and the directions passed by the Chief Secretary Punjab, PMRU team has organized a training session of File Tracking system to be implemented across all departments of Punjab on Thursday 25<sup>th</sup> April, 2019 at 02:00 pm in the Auditorium, 3<sup>rd</sup> floor, Arfa Software Technology Park, Lahore.

- Kindly nominate two focal persons (IT Wing, Diary Dispatch Wing) from
  your department to attend the training session. A complete overview of the File Tracking
  system and respective department credentials will be shared by Punjab IT Board in this
  session.
- Please ensure the attendance of your department through the nominated representatives.

MUHAMMAD MASOOD MUKHTAR Secretary 1&C, S&GAD.

CC.

- The Additional Secretary (Gen) / Staff Officer to CS, Punjab.
- 2. The Deputy Secretary (Gen) / Staff Officer to CS, Punjab:
- 3. P.S.O to Chief Secretary, Punjab
- 4. P.S to Chairman PITB, Lahore
- Director General (IT-Ops), PITB, Lahore



99201286 cmsmusru@gmail.com

#### NO. H (SMU) 5-41/2019 GOVERNMENT OF THE PUNJAB SPECIAL MONITORING UNIT CHIEF MINISTER OFFICE

Dated Lahore, the 5th April, 2019

15 in 19 su

Secretary to the Chief Minister (Coordination)

UBJECT: ESTABLISHMENT OF E-CORRESPONDENCE BETWEEN

DEPARTMENTS (PHASE-1)

In reference to the subject cited above, it is stated that the Punjab Information Technology Board's e-Filing and Office Automation System (e-FOAS) ensures efficiency, transparency and security of high-level inter and intra-Departmental correspondence through a phase-wise approach. With the prevalence of social media platforms, many Government officials have resorted to using platforms such as Whatsapp for intimation and correspondence to enable efficiency in their daily decision-making. However, these platforms do not provide a secure environment. As a result, the e-FOAS provides a secure platform for improved correspondence.

- In this regard, the Chief Minister's Office is requested to coordinate with the PITB representatives to set-up the following e-correspondence measures as part of the first Phase:
  - Secretary, Special Secretary, Additional Secretary and Deputy Secretary-level email addresses
  - Automating Meeting Scheduling system as per defined SOP under e-FOAS

It is further stated to kindly implement the abovementioned initiative by 30<sup>th</sup> April, 2019. SMU Team and PITB will collaboratively work to ensure provision of all technical support and menitoring for the successful implementation of these initiatives.

Your cooperation in this regard will be highly appreciated.

Special Monitoring Unit

CC Missighter

PS to Chief Secretary, Punjab

2. PS to Principal Secretary to Chief Minister, Punjab

3. PS to Chairman, PITB,

21 <sup>24</sup> 17:35 **1**81



#### No.SO(CAB-II)1-1/2023 GOVERNMENT OF THE PUNJAB SERVICES & GENERAL ADMINISTRATION DEPARTMENT

(CABINET WING)

Dated Lahore, the 10th February, 2023

To,

- The Chairman, Planning & Development Board, Punjab. 1.
- The Senior Member, Board of Revenue, Punjab. 2.
- The Additional Chief Secretary, Punjab. 3.
- The Additional Chief Secretary (Home), Punjab. 4.
- The Inspector General of Police/PPO Punjab. 5.
- All Administrative Secretaries to Government of the Punjab.

#### PROCEDURE REGARDING MEETINGS OF THE E-CABINET Subject:

I am directed to refer to the subject cited above and to inform that it has been decided by the Competent Authority that from now onwards all the Cabinet meetings and its sub-committees will be conducted electronically through (CMIS) . Cabinet Management Information System.

In this regard, all the departments are requested to kindly nominate 2. a focal person by today (04:00 p.m.) not below the rank of Additional Secretary to attend the meeting at Darbar Hall, S&GAD at 10:00 a.m. on 13.02.2023 (Monday) for briefing and training regarding the procedure to conduct Cabinet meetings electronically.

> BABAR ALI) SECTION OFFICER (CABINET-II)

PC:

- The Chairman, Punjab Information Technology Board. 1.
- The Director General, Govt. Digital Services, PITB. 2.
- The A.S (Gen.)/Staff Officer to Chief Secretary, Punjab. 3.
- The A.S (Welfare), S&GAD, with request to ensure necessary arrangements. 4.
- PSO to Chief Secretary, Punjab. 5.
- P.S. to Secretary (I&C), S&GAD.
- P.A. to Dy. Secretary (Cabinet), S&GAD.



# No.SO(CAB-II)1-1/2023 GOVERNMENT OF THE PUNJAB SERVICES & GENERAL ADMINISTRATION DEPARTMENT (CADDITE WINC)

(CABINET WING)

Dated Lahore, the 17th February, 2023

To,

- The Chairman, Planning & Development Board, Punjab.
- 2. The Senior Member, Board of Revenue, Punjab.
- The Additional Chief Secretary, Punjab.
- 4. The Additional Chief Secretary (Home), Punjab.
- The Inspector General of Police/PPO Punjab.
- All Administrative Secretaries to Government of the Punjab.

## Subject: GUIDELINES FOR SUBMISSION OF WORKING PAPERS IN CABINET WING, S&GAD

The timely uploading of working papers of Cabinet agendas on Cabinet Management Information System (CMIS) is a pre-requisite for ensuring informed deliberations and decisions by the Provincial Cabinet. In this regard, I have been directed to convey that each summary / case initiated by an Administrative Department for approval for placement before Cabinet shall be accompanied with presentation of the same.

2. I am further directed to convey that it is to be ensured that the presentation attached with the summaries is also to be simultaneously uploaded on CMIS portal (in PDF format) as soon as the said summary is initiated. This may be treated as MOST IMPORTANT.

(ABDUL RAUF MAHAR)
DEPUTY SECRETARY (CABINET)

PC:

sk Al Assistant

Why is this information important?



#### 3256

#### "GOVERNMENT OF THE PUNJAB **SERVICES & GENERAL ADMINISTRATION** DEPARTMENT (REGULATIONS/O&M WING)

5th Floor, Building-B, 11-A, Lawrence Road Campus Punjab Civil Secretariat, Lahore

Dated Lahore the 24th February, 2025

#### NOTIFICATION

NO.S.O.(O&M-ADMN)8-4/2022. In exercise of powers conferred under Rule 11(1) of the Punjab Government Rules of Business, 2011, the Chief Secretary, Punjab, is pleased to make the following amendment to the Manual of Secretariat Instructions, 2023, with immediate effect:

#### AMENDMENT

In the Manual of Secretariat Instructions, 2023, under the heading "WEEDING AND DESTRUCTION OF FILES," after clause 3.51(v), the following new clause 3.51 (vi) shall be added:

- 3.51 (vi): Subject to the scanning and digitization of manual records/files onto the E-Filing and Office Automation System (EFOAS), the following procedure shall be followed for the weeding and destruction of physical records:
  - a) Category A files shall be retained in both physical and digital formats.
  - b) Category B files shall be weeded out after digitization, subject to verification by the Deputy Secretary, who shall inspect the corresponding digital records for completeness and integrity before granting approval.
  - c) Categories C and D files shall be weeded out after digitization, subject to verification by the Section Officer, who shall inspect the corresponding digital records to ensure they are complete and accurate before granting approval.
  - d) A complete record of all weeded files, including their classification, digital archiving status, inspection details, and approvals, shall be maintained.

#### CHIEF SECRETARY GOVERNMENT OF THE PUNJAB"

#### (MUHAMMAD ASIF BALAL LODHI) SECRETARY

Government of the Punjab Law and Parliamentary Affairs Department