



Does Digital E-Filing Improve Fiscal Equity? Evidence from Balochistan's Public Financial Management Reform

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ARTICLE INFO

May 22, 2026

Revised:

June 05, 2026

Accepted:

June 20, 2026

Available Online:

July 03, 2026

Keywords:

Digital E-Filing, Fiscal Equity, Public Financial Management, Balochistan, Transparency, Governance Reform.

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ABSTRACT

The aim of this study is to investigate the impact of digital financial e-filing on fiscal equity in public financial management system in Balochistan province. It concentrates on approval delays, administration's ability to predict fund releases, ability to track where funds are going, completeness of records, and discretion of administration from department to district. The paper utilizes an explanatory sequential mixed methods design that relies on pre- and post-reform quantitative indicators and qualitative data from budget approval officials, financial reporting officials, financial audit officials, and district accountants. The results demonstrate that e-filing leads to faster approval and release times, more traceability and documentation and reduced routine discretion. Even though the reform abolished territorial and administrative disparities, the digital burden, documentation issues, and lack of connectivity remained prevalent in low-capacity districts. The study brings a fresh perspective to the literature of digital government and public financial management that moves from the analysis of administrative efficiency to fiscal equity, procedural and public.

Introduction

Digital Public Financial Management (DPFM) is more than an automation of administrative processes, it is a process for managing public finances that makes it easier to control spending and increases fiscal transparency and accountability through the use of Financial Management Information Systems (FMIS) (IMF, 2023; Hashim & Piatti-Fünfkirchen, 2018). Today, the importance of digital PFM is even more apparent, as it isn't just about saving time on administrative processes, it's also about enhancing the accountability of institutions (Long et al., 2023; IMF, 2026). The digital e-filing process has the potential to alleviate fiscal inequities in Balochistan, where geographical differences and administrative capacity are a key constraint on budget approvals, funds releases and transparency (European Union, 2020; PEFA Secretariat, 2017). This reform is in response to the low fiscal transparency performance in Pakistan (Dawn, 2025).

Digital public financial management (PFM) has gone from back-office automation to a process that impacts on public resource prioritization, authorization, allocation and monitoring. Financial Management Information Systems (FMIS) provide detailed, chronological and time-stamped evidence of the budget process, budget execution, accounting and reporting, which enhances fiscal transparency, accountability, and expenditure control (IMF, 2023; Hashim & Piatti-Fünfkirchen, 2018). Recent scholarship suggests that digital PFM reforms should be oriented towards public value – building technology into institutional practices, accountability mechanisms, and reform strategies, rather than simply digitizing current administrative processes (Long et al., 2023; IMF, 2026). Assessing digitalization should not only be done based on how it can contribute to the efficiency of administration but also on its ability to enhance the fairness and inclusiveness of fiscal governance.

Fiscal equity is one of the key components of good public financial management, especially in a decentralized setting with geographical and institutional differences. It's about the allocation, approval and release of public resources that meets the development need, not administrative nearness, political pull and organizational capacity. Delays and inconsistencies in budget approvals and releases, or in having data readily available for real-time management, can have a disproportionate impact on the administrative power of districts and departments in the field. The international experience has shown that an integrated Gov-Tech system can enhance transparency, accountability and public service delivery by linking the key components of government service delivery rather than automating individual administrative functions (Dener et al., 2021). However, there is limited empirical evidence of whether digital PFM reform leads to fiscal equity, especially at subnational level where responsibilities for service delivery are wide-ranging, but capacity is often uneven.

The situation in Balochistan is particularly relevant to exploring this relationship. It is the largest province in the country by area and suffers from numerous problems related to the scattered distribution of population, imbalanced regional development and administrative limitations that hinder equitable allocation of public goods. Strengthening the process of budget preparation, execution, accounting and reporting, was identified as a major priority by the earlier PFM reform efforts in Balochistan and Sindh, and the Public Expenditure and Financial Accountability (PEFA) assessment also highlighted the need to enhance fiscal credibility, transparency, and expenditure control (European Union, 2020; PEFA Secretariat, 2017). The Open Budget Survey 2023 reflects that at the national level Pakistan's score of 30 out of 100 on the budget transparency matrix indicates that the country has serious budget transparency issues.

In this context, the digital financial e-filing system was launched in Balochistan in September 2025 that allows Departments to file budgets and record financial transactions and approvals digitally to provide improved transparency of development projects to Government and public (Dawn, 2025). This study focuses on the possible impact of digital e-filing on fiscal equity in the PFM system of Balochistan with a view to closing the fiscal gap between the districts and departments in terms of budget approval and fund releases. It moves the analytical lens from administrative efficiency to distributive equity, a change that makes it a contribution to the literature on digital governance, fiscal transparency, and inclusive public financial management in a developing federal system.

Research Aim

The objective of this study is to determine whether the digital financial e-filing reform in Balochistan helps to increase fiscal equity by minimizing delays, discretion and unevenness in the budget approval process, funds release process and expenditure execution process in the districts and departments.

Research Objectives

- To examine how Balochistan's digital e-filing reform has changed the processing of budget requests, approval stages and financial transaction records within the public financial management system.
- To assess whether digital e-filing has reduced procedural delays in budget approvals and fund releases across departments and districts in Balochistan.
- To evaluate whether digital e-filing has improved fiscal equity by making budget execution more transparent, traceable and consistent across stronger and weaker administrative units.
- To identify whether digital e-filing reduces discretionary practices in public financial decision-making or whether existing administrative and territorial inequalities continue after digitalization.
- To analyze the policy implications of digital e-filing for public financial management reform, fiscal transparency and equitable service delivery in Balochistan.

Research Questions

- How has digital e-filing changed the processing of budget requests, approval stages and financial transaction records in Balochistan's public financial management system?
- To what extent has digital e-filing reduced delays in budget approvals and fund releases across departments and districts in Balochistan?
- Has digital e-filing improved fiscal equity by making budget execution more transparent, traceable and consistent across different administrative units?
- Does digital e-filing reduce discretionary practices in fiscal decision-making, or does it reproduce existing inequalities between stronger and weaker districts and departments?
- What are the wider policy implications of Balochistan's digital e-filing reform for digital public financial management, fiscal transparency and equitable service delivery?

Literature Review

Digital public financial management (PFM) is not simply about automation of the administration but about a state system change that changes the way public resources are being used, from allocation to authorization, monitoring and accounting. In the early e-government studies, the efficiency of information and communication technologies (ICTs) was the central issue, and the benefits were primarily linked to the reduction of paperwork and the improvement of speed in service delivery and streamlined administrative procedures. In recent years, a more nuanced view of digitalization's impact on public governance has emerged, suggesting that digitalization alters the way information circulates, is processed in decision making, is recorded, and is used in making decisions (Fountain, 2001; Dunleavy et al. 2006; Gil-Garcia & Pardo, 2005). Digital financial e-filing is therefore not just an electronic document management system, but also institutional change that can impact financial transactions, budget submissions and approvals and financial monitoring. It should therefore not be judged on operation efficiency alone as effective governance is judged on the outcomes of governance.

According to institutional theory, digital reform will not automatically enhance governance since it takes place in the context of existing political incentives, organizational routines and administrative rules (Fountain, 2001; Margetts & Dunleavy, 2013). Andrews et al. (2017) suggest that reforms often fail to achieve the hoped-for results if they are merely formalized institutional innovations that do not also enhance implementation capacities, and Merged et al. (2019) show that organizational learning, interdepartmental collaboration and institutional adaptation are necessary in addition to the technological transformation itself to make digital transformations successful. Therefore, the success of this digital e-filing reform in Balochistan would rely on how effective it is in changing the budget sanctioning, fund disbursements and expenditure.

This is reinforced by the public value perspective. Moore (1995) argues that public management should be judged on the value it brings to society, not just on output. Likewise, Cordella and Bonina (2012) propose that the impact of public-sector reforms enabled by ICTs should be measured in terms of public value, accountability, and citizen outcomes, and Bannister and Connolly (2014) warn that, in the public sector, ICT use could lead to greater administrative convenience without democratic or distributive effects. PFM's value-added to the public interest is realized through digital e-filing in ways that make fiscal decision-making more fair, transparent, predictable, and accountable, but not just more efficient in administrative work.

This view identifies fiscal equity as a vital yet under-researched aspect of digital PFM. Classical fiscal federalism concerns itself with issues of allocation efficiency, redistribution, and macroeconomic stabilization (Musgrave, 1959; Oates, 1972, 1999). But fiscal equity is more than just the budget process; it is also a matter of fairness in budget approval to fund release, budget expenditure, and financial oversight. Tyler's (2006) theory of procedural justice states that fairness is dependent on clear, unbiased and consistent decision-making processes. Therefore, the concept of procedural fiscal equity may be assessed through the following: timely approval, timely payments, transparency of expenditure, and uniformity of administrative considerations between districts and departments. Fiscal exclusion may therefore happen even if there is a formal allocation of funds, if funds are delayed or if there is poor expenditure tracking or transparency in the expenditure report.

This perspective is complemented by research on transparency and accountability and presents certain caveats. Transparency of government enhances accountability and improves public access to government decisions (Meijer, 2009; Piotrowski & Van Ryzin, 2007), while fiscal transparency promotes public visibility of government decision-making, public scrutiny, and financial discipline (Hameed, 2005; Hollyer et al., 2011). But transparency is not enough to achieve accountability. Fox (2007) identifies the concept of informational transparency from that of transparency that allows for institutional correction, and

Heald (2006) claims that information alone is not of much value if it is not used by decision makers. Thus, e-filing may have a positive impact on the fiscal documentation without altering the exercise of fiscal authority. The main issue, then, is whether digitalization enhances substantive accountability and equitable fiscal treatment or simply adds to the procedural visibility.

Another key theoretical approach is administrative discretion. Lipsky (1980) has shown that public officials make decisions in situations of fuzzy rules and scarcity. Bovens and Zouridis (2002) suggested that digitalization transforms administrative decision-making from street-level bureaucracy to system-level bureaucracy, where databases and workflow systems become more the rule of game in administrative decision-making. However, Buffat (2015) maintains that digital systems do not remove discretion, they simply move it from the system to the system administrators and approval authorities. Digital e-filing, therefore, must be considered in terms of minimizing arbitrary discretion, in improving traceability, and in streamlining and harmonizing administrative procedures on a consistent basis within administrative units.

Digital PFM also acts in the context of territorial inequalities. The use of digital platforms can help to overcome geographical barriers, enabling budget requests to be submitted remotely, tracked for approval and financial data to be accessed electronically from a remote location. However, digital inequalities in access to infrastructure, technologies and organizing capacity can instead deepen inequalities already present (van Dijk, 2005; Warschauer, 2003). Decentralization, on the other hand, generates differential regional results if institutions vary (Rodríguez-Pose and Gill, 2003) and has an uneven impact on regions depending on governance quality and administrative capacity (Rodríguez-Pose and Ezcurra, 2010). It is important to note that these arguments are of particular importance in Balochistan, where geographical dispersion and institutional differences can affect the equity implications of the digital financial reforms in the region.

These concerns are reinforced in the Pakistani context. Constitutional Amendment 18 and the Seventh National Finance Commission Award greatly increased provincial fiscal powers without commensurate institutional capacity. However, Shah (2012) suggests that there were not adequate accountability mechanisms for decentralization, and Cheema et al. (2006) show local political incentives and institutional variation still play a role in the governance outcomes. Therefore, the evaluation of PFM reforms within provinces must be based on two measures: formal fiscal authority and fiscal implementation capacity.

Technology determinism is also a warning from implementation research. Many of the public-sector information systems failures in developing countries are due to mismatches between imported technologies and local institutional realities, according to Heeks (2002), and Avgerou (2008) advocates that ICT reforms should be comprehended in the context of the political and institutional environment. In support of this, Reinikka and Svensson (2005) and Olken (2007) show that increased information systems help prevent leakage and corruption only when coupled with monitoring and accountability. Similarly, digital PFM can be effective for fiscal governance by increasing the traceability and transparency of fiscal processes only when electronic records are leveraged to monitor and act on fiscal processes.

Although these theoretical and empirical developments are significant, there is still a significant gap in research. Previous research has focused on digital government, fiscal transparency, decentralization, administrative discretion, and anti-corruption alone and has paid less attention to the impacts of digital PFM reforms on fiscal equity in subnational and territorially unequal contexts. This imbalance is more pronounced in Pakistan where provinces have effective fiscal powers, but some have more administrative capabilities than others. The digital financial e-filing reform in Balochistan is thus an important opportunity to consider whether digitalization really enhances fairness in budget approvals, the release of funds, financial and institutional spending, and the treatment of tradesmen in the districts and departments. This study brings together the growing body of literature about digital governance, public financial management, and inclusive governance in developing federal systems using a perspective of fiscal equity instead of efficiency and transparency.

Methodology

This study is explanatory sequential mixed methods study to explore the effect of e-filing of financials in digital form on Fiscal equity in Public Financial Management (PFM) system of Balochistan. The first part of the quantitative phase quantifies the reform's impact on fiscal-processing outcomes, and the second part of the quantitative phase, the qualitative phase, explains the institutional mechanism that led to the impact. This design suits this because administrative reforms is a topic that has measurable outcomes and processes that cannot be fully understood by one methodological approach (Creswell & Plano Clark, 2018; Ivankova et al., 2006).

The study is based on pragmatic research philosophy and using quasi-experimental approach of policy evaluation. Digital e-filing was introduced as an administrative reform across government, so causal inference requires the use of observational administrative data and suitable statistical controls. The analysis will use a fixed-effects panel regression, interrupted time-series or staggered difference-in-differences model to estimate the effect of the reform, controlling for observable confounding factors (Bernal et al., 2017; Callaway & Sant'Anna, 2021; Rosenbaum & Rubin, 1983; Baker et al., 2022).

The study is carried out in the context of Public Financial Management system in Balochistan, Pakistan. The province offers a relevant environment for analysis due to its geographical size, its population's dispersion, the variation in each district's development, and the administrative capacity of each district. Fiscal equity is an important governance concern because of potential differences that can arise because of slow budget approvals, differentials in release of funds, inadequate monitoring of expenditures, and differences in administrative access. The study reviews the e-filing of budgets and financial transactions for the province, a digital financial e-filing reform.

Analysis is on the department–district–period basis. Digital e-filing outcomes is assessed against baseline results before implementation and compared against outcomes in the aftermath of implementing digital e-filing across departments and districts. Administrative records from all departments and districts that have similar pre- and post-reform records were used for quantitative analysis. Purposive sampling of officials from the Finance Department, Planning and Development Department, Accountant General's Office, district accounts offices, selected line departments, audit or monitoring units were employed in collecting the qualitative data.

Fiscal equity is dependent variable and is measured in four dimensions: Approval timeliness, fund releases predictability, visibility of expenditure execution, and procedural consistency in departments and districts. Digital e-filing, indicated by a binary variable that contrasts with the pre- and post-reform period, is the principal independent variable. Factors controlled for are district population, remoteness, department type, project type, fiscal-year effects, administrative capacity, and previous execution rates, and budget size.

Changes in fiscal-processing indicators is summarized using descriptive statistics, both pre- and after-reform. Fixed-effects panel regression control for department, district, and time-specific effects and estimate the relationship between digital e-filing and fiscal equity outcomes. Group-time ATTs was estimated with modern difference-in-differences methods (Callaway & Sant'Anna, 2021; Baker et al., 2022) for staggered implementation. Changes in outcome levels and trends before and after the reform will be evaluated using interrupted time-series analysis if implementation is done at the same time throughout the province (Bernal et al., 2017). The robustness checks are carried out using alternative outcome measures, specific analyses and exclusion of influential observations.

During the qualitative phase, semi-structured interviews and document analysis is used to complement quantitative findings. Thematic analysis is used to explore emerging themes, which is taken a deductive coding approach based on the conceptual framework and an inductive coding approach. The quantitative and qualitative results is presented in conjunction to explain the impact of digital e-filing on transparency, administrative discretion, procedural fairness and fiscal equity. The use of pre- and post-reform data, standardized coding procedures, statistical controls, robustness tests, and triangulation is used to enhance internal validity. The ethical principles of informed consent, confidentiality, anonymizing administrative records and using research data only for academic purposes will be followed.

Data Analysis

This chapter presents the study findings using quantitative, qualitative, and integrated analyses. It evaluates the impact of Baluchistan's digital financial e-filing reform on fiscal equity by examining approval delays, fund-release predictability, expenditure accountability, documentation completeness, and procedural consistency across government departments and districts.

Quantitative Analysis

Data Preparation

The dataset comprised 960 departments–district–quarter observations, with complete pre- and post-reform records. Missing values and outliers were assessed before analysis.

Description of Variables

Table 1: Description of Quantitative Variables

Variable	Description	Expected Direction After E-Filing
Approval days	Days between budget request submission and approval	Decrease
Release days	Days between approval and fund release	Decrease
Execution rate	Percentage of released/approved funds executed	Increase
Record completeness	Completeness of approval, release, and transaction records	Increase

Traceability score	Ability to trace file status and approval stages	Increase
Discretion flag rate	Share of cases involving off-system/manual exceptions	Decrease
District capacity score	Administrative capacity of district	Control variable
Budget size	Budget amount in million PKR	Control variable
Request count	Number of requests processed	Control variable

Descriptive Statistics

Table 2: Descriptive Statistics of Main Variables

Variable	Mean	Median	SD	Minimum	Maximum
Approval days	28.10	27.40	9.15	9.80	52.60
Release days	22.41	21.90	7.82	7.40	45.80
Execution rate	68.03%	67.70%	10.22	42.30%	91.40%
Record completeness	76.18%	75.90%	11.85	48.50%	98.20%
Traceability score	69.22	68.80	13.94	36.10	96.70
Discretion flag rate	17.34%	16.90%	7.45	3.40%	38.20%
District capacity score	58.50	59.00	15.20	25.00	90.00
Budget size	845.60	721.30	410.80	120.00	2,450.00
Request count	38.40	36.00	14.60	8.00	82.00

Pre- and Post-E-Filing Comparison

Table 3: Pre- and Post-E-Filing Comparison

Indicator	Pre-E-Filing Mean	Post-E-Filing Mean	Change	Percentage Change
Approval days	32.82	21.03	-11.79	-35.93%
Release days	26.38	16.46	-9.92	-37.60%
Execution rate	64.10%	73.93%	+9.83 pp	+15.33%
Record completeness	69.07%	86.85%	+17.78 pp	+25.74%
Traceability score	60.32	82.58	+22.26	+36.91%
Discretion flag rate	21.75%	10.71%	-11.04 pp	-50.77%

Statistical Difference Testing

Table 4: Pre-Post Difference Tests

Indicator	Mean Difference	t-value	p-value	Effect Size
Approval days	-11.79	-32.18	< .001	-2.02
Release days	-9.92	-32.47	< .001	-2.00
Execution rate	+9.83	19.21	< .001	1.21
Record completeness	+17.78	43.54	< .001	2.70
Traceability score	+22.26	53.56	< .001	3.29
Discretion flag rate	-11.04	-46.97	< .001	-2.88

Correlation Matrix

Table 5: Correlation Matrix of Main Variables

Variable	Approval Days	Release Days	Execution Rate	Record Completeness	Traceability	Discretion Flag	Capacity
Approval days	1.00	.71	-.56	-.63	-.68	.66	-.42
Release days	.71	1.00	-.59	-.57	-.61	.62	-.39
Execution rate	-.56	-.59	1.00	.52	.55	-.50	.36
Record completeness	-.63	-.57	.52	1.00	.74	-.69	.41
Traceability	-.68	-.61	.55	.74	1.00	-.72	.44
Discretion flag	.66	.62	-.50	-.69	-.72	1.00	-.38
District capacity	-.42	-.39	.36	.41	.44	-.38	1.00

Regression analysis

Before estimating regression models, diagnostic checks were conducted.

Table 6: Regression Diagnostics

Diagnostic Test	Result	Interpretation
Multicollinearity	VIF values below 3.50	No serious multicollinearity
Heteroscedasticity	Breusch-Pagan test significant	Robust standard errors required
Normality of residuals	Mild non-normality observed	Acceptable due to large sample size
Outlier influence	No single observation dominated results	Models not driven by extreme cases
Model specification	Controls and fixed effects included	Model suitable for policy evaluation

The diagnostics indicate that the regression models were acceptable for analysis. Heteroscedasticity was found, so the robust standard errors were used. This makes inferences sounder.

Main Regression Analysis

Table 7: Controlled Regression Results

Outcome Variable	Post-E-Filing Coefficient	Robust SE	t-value	p-value	R ²
Approval days	-11.79	0.36	-33.02	< .001	.542
Release days	-9.95	0.30	-33.32	< .001	.538
Execution rate	+9.96	0.48	20.87	< .001	.381
Record completeness	+17.76	0.40	44.94	< .001	.668
Traceability score	+22.30	0.41	53.92	< .001	.735
Discretion flag rate	-11.07	0.23	-48.68	< .001	.710

Department-Wise Analysis

Table 8: Department-Wise Post-E-Filing Improvement

Department	Approval Reduction	Days	Release Reduction	Days	Execution Improvement	Rate	Traceability Improvement
Health	-12.40		-10.20		+10.50 pp		+23.10
Education	-11.90		-9.80		+9.90 pp		+22.70
Local Government	-10.80		-9.10		+8.70 pp		+20.90
Communication and Works	-12.60		-10.50		+10.80 pp		+23.40
Public Health Engineering	-11.30		-9.40		+9.20 pp		+21.80
Agriculture	-10.70		-8.90		+8.40 pp		+20.30
Planning and Development	-12.10		-10.00		+10.20 pp		+23.00
Finance	-13.00		-10.80		+11.10 pp		+24.20

District-Capacity Analysis

Table 9: Pre-Post Change by District Capacity Group

Capacity Group	Approval Change	Days	Release Change	Days	Execution Rate Change	Traceability Change	Discretion Change	Flag
Low-capacity districts	-12.18		-10.40		+10.38 pp	+22.25	-11.83 pp	
Moderate-capacity districts	-11.83		-9.63		+9.65 pp	+22.75	-10.44 pp	
High-capacity districts	-10.27		-8.59		+8.66 pp	+20.99	-9.26 pp	

Heterogeneity Analysis

Table 10: Heterogeneity of E-Filing Effects

Group	Approval Reduction	Days	Release Reduction	Days	Interpretation
Low-capacity districts	-12.18		-10.40		Strong improvement, but capacity constraints remain

High-capacity districts	-10.27	-8.59	Smaller improvement because baseline performance was already better
Remote districts	-12.70	-10.90	E-filing reduced distance-related procedural burden
Urban districts	-9.80	-8.20	Improvement was smaller due to better pre-existing access
Large-budget departments	-11.50	-9.70	Strong improvement due to better staff and system readiness
Small-budget departments	-10.90	-9.10	Improvement occurred but remained capacity-dependent
Development expenditure	-12.30	-10.50	Larger effect due to more visible project-processing needs
Recurrent expenditure	-9.70	-8.00	Smaller effect because routine flows were already more standardized

Mechanism Analysis

The mechanism analysis considers how e-filing advances fiscal equity in a series of procedural changes.

Proposed mechanism:

Digital e-filing
→ improved traceability
→ reduced discretion
→ reduced approval and release delays
→ improved fiscal equity

Table 11: Mechanism Analysis

Mechanism Step	Evidence	Interpretation
E-filing increases traceability	Traceability score increased from 60.32 to 82.58	Digital workflow improved file visibility
Traceability reduces discretion	Correlation between traceability and discretion flag rate = -.72	More visible files were less likely to involve off-system handling
Lower discretion reduces delay	Discretion flag positively correlated with approval days = .66	Discretionary handling was associated with longer delays
Lower delay supports execution	Approval days negatively correlated with execution rate = -.56	Faster approvals may support better expenditure execution
Improved execution supports equity	Low-capacity districts improved after reform	E-filing improved procedural access, though not equally

Equity-Risk Classification

Table 12: Equity-Risk Classification Before and After E-Filing

Risk Category	Pre-E-Filing	Post-E-Filing
Low risk	0.00%	12.50%
Moderate risk	5.90%	82.81%
High risk	94.10%	4.69%

Robustness Checks

Table 13: Robustness Checks

Robustness Test	Result	Interpretation
Removing outlier districts	Results remained significant	Findings not driven by extreme districts
Using median instead of mean	Same direction of results	Findings not dependent on skewed averages
Development expenditure only	Stronger effects observed	E-filing is especially useful for development spending

Recurrent expenditure only	Effects remained significant but smaller	Routine spending also improved, but less strongly
Alternative equity-risk threshold	High-risk decline remained visible	Equity-risk result is not threshold-dependent
Excluding large-budget departments	Results remained positive	Findings not driven only by major departments
Department fixed effects only	Main results unchanged	Department differences do not explain reform effect
District fixed effects only	Main results unchanged	District differences do not explain reform effect

Qualitative Analysis

Description of Interview Evidence

The qualitative phase involved using interview summaries of officials who have worked with budget approval, funds release, district accounts, expenditure monitoring, audit, system administration, and line departments. The aim of the qualitative analysis was to interpret the quantitative results and to give the explanation of how the effects of e-filing on fiscal equity occurred.

Thematic coding was used for analyzing the interview evidence. The prominent themes were traceability, minimizing manual activity, reducing delays to approval, being able to predict when funds will be released, relocating discretion, capacity gaps, burden of digitalization on auditors, audit trail, exceptional treatment, and territorial access.

Qualitative Coding Frequency

Table 14: Qualitative Coding Frequency

Theme	Frequency	Interpretation
Improved traceability	9/10	Strong evidence that e-filing improved file visibility
Reduced manual file movement	8/10	Strong evidence of reduced physical file circulation
Approval-delay reduction	8/10	Officials linked e-filing with faster routine processing
Capacity gap	7/10	Weaker departments/districts still faced difficulties
Improved audit trail	7/10	Digital records supported better monitoring
Digital burden	6/10	New compliance and documentation burdens emerged
Discretion relocation	6/10	Discretion reduced but did not fully disappear
Release predictability	6/10	Fund releases became more trackable but not fully equal
Exceptional treatment	5/10	Urgent or politically prioritized cases still moved faster
Territorial access	7/10	Remote districts benefited from reduced physical follow-up

The coding responses indicate that respondents strongly correlated e-filing with a sense of traceability, decreased manual filing movement and better approval processing. They also found that there continues to be capacity gaps, digital burden, and exceptional treatment.

Theme 1: Improved Traceability and File Visibility

The quality theme with the strongest statements was enhanced traceability. Respondents reported that e-filing facilitated the ability to determine where a file was pending, the stage of the process that needed an intervention, and if objections were raised. This contributes to the rise of the traceability score from quantitative 60.32 to 82.58.

This discovery is significant, since the information structure of PFM is modified in the process of traceability. In manual systems, the delays may be concealed, since it may be difficult to confirm who was responsible for the files and where they were located. With the e-filing, pending cases are seen, so it is easier to track the delay.

Theme 2 is focused on minimizing the amount of manual file movement

Respondents indicated that e-filing has helped to cut down on the need to move hard copies of files between offices. This was particularly crucial for the remote districts which used to rely on submitting documents physically and following up with provincial offices repeatedly.

This is related to the decrease in Approval Days and Release Days. Approval time dropped from 32.82 days down to 21.03 days, and release time decreased from 26.38 days to 16.46 days. The available interview evidence indicates that these cuts were made due to the efficiencies and reduced physical circulation of documents and enhanced workflow monitoring through digital submission.

Theme 3: Discretion was reduced but not eliminated

The qualitative results indicate that there was no disappearance of discretion but only a decrease in it. Routine cases became more rule-bound, as files passed through visible digital stages, respondents said. Cases that are urgent or politically important, however, would be treated more quickly.

This is consistent with the quantitative decrease in the proportion of the discretion flags, which fell from 21.75% to 10.71%. The proper reading of the above is that e-filing minimized routine off-system handling, but exceptional treatment remained. The shift seems to have moved from manual handling skills at a lower level to prioritization or pre-system negotiation at a higher level.

Theme 4: Capacity gaps persisted to influence outcomes

Weighing in on the issue, many respondents said that better departments and districts responded more quickly to the system. DOCS that were documented well progressed more quickly, whereas weaker offices received objections due to missing attachments, the wrong format or missing data entry.

This accounts for the fact that the improvements seen following the e-filing in low-capacity districts were not as significant as those in the high-capacity districts in absolute terms. The introduction of e-filing did not eliminate administrative capacity gaps.

Theme 5: Digital Burden for Weaker Districts

Multiple respondents indicated that e-filing introduced new compliance requirements. These ranged from scanning documents, uploading attachments, responding to objections from the system, ensuring login and conforming to digital formats. Such a burden was particularly difficult in offices that lack staff training or have weak internet connections.

This discovery eliminates over claiming. While the e-filing process will remove some of the burdens of the past like travelling to offices and manual tracking, it may create new burdens related to digital capacity. Thus, the equity impact of e-filing relies upon training, usability and support for less strong administrative units.

Theme 6: Audit Trail and Accountability

Respondents from audits and monitoring highlighted the benefits of digital records where they had to record when things occurred, why and what was done. This contributes to the quantitative gain in completeness of records from 69.07% to 86.85%.

But digital records are only useful for monitoring, audit and corrective action. Transparency is not accountability when records are not looked at.

Integrated Analysis

Table 15: Integration Matrix

Quantitative Finding	Qualitative Explanation	Final Interpretation
Approval days declined from 32.82 to 21.03	Manual file movement reduced and status tracking improved	E-filing improved procedural timeliness
Release days declined from 26.38 to 16.46	Release status became more visible and easier to follow	E-filing improved release predictability
Record completeness increased from 69.07% to 86.85%	Officials reported better timestamping and documentation	E-filing strengthened fiscal record quality
Traceability increased from 60.32 to 82.58	Respondents could identify pending files and approval stages	E-filing improved procedural transparency
Discretion flag declined from 21.75% to 10.71%	Routine off-system handling declined, but exceptions persisted	E-filing reduced but did not eliminate discretion
Low-capacity districts improved most	Training, documentation, and	E-filing narrowed but did not fully

but still lagged

connectivity gaps persisted

remove fiscal inequity

The integrated findings indicate that the procedural aspects of fiscal equity were enhanced by e-filing. It eliminated delays, enhanced traceability, made records more complete, and minimized routine discretion. But its impact on equity was still contingent since administrative and digital capacity still remained as constraints in weaker districts and departments.

Research-Question-Wise Results

Table 16: Mapping of Results Against Research Questions

Research Question	Evidence	Answer
RQ1: How has e-filing changed budget request processing, approval stages, and transaction records?	Record completeness increased from 69.07% to 86.85%; traceability increased from 60.32 to 82.58	E-filing improved documentation, tracking, and visibility of approval stages
RQ2: To what extent has e-filing reduced delays in approvals and fund releases?	Approval days declined by 35.93%; release days declined by 37.60%	E-filing substantially reduced procedural delays
RQ3: Has e-filing improved fiscal equity through transparency, traceability, and consistency?	High-risk observations declined from 94.10% to 4.69%; low-capacity districts improved strongly	E-filing improved procedural equity, but not complete substantive equity
RQ4: Does e-filing reduce discretion or reproduce inequalities?	Discretion flag rate declined by 50.77%; interviews showed exceptional treatment persisted	E-filing reduced routine discretion but did not eliminate all discretionary influence
RQ5: What are the policy implications?	Capacity gaps, digital burden, and exceptional treatment remained	E-filing requires training, audit trails, exception monitoring, and support for weaker districts

Threats to Validity and Alternative Explanations

While it is true that the e-filing may have played a role in the improvements, a number of other explanations could be given:

First, some improvement could be due to administrative reform in general, not just to e-filing. The possible impact of introducing a new monitoring rule, changes in staffing or training at the same time could not be ruled out for better outcomes.

Secondly, approval/release timing can be affected by FY effects. Of course, some QOs will be released quicker as a result of budget-cycle pressures, and others may take longer for a variety of reasons, including procedural review.

Third, provincial fiscal space and federal transfers could affect predictability of releases. Other factors, such as not dealing with digitalization, could mean that release delays would reduce if there were more capital during the post-e-filing period.

Fourth, the prioritization of politics may affect the outcome at the level of the department or district. Policy priorities can affect the speed of treatment in some sectors or districts but not due to system effects.

Fifth, there can be discrepancies between manual and digital periods for data quality. Records may be more complete post-filing as the information is automatically collected in digital systems, and less so pre-reform as records are not necessarily more systematically organized.

However, the overall quantitative and qualitative evidence suggests that e-filing likely helped to improve the process. The best evidence is through indicators which directly relate to the digital workflow including traceability, record completeness and discretion flags.

Conclusion

The results suggest that digitization of financial filing has made finance e-filing more equitable in procedural terms in the PFMS of Balochistan by reducing delays in approval process, creating predictability of release of funds, better tracking of funds, increasing transparency of expenditure, and minimizing unnecessary administrative discretion. However, the improvements were not equally distributed among districts and departments and strong administrative capacity, staff skills, connectivity, and institutional readiness remained as drivers of outcomes. The study therefore finds that, digital e-filing is a vital tool to improve fiscal equity but it does not appear to be a magic bullet for the fiscal governance structural inequalities. Reliant on complementary institutional investments, monitoring, accountability and institutional change. The study helps the

digital governance literature and the PFM literature by redirecting the focus from administrative efficiency to fiscal equity and by showing that technology can actually generate public value when it is backed by solid institutions and equitable administrative practices.

Recommendations

The study proposes that the following should be taken into consideration:

- Institutionalizing the use of e-filing should be done in the formal PFM control system by the Government of Balochistan instead of it being used as a parallel digital tool.
- Compulsory service standards and timelines for approval and fund release should be established in the Finance Department.
- Automatic alerts for delayed files, repeated objections and weird approval patterns.
- The district and department performance dashboard should be developed to track fiscal equity indicators.
- Emphasis on low-capacity districts/departments for training.
- Documentation should be streamlined and standardized to avoid unnecessary burdens to digital documentation.
- Audit authorities should regularly be checking the metadata of e-filing for evidence of delay and discretion and in equal treatment.
- Exceptional treatment should not be confused with routine and emergency treatment, should be conspicuous and easily accessible.
- For future PFM reforms, e-filing should be integrated with the budget, treasury, accounting and expenditure-reporting systems.
- When selected non-sensitive data on approval, release and execution of budgets are shared, it is encouraged to implement public facing fiscal transparency progressively.

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