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Research Paper

Accelerating Assurance Document Processing in Telkom's Project Resolution Management: The Design and Implementation of the Assurance Document Acceleration Program (ADAP)

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Abstract

Telkom's partnership business model has generated a buildup of unbilled vendor projects. To address this, Telkom launched Project Resolution Management (PRM) in August 2024 to resolve 8,097 projects worth Rp 3.4 trillion by December 2025. Within PRM, the PSLA unit is responsible for 3,889 maintenance projects requiring 11,667 assurance documents. This research proposes the Assurance Document Acceleration Program (ADAP) as an operational intervention to accelerate document processing without compromising compliance. Fishbone Diagram, Internal Factor Evaluation (IFE), and External Factor Evaluation (EFE) methods were applied to identify root causes, finding inefficient business processes, system dependencies, and high document volume as key issues. ADAP was piloted with 9 of Telkom's highest-billed subsidiaries. Following a socialization phase (May–June 2025), the active piloting phase (July–October 2025) yielded a monthly average of 86 completed projects — a 100% increase from the pre-ADAP baseline of 43 projects per month (January–June 2025). From January to November 2025, PSLA completed 976 projects, of which 516 (52.9%) were completed under ADAP, indicating strong potential to meet the December 2025 target. This research is limited to Telkom's PRM program, specifically the PSLA unit and its assurance document completion process. The practical originality lies in the design and piloting of ADAP within Telkom's PRM context, demonstrating that streamlined documentation practices can double monthly project throughput without compromising compliance. Their combined application in a state-owned telco context offers replicable insights for similar high-volume document backlogs in large organizations.

Keywords: *Service Assurance, Operational Efficiency, Document Simplification, Project Resolution Management, SLA Documentation*

INTRODUCTION

Large-scale organizations operating through vendor partnerships frequently encounter document-intensive administrative processes that, when left unresolved, generate significant operational backlogs (Davenport, 1993). This challenge is well-documented in the broader literature on process management and organizational governance (Hammer & Champy, 1993). In the context of service-level management, The Open Group (2004) highlights that effective SLA management requires structured documentation processes to validate vendor performance and ensure contractual compliance, and that failures in this regard can disrupt billing cycles and erode partnership reliability. In telecommunications specifically, the complexity of maintaining SLA compliance and ensuring vendor accountability has intensified as service ecosystems grow more interdependent, with breakdowns in documentation processes directly affecting service quality and operational continuity (Hayatu et al., 2024). Although the growing body of literature on operational efficiency and process redesign, assurance documentation management in vendor-dependent telecommunications service models remains underexplored, particularly in the context

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of high-volume backlog resolution.

Telkom Indonesia, as one of the largest state-owned telecommunications enterprises in Indonesia, presents a relevant case in point. Telkom operates within a highly complex service ecosystem involving customers, internal business units, and external business partners, where collaboration with vendors creates administrative and procedural dependencies, particularly in relation to project closure, billing validation, and document compliance. With the large volume of sales that Telkom processes annually, the pile of unbilled vendor projects has continued to grow. The unresolved backlog poses two interconnected risks to Telkom's operations. First, incomplete assurance documents directly impact the billing process, as these documents serve as a mandatory requirement for vendors to invoice Telkom, stalling project closure and delaying payment cycles. Second, the Rp 3.4 trillion tied up in unbilled projects represents value that should be circulating within Indonesia's digital ecosystem, enabling Telkom's subsidiaries and partners to expand services and invest in infrastructure. Subsequently, Telkom assembled a special task force in August 2024 to resolve these predicaments, called Project Resolution Management (PRM).

PRM consists of four units: OLC (Outbound Logistics & Legal Compliance) for contract and legal documents, PO (Project Operation) for delivery documents, PSLA (Partnership & Service Level Agreement) for assurance documents, and R&I (Resource & Invoicing) for resource management and vendor invoicing. At the beginning of 2025, Telkom's management assigned 8,097 unbilled projects valued at Rp 3.4 trillion for PRM to complete by the end of 2025. However, not all 8,097 projects required assurance documents. After classification, 3,889 maintenance projects were identified as requiring assurance documents under PSLA's responsibility. Under the standard business process, each maintenance project requires three assurance documents: the Minutes of Chronologic, the Record of Examination Active Service, and the Minutes of Service Performance. Therefore, the study population for assurance document acceleration consists of 3,889 maintenance projects, equivalent to 11,667 assurance documents under the existing three-document process. The urgency of resolving this backlog extends beyond internal operations. Danganan et al. (2025) demonstrate that service delivery quality in large-scale operations significantly influences the trust and perception of partners and stakeholders, suggesting that prolonged documentation delays risk eroding Telkom's credibility within its vendor ecosystem. Furthermore, Chauke et al. (2024) warn that challenges in institutional capacity and resource mismanagement can lead to compounding service delivery failures, underscoring the need for a governance-oriented intervention rather than ad hoc fixes.

In this regard, the Assurance Document Acceleration Program (ADAP) is designed not only to accelerate document throughput but also to strengthen accountability and ensure that partnership obligations are met promptly and transparently. To diagnose the root causes of this challenge and formulate a strategic response, this research employs the Internal Factor Evaluation (IFE) and External Factor Evaluation (EFE) frameworks, which David and David (2016) position as foundational tools for assessing organizational strengths, weaknesses, opportunities, and threats in the context of strategic decision-making. While this research is grounded in Telkom's specific operational context, the underlying challenges of assurance documentation backlogs in partnership-based service delivery models are likely to resonate with other large-scale organizations facing similar administrative dependencies.

This research therefore aims to investigate the root causes of assurance document processing inefficiencies within Telkom's PSLA unit, analyze the effectiveness of ADAP as an operational intervention, and contribute practical recommendations for process redesign in document-intensive partnership management contexts. To guide this investigation, the following research questions are proposed: (1) What are the root causes of assurance document processing delays within the PSLA unit of Telkom's Project Resolution Management program? (2) How does

the implementation of ADAP address these root causes and improve document throughput? (3) To what extent does ADAP demonstrate scalability and compliance validity as a sustainable operational solution?

LITERATURE REVIEW

Diagnostic Tools (IFE, EFE)

Internal Factor Evaluation (IFE) Matrix

The Internal Factor Evaluation (IFE) Matrix summarizes and evaluates the major strengths and weaknesses in the functional areas of business and provides a basis for identifying and evaluating relationships among those areas (David & David, 2016). After key internal factors have been listed, each needs to be weighted from 0.0 (not important) to 1.0 (all-important) for each factor. All the factors need to be assigned a rating to indicate whether the factor represents a major or minor weakness (major weakness assigned 1; minor weakness assigned 2) and major or minor strength (major strength assigned 4; minor strength assigned 3). Multiply each factor weight by the rating to determine the weighted score for each factor. If the total weighted scores below 2.5, it means organizations are weak internally, and if the total weighted scores are significantly above 2.5, it indicates organizations are having a strong internal position.

External Factor Evaluation (EFE) Matrix

The External Factor Evaluation (EFE) Matrix summarizes and evaluates economic, social, cultural, demographic, environmental, political, legal, technological, and competitive information (David & David, 2016). After key internal factors have been listed, they need to be weighted from 0.0 (not important) to 1.0 (all-important) for each factor. All the factors need to be rated between 1 and 4 to indicate how effectively the firm's current strategies respond to the factor (4= the response is superior, 3 = the response is above average, 2 = the response is average, and 1 = the response is poor). Multiply each factor's weight by the rating to determine the weighted score for each factor. The highest possible total weighted score for an organization is 4.0, which indicates an organization is giving outstanding responses to existing opportunities and threats; the lowest possible total weighted score is 1.0, which indicates an organization's strategies are not capitalizing on opportunities or avoiding existing threats; and the average total score is 2.5, which indicates an organization is already giving responses towards existing opportunities and threats but still needs some improvement.

Assurance in Telecommunications

In telecommunications, service assurance refers to the procedures that assure networks provide reliable, high-quality service to customers while following to the contractual requirements outlined in Service Level Agreements (SLAs) (AXELOS, 2019). As service ecosystems become increasingly complex and vendor-dependent, the issue of maintaining SLA compliance and ensuring vendor accountability has grown, with documentation process breakdowns having a direct impact on service quality and operational continuity (Hayatu et al., 2024).

Service Level Agreements (SLAs)

Service Level Agreements (SLAs) are used both internally and externally to specify the agreed-upon performance and quality of a service or product, and serve as a crucial component of a customer relationship management (CRM) program. SLAs have been commonly used in support of services provided by telecommunications service providers and are increasingly considered for non-communications services as well. Improving the Quality of Experience (QoE) for enterprise clients is the main objective of the enterprise SLA process, ensuring all aspects of service

performance including customer satisfaction, pre- and post-sales engagement, and product delivery. SLA performance data is consolidated into reports used for internal diagnostics and external customer reporting and is particularly critical for functional groups such as the finance unit for billing and cross-charging purposes (The Open Group, 2004).

Conceptual Framework

Process Simplification, Dependency Reduction, Operational Efficiency, and Service Assurance

This research is based on a conceptual framework that links four interconnected constructs: process simplification, dependency reduction, operational efficiency, and service assurance (Dumas et al., 2018). Understanding the relationships among these aspects is critical for identifying the underlying causes of assurance document backlogs and developing an effective operational intervention.

Process simplification is the purposeful reduction of process stages, approval levels, and documentation requirements that have no direct impact on output quality or compliance (Reijers & Mansar, 2005). In document-intensive service instances, increased procedural complexity over time produces a major administrative cost, limiting throughput without corresponding improvements in compliance or quality. According to David and David (2016), internal process rigidity and legacy procedural requirements are two of the key causes reducing operational responsiveness in large organizations and state-owned companies, making process simplification a strategic rather than merely operational challenge.

Dependency reduction addresses the extent to which a process relies on inputs, approvals, or system-generated identifiers controlled by external units (Rummler & Brache, 2013). When dependency chains span multiple units outside the process owner's authority, throughput becomes constrained by the readiness of upstream systems rather than the capacity of the executing team. According to Hayatu et al. (2024), an excessive dependence on fragmented system ownership and cross-unit validation procedures can cause significant delays in SLA compliance and billing cycles in multi-vendor telecommunications environments. This illustrates the importance of reducing procedural dependencies as a requirement for operational acceleration.

Operational efficiency, in this context, refers to the organization's ability to maximize completed assurance document output within a fixed timeframe and limited workforce (Harmon, 2019). Feussi and Mbohwa (2025) demonstrate that streamlined operational models are essential for meeting client commitments and sustaining organizational growth, particularly in service industries where output volume is directly tied to revenue realization. Saah and Mbohwa (2024) further argue that when organizations face operational uncertainty and constrained resources, proactive structural adaptations are necessary to maintain productivity and prevent escalating backlogs. Danganan et al. (2025) add that service delivery quality in large-scale operations significantly influences partner trust and stakeholder perception, meaning that efficiency improvements carry both financial and reputational implications beyond internal operations.

Service assurance, as the downstream outcome of this framework, depends on the integrity and timeliness of documentation processes (International Organization for Standardization, 2016). Assurance documents are required for billing authorization in the telecommunications industry and provide as a formal validation method for vendor performance (The Open Group, 2004). Financial exposure builds up and billing cycles are delayed when redundant procedures and cross-unit dependencies burden assurance processes. Chauke et al. (2024) caution that when systemic process problems are not addressed, institutional capacity issues and resource mismanagement cause service delivery failures. This emphasizes that technological investment alone is insufficient when underlying procedural complexity has not been resolved.

Collectively, this framework suggests that sustainable operational efficiency in service assurance requires structural interventions that simultaneously simplify procedures and reduce dependency chains. Despite the growing literature on each of these constructs individually, previous studies rarely integrate them into a unified operational framework applied to assurance document management in telecommunications SOEs, leaving an empirical gap that this research addresses.

This study therefore contributes to the literature by empirically demonstrating how the integration of Fishbone analysis, IFE, and EFE matrices can be applied not merely as diagnostic instruments but as the fundamental for designing a concrete operational acceleration program. It illustrating how process simplification and dependency reduction can be operationalized within a governance-compliant framework in a large telecommunications company, while also offering a replicable conceptual model for similar high-volume document backlog challenges in comparable institutional contexts.

RESEARCH METHOD

The study adopts a mixed-method case-study design combining qualitative and quantitative techniques (Yin, 2018). The qualitative component consists of structured process analysis, causal mapping through Fishbone analysis, and documented bootcamp discussions with participating Telkom subsidiaries acting as vendor partners. The quantitative component consists of IFE/EFE scoring and monthly operational output analysis based on dashboard and system-log data. The integration of both approaches follows a sequential explanatory logic: qualitative diagnostic findings were first used to identify process bottlenecks and intervention requirements, and quantitative operational data were then used to evaluate changes in completed-project velocity before, during, and after ADAP implementation (Creswell & Creswell, 2018).

Data Collection

Data collection was conducted through three primary sources. First, internal project and contract records were extracted from Telkom's operational systems and dashboards for the full PRM population of 8,097 unbilled projects assigned in 2025. These records were used to classify projects into four categories: 2,616 regional projects, 967 non-maintenance projects, 625 cancellations and amendments, and 3,889 maintenance projects requiring assurance documents. Therefore, the operational population analyzed by PSLA consisted of 3,889 maintenance projects, equivalent to 11,667 assurance documents under the standard three-document process. Second, historical SLA performance reports and system logs were retrieved from Telkom's internal dashboard for January-November 2025. The system-log extraction focused on monthly completed-project counts, project status, vendor/subsidiary code, and whether the completion was processed through the standard or ADAP mechanism. Third, the ADAP piloting phase involved structured bootcamp sessions with representatives from nine participating Telkom subsidiaries acting as vendor partners. These subsidiaries were selected based on billing volume and project concentration, because they represented the highest-priority backlog segment for early implementation. The bootcamp sessions were conducted as structured operational discussions covering the new one-document procedure, alternative compliance evidence, System ID dependency issues, vendor readiness, and procedural risks. Notes from these sessions were used as supporting qualitative evidence to interpret process bottlenecks and implementation readiness, while the primary outcome evaluation relied on dashboard and system-log data rather than individual interview claims (van der Aalst, 2016). To protect confidentiality, the participating organizations are reported using anonymized company codes.

Supplementary Table 1. Data Sources and Participant Information for ADAP Pilot

Source / group	Coverage	Basis	Use
Internal records	8,097 PRM projects; 3,889 maintenance projects requiring assurance documents	All PRM projects classified by project category	Population classification and workload estimation
Dashboard and system logs	January-November 2025 monthly completed-project data	Records with completion status, month, company code, and ADAP/non-ADAP classification	Baseline, transition, pilot, and post-pilot velocity analysis
Bootcamp participants from nine participating Telkom subsidiaries acting as vendor partners	Company A, Company B, Company C, Company X, Company Y, Company Z, Company 1, Company 2, and Company 3	Highest billing volume and project concentration among PSLA backlog cases	Vendor readiness, documentation constraints, System ID dependency, and implementation risks

Analytical procedures were conducted in four stages. First, the Fishbone analysis categorized root causes into method, machine, material, and man dimensions by comparing documented process requirements, dashboard evidence, and bootcamp discussion notes. Second, IFE and EFE factors were generated from the Fishbone results and internal PSLA operational discussions. The weights reflected the relative influence of each factor on assurance-document completion, while the ratings reflected the severity of weaknesses, strength utilization, opportunity responsiveness, or threat exposure, following David and David's (2016) IFE/EFE scoring logic. Third, the PSLA team used consensus-based scoring: factors, weights, and ratings were discussed until agreement was reached among team members directly involved in PRM assurance-document processing, and the scoring was checked against project records, dashboard trends, and operational constraints identified during bootcamp sessions. Fourth, the operational evaluation compared completed-project velocity across four clearly defined phases: January-April 2025 as the pre-ADAP baseline, May-June 2025 as the transition/socialization phase, July-October 2025 as the active ADAP pilot phase, and November 2025 as the post-pilot expansion phase.

Methodological rigor was strengthened through data triangulation, validation, and bias-reduction procedures. Triangulation was conducted by comparing three evidence sources: internal project records, system-log/dashboard data, and documented bootcamp discussion notes. Validation was performed by reconciling monthly completion totals with the dashboard classification of ADAP and non-ADAP projects and by checking whether the identified bottlenecks were consistent with Fishbone, IFE, and EFE results. To reduce bias, the study treated bootcamp input as supporting qualitative evidence rather than as the sole basis for outcome claims, anonymized participating subsidiaries, and avoided claiming causal impact because the design did not include a control group. Reliability was supported by using a consistent unit of analysis, completed projects, across the productivity analysis, because ADAP changed the document requirement from three documents per project to one document per project.

Fishbone Diagram

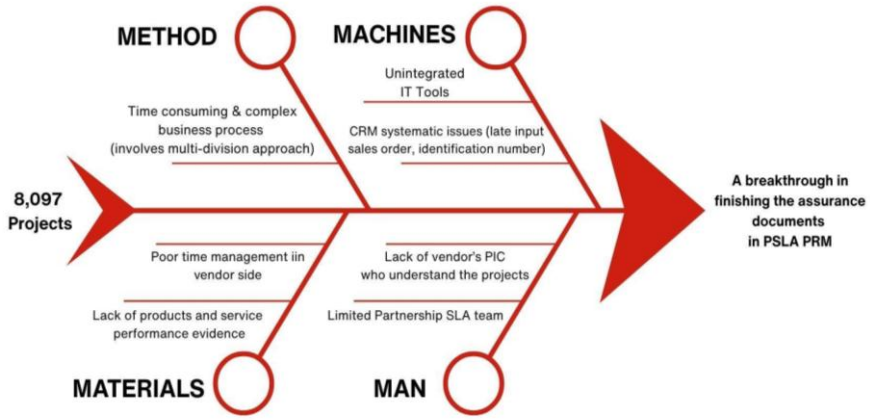

Figure 1. Fishbone Diagram

To identify the root causes of assurance document backlogs, the PSLA team conducted a structured analysis of the full project population assigned to PRM. Through desk analysis of internal project and contract records, the 8,097 projects were classified as presented in Table 1.

Table 1. PRM's Population Data

Project Categories	Total
Regional projects	2,616
Non-maintenance projects	967
Cancellation & Amendments	625
Maintenance Projects	**3,889**
Total Projects	**8,097**

From the table above, it shows 2,616 projects are regional projects. Regional projects are defined as projects in which both the customers and the accountable personnel operate within specified regional areas; hence, these projects will be handled by Telkom Regional teams. 967 projects are non-maintenance projects where Minutes of Assurance are not required. Assurance documents are a monthly service performance report provided by the vendor during a contract period; hence, a non-maintenance project does not need assurance documents. 625 projects are confirmed as canceled projects by the vendor and delivery team and billed by other contracts (amendments). And 3,889 projects are the maintenance projects and need Minutes of Assurance and will be proceeded by the PSLA team. After deeper analysis, the total number of projects needed to be done by the PSLA team has been decreasing, but with the current business process, PSLA still needs to produce 11,667 documents by December 2025.

Fishbone analysis was applied to map the causal structure of assurance document backlogs across four dimensions: method, machines, materials, and man. This tool is widely recognized as a structured diagnostic instrument for identifying root causes in operational processes, and its application here is consistent with the broader diagnostic framework advocated by David and David (2016), who position cause-and-effect analysis as a foundational step in strategic problem identification prior to IFE and EFE evaluation. The analysis identified that the key problems are concentrated in four major areas. Due to the complexity of multi-division procedures, non-

integrated systems, a lack of proof documentation, and insufficient human resource capacity, the daily operational workflow in PSLA-PRM operates inefficiently. A large number of projects rely on manual checking procedures and multi-division approval processes in which each department manages document validation independently, leading to inconsistent formats, approval timelines, and exception-handling procedures. Limited data visibility and non-integrated systems further contribute to data duplication and disconnected validation processes across units.

Internal Factor Evaluation (IFE) Matrix

The IFE matrix was constructed to assess PSLA's internal strengths and weaknesses relevant to assurance document processing. Internal factors were derived from the Fishbone diagnosis, project-record review, system-log patterns, and structured PSLA team discussions. Each factor was assigned a weight based on its relative influence on completed-project velocity and a rating based on whether it represented a major/minor weakness or strength. The weighting and rating process was conducted through consensus among PSLA personnel directly involved in PRM assurance-document processing, and the scores were verified against operational evidence such as document-volume requirements, workforce capacity, available platforms, and legacy-project characteristics. This procedure follows David and David's (2016) guidance that IFE scoring should reflect both the importance of internal factors and the organization's current response capacity.

Table 2. Strengths & Weaknesses as Internal Factor Evaluation

Strength	Weight	Rating	Weighted Score
1) Lean Unit: making PRM more agile, responsive, and relatively easy to coordinate between unit	0.23	4	0.92
2) The employees who joined PRM were selected from previous unit; hence, everybody excels in their job	**0.25**	**4**	**1**
3) Availability of platforms and dashboards for issuing and monitoring assurance documents	0.15	3	0.45
Weakness	**Weight**	**Rating**	**Weighted Score**
1) PRM is relatively small unit with limited number of employees	0.09	2	0.18
2) Big number of assurance documents need to be done: 11,667 assurance documents required for 3,889 projects	**0.13**	**1**	**0.13**
3) More than half of the project population are from before 2020, where the history and the person in charge is no longer hold the accountability	0.15	1	0.15

Total	**1.00**	**2.83**

PSLA has a relatively solid internal position, based on to the IFE total weighted score of 2.83, with the quality of selected personnel and unit agility identified as the most significant strengths. The primary weakness is the sheer volume of documents required, compounded by limited workforce capacity.

External Factor Evaluation (EFE) Matrix

The EFE matrix was constructed to assess the opportunities and threats in PSLA's external environment relevant to the PRM program. External factors were identified from institutional deadlines, Board of Directors priorities, vendor-partner obligations, financial/reputational exposure, and dependencies on units outside PRM. The weights reflected each factor's importance to assurance-document completion, while ratings reflected the adequacy of PRM/PSLA's current response to each opportunity or threat. The scoring was agreed through consensus-based discussion among PSLA team members and cross-checked against project records, dashboard status, and implementation constraints documented during the ADAP bootcamp sessions, in line with David and David's (2016) EFE scoring approach.

Table 3. Opportunity & Threat as External Factor Evaluation

Opportunities	**Weight**	**Rating**	**Weighted Score**
1) Closing bills of 8,097 projects are one of the priorities in Telkom's Board of Directors	0.2	3	0.6
2) PRM has comparative advantage to propose their own business process in order to finish the project	**0.3**	**4**	**1.2**
Threats	**Weight**	**Rating**	**Weighted Score**
1) PRM is a task force with limited time framework (August 2024 - December 2025)	0.2	1	0.2
2) Company Branding: The predicament of accounts payable and receivable has undermined partners' and customers' confidence.	0.12	2	0.24
3) Financial Risk (Bankruptcy): if at least 3 (three) Business Partners send subpoena to Telkom due to Telkom have not complete its financial obligation to the said Business Partners when the customer(s) already paid for the service to Telkom (Back-to-back contract)	**0.1**	**1**	**0.1**

4) High dependability on other unit outside PRM: System's ID as a mandatory condition to issue an assurance document and the responsibility is held by external unit outside PRM	**0.08**	**1**	**0.08**
Total	**1**		**2.42**

From the Internal Factor Evaluation (IFE) & External Factor Evaluation (EFE) above, it shows the highest strength the PRM & PSLA team has is the employees are selected and they excel in their jobs. The opportunity that the PRM team has to maximize is that the PRM team has a special right to propose a new special business process. The weakness is the number of assurance documents needed to be done in total is 11,667 documents. And the threat that impacts the assurance document process is high dependability on other units outside PRM and the backlog of the unbilled projects has a significant financial risk: Telkom can be legally declared insolvent.

FINDINGS AND DISCUSSION

ADAP Implementation Timeline

To ensure analytical clarity, this section distinguishes four phases of the ADAP implementation timeline. First, the pre-ADAP baseline phase runs from January to April 2025, during which the PSLA team followed the standard three-document approach with System ID dependence. Second, the transition/socialization phase runs from May to June 2025, during which ADAP was formally introduced, permission processes were completed, and bootcamp sessions were held with representatives from nine participating Telkom subsidiaries acting as vendor partners. Document production during this transition period is reported separately and is not treated as the active ADAP pilot baseline. Third, the active ADAP pilot phase runs from July to October 2025, representing the first period in which ADAP was consistently applied to complete projects under the simplified one-document process. Fourth, the post-pilot expansion phase begins in November 2025, following Board of Directors approval for ADAP to be extended beyond the original nine participating subsidiaries.

For participant transparency, the nine participating organizations are identified in the dataset as Company A, Company B, Company C, Company X, Company Y, Company Z, Company 1, Company 2, and Company 3. These organizations are Telkom subsidiaries acting as vendor partners in the PRM process; therefore, this manuscript uses the term participating subsidiaries when referring to the organizational participants and the term vendor partners when referring to their role in the assurance-document process. Bootcamp discussions with their representatives informed the identification of vendor readiness issues, documentation constraints, System ID dependency, and implementation risks, while the monthly outcome analysis is based on project-level dashboard and system-log data.

Diagnostic Results and the Design Logic of ADAP

The Fishbone analysis, IFE matrix, and EFE matrix collectively identified two primary root causes driving the assurance document backlog, and these findings directly informed the design of ADAP.

The Fishbone study linked causal factors across four aspects (method, machines, materials, and man), revealing that the backlog was essentially a structural process problem rather than a human resources capacity issue. The most critical causal factors were: (1) the three-document requirement per project, which resulted in procedural redundancy with no proportional

compliance value; and (2) the mandatory System ID dependency, which made PSLA's throughput dependent on the readiness of an external unit outside PRM's control. These two factors combined to produce a process design that could not cope with the number of projects given.

The IFE matrix produced a total weighted score of 2.83, suggesting a reasonably strong internal position. The highest-weighted strength was the selection of PSLA professionals (weighted score: 1.00), indicating the team's ability to develop and implement a non-standard process intervention. The most significant weakness was the volume of required assurance documents (weighted score: 0.13), demonstrating that the previous approach was incompatible with the task's magnitude. The IFE weights and ratings were assigned through structured consensus among PSLA personnel directly involved in PRM assurance-document processing. The evidence used to justify the scores included the number of maintenance projects requiring assurance documents, workforce capacity, available monitoring platforms, dashboard visibility, and the proportion of legacy projects requiring additional validation.

The EFE matrix produced a total weighted score of 2.42, falling below the 2.5 threshold and indicating insufficient strategic responsiveness to external pressures. The highest-weighted opportunity was PRM's institutional authority to propose alternative business processes (weighted score: 1.20), which provided the governance legitimacy necessary to design a procedural deviation. The most critical threat was the System ID dependency on external units (weighted score: 0.08), directly corroborating the Fishbone finding. The EFE weights and ratings were agreed through the same consensus-based procedure and supported by evidence from institutional deadlines, Board of Directors priorities, vendor-partner obligations, financial and reputational exposure, and bootcamp discussion notes on cross-unit system dependency.

These diagnostic findings directly shaped ADAP's two core design decisions: consolidating three assurance documents into a single Minutes of Service Performance, and abolishing the mandatory System ID requirement while substituting it with Network Monitoring Reports and customer payment verification as alternative compliance mechanisms.

Monthly Velocity of Document Completion

Because ADAP reduced the required documents per project from three to one, this analysis uses completed projects as the primary unit of measurement throughout the Findings and Discussion section. This terminology is used consistently to avoid overstating productivity gains that may arise from reduced document volume rather than actual project closure. Under the ADAP framework, each completed project corresponds to one issued assurance document, but the analytical unit remains completed projects. The monthly completed-project trend from January to November 2025 is illustrated below.

Table 4. Completed Projects of the Nine Participating Subsidiaries by ADAP Phase (January-October 2025)

COMPANY	Pre-ADAP baseline				Transition/socialization		Active ADAP pilot				Grand
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	Total
COMPANY A	15	18	17	21	18	33	77	67	30	48	344
COMPANY B				2				1		2	5
COMPANY C		1	1			2	2			12	18
COMPANY X	1	22	3	1	2	1	5	4		3	42

COMPANY Y	4	3	2	3	3	1	5	4	22	24	71
COMPANY Z		1			4	1		1			7
COMPANY 1	1	1	1		2	5	1	2	1	5	19
COMPANY 2	1	2	44	2	1		2	1	3	1	57
COMPANY 3	2	9	6	1		2	2	4	12	2	40
Grand Total	24	57	74	30	30	45	94	84	69	97	604

Table 5. Completed-Project Velocity of the Nine Participating Subsidiaries by ADAP Phase (January-October 2025)

VELOCITY	**Pre-ADAP baseline**				**Transition/socialization**		**Active ADAP pilot**			
	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Oct-25
Projects Completed	24	57	74	30	30	45	94	84	69	97
Average	46.25	46.25	46.25	46.25	37.5	37.5	86	86	86	86

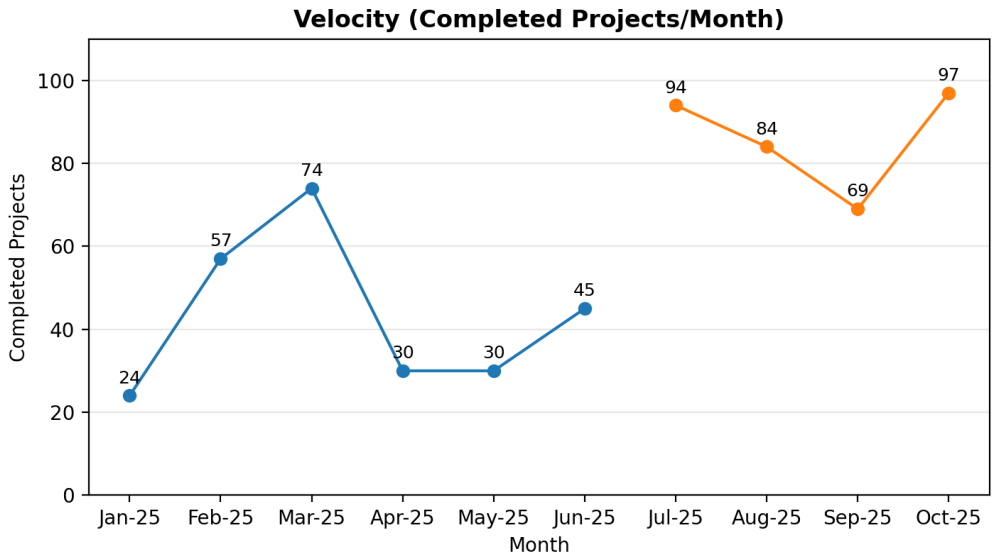

Figure 2. Month-to-Month Completed-Project Velocity of the Nine Participating Subsidiaries (January-October 2025)

From Table 4, Table 5, and Figure 2, PSLA's performance for the nine participating subsidiaries is divided into three analytical periods: the pre-ADAP baseline (January-April 2025), the transition/socialization phase (May-June 2025), and the active ADAP pilot phase (July-October 2025). During the pre-ADAP baseline, the PSLA team completed 185 projects across four months, with a monthly average of 46.25 completed projects. This figure reflects the operational baseline under the standard three-document procedure and System ID dependency.

During the transition/socialization phase (May-June 2025), permission processes and bootcamp sessions were conducted with the nine participating subsidiaries. Completion during this period reached 30 projects in May and 45 projects in June, or 75 projects in total, with an average

of 37.5 completed projects per month. Because ADAP had been introduced but was not yet consistently applied as the active pilot mechanism, this period is reported separately and is not included in the pre-ADAP baseline or active pilot average.

During the active ADAP pilot phase (July-October 2025), monthly completed projects rose to 94, 84, 69, and 97 projects respectively, yielding a monthly average of 86 completed projects. Compared with the January-April pre-ADAP baseline of 46.25 completed projects per month, this represents an approximate 85.9% increase in monthly completion velocity. If January-June is treated as a broader pre-pilot period, including the transition/socialization months, the average is 43.33 completed projects per month and the increase is approximately 98.5%. However, this manuscript uses the stricter January-April pre-ADAP baseline because May-June had already entered the transition/socialization phase.

It should be noted that the observed productivity increase is associated with the implementation of ADAP rather than proven as its sole cause. The study design does not include a control group or isolate other concurrent factors that may have contributed to performance improvement, such as team learning effects, seasonal variation in participating-subsidiary responsiveness, or organizational momentum from the PRM program overall. The findings are therefore interpreted as evidence that ADAP was associated with a substantial increase in completed-project velocity, consistent with the process simplification and dependency reduction logic underlying its design.

Table 6 reports a broader scope than Table 4 and Table 5. Table 4 and Table 5 present completed projects for the nine participating subsidiaries in the ADAP pilot dataset, while Table 6 presents total PSLA-PRM completed projects across all relevant companies and includes both ADAP and non-ADAP completions. Therefore, the monthly totals differ because the tables answer different analytical questions: Table 4 and Table 5 evaluate the pilot-subsidiary sample, whereas Table 6 summarizes the wider PSLA-PRM workload. During the post-pilot expansion phase in November 2025, following Board of Directors approval for broader rollout, an additional 10 vendor partners were onboarded and 172 total PSLA-PRM projects were completed. The statement that November represented a 32% increase refers specifically to the comparison between 172 total projects completed in November and the highest total monthly completion during the July-October pilot window in Table 6, which was 130 projects in October; this increase is approximately 32.3%. From January to November 2025, the PSLA team completed 976 projects in total, of which 516 were processed through ADAP.

Implications of ADAP for Operational Governance and Service Assurance

The performance data indicate that the most significant operational bottlenecks reduced by ADAP were procedural rather than technological or human in nature. The consolidation of three documents into one eliminated two sequential validation steps per project, directly reducing the administrative handoff burden on both the PSLA team and vendor representatives. The abolition of the System ID dependency removed a constraint that was structurally outside PSLA's control, restoring the team's operational autonomy over its own throughput. These two changes together addressed the root causes identified in the diagnostic phase, providing an internally consistent explanation for the observed productivity increase.

From an organizational governance perspective, ADAP's design reflects a deliberate shift from system-centric to evidence-based assurance validation. Rather than requiring a system-generated identifier as the basis for document legitimacy, ADAP substitutes Network Monitoring Reports and customer payment confirmation as alternative compliance mechanisms. This approach preserved the audit trail necessary for billing validation while eliminating the procedural bottleneck created by cross-unit system dependency. The formal endorsement of this approach by

Telkom's Enterprise Business Directorate and Board of Directors is significant, as it established institutional legitimacy for the procedural deviation and ensured that ADAP-issued documents carry the same governance standing as those produced under the standard process.

Regarding compliance and document validity, the current study does not provide formal audit results, document rejection rates, validation-error records, or dispute-resolution records. Therefore, this manuscript does not claim that ADAP empirically proved compliance improvement or full document-validity assurance. The available evidence only supports a more cautious statement: ADAP-issued documents were administratively accepted during the pilot and expansion period based on formal endorsement from Telkom's Enterprise Business Directorate and Board of Directors, the use of Network Monitoring Reports and customer payment verification as substitute evidence, and the absence of reported disputes in the available pilot documentation. A comprehensive compliance evaluation using audit outcomes, rejection rates, dispute cases, cost-benefit analysis, and return-on-investment measures is identified as a priority for further research.

The success of the piloting phase further demonstrates that ADAP's design logic, a process simplification and dependency reduction, can produce measurable productivity gains within a short implementation window. Saah and Mbohwa (2024) argue that when organizations face operational uncertainty, proactive structural adaptations are necessary to maintain productivity, and the ADAP case provides empirical support for this proposition in a telecommunications SOE context. Similarly, Feussi and Mbohwa (2025) demonstrate that streamlined operational models are essential for meeting client commitments in service industries, a finding consistent with ADAP's documented impact on project closure velocity.

It is important to note, however, that the conditions enabling ADAP's success are specific to the Telkom PSLA–PRM context. These include PRM's authority to propose alternative business processes, the availability of Network Monitoring Reports as substitute compliance evidence, and the direct executive endorsement that legitimized procedural deviation. Organizations considering similar interventions should first assess whether analogous enabling conditions exist in their own contexts before assuming direct transferability. The findings are therefore presented as a contextually bounded case rather than a universally applicable model, though the underlying logic of process simplification and dependency reduction may offer relevant insights for comparable document-intensive operations in other telecommunications SOEs facing similar legacy system constraints.

Table 6. Total Completed Projects by PSLA-PRM Across the Wider Workload (ADAP and Non-ADAP)

Period	ADAP & Non ADAP	ADAP
January 2025	31	-
February 2025	75	-
March 2025	110	-
April 2025	39	-
May 2025	40	-
June 2025	89	-
July 2025	108	94

Period	ADAP & Non ADAP	ADAP
August 2025	90	84
September 2025	92	69
October 2025	130	97
November 2025	172	172
Total Projects Done	**976**	**516**

CONCLUSIONS

This study investigated the root causes of assurance document processing inefficiencies within Telkom Indonesia's PSLA unit and evaluated the effectiveness of the Assurance Document Acceleration Program (ADAP) as an operational intervention. Through the application of Fishbone analysis, IFE, and EFE matrices, two primary structural constraints were identified: the three-document requirement per project and the mandatory System ID dependency on units external to PRM. These constraints created a process design that could not scale with the volume of 3,889 maintenance projects (requiring 11,667 documents) assigned to PSLA within a fixed timeframe.

ADAP addressed both constraints directly by consolidating three assurance documents into a single Minutes of Service Performance and abolishing the mandatory System ID requirement, substituting it with Network Monitoring Reports and customer payment verification as alternative compliance evidence. The program was introduced in May 2025, socialized during May-June 2025, actively piloted with nine participating Telkom subsidiaries acting as vendor partners from July to October 2025, and expanded in November 2025 after Board of Directors approval. This terminology distinguishes participating subsidiaries as the organizational participants from their vendor-partner role in the PRM assurance-document process.

Using completed projects as the primary unit of analysis, the January-April pre-ADAP baseline averaged 46.25 completed projects per month, while the July-October active ADAP pilot averaged 86 completed projects per month. This represents an approximate 85.9% increase in monthly completion velocity, rather than a 100% increase when the transition/socialization months are excluded from the baseline. Across the broader PSLA-PRM workload shown in Table 6, 976 projects were completed from January to November 2025, of which 516 were processed through ADAP. These results indicate that ADAP was associated with faster project completion, but they do not establish a causal relationship because the design does not include a control group or account for concurrent factors such as team learning effects or organizational momentum.

Regarding compliance and document validity, formal audit data, rejection rates, validation-error records, and dispute-resolution records fall outside the scope of this research and represent a limitation of the current study. Based on institutional endorsement by Telkom's Enterprise Business Directorate and Board of Directors, the use of Network Monitoring Reports and customer payment verification as alternative evidence, and the absence of reported disputes in the available pilot documentation, there are preliminary indications that ADAP-issued documents were administratively accepted as valid. However, the manuscript does not claim that compliance improvement has been empirically proven. A rigorous assessment of compliance outcomes, cost-benefit performance, and return on investment is therefore identified as a priority for further research.

From a theoretical standpoint, this study contributes to the literature on operational process redesign and assurance governance by empirically demonstrating how the integration of

diagnostic tools (Fishbone analysis, IFE, and EFE matrices) can be applied not merely to identify problems but to inform the design of a compliant operational intervention. The findings support the proposition that in document-intensive SOE environments, operational efficiency gains may be achieved through process simplification and dependency reduction, particularly when the executing unit operates under legacy system constraints and limited cross-unit authority.

The practical applicability of ADAP beyond the Telkom PSLA–PRM context is conditional on several enabling factors: institutional authority to propose alternative business processes, availability of substitute compliance evidence, and executive endorsement to legitimize procedural deviation. Organizations considering similar interventions should first assess whether these conditions exist in their own contexts. Within these boundaries, the ADAP case offers a replicable model for addressing high-volume document backlogs in comparable telecommunications SOEs and other service organizations facing analogous structural constraints.

LIMITATION & FURTHER RESEARCH

This research is limited to Project Resolution Management (PRM), the Partnership Service Level Agreement (PSLA) unit, and the assurance documents processed within PSLA. The empirical focus is restricted to one organizational unit, one category of operational documents, and one corporate setting. In addition, the present design creates several specific empirical gaps: absence of causal testing, absence of formal compliance metrics, absence of cost-benefit analysis, absence of vendor-level comparison beyond anonymized pilot participation, and absence of longitudinal post-implementation evaluation. Further research is recommended to expand the scope and deepen the analysis into several strategic areas:

1. Cross-Unit Integration Models for End-To-End Assurance Synchronization
   In order to develop an end-to-end model for SLA enforcement, future research should examine how PRM–PSLA assurance practices relate to network operation, deployment, billing, procurement, and partner management. Since assurance documentation is only one part of a broader resolution chain, a more comprehensive end-to-end governance model would be valuable for understanding how cross-unit dependencies shape project closure performance. Such research could generate an integrated framework for synchronizing operational, contractual, and financial validation processes in large telecommunications organizations.
2. Performance Impact Analysis
   Research may be expanded to include cost-benefit models for automation adoption and evaluate the operational impact of inaccuracies or delays in assurance documentation. Future studies should incorporate cost-benefit analysis, including reduced billing delays, improved cash flow timing, avoided legal exposure, decreased administrative effort, and productivity gains per employee. Such analysis would strengthen the strategic case for operational redesign by linking process improvement more directly to financial and organizational value creation.
3. Behavioral and Organizational Contributors to Documentation Delays
   Additional studies should focus on behavioral and organizational factors contributing to document delays, including staff competency, workload distribution, and communication pathways. Future research should therefore explore the behavioral dimension of assurance backlogs by examining how actors across vendors and internal units interpret, adopt, and execute new business processes. This line of research could enrich the study of operational transformation by connecting structural redesign with change management and organizational behavior perspectives.
4. Benchmark Comparisons with Other SOEs Undergoing Similar Reforms

It would also be valuable to benchmark Telkom's experience against other state-owned enterprises undertaking similar administrative reforms. However, such comparisons should be approached cautiously, as the enabling conditions of ADAP including PRM's institutional authority to propose alternative business processes, the availability of substitute compliance evidence, and direct executive endorsement, may not be present in other organizational settings. Comparative studies should therefore first assess whether these conditions exist before drawing conclusions about the transferability of ADAP as a model.

Overall, further research should move beyond documenting short-term acceleration outcomes and toward building a rigorous understanding of how process redesign can balance speed, compliance, flexibility, and governance quality in complex organizational systems operating under legacy system constraints. The directions proposed above are grounded in the specific empirical gaps of the present study and are not intended to imply that ADAP's outcomes are transferable beyond the Telkom PSLA–PRM context without further validation.

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