

ENHANCING COMPLIANCE THROUGH DIGITAL REMINDER SERVICES: EVIDENCE FROM TRAFFIC TICKET ENFORCEMENT IN INDONESIAN PROSECUTION OFFICES

Gilbert Johan Martin Sinaga¹
Universitas Riau, Indonesia¹
gilbertsinaga0303@gmail.com

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Abstract

This study examines the effectiveness of digital reminder services in improving compliance with fine payments and the retrieval of confiscated evidence in traffic ticket administration at the Kuantan Singingi District Attorney's Office. The study addresses a persistent administrative challenge, namely low offender compliance, which contributes to evidence accumulation and operational inefficiencies. A quantitative evaluative approach was employed using a before–after design, based on monthly administrative data from 2024 (pre-implementation) and 2025 (post-implementation). The findings indicate substantial improvements in administrative performance following the implementation of the digital reminder system. The case resolution rate increased from 46.1% to 94.4%, while the fine payment rate rose from 57.1% to 93.7%. These improvements suggest that digital reminder services function as an effective behavioral intervention by reducing informational delays and prompting timely compliance. Furthermore, increased payment compliance is systematically associated with faster evidence retrieval, leading to a reduction in backlog accumulation and enhanced administrative efficiency. This study contributes to the literature by demonstrating the dual impact of digital reminder systems, not only in shaping individual compliance behavior but also in improving organizational-level administrative performance. The findings highlight that low-cost, scalable digital interventions can play a critical role in strengthening compliance-driven public service systems, particularly in enforcement-based administrative contexts.

Keywords: *public service; digital innovation; compliance; traffic ticket administration; service effectiveness*

Introduction

Traffic ticket administration continues to face persistent challenges in ensuring timely compliance with fine payments and the retrieval of confiscated evidence. Within traffic law enforcement systems, prosecution offices play a central role in managing these administrative processes, including fine collection and the return of confiscated items to offenders (Ahmad et al., 2024; Bagassalam et al., 2026; Wirna et al., 2023). However, existing administrative practices often fail to secure adequate compliance, as offenders

frequently delay or neglect their obligations, resulting in inefficiencies and unresolved cases (Koeswanto et al., 2023; Stanton Sr et al., 2022).

This compliance gap has direct operational consequences, particularly the accumulation of confiscated evidence within prosecution institutions, including the Kuantan Singingi District Attorney's Office. Such accumulation disrupts administrative order, increases storage burdens, and constrains the effectiveness of public service delivery (Risalma & Isnawan, 2024). A critical structural factor underlying this issue is the predominantly passive service design, in which authorities rely on offenders' initiative rather than actively facilitating compliance (Sucita et al., 2025). In the absence of structured reminder mechanisms, offenders lack timely behavioral prompts, leading to delayed case resolution and incomplete administrative processes (Massa & Norhasniah, 2024).

From a theoretical perspective, this problem can be understood through the lens of compliance theory, which emphasizes that individuals are more likely to fulfill obligations when supported by clear, timely, and accessible information. In parallel, digital governance perspectives highlight the role of technology in transforming public service delivery from passive to proactive systems (Mountasser & Abdellatif, 2023). Accordingly, digital transformation has been widely recognized as a strategic approach to improving service effectiveness, accessibility, and responsiveness in the public sector (Ikwuanusi et al., 2024; Sarwar et al., 2023). Within this framework, digital reminder systems represent a form of low-cost, behaviorally informed intervention that can enhance compliance while improving administrative efficiency (Abdussamad et al., 2024).

Empirically, prior studies provide important insights into the role of digital technologies in public service delivery, but they remain fragmented and context-specific. For instance, Ammara & Hafiza (2025) demonstrate that digital health services can expand access but face implementation constraints such as low digital literacy and institutional coordination challenges. Similarly, Kurniadi & Sutabri (2025) highlight how digital administrative platforms improve efficiency and transparency through integrated payment and reminder features, although their focus remains on tax administration rather than compliance behavior. In the context of service automation, Ramadhan et al. (2025) show that chatbot integration enhances responsiveness and user experience, yet the study does not explicitly address compliance outcomes. Santoso & Hertati (2025) further indicate that e-government systems can improve efficiency and transparency, but their effectiveness is constrained by infrastructural and system reliability issues. Meanwhile, Yanti & Suroto (2024) emphasize that digital queuing systems can reduce waiting time and improve service efficiency, although their analysis remains limited to service access rather than obligation fulfillment.

While these studies collectively confirm the potential of digital innovation in improving public service delivery (Ammara & Hafiza, 2025; Kurniadi & Sutabri, 2025; Ramadhan et al., 2025; Santoso & Hertati, 2025; Yanti & Suroto, 2024), they reveal three critical limitations. First, the majority of studies focus on service accessibility and efficiency, rather than compliance behavior as the primary outcome. Second, the role of simple digital interventions—such as reminder systems—as behavioral tools remains underexplored, particularly in enforcement-based administrative contexts. Third, there is a lack of empirical evidence linking digital reminder systems not only to compliance outcomes but also to downstream administrative effects, such as evidence management

and backlog reduction within prosecution institutions. These limitations indicate a more specific research gap: the absence of integrated analysis examining how digital reminder systems simultaneously influence compliance behavior and administrative efficiency in traffic ticket enforcement.

To address this gap, the Kuantan Singingi District Attorney's Office implemented a WhatsApp-based digital reminder system to notify offenders of their payment obligations and the procedures for retrieving confiscated evidence. By providing timely and direct notifications, the system introduces a proactive service mechanism aimed at improving compliance and accelerating case resolution. Given the direct linkage between fine payment and evidence retrieval, increased compliance is expected to reduce the accumulation of confiscated items and improve overall administrative performance.

Accordingly, this study aims to examine the effectiveness of digital reminder services in improving compliance with fine payments and the retrieval of confiscated evidence in traffic ticket administration. By integrating compliance theory and digital governance perspectives, this study contributes to the literature in two ways. First, it provides empirical evidence on the role of digital reminder systems as behavioral interventions in compliance-driven administrative contexts. Second, it extends prior research by demonstrating how such systems generate not only behavioral outcomes but also measurable improvements in administrative efficiency, particularly in evidence management within prosecution institutions.

Method

This study employs a quantitative approach with an evaluative design to examine the effectiveness of digital reminder services in traffic ticket administration. This approach was selected to systematically compare conditions before and after the implementation of the digital reminder system in improving compliance with fine payments and the retrieval of confiscated evidence.

The research adopts a before–after study (pre–post analysis) design by comparing administrative traffic ticket data from the period prior to the implementation of the digital reminder service (2024) and the period following its more systematic implementation (2025). The unit of analysis in this study is traffic ticket cases, aggregated at both monthly and annual levels. Monthly data are used to identify short-term trends in compliance behavior, while annual aggregation enables a comprehensive comparison of overall administrative performance between the two periods.

The data used in this study consist of secondary data obtained from traffic ticket administration records at the Kuantan Singingi District Attorney's Office. The dataset includes the total number of traffic cases adjudicated, the number of cases resolved, the amount of fines collected, and the number of confiscated items retrieved in each observation period. Additionally, the data include the monetary value of fines and administrative fees settled by offenders. All data are recorded at the case level and subsequently aggregated for analysis.

Data analysis was conducted using a descriptive comparative technique by comparing key performance indicators before and after the implementation of the digital reminder service. The analysis focuses on calculating the percentage of case resolution, the percentage of fine payments, and the rate of evidence retrieval. To provide a more nuanced understanding of compliance dynamics, monthly trend analysis was also

performed to examine temporal patterns and consistency of changes following the intervention.

In this study, service effectiveness is measured based on improvements in offender compliance in fulfilling traffic-related obligations. This is reflected in increases in the percentage of fine payments and evidence retrieval, as well as reductions in the number of unresolved cases. Accordingly, the effectiveness of the digital reminder service is interpreted as the system's ability to enhance overall performance in traffic ticket administration.

However, it is important to acknowledge that the before–after design is inherently subject to potential validity limitations. Changes observed between the two periods may not be solely attributable to the implementation of the digital reminder system, as external factors—such as policy adjustments, regulatory changes, or increased public awareness—may also influence compliance behavior. To mitigate this limitation, this study utilizes consistent administrative data sources, applies the same measurement indicators across both periods, and incorporates monthly trend analysis to assess the stability and continuity of observed improvements. Nevertheless, the findings should be interpreted with caution, as the study does not employ a control group or experimental design to fully isolate causal effects.

Result

This study examines the effectiveness of digital reminder services in improving compliance with fine payments and the retrieval of confiscated evidence in traffic ticket administration at the Kuantan Singingi District Attorney's Office. The analysis is based on a before–after comparison using aggregated case-level data at both monthly and annual levels for the periods 2024 and 2025. The results are presented in Table 1.

Table 1. Comparison of Traffic Ticket Administration Performance in 2024 and 2025

Indicator	2024 (Before)	2025 (After)	Change
Cases			
Total cases adjudicated	719	731	↑ 48.3 percentage points
Cases resolved	461	690	
Resolution rate (%)	46,1%	94,4%	
Fines			
Total fines	Rp189.070.000	Rp157.921.000	↑ 36.6 percentage points
Fines collected	Rp107.960.000	Rp147.910.000	
Payment rate (%)	57,1%	93,7%	

Source: Author's own calculation

As shown in Table 1, there is a substantial improvement in traffic ticket administration performance following the implementation of the digital reminder service. The case resolution rate increased markedly from 46.1% in 2024 to 94.4% in 2025, representing an increase of 48.3 percentage points. In absolute terms, the number of resolved cases increased from 461 to 690, indicating a significant enhancement in administrative throughput.

Similarly, the fine payment rate improved from 57.1% in 2024 to 93.7% in 2025, reflecting an increase of 36.6 percentage points. The total value of fines collected also increased from Rp107,960,000 to Rp147,910,000, despite a lower total nominal fine in 2025. This suggests a higher level of compliance in fulfilling financial obligations.

At the operational level, the increase in fine payment compliance is directly associated with evidence retrieval. As offenders typically retrieve confiscated items after completing payment, the observed increase in payment rates corresponds with a reduction in the accumulation of retained evidence. Monthly trend analysis further indicates that improvements in both resolution and payment rates are not isolated occurrences but are consistently observed across multiple periods following implementation. To further illustrate these changes, a summary of service effectiveness is presented in Table 2.

Table 2. Summary of Service Effectiveness

Indicator	Before Implementation	After Implementation	Implication
Payment compliance	Low and fluctuating	High and stable	Improved
Case resolution	Inconsistent	Consistently high	More effective
Evidence retrieval	Delayed	Faster	More efficient

Source: Author's own analysis

Discussion

The findings of this study provide empirical evidence that the implementation of digital reminder services is associated with substantial improvements in compliance and administrative performance. Rather than merely indicating general improvements, the results demonstrate quantifiable changes, particularly in the case resolution rate (from 46.1% to 94.4%) and the fine payment rate (from 57.1% to 93.7%), suggesting a strong behavioral response following the introduction of the reminder system.

From a compliance perspective, the magnitude of these increases indicates that the digital reminder service functions as an effective behavioral intervention. The near-doubling of the case resolution rate suggests that the primary constraint prior to implementation was not procedural capacity, but rather delayed or absent offender response. This finding supports the argument that compliance in administrative systems is highly sensitive to timely and direct information delivery, consistent with compliance theory. In this context, the reminder system reduces informational gaps and cognitive delays, thereby increasing the likelihood of timely action by offenders.

In terms of public service effectiveness, the data indicate a substantial improvement in administrative throughput. The increase in resolved cases from 461 to 690, alongside a relatively similar number of total cases, suggests that the system contributes to faster case processing rather than increased workload. This distinction is important, as it indicates that the observed improvements are linked to enhanced process efficiency rather than external increases in case volume.

From an operational standpoint, the relationship between payment compliance and evidence retrieval is particularly significant. The data show that higher payment rates are accompanied by increased completion of administrative processes, which implicitly includes the retrieval of confiscated evidence. This confirms that digital reminder systems generate downstream administrative effects, not only influencing compliance behavior but also reducing backlog accumulation. Consequently, the reduction in retained evidence can be interpreted as an indirect but measurable outcome of improved compliance, rather than a separate administrative intervention.

These findings are consistent with prior studies demonstrating that digital technologies can enhance efficiency and user responsiveness in public services (Ammara & Hafiza, 2025; Kurniadi & Sutabri, 2025; Ramadhan et al., 2025; Santoso & Hertati,

2025; Yanti & Suroto, 2024). However, unlike previous research that primarily focuses on service accessibility and user experience, this study provides evidence that digital reminder systems can directly influence compliance behavior and administrative outcomes simultaneously. This highlights the role of simple digital interventions as mechanisms for aligning user behavior with administrative processes in enforcement-based contexts.

Nevertheless, several limitations must be considered when interpreting these findings. The before–after design does not fully isolate causal effects, as external factors—such as policy changes, enforcement intensity, or increased public awareness—may also contribute to the observed improvements. Additionally, the pre-implementation period was partially influenced by limited use of the reminder system, which may reduce the contrast between the two periods. Furthermore, this study relies exclusively on administrative data and does not capture user perceptions or satisfaction, which may provide additional insights into system effectiveness.

Overall, the results indicate that digital reminder services represent a practically effective and scalable intervention for improving compliance-driven administrative systems. The findings suggest that even relatively simple technological solutions can produce measurable improvements in both behavioral and operational dimensions of public service delivery.

Conclusion

This study demonstrates that digital reminder services are an effective mechanism for improving compliance and administrative performance in traffic ticket administration. The findings indicate that a proactive, technology-enabled reminder system can enhance offenders' responsiveness, leading not only to higher payment compliance but also to faster completion of related administrative processes, including evidence retrieval and backlog reduction. Theoretically, this study contributes by highlighting the role of digital reminder systems as behaviorally informed interventions within compliance-based administrative contexts. It shows that relatively simple digital technologies can generate dual impacts, influencing both individual compliance behavior and broader administrative efficiency. However, this study is limited by the use of a before–after design without a control group. Future research is encouraged to apply more rigorous designs, such as quasi-experimental approaches, and to incorporate user-level perspectives, including perceived usefulness and digital acceptance, as well as testing the model across different institutional contexts.

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