



Policy Implementation and Effectiveness of Electronic Traffic Law Enforcement in the Indonesian National Police

Norman Nontiko¹, Hafys Sanjaya²

¹Bandar Lampung City Police Resort, ²Pringsewu Regency Regional Secretariat

E-mail: normannontiko43@gmail.com

Abstract

The implementation of Electronic Traffic Law Enforcement (ETLE) represents a strategic effort by the Indonesian National Police to modernize traffic law enforcement through the utilization of digital technology. This study aims to analyze the effectiveness of ETLE policy implementation at the Bandar Lampung Metropolitan Police and identify factors influencing its effectiveness. A qualitative research method with a case study approach was employed. Data were collected through in-depth interviews, observations, and document analysis involving police officers, ETLE operators, government officials, and community members. The findings indicate that the implementation of ETLE has been moderately effective in achieving its objectives, particularly in improving transparency, accountability, and efficiency in traffic law enforcement. The integration dimension demonstrates satisfactory inter-agency coordination and public outreach efforts, although information dissemination has not yet reached all segments of society. In terms of adaptation, both law enforcement personnel and the public have gradually adjusted to the digital-based enforcement system, despite challenges related to digital literacy and procedural understanding. Several factors continue to hinder effectiveness, including limited public awareness, inadequate socialization, technical obstacles, and low responsiveness among traffic violators. Therefore, strengthening public education, expanding socialization programs, and improving service quality are essential to optimize ETLE implementation and enhance public compliance with traffic regulations.

Keywords: Electronic Traffic Law Enforcement (ETLE), Policy Implementation, Effectiveness, Traffic Law Enforcement, Public Administration.

Introduction

The rapid development of information and communication technology has brought significant changes to various sectors of public service, including the traffic law enforcement system in Indonesia (Prayitno, 2023). The digital transformation initiated by the government and law enforcement institutions aims to improve service effectiveness, transparency, and accountability in the implementation of public duties (Shenkoya, 2023). One of these innovations is reflected in the implementation of the Electronic Traffic Law Enforcement (ETLE) program, developed by the Indonesian National Police as part of the modernization of traffic law enforcement. This program

utilizes surveillance cameras and digital systems to automatically detect and record traffic violations, enabling law enforcement processes to be conducted in a more objective, efficient, and transparent manner (Amiruddin et al., 2025).

The implementation of ETLE is supported by a strong legal foundation, as stipulated in Law Number 22 of 2009 concerning Road Traffic and Transportation, particularly Article 272, which authorizes the use of electronic devices as supporting instruments in traffic law enforcement. The introduction of the ETLE system represents a strategic step toward establishing a modern and technology-based traffic governance system. In addition to improving public discipline in traffic compliance, the system is also expected to minimize illegal levies and reduce direct interactions between violators and law enforcement officers, which have long been considered vulnerable to the abuse of authority (Fatmawati et al., 2025).

Nevertheless, the implementation of the ETLE policy in various regions continues to face several challenges that affect its overall effectiveness. Low public awareness regarding traffic discipline, limited technological infrastructure, inadequate policy dissemination, and coordination issues among institutions are common obstacles encountered in the implementation process. These conditions indicate that the success of ETLE implementation depends not only on technological readiness but also on the quality of human resources, institutional capacity, and the level of public compliance with traffic regulations (Yilema & Gianoli, 2018).

Bandar Lampung, as one of the urban areas with high levels of community mobility, has also implemented the ETLE system through Bandar Lampung Metropolitan Police. The program has been applied at several strategic locations identified as traffic violation-prone areas. The implementation of ETLE in Bandar Lampung is expected to reduce traffic violations, enhance public legal awareness, and create safer and more orderly traffic conditions. However, several issues remain evident in practice, including limited public understanding of ETLE mechanisms, the insufficient number of surveillance cameras, and technical problems related to law enforcement procedures and electronic fine payments. In addition, traffic violations such as running red lights, not wearing helmets, driving against traffic flow, and using mobile phones while driving are still frequently observed (Cohn et al., 2020).

Based on these conditions, an in-depth study on the effectiveness of ETLE policy implementation within the jurisdiction of the Bandar Lampung Metropolitan Police is necessary. Evaluating the implementation of this policy is essential to assess the extent to which the program objectives have been achieved, identify factors that hinder its implementation, and formulate policy alternatives that may improve the quality of ETLE implementation in the future. Therefore, this study focuses on

analyzing the effectiveness of the implementation of the Electronic Traffic Law Enforcement (ETLE) policy at the Bandar Lampung Metropolitan Police as part of broader efforts to establish a modern, transparent, and compliance-oriented traffic law enforcement system.

Literature Review

Effectiveness

Effectiveness is a concept used to measure the extent to which an organization, program, or policy successfully achieves its predetermined objectives (Sharma & Singh, 2019). In the context of public administration, effectiveness is not solely assessed based on the achievement of final targets, but also on how the implementation process is carried out accurately, efficiently, and in accordance with the intended goals. Therefore, effectiveness serves as an important indicator in evaluating the quality of public policy implementation, as it is closely related to an organization's ability to utilize available resources in producing optimal outputs and outcomes (Irtysheva et al., 2023).

According to (Bandura, 2023), effectiveness refers to an organization's capability to perform its duties, functions, and missions without experiencing significant obstacles or pressures. Similarly, (Dler & Tawfeq, 2021) explains that effectiveness reflects the degree of success achieved in completing a task in accordance with expected outcomes. Thus, effectiveness can be understood as the relationship between achieved results and predetermined objectives. The greater the alignment between outcomes and targets, the higher the level of effectiveness of a program or activity.

Furthermore (Lucianetti et al., 2019), explains that organizational effectiveness can be measured using three primary indicators: goal achievement, integration, and adaptation. Goal achievement refers to the organization's ability to accomplish the targets that have been established. Integration reflects the organization's capacity to develop effective coordination and communication with both internal and external stakeholders (Lehtinen & Aaltonen, 2020). Meanwhile, adaptation relates to the organization's ability to adjust to environmental changes and evolving societal needs. These three indicators provide an important framework for evaluating the effectiveness of public policy implementation, including the application of the Electronic Traffic Law Enforcement (ETLE) system (Shaffril et al., 2019).

Policy Implementation

Policy implementation constitutes a crucial stage in the public policy process, as

it determines the extent to which a policy can achieve its intended objectives (Gambi, 2017). Implementation is not merely concerned with the technical execution of a program; rather, it also encompasses coordination processes, resource management, communication, and supervision of policy execution (Chen, 2021). Within the field of public administration, policy implementation is understood as the concrete actions undertaken by governments and related stakeholders to realize decisions that have been formally established (Van Meter & Van Horn, 1975).

According to (Jiang et al., 2024), policy implementation refers to actions carried out by individuals, officials, governmental institutions, or private groups directed toward achieving the objectives outlined in policy decisions. Furthermore, the implementation process is influenced by various factors, including communication, resource availability, organizational characteristics of implementing agencies, implementers' dispositions, and prevailing social, economic, and political conditions. Consequently, the success of policy implementation largely depends on the ability of implementing organizations to manage these factors effectively and efficiently (Anderson, 2023).

In the context of modern public policy, technology-based policy implementation has emerged as an important governmental innovation aimed at improving the quality of public services (Barusman et al., 2020). Policies supported by information technology enable administrative processes and regulatory enforcement to be conducted in a more effective, transparent, and accountable manner (Farida et al., 2018). Nevertheless, the implementation of technology-based policies continues to face several challenges, such as limited infrastructure, low levels of digital literacy among the public, and the need for stronger inter-agency coordination to ensure that policies are implemented optimally (Oktaviannur & Pratama, 2016).

Electronic Traffic Law Enforcement (ETLE)

Electronic Traffic Law Enforcement (ETLE) is a technology-based traffic law enforcement system designed to automatically detect and penalize traffic violations through electronic mechanisms. The system utilizes surveillance cameras or Closed Circuit Television (CCTV) installed at strategic locations to capture various forms of traffic violations. The recorded data are subsequently processed digitally, enabling law enforcement actions to be carried out without direct interaction between traffic officers and violators (Basri et al., 2025).

The implementation of ETLE is driven by the need to establish a more modern, transparent, and accountable traffic law enforcement system. Conventional ticketing procedures have long been criticized for several weaknesses, including the potential

for illegal levies, abuse of authority, and inefficiencies in the enforcement process. Through ETLE, enforcement procedures become more objective, as violations are automatically recorded and verified by an electronic system. Furthermore, the system is expected to enhance public awareness and compliance with traffic regulations by promoting greater discipline among road users (Junior et al., 2021).

From a legal perspective, the implementation of ETLE is based on Law Number 22 of 2009 concerning Road Traffic and Transportation, supported by additional regulations governing the use of electronic technology as admissible evidence in traffic violation cases. In practice, the effectiveness of ETLE implementation is strongly influenced by several factors, including the readiness of technological infrastructure, the quality of human resources, inter-agency coordination, and the level of public understanding regarding the system's mechanisms. Therefore, evaluating the effectiveness of ETLE implementation is essential to determine the extent to which the policy has achieved its intended objectives (Azzahra et al., 2025).

Traffic Violations

Traffic violations refer to any actions committed by road users that are inconsistent with the provisions stipulated in traffic and road transportation regulations. Such violations may include running red lights, crossing road markings, failing to wear helmets, using mobile phones while driving, and driving against the traffic flow. These violations not only demonstrate noncompliance with legal regulations but also pose significant risks to the safety of other road users (Primanto & Puspitasari, 2022).

Law Number 22 of 2009 concerning Traffic and Road Transportation emphasizes that every road user is obligated to maintain orderly conduct and avoid actions that may disrupt traffic security and safety. However, in practice, traffic violations remain prevalent due to low levels of legal awareness, inadequate traffic discipline, and weak supervision and law enforcement. As a consequence, these conditions contribute to high rates of traffic accidents and reduce the overall quality of road order and public safety (Paul et al., 2021).

Efforts to address traffic violations require not only repressive measures but also preventive and educational approaches. One of the government's strategies to improve public discipline in traffic compliance is the implementation of the Electronic Traffic Law Enforcement (ETLE) system. Through technology-based monitoring, road users are expected to become more cautious and compliant with traffic regulations, as violations can be detected automatically. Furthermore, this system is anticipated to foster a sustainable culture of traffic discipline within society

(Factor, 2018).

Research Framework

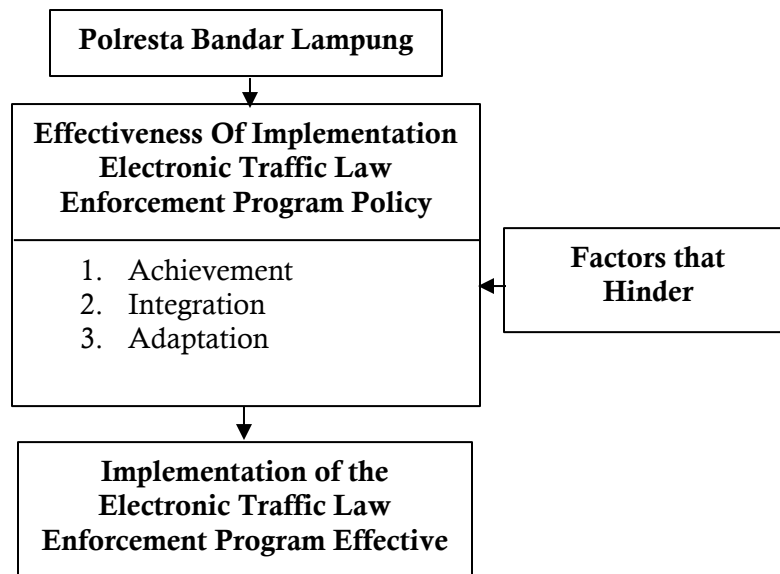


Figure 1. Framework

Method

This study employs a qualitative research design using a case study approach to examine the effectiveness of the Electronic Traffic Law Enforcement (ETLE) policy implementation at the Bandar Lampung Municipal Police Resort (Polresta Bandar Lampung). A qualitative approach was selected because the study aims to obtain an in-depth understanding of the effectiveness of ETLE implementation, the factors influencing its execution, and the various challenges encountered during the implementation process. The case study approach is considered appropriate as the research focuses on a specific phenomenon occurring within a particular institutional setting, namely Polresta Bandar Lampung, which serves as the primary agency responsible for implementing the ETLE program.

The research was conducted at Polresta Bandar Lampung, particularly within the Traffic Police Unit, which is responsible for the operation and management of the ETLE system. The study site was selected because all administrative processes and electronic traffic violation enforcement activities within the Bandar Lampung area are coordinated through this institution. Research informants were selected using a purposive sampling technique based on their knowledge, experience, and involvement in the implementation of the ETLE policy. The informants included the Head of the Traffic Police Unit of Polresta Bandar Lampung, ETLE operators and administrators, officials from the Bandar Lampung City Transportation Agency, and members of the public who had experienced or received electronic traffic violation notices through the ETLE system.

The study utilized both primary and secondary data sources. Primary data were collected through in-depth interviews with informants to obtain comprehensive information regarding the implementation process, effectiveness, and challenges associated with the ETLE program. Secondary data were obtained from various supporting documents, including internal reports of Polresta Bandar Lampung, traffic violation statistics before and after the implementation of ETLE, relevant laws and regulations, standard operating procedures (SOPs), and other related literature and publications. Data collection was carried out through semi-structured interviews, non-participant observation, and documentation review, enabling the researcher to obtain comprehensive and complementary information from multiple sources (Lochmiller, 2021).

The collected data were analyzed using the qualitative data analysis model developed by (Babchuk, 2019), which consists of data reduction, data display, and conclusion drawing and verification. Data reduction was conducted by selecting, organizing, and simplifying relevant information, while data display facilitated the systematic presentation and interpretation of findings. The final stage involved drawing conclusions and continuously verifying them throughout the research process. To ensure the trustworthiness of the findings, the study applied source triangulation, methodological triangulation, and member checking. Source triangulation was conducted by comparing information obtained from different informants, whereas methodological triangulation involved cross-checking findings derived from interviews, observations, and documentary evidence. Furthermore, member checking was performed by confirming the interview results with the participants to ensure the accuracy and credibility of the data. Through these procedures, the study seeks to achieve a high level of credibility, validity, and reliability in its findings.

Result And Discussion

The Effectiveness of the Implementation of the Electronic Traffic Law Enforcement (ETLE) Program Policy at the Indonesian National Police, Bandar Lampung Police Department

Traffic ticketing serves as a legal enforcement mechanism implemented by the Indonesian National Police to address traffic violations and promote public compliance with road traffic regulations. In response to technological advancements and the growing demand for more effective public services, the conventional ticketing system has gradually evolved into the Electronic Traffic Law Enforcement (ETLE) system, which was introduced in Bandar Lampung City in 2017. The adoption of this

technology-based enforcement system is intended to enhance the effectiveness, efficiency, transparency, and accountability of traffic law enforcement administration while reducing opportunities for misconduct and irregularities in the enforcement process. To assess the effectiveness of its implementation, this study evaluates the ETLE program using the dimensions of goal attainment, integration, and adaptation. Data were collected from personnel of the Bandar Lampung Municipal Police Department (Polresta Bandar Lampung) and members of the public who utilize the service to identify its strengths, challenges, and overall effectiveness in achieving the intended policy objectives.

Achievement of Goals

Based on interviews conducted with both police officers and community members, the implementation of Electronic Traffic Law Enforcement (ETLE) in Bandar Lampung has been perceived as relatively effective in achieving its primary objectives, namely improving public compliance with traffic regulations, facilitating the administration of penalties and fines, and reducing direct interactions between law enforcement officers and traffic violators. According to the Head of the Traffic Unit of the Bandar Lampung Metropolitan Police, the introduction of ETLE has contributed to a noticeable decline in common traffic violations, such as riding without helmets and running red lights, particularly in areas equipped with ETLE cameras. Furthermore, the system is regarded as more transparent and accountable, while also minimizing opportunities for misconduct and irregularities in the law enforcement process.

From the public perspective, ETLE offers greater convenience in handling traffic violations because evidence can be accessed digitally through links sent directly to offenders, accompanied by clear photographic documentation. In addition, fines can be paid through banking services without requiring attendance at court proceedings, making the process more practical and efficient than the conventional ticketing system. Consequently, community members perceive ETLE as a mechanism that enhances transparency and reduces the administrative complexities previously associated with traffic violation settlements.

Despite these advantages, several challenges continue to affect the implementation of ETLE. Police authorities reported that a proportion of the public still demonstrates limited compliance with the prescribed procedures for resolving traffic violations, including the payment of fines through designated banking channels and adherence to the required legal process. Factors such as busy schedules, inadequate understanding of the system, and limited legal awareness have been identified as the primary reasons

why some offenders fail to follow the recommended procedures. Moreover, members of the public emphasized the need for more intensive and continuous socialization efforts to improve public understanding of ETLE and to foster greater awareness of traffic safety and legal compliance.

Overall, the interview findings indicate that the goal attainment dimension of ETLE implementation in Bandar Lampung can be categorized as effective to moderately effective. The program has successfully streamlined the management of penalties and fines while improving the transparency of traffic law enforcement services. Nevertheless, further optimization is required through enhanced public outreach, broader ETLE surveillance coverage, and strengthened public awareness initiatives to ensure that the program's objectives are achieved more comprehensively and sustainably.

Integration

Based on interviews conducted with both law enforcement officials and community members, the integration aspect of the Electronic Traffic Law Enforcement (ETLE) implementation in Bandar Lampung City demonstrates a relatively satisfactory level of effectiveness, particularly in terms of public outreach and inter-agency coordination. The Traffic Unit of the Bandar Lampung Municipal Police (Satlantas Polresta Bandar Lampung) has undertaken various dissemination efforts, including social media campaigns, direct education for traffic violators, public seminars, and collaboration with judicial and prosecutorial institutions to provide information regarding ETLE procedures, sanctions, and fine payment mechanisms. These initiatives are intended to enhance public understanding of the transition from the conventional ticketing system to a more transparent, efficient, and technology-based enforcement mechanism.

Despite these efforts, the interview findings indicate that information dissemination has not yet reached all segments of society effectively. Several respondents reported difficulties in understanding the procedures for resolving traffic violations, particularly in cases involving discrepancies in vehicle ownership records, such as leased vehicles or vehicles that have changed ownership without updated registration data. Furthermore, residents living in suburban and peripheral areas were found to have limited access to information regarding the ETLE system. Some participants also highlighted ongoing challenges related to the synchronization of vehicle registration databases, which may hinder the smooth implementation of the program.

Overall, the findings from both interviews and field observations suggest that the

integration dimension of ETLE implementation has been supported by reasonably effective communication, public socialization, and inter-institutional coordination. However, further improvements are required to enhance its effectiveness, particularly through expanding the coverage of public outreach activities, strengthening collaboration among relevant stakeholders, and improving the accuracy and integration of vehicle ownership databases. Such measures are expected to increase public understanding and facilitate greater utilization of ETLE services. Therefore, the integration dimension in this study can be categorized as moderately effective, although additional efforts are necessary to achieve a higher level of program effectiveness.

Adaptation

Based on interviews conducted with community members and officers of the Bandar Lampung City Police Resort, the adaptation dimension of the Electronic Traffic Law Enforcement (ETLE) implementation indicates that the public has gradually adjusted to the digital-based traffic law enforcement system. Most informants reported that ETLE simplifies the process of handling traffic violations, as all procedures, ranging from violation verification to fine payment, can be completed online. Nevertheless, during the initial stage of implementation, some members of the public experienced difficulties in understanding the operational procedures, particularly those related to accessing information, confirming violations, and completing electronic payment transactions.

The findings further reveal that the community's ability to adapt is strongly influenced by the level of digital literacy. Several informants acknowledged requiring assistance from family members or other individuals to understand the procedures associated with the ETLE system. However, as the use of information technology becomes increasingly integrated into daily activities, community members have become more familiar with electronic service mechanisms. This trend suggests that adaptation to ETLE has occurred progressively and has been shaped by both user experience and the accessibility of available information.

From the perspective of the police, ETLE has introduced significant improvements compared to the conventional ticketing system. The system has enhanced service efficiency, accelerated the resolution of traffic violations, and reduced opportunities for irregular practices, such as brokerage services and illegal levies, which were often associated with traditional traffic enforcement procedures. Furthermore, ETLE has received a generally positive response from the public because it is perceived as more transparent, practical, and capable of providing greater legal

certainty in the enforcement of traffic regulations.

Despite these positive developments, several challenges continue to affect the effectiveness of public adaptation to the ETLE system. These challenges primarily include limited public understanding of the applicable procedures and the insufficient scope of socialization and public outreach activities. Therefore, more intensive efforts are required through continuous public education, the provision of user-friendly guidelines, and the expansion of information dissemination channels. Overall, the findings indicate that the adaptation dimension of ETLE implementation in Bandar Lampung City can be categorized as moderately effective, as reflected in the growing public acceptance of the digital system. Nevertheless, further improvements are necessary to optimize its implementation and maximize its benefits for both law enforcement agencies and the community.

Factors Affecting the Effectiveness of the Implementation of Electronic Traffic Fines (ETLE) for Traffic Sign Violators in Bandar Lampung City

The findings indicate that several factors continue to hinder the effectiveness of the Electronic Traffic Law Enforcement (ETLE) system in Bandar Lampung City. In terms of goal attainment, a significant challenge lies in the limited public understanding of the procedures for resolving traffic violations, including the processes for sanction administration and electronic fine payments. As a result, many violators demonstrate a low level of responsiveness in fulfilling their obligations after committing traffic offenses, which reduces the overall effectiveness of the system.

Regarding integration, the dissemination and socialization of the ETLE program have not yet reached all segments of society effectively. Limited institutional resources, combined with the large and diverse population of Bandar Lampung, have constrained the ability of law enforcement authorities to provide comprehensive and equitable information. Furthermore, several technical issues related to fine payment procedures through banking services continue to create obstacles that may affect the smooth implementation of the program.

From the perspective of adaptation, the effectiveness of ETLE is also influenced by the relatively low level of public participation and responsiveness toward the system. The lack of feedback and limited public awareness in following up on traffic violations indicate that the process of adapting to the electronic enforcement system remains incomplete. Therefore, strengthening public education, expanding socialization efforts, and encouraging greater community engagement are essential to improving the effectiveness and long-term sustainability of ETLE implementation.

Conclusion

Based on the findings, the implementation of the Electronic Traffic Law Enforcement (ETLE) system in Bandar Lampung can be considered moderately effective in supporting traffic law enforcement, particularly in terms of goal attainment, integration, and adaptation. The program has contributed to greater transparency, accountability, and efficiency in the management of traffic violations by utilizing technology-based enforcement mechanisms. Furthermore, ETLE has simplified the violation handling process and reduced direct interactions between law enforcement officers and road users. Despite these achievements, several challenges continue to affect the effectiveness of its implementation, including limited public outreach, insufficient technological literacy among certain segments of the community, and the need for broader adaptation to electronic-based systems. Therefore, strengthening public awareness campaigns, enhancing educational initiatives, and continuously improving ETLE services are essential to optimize program implementation and promote greater public compliance with traffic regulations.

Bibliography

- Amiruddin, S., Aziz, Y. M., Rosyid, M. I., Danial, D. W., Sugiharto, A., & Nurfebriansyah, A. R. (2025). Smart Law Enforcement and Urban Mobility: Evaluating the Impact of Electronic Traffic Law Enforcement (ETLE) on Traffic Discipline (Kamseltibcarlantas) in Emerging Cities. *Journal of Cultural Analysis and Social Change*, 2213–2231. <https://doi.org/10.64753/jcasc.v10i3.2738>
- Anderson, R. (2023). The impact of the control function on the effectiveness of policy implementation. *Journal of Public Affairs*, 23(4), 1–10. <https://doi.org/10.1002/pa.2875>
- Azzahra, M., Arianto, B., & Darmawan, E. (2025). The Electronic Traffic Law Enforcement Program Policy (ETLE) In Tanjungpinang City. *IJGAM- Interdisciplinary Journal of Global and Multidisciplinary*, 1(3), 122–131.
- Babchuk, W. A. (2019). Fundamentals of qualitative analysis in family medicine. *Family Medicine and Community Health*, 7(2), e000040. <https://doi.org/10.1136/fmch-2018-000040>
- Bandura, A. (2023). Cultivate Self-Efficacy for Personal and Organizational Effectiveness. In *Principles of Organizational Behavior* (pp. 113–135). Wiley. <https://doi.org/10.1002/9781394320769.ch6>
- Barusman, A. R. P., Nurdiawansyah, Warganegara, T. L. P., & Mega, S. A. (2020). Influence of Company Characteristics on Carbon Disclosure Emissions on

- Manufacturing Companies in Indonesia. *International Journal of Advanced Science and Technology*, 29(6), 1423–1431.
- Basri, M., Qamar, N., & Badaru, B. (2025). Effectiveness of Electronic Law Enforcement in Reducing Traffic Violations: Empirical Evidence from Gowa Regency, Indonesia. *AND SOCIAL POLICY REVIEW*, 4(2), 182–194. <https://doi.org/10.52970/grlspr.v4i2.1880>
- Chen, Y. (2021). The Impact of Responsibility Delegation on Policy and Practice Implementation: A Contingency Approach. *Public Performance & Management Review*, 44(4), 842–867. <https://doi.org/10.1080/15309576.2021.1918188>
- Cohn, E. G., Kakar, S., Perkins, C., Steinbach, R., & Edwards, P. (2020). Red light camera interventions for reducing traffic violations and traffic crashes: A systematic review. *Campbell Systematic Reviews*, 16(2), 1–52. <https://doi.org/10.1002/cl2.1091>
- Dler, S. M., & Tawfeq, A. O. (2021). Importance of Managerial Roles and Capabilities on Organizational Effectiveness. *International Journal of Academic Research in Business and Social Sciences*, 11(4), 957–964. <https://doi.org/10.6007/IJARBSS/v11-i4/9748>
- Factor, R. (2018). Reducing traffic violations in minority localities: Designing a traffic enforcement program through a public participation process. *Accident Analysis & Prevention*, 121, 71–81. <https://doi.org/10.1016/j.aap.2018.09.005>
- Farida, I., Purnomo, A., & Nuzir, F. A. (2018). Development model of public open space in Bandar Lampung City's regional government. *Journal Opcion*, 34, 879–895.
- Fatmawati, Rusliadi, Aprilia, D. E., Nugraha, N. P., & Subaedah. (2025). Evaluation of Electronic Traffic Law Enforcement (ETLE) in Improving Traffic Compliance in Makassar City. *Journal of Cultural Analysis and Social Change*, 10(3), 1500–1510. <https://doi.org/10.64753/jcasc.v10i3.2624>
- Gambi, M. O. (2017). Policy Implementation: Lessons from the Chilean Policy on Public Management Modernization. *Central European Journal of Public Policy*, 11(1), 41–54. <https://doi.org/10.1515/cejpp-2016-0030>
- Irtysheva, I., Pavlenko, O., Boiko, Y., Stehnei, M., Kramarenko, I., Hryshyna, N., & Ishchenko, O. (2023). Evaluation Of Efficiency Of Regional Public Governance In The Context Of Achieving Goals Of Sustainable Development. *Management Theory and Studies for Rural Business and Infrastructure Development*, 44(4), 497–505. <https://doi.org/10.15544/mts.2022.49>
- Jiang, T., Gao, H., Chen, G., Dai, X., Xu, W., & Wang, Z. (2024). The complexity of

- environmental policy implementation in China: a set-theoretic approach to environmental monitoring policy dynamics. *Frontiers in Environmental Science*, 11, 1–16. <https://doi.org/10.3389/fenvs.2023.1335569>
- Junior, U. A., Sumadinata, R. W. S., Widianingsih, I., & Nurasa, H. (2021). Implementation Of ETLE (Electronic Traffic Law Enforcement) Policy at Polda Metro Jaya's Ditlantas. *Seybold Rep*, 17, 182–195. <https://doi.org/10.5281/zenodo.6606422>
- Lehtinen, J., & Aaltonen, K. (2020). Organizing external stakeholder engagement in inter-organizational projects: Opening the black box. *International Journal of Project Management*, 38(2), 85–98. <https://doi.org/10.1016/j.ijproman.2019.12.001>
- Lochmiller, C. R. (2021). Conducting thematic analysis with qualitative data. *Qualitative Report*, 26(6), 2029–2044. <https://doi.org/10.46743/2160-3715/2021.5008>
- Lucianetti, L., Battista, V., & Koufteros, X. (2019). Comprehensive performance measurement systems design and organizational effectiveness. *International Journal of Operations & Production Management*, 39(2), 326–356. <https://doi.org/10.1108/IJOPM-07-2017-0412>
- Oktaviannur, M., & Pratama, A. (2016). *Influence of Work Motivation and Work Discipline on the Performance of Employees in Regional General Hospital in the District Demang Sepulau Raya Central Lampung*. 51–57.
- Paul, O., Chikezie, U., & Yusuf, U. A. (2021). Prevalence of Traffic Violation and Challenges of Traffic Policing in Gusau Metropolis, Zamfara State. *FUOYE Journal of Criminology and Security Studies (FJCSS)*, 1(1), 2790–3246.
- Prayitno, A. (2023). Technological Innovation in Public Administration Transformation: Case Study of e-Government Implementation in Indonesia. *Journal of Governance*, 8(4), 628–642. <https://doi.org/10.31506/jog.v8i4.23017>
- Primanto, A., & Puspitasari, L. (2022). The Effectiveness of Traffic and Road Transport Law Policies in Reducing the Violation Rate of Highway Users in the Territory of Indonesia. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, 5(3), 28285–28295. <https://doi.org/10.33258/birci.v5i3.6909>
- Shaffril, H. A. M., Samah, A. A., Samsuddin, S. F., & Ali, Z. (2019). Mirror-mirror on the wall, what climate change adaptation strategies are practiced by the Asian's fishermen of all? *Journal of Cleaner Production*, 232, 104–117. <https://doi.org/10.1016/j.jclepro.2019.05.262>
- Sharma, N., & Singh, R. K. (2019). A unified model of organizational effectiveness. *Journal of Organizational Effectiveness: People and Performance*, 6(2), 114–128.

<https://doi.org/10.1108/JOEPP-10-2018-0084>

Shenkoya, T. (2023). Can digital transformation improve transparency and accountability of public governance in Nigeria? *Transforming Government: People, Process and Policy*, 17(1), 54–71. <https://doi.org/10.1108/TG-08-2022-0115>

Van Meter, D. S., & Van Horn, C. E. (1975). The Policy Implementation Process. *Administration & Society*, 6(4), 445–488. <https://doi.org/10.1177/009539977500600404>

Yilema, M. G., & Gianoli, A. (2018). Infrastructure governance: Causes for the poor sectoral coordination among infrastructure sectors of Addis Ababa. *Cities*, 83, 165–172. <https://doi.org/10.1016/j.cities.2018.06.019>