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Article Title

The Effectiveness of Polling Station Supervisor Recruitment Based on Digital Literacy Competence for the SIWASLIH Application in Batam City

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ABSTRACT

The implementation of Regional Election oversight through the SIWASLIH application in Batam City continues to face operational constraints, barriers to digital adaptation, and limited supporting facilities for Polling Station Supervisors. This empirical legal research aims to evaluate the effectiveness of Polling Station Supervisor recruitment, analyze the determinants of recruitment dysfunction, and formulate optimization strategies based on digital literacy competence. Using a socio-legal approach, data were collected through in-depth interviews with seven informants and analyzed through a synthesis of legal system theory and legal effectiveness theory. The findings show that the ineffective use of SIWASLIH is caused by the absence of technical recruitment norms that explicitly assess the digital literacy competence of Polling Station Supervisors. Article 27 of Law Number 8 of 2015 provides the normative basis for the duties, authorities, and reporting obligations of Polling Station Supervisors. However, the implementation of these obligations through SIWASLIH has not been supported by adequate digital selection instruments under Bawaslu Regulation Number 19 of 2017 or Decree of the Chairperson of Bawaslu Number 301/HK.01.01/K1/09/2024. The absence of these technical indicators causes recruitment to rely on administrative assessment and general interviews. This study recommends revising technical recruitment instruments, affirming digital literacy indicators in Bawaslu regulations, developing SIWASLIH with offline functionality, providing practice-based technical training, and establishing a task force for technological assistance.

Keywords: *Digital Literacy; Electoral Oversight; Polling Station Supervisor; Recruitment; SIWASLIH.*

INTRODUCTION

The exercise of popular sovereignty under the 1945 Constitution requires integrity safeguards through adaptive oversight mechanisms. In this context, Regional Election oversight instruments have shifted from conventional paper-based management to a reporting system based on digital databases. The use of information technology in electoral governance is designed to improve administrative effectiveness, strengthen public accountability transparency, and accelerate responses to potential legal violations in the field (Waruwu et al., 2024). Accordingly, technological integration constitutes part of the state's institutional function to safeguard the validity of votes, the traceability of oversight reports, and the integrity of the Regional Election process.

In the 2024 Simultaneous Regional Elections, the Election Supervisory Board (*Badan Pengawas Pemilihan Umum/Bawaslu*) used the Election Oversight System (*Sistem Pengawasan Pemilihan/SIWASLIH*) application as a supporting instrument for election oversight (Bawaslu, 2024). The use of SIWASLIH places Polling Station Supervisors as oversight officers at the polling station level. The application supports the accelerated, staged consolidation of oversight reports within Bawaslu's institutional structure (Nurbaeti, 2025). Therefore, the successful use of SIWASLIH is determined not only by application design but also by the competence of the Polling Station Supervisors recruited to use it.

Normatively, the position of Polling Station Supervisors is grounded in Article 27 of Law Number 8 of 2015¹. This provision regulates the existence of Polling Station Supervisors, their formation and dissolution periods, oversight duties and authorities, and their obligation to submit oversight reports and documents on voting and vote-counting results. In technology-based oversight governance, this reporting obligation is implemented through the SIWASLIH application, in accordance with Bawaslu's technical policy. Thus, Article 27 is not positioned as the direct legal basis for the obligation to use SIWASLIH. Rather, it serves as the normative basis for the duties and reporting obligations of Polling Station Supervisors, which are implemented through a digital instrument.

Although a digital reporting system has been implemented, the application-based oversight still faces problems related to human resource capacity. Factual observation in Batam City shows the presence of Polling Station Supervisors aged over 50 among the oversight personnel at the polling station level. Based on field observations conducted by the Researcher at the Batam City Bawaslu Office, the group aged 50 and above accounted for 12.19% of the Polling Station Supervisor formation. Sociologically, this age group may face barriers to adapting to new technological tools, particularly when the use of applications is not preceded by adequate training and sufficient support from facilities (Zhang, 2023). Digital literacy deficiencies may cause anxiety during application use and operational constraints, thereby increasing the burden of implementing duties on voting day (Wijaya et al., 2022). This problem is directly related to the geographical characteristics of Batam City as an archipelagic area that still faces disparities in cellular connectivity, including areas with limited or no connectivity, namely blank spots (Kremer, 2024; Putri & Rahmawati, 2025).

This problem is also related to the design of the Polling Station Supervisor recruitment. Article 7 of Bawaslu Regulation Number 19 of 2017² has indeed included requirements for abilities and expertise in election administration, constitutional affairs, party affairs, and election oversight. However, this formulation remains general because it has not established operational indicators for digital literacy, practical application or use testing, or technological competence standards as prerequisites for Polling Station Supervisor recruitment. This weakness continues in Decree of the Chairperson of Bawaslu Number 301/HK.01.01/K1/09/2024. The interview assessment aspects under the decree still focus on electoral knowledge, integrity, communication, leadership, organizational ability, and local-content knowledge, without including a specific variable on digital literacy competence. This condition indicates a technical-operational legal vacuum in the assessment of digital literacy within Polling Station Supervisor recruitment.

¹Law Number 8 of 2015 on Amendment to Law Number 1 of 2015, as amended several times, lastly by Law Number 6 of 2020.

²Bawaslu Regulation Number 19 of 2017, as amended several times, lastly by Bawaslu Regulation Number 4 of 2022.

To analyze this problem, this study uses a dual-theory framework. Legal system theory is used as the primary theoretical framework to evaluate the regulatory architecture across the elements of legal substance, legal structure, and legal culture (Friedman, 1975). This approach is synthesized with legal effectiveness theory to analyze sociological factors, including infrastructure limitations and the adaptive capacity of Polling Station Supervisors in the field (Soekanto, 2019). This synthesis is necessary so that the study does not stop at normative assessment, but also explains the implementation of norms in institutional and social contexts.

The academic position of this study can be mapped through a critical evaluation of previous literature. Previous studies have predominantly focused on evaluating the efficiency of reporting applications at the macro-institutional level (Atiska, 2021; Anggista et al., 2025; Sifa', 2025), and on the urgency of digital literacy dissemination for novice voters (Beta et al., 2022; Abisono et al., 2024). Based on this research gap, the scientific novelty of this study lies in an empirical analysis of the weaknesses in the administrative-legal architecture for the recruitment of ad hoc election organizers within the digital oversight system. This analysis examines the relationship between the normative obligations of Polling Station Supervisors, technical recruitment instruments, and the actual capacity of Polling Station Supervisors to use SIWASLIH.

Based on the problem formulation above, this study has three main objectives arranged sequentially. The first objective is to evaluate the effectiveness of Polling Station Supervisor recruitment in supporting digitalized oversight through the SIWASLIH application in the Regional Election in Batam City. The second objective is to identify and analyze the determinants of recruitment dysfunction in assessing digital literacy competence by synthesizing legal system theory and legal effectiveness theory. The third objective is to formulate prescriptive optimization strategies to inform improvements to technical regulations, recruitment governance, and managerial support in the future.

METHOD

This study uses empirical legal research through a socio-legal approach. This approach is used to analyze the gap between the ideal legal condition, namely *das sollen*, and operational reality in the field, namely *das sein* (Tan, 2021). The ideal condition in this study refers to the norms on duties, authorities, and obligations of Polling Station Supervisors as regulated under Article 27 of Law Number 8 of 2015, recruitment requirements under Article 7 of Bawaslu Regulation Number 19 of 2017, and technical recruitment guidelines under Decree of the Chairperson of Bawaslu Number 301/HK.01.01/K1/09/2024. Meanwhile, the facts indicate inadequate digital literacy among some Polling Station Supervisors at the point of implementation.

Measuring this gap is the primary methodological parameter for assessing the level of legal effectiveness at the policy implementation stage (Qamar & Rezah, 2020).

An empirical observation was conducted in Batam City because its geographical characteristics are relevant to this study's focus. Batam City is an archipelagic area facing disparities in the quality of its telecommunications networks. Areas with limited cellular connectivity in coastal regions constitute a sociological variable that affects the success of SIWASLIH-based reporting by Polling Station Supervisors on voting day.

Research subjects were determined using purposive sampling to obtain qualitative data relevant to the research focus (Sampara & Husen, 2016). Based on this technique, this study involved seven informants divided into two clusters. The first cluster represented structural authorities, consisting of two officials from the Batam City Bawaslu office. This structural cluster was selected to assess the managerial capacity of Batam City Bawaslu in implementing parameters and methods for Polling Station Supervisor selection.

The second cluster represented technical implementers at the polling station level. This cluster consisted of five former Polling Station Supervisors aged above 50. The involvement of this age group was necessary to identify barriers to digital adaptation when Polling Station Supervisors used the SIWASLIH application. The informants' statements provided an empirical basis for assessing obstacles in using reporting software during the voting and vote-counting process.

Primary data were collected through in-depth interviews with seven informants. All informant statements were reproduced in the form of direct quotations to preserve data authenticity. To comply with research ethics regarding human subject protection, confidentiality, and informed consent, the real identities of all informants in this study were anonymized using a coding system. The structural authority cluster was designated as "Structural Informant 1" and "Structural Informant 2". Representatives of the implementation cluster at the polling station level were coded as "Implementing Informant 1" to "Implementing Informant 5".

To support the empirical analysis, secondary data were collected through a literature study and examination of primary legal materials (Irwansyah, 2020). Normative legal analysis was directed at Article 27 of Law Number 8 of 2015, Article 7 of Bawaslu Regulation Number 19 of 2017, and Decree of the Chairperson of Bawaslu Number 301/HK.01.01/K1/09/2024. These three instruments were used to identify whether the norms on duties, recruitment norms, and technical selection instruments provide a basis for assessing the digital literacy competence of Polling Station Supervisors.

All primary and secondary data were processed using descriptive-qualitative analysis (Disemadi, 2022). The analytical process was conducted using a dual-theory synthesis. The first stage focused on evaluating the effectiveness of Polling Station Supervisor recruitment in using SIWASLIH. The next stage analyzed the determinants of recruitment dysfunction in the elements of legal substance, legal structure, facilities, society, and legal culture. The final stage led to the formulation of optimization strategies for the recruitment system and to technical support for future digital election oversight.

RESULTS AND DISCUSSION

A. Evaluating the Effectiveness of Polling Station Supervisor Recruitment in the Operationalization of the SIWASLIH Application

The implementation of Regional Elections constitutes a form of exercising popular sovereignty constitutionally guaranteed by Article 1 section (2) of the 1945 Constitution. The fulfillment of this sovereignty requires the state to provide integrity safeguards for Regional Elections through an oversight system aligned with technological developments in election oversight (Bachmid, 2020). The implementation of oversight mechanisms plays an important role in establishing democratic local government. Therefore, its implementation needs to be evaluated periodically to remain consistent with the philosophical foundations of state law (Muhtamar & Bachmid, 2022). Structurally, the mandate to protect sovereignty is implemented in stages by Bawaslu, including Batam City Bawaslu, which has the authority to ensure compliance with electoral laws and regulations (Putra et al., 2025).

Within the Regional Election framework, the oversight system has begun to use digital technology instruments. Bawaslu (2024) uses the SIWASLIH application as a supporting tool for reporting and consolidating oversight data. The use of this technology is intended to accelerate report consolidation, improve administrative governance efficiency, and strengthen transparency in Bawaslu's performance accountability (Gultom, 2024; Waruwu et al., 2024; Nurbaeti, 2025). At the implementation level, SIWASLIH-based reporting is carried out by Polling Station Supervisors. However, legally, Article 27 of Law Number 8 of 2015 must be understood as the normative basis for the duties, authorities, and reporting obligations of Polling Station Supervisors, not as a provision that directly mandates the use of SIWASLIH. The reporting obligation under this article is implemented through SIWASLIH, in accordance with Bawaslu's technical policy and the User Guide for the Election Oversight System.

Based on this construction, assessing recruitment effectiveness includes both the fulfillment of administrative requirements and the conformity of Polling Station Supervisor competence with SIWASLIH-based reporting. The oversight and reporting obligations under Article 27, section (3) and section (4) of Law Number 8 of 2015 require Polling Station Supervisors to work quickly, accurately, and adaptively within a staged reporting mechanism. When these obligations are implemented through an application, digital literacy competence becomes a functional prerequisite for the effective implementation of reporting norms. In this context, the main problem does not lie in the existence of reporting obligations. Rather, it lies in the inadequacy of the recruitment system in ensuring the digital readiness of Polling Station Supervisors.

Although reporting oversight results through SIWASLIH requires speed and accuracy, the application's use in Batam City indicates empirical obstacles at the implementation level. Software-based reporting requirements impose technical and psychological burdens on Polling Station Supervisors who must use the application during a dense voting process. This operational pressure was confirmed by Implementing Informant 3: *"the difficulty is that oversight reporting must be faster because data input must not be delayed."*³

Operational pressure from digital reporting becomes more difficult to manage when faced with the physical condition and stamina of Polling Station Supervisors. The additional obligation to use an application, alongside numerous direct oversight duties at polling stations, creates excessive workload. This condition shows that the effectiveness problem is not only related to the application, but also to the compatibility between work demands, the readiness of Polling Station Supervisors, and the design of the training provided. Operational difficulties caused by technical complexity were validated by Implementing Informant 4:⁴

"There were difficulties because the work procedure was too complex when it had to use an application. In the previous Regional Election, I only wrote paper reports and reported them directly. Now, everything has to go through the application, which has confused me. In addition, my workload on that day was very heavy. I had to be present since morning, prepare the polling station, oversee every stage of voting, and I could only return home at night. In such a situation, learning new technology felt very difficult."

The mismatch between the operational design of digital oversight and the actual capacity of Polling Station Supervisors places some supervisors in a

³Interview with Implementing Informant 3, Former Polling Station Supervisor, 51 years old, November 19, 2025.

⁴Interview with Implementing Informant 4, Former Polling Station Supervisor, 67 years old, November 24, 2025.

less effective operational condition. Polling Station Supervisors who lack basic smartphone skills may struggle to adapt to application-based oversight procedures. Digital procedures that should serve as work-supporting tools may be perceived as an additional burden when they are not preceded by competence assessment and adequate assistance. Anxiety in application use among Polling Station Supervisors was expressed by Implementing Informant 1:⁵

"It is very necessary because without a digital literacy requirement for using smartphone applications, Polling Station Supervisors like me only become personally burdened by confusion."

The informants' statements indicate a strong tendency that application-based reporting can create operational obstacles for some Polling Station Supervisors. The inability of Polling Station Supervisors to use technological instruments is inconsistent with technology-based election governance standards that require Bawaslu and its election oversight personnel to manage technological devices reliably (Catt et al., 2014). Technical errors at the polling station level may also reduce data accuracy and public confidence in the integrity of the Regional Election system (Mahpudin, 2019).

Thus, the effectiveness of Polling Station Supervisor recruitment in supporting the use of SIWASLIH has not reached an optimal condition. Recruitment may fulfill administrative requirements and personnel quantity needs. However, the recruitment system has not fully ensured the conformity between the digital literacy competence of Polling Station Supervisors and the demands of application-based work. This mismatch requires further analysis to identify the determinants of recruitment dysfunction across legal substance, legal structure, facilities, society, and legal culture.

B. Determinants of Recruitment System Dysfunction from the Perspective of Legal System Theory and Legal Effectiveness Theory

The analysis of obstacles in using SIWASLIH requires a dual analytical framework that proportionally combines legal system theory and legal effectiveness theory. This approach is applied by aligning theoretical elements to prevent conceptual overlap. The legal and law enforcement elements in Soekanto (2019) are aligned with the legal substance and legal structure elements in Friedman (1975). Furthermore, the cultural element in Soekanto's theory is adjusted to the legal culture element in Friedman's theory. As a complementary sociological analysis, this study retains the elements of facilities and society in Soekanto's theory. The combination of these two theories provides an analytical framework for examining

⁵Interview with Implementing Informant 1, Former Polling Station Supervisor, 54 years old, November 4, 2025.

the relationship between weaknesses in recruitment regulation, limitations in selection instruments, facility constraints, Polling Station Supervisor profiles, and reporting work culture at the polling station level (Kautsar & Muhammad, 2022; Diyanatalia et al., 2025).

The examination of legal substance indicates a specific normative gap regarding digital literacy indicators within the recruitment regulatory architecture. Article 7 of Bawaslu Regulation Number 19 of 2017 has indeed included requirements for abilities and expertise in election administration, constitutional affairs, party affairs, and election oversight. However, this formulation remains general because it does not derive operational indicators concerning the ability to use oversight applications, digital documentation, data security, or information system-based report submission (Razak, 2023; Erawan & Bunga, 2025). Therefore, the weakness in legal substance does not lie in the complete absence of competence requirements. Rather, it lies in the absence of technical standards that connect those competence requirements with the actual needs of digital oversight. This condition was acknowledged by Structural Informant 1:⁶

“The current regulation on Polling Station Supervisor recruitment has not accommodated current developments, namely digitalization. Therefore, the recruitment process remains administrative, such as diplomas, health certificates, and curriculum vitae.”

This weakness in legal substance affects the legal structure element in implementing the selection stages. Batam City Bawaslu does not yet have a formal instrument to specifically assess candidates' operational competence in using mobile devices and applications. As a result, the interview process tends to assess general aspects, such as integrity, electoral knowledge, communication, and commitment, without practical testing of election oversight applications. This weakness in the legal framework may result in Polling Station Supervisors who are not digitally ready, necessitating Bawaslu to address this competence gap through technical assistance during implementation (Atiska, 2021; Materu et al., 2024). The absence of a digital literacy testing mechanism at the institutional recruitment stage was revealed by Structural Informant 2:⁷

“The recruitment process basically follows the provisions of the Law and Bawaslu Decree, namely through open announcements, administrative selection, and interviews. However, it does not yet have a special formal mechanism to test the digital literacy of prospective Polling Station Supervisors. Technology assessment has so far been conducted mostly through visible indicators and remains unmeasured, for example, only from smartphone ownership, not from practical testing in using applications or digital documentation skills.”

⁶Interview with Structural Informant 1, Member of Batam City Bawaslu, November 4, 2025.

⁷Interview with Structural Informant 2, Member of Batam City Bawaslu, November 5, 2025.

This statement is consistent with the technical recruitment instrument under Decree of the Chairperson of Bawaslu Number 301/HK.01.01/K1/09/2024. The decree establishes requirements for Polling Station Supervisors and regulates aspects of interview assessment. However, the assessment matrix still focuses on electoral knowledge, personal integrity, commitment and motivation, communication and teamwork skills, leadership quality and organizational ability, and local-content knowledge. The matrix has not included specific indicators concerning digital competence, practical testing of SIWASLIH use, digital documentation ability, or minimum standards for software use. This strengthens the finding that recruitment dysfunction in assessing digital literacy competence arises not only from selection practices at the regional level but also from the design of technical instruments that have not explicitly provided digital assessment tools.

Weaknesses in the legal substance and structure of digital selection instruments cause further problems in the societal dimension, as reflected in the demographic profile of Polling Station Supervisors in the field. Article 7 letter b of Bawaslu Regulation Number 19 of 2017 regulates the minimum age, but it has not established a digital literacy competence-based assessment framework that can be applied equally to all age groups. In the context of the 2024 Regional Elections, the Decree of the Chairperson of Bawaslu Number 301/HK.01.01/K1/09/2024 lowered the minimum age for Polling Station Supervisors to 21 years. Still, it did not include digital competence indicators as selection requirements. Therefore, the recruitment problem cannot be reduced to an age issue. The main problem is the lack of an objective mechanism to assess the digital literacy competence of all prospective Polling Station Supervisors.

In Batam City, empirical data indicate the presence of personnel aged 50 and above within the Polling Station Supervisor structure. Sociologically, this age group may face barriers to adapting to new technological tools, particularly when the application is used in work conditions that are intensive, time-constrained, and supported by limited assistance (Zhang, 2023). Youth participation is not always evenly distributed, which also encourages election organizers to continue recruiting individuals aged 50 and above to meet the need for Polling Station Supervisors in various areas. Thus, this problem must be understood as a matter of recruitment governance and capacity support, not merely as a demographic issue (Setiawan et al., 2024; Wahyuni & Adnan, 2024). The age distribution of Polling Station Supervisors in Batam City is shown in Table 1.

Table 1. Age Groups by Subdistrict

No	Subdistrict	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	>70
1	Batam Kota	48	17	40	31	49	48	29	13	2	0	0
2	Batu Aji	17	17	26	31	43	37	24	4	0	0	0
3	Batu Ampar	14	23	18	13	6	8	2	2	1	0	0
4	Belakang Padang	12	13	7	6	3	2	0	0	0	0	0
5	Bengkong	51	30	20	26	21	16	14	8	0	0	1
6	Bulang	7	6	3	6	2	0	0	0	0	0	0
7	Galang	12	12	6	4	5	3	1	0	0	1	0
8	Lubuk Baja	29	21	20	21	14	15	14	3	2	2	0
9	Nongsa	15	22	15	30	24	14	10	5	3	0	0
10	Sagulung	47	36	28	40	64	56	31	2	0	0	0
11	Sungai Beduk	10	21	19	26	25	22	12	1	1	0	0
12	Sekupang	36	26	31	41	29	43	18	14	1	0	1
Total		298	244	233	275	285	264	155	52	10	3	2

Source: Data processed from Batam City Bawaslu, 2025.

Based on these data, the group aged 50 and above within the Polling Station Supervisor structure accounted for 12.19%, equivalent to 222 persons. This figure is not used to conclude that all individuals in this age group are unable to use technology. Rather, the data are used to demonstrate the need for recruitment and training designs that account for differences in the digital literacy competence of Polling Station Supervisors. Digital education has so far been directed more frequently at young voters, while the technological literacy of election organizers at the polling-station level has not received equivalent attention (Beta et al., 2022; Abisono et al., 2024). Limited technical training time, together with reduced visual acuity among some individuals aged 50 and above, may further complicate the use of complex reporting application interfaces (Wijaya et al., 2022). This difficulty was confirmed by Implementing Informant 2: “at the age of 61, with eyesight that is not very good, I had difficulty operating SIWASLIH.”⁸

The limitation in the society element is related to limitations in facilities. In practice, the digital reporting policy still relies on each Polling Station Supervisor using a privately owned mobile device. These devices do not always have sufficient computing specifications and memory capacity. Based on the findings of Hadyan (2021) and Kremer (2024), these facility constraints are intensified by disparities in telecommunications network quality in the archipelagic areas of Batam City and structurally low digital literacy. Areas with limited cellular connectivity may

⁸Interview with Implementing Informant 2, Former Polling Station Supervisor, 61 years old, November 6, 2025.

obstruct immediate reporting, although the local government has made efforts to expand access (Yulitavia & Putut, 2024). Concern about limited supporting facilities was conveyed by Implementing Informant 5:⁹

"I used my own personal phone. My phone is an ordinary Android phone that is quite old. Its specifications may not be very advanced, and the memory can sometimes fill up. Because I had to use my personal phone, I was somewhat concerned about my personal data and also worried that the SIWASLIH application would consume my limited internet quota."

Weaknesses in the elements of legal substance, legal structure, society, and facilities ultimately affect the element of legal culture. The oversight system in Batam City is transitioning from manual to application-based reporting. In this situation, Polling Station Supervisors who are accustomed to face-to-face methods tend to consider manual reporting more reliable because it allows direct correction, verbal interaction, and immediate verification (Kautsar & Muhammad, 2022). Conversely, application-based reporting is perceived as involving risks of input errors, transmission disruption, or data loss when the workload is high. This preference for conventional methods was emphasized by Implementing Informant 1:¹⁰

"Face-to-face reporting is more comfortable because I can know or obtain corrections if there are mistakes in the reporting content. Through the application, it still feels unfamiliar."

Based on the analysis of these five factors, obstacles in digital reporting are not only related to the application. They are also related to the lack of synchronization among legal design, technical instruments, facilities, Polling Station Supervisor profiles, and work culture. The causal relationship can be explained in stages. First, legal substance has not established operational digital literacy indicators. Second, the legal structure does not yet have formal selection instruments to assess the digital literacy competence of prospective Polling Station Supervisors. Third, Polling Station Supervisors have varying levels of application proficiency, including personnel aged over 50 who require adaptive training methods. Fourth, digital facilities have not fully ensured adequate device availability and connectivity. Fifth, the legal culture of implementers remains in transition toward application-based reporting. The relationship among these factors is represented through the visual mapping in Figure 1 before this manuscript formulates optimization strategies.

⁹Interview with Implementing Informant 5, Former Polling Station Supervisor, 51 years old, November 24, 2025.

¹⁰Interview with Implementing Informant 1, Former Polling Station Supervisor, 54 years old, November 4, 2025.

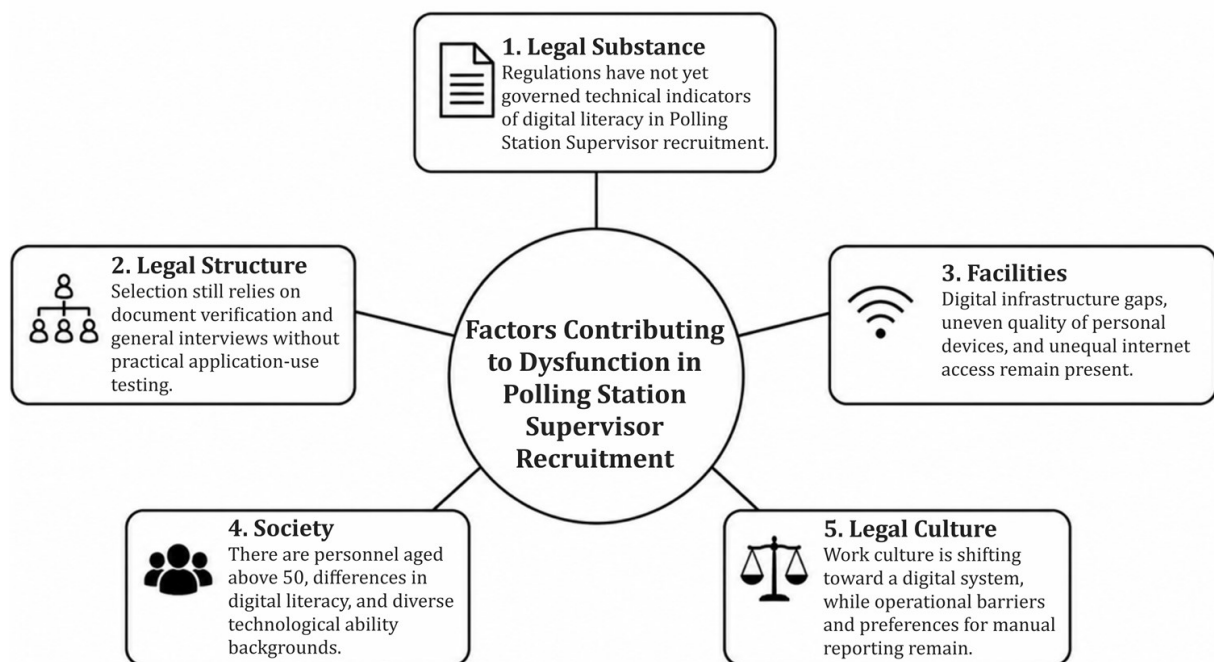


Figure 1. Mind Map of Polling Station Supervisor Recruitment Dysfunction Factors Affecting the Operationalization of SIWASLIH

C. Optimization Strategies for Polling Station Supervisor Recruitment Based on Digital Literacy Competence

The accumulation of operational dysfunction mapped above requires measurable improvement strategies based on a synthesis of legal system theory and legal effectiveness theory. These optimization strategies should not be positioned merely as practical recommendations. They must be directed toward improving recruitment to ensure that Polling Station Supervisors possess digital literacy competence. The first strategy is designed to improve the elements of legal substance and technical recruitment instruments. The second strategy focuses on addressing facility limitations. The third strategy is directed at strengthening the capacity of the legal structure. The fourth and fifth strategies are directed at improving the capacity of Polling Station Supervisors and the legal culture of reporting. The integrated implementation of these five strategies is necessary to ensure that regulation, applications, training, facilities, and oversight work culture are aligned within a coherent governance framework (Erawan & Bunga, 2025).

The first optimization strategy is a gradual improvement in technical recruitment instruments, Bawaslu regulations, and the legal basis for delegation. The most urgent priority is revising technical recruitment instruments, particularly the technical guidelines and interview assessment matrix in the Decree of the Chairperson of Bawaslu Number 301/HK.01.01/K1/09/2024 or similar

instruments for future Regional Elections. The interview matrix needs to include digital literacy competence indicators, such as the ability to use mobile devices, read application instructions, capture and upload documentation, store data locally, and understand reporting submission procedures. At the regulatory level, Article 7 of Bawaslu Regulation Number 19 of 2017 needs to be clarified through derivative indicators of the phrase abilities and expertise. Accordingly, digital literacy can be established as an assessment indicator in Polling Station Supervisor recruitment. In the long term, limited statutory affirmation may be considered to provide a clearer basis for Bawaslu to regulate digital reporting and Polling Station Supervisor competence standards. The obligation to assess technological capability before implementing the duty is consistent with technology-based election governance standards that require institutional capacity to manage technological instruments reliably (Catt et al., 2014). This reform requirement is consistent with the view of Structural Informant 1:¹¹

“The necessary change is to include digital literacy criteria in the recruitment requirements for Polling Station Supervisors to support digitalized oversight better.”

The need to improve recruitment qualifications also reflects the needs of Polling Station Supervisors for a more precise selection system. However, this reform should not rely on automatic age restrictions. Age may be used as a basis for providing adaptive training and technical assistance. Eligibility determination must remain based on a minimum digital literacy competence test applicable to all prospective Polling Station Supervisors. Through this approach, the recruitment system remains inclusive without disregarding digital competence requirements. The need for a standardized technological competence mechanism was expressed by Implementing Informant 4:¹²

“Actually, in my opinion, the existing requirements are already quite good. However, I think there is one thing that needs to be added, especially for digital oversight like today. Regional Election organizers, or Polling Station Supervisors like me, need a basic ability to use technology or at least be able to read well. Because I experienced difficulties myself, perhaps it would be better to have a minimum level of technological ability test before someone is recruited as a Polling Station Supervisor, especially if they are older like me. However, perhaps that would also be difficult to implement.”

The second optimization strategy focuses on software architecture development and the proportional provision of supporting facilities. The SIWASLIH application needs to be developed with an offline-first design so that

¹¹Interview with Structural Informant 1, Member of Batam City Bawaslu, November 4, 2025.

¹²Interview with Implementing Informant 4, Former Polling Station Supervisor, 67 years old, November 24, 2025.

Polling Station Supervisors can store digital documentation locally when mobile devices are not connected to cellular networks. This design serves as mitigation against telecommunications connectivity obstacles in archipelagic areas (Kremer, 2024; Putri & Rahmawati, 2025). With an offline design, network disruption does not automatically prevent the storage of oversight documentation because data can still be stored and synchronized when connectivity is available. This need for facility mitigation was emphasized by Structural Informant 2:¹³

"The most urgent needs are improving network coverage and stability in archipelagic areas, providing minimum standard devices for Polling Station Supervisors in critical locations, and developing a more optimal offline mode in the application."

The improvement of the application architecture needs to be accompanied by a policy of direct physical facility support from election organizers. Minimum device standardization, data package assistance, charging facilities, and mapping of critical network locations are important instruments to reduce operational anxiety among Polling Station Supervisors during voting day. Facility fulfillment cannot be considered an additional need because application-based reporting requires devices that can run SIWASLIH adequately. The need for physical facility support was conveyed by Implementing Informant 5:¹⁴

"I think several supporting facilities are needed, such as power banks or phone charging facilities, because my phone battery runs out quickly, and I am afraid the phone will turn off while I am reporting."

The third optimization strategy requires strengthening the legal structure's capacity by renewing technical training methods. Passive theoretical socialization needs to be replaced with technical simulations based on real scenarios of voting and vote counting (Wijaya et al., 2024; Sifa', 2025). Training is not sufficient if it only explains application functions. Training needs to cover usage flow, electronic form completion, documentation uploads, offline data storage, resubmission after network recovery, and correction procedures for input errors. This training method is necessary to develop independent application and use skills. The weakness of previous training is reflected in the statement of Implementing Informant 3: *"training was provided, but only through material presentation. There was no practical implementation."*¹⁵

The renewal of the operational training curriculum needs to be integrated with instructional guides that take into account the accessibility needs of personnel

¹³Interview with Structural Informant 2, Member of Batam City Bawaslu, November 5, 2025.

¹⁴Interview with Implementing Informant 5, Former Polling Station Supervisor, 51 years old, November 24, 2025.

¹⁵Interview with Implementing Informant 3, Former Polling Station Supervisor, 51 years old, November 19, 2025.

aged 50 and above. Bawaslu may provide printed guidebooks with clear font sizes, illustrated guides, short videos, and quick procedure sheets that are easy to use at polling stations. This instructional accommodation is not intended to distinguish age groups in a discriminatory manner. Rather, it is intended to ensure that all Polling Station Supervisors have equal opportunities to master SIWASLIH-based reporting. The need for instructional guidance was proposed by Implementing Informant 4: *"I need a printed guide, or hardcopy, with large and clear letters, containing the steps for using SIWASLIH."*¹⁶

The fourth and fifth optimization strategies aim to establish a sustainable technological assistance unit and strengthen digital legal culture among Polling Station Supervisors. Bawaslu needs to establish a technical assistance task force at the subdistrict level that operates fully on voting day. This task force is necessary to ensure that the devices used by Polling Station Supervisors can run SIWASLIH effectively, assist with handling application problems, and provide guidance during network disruptions. Simultaneously, Bawaslu needs to strengthen digital legal culture through digital literacy activities at the village or urban village level to reduce anxiety among Polling Station Supervisors in using the SIWASLIH application (Beta et al., 2022; Materu et al., 2024). Strengthening digital legal culture must be directed toward changing the understanding that SIWASLIH is a supporting tool for reporting oversight results. The implementation of these five strategies is expected to strengthen SIWASLIH-based reporting in an accountable, inclusive, and high-integrity manner in the administration of Regional Elections.

CONCLUSIONS AND SUGGESTIONS

The implementation of digitalized oversight through the SIWASLIH application during the Regional Election in Batam City shows that the effectiveness of Polling Station Supervisor recruitment has not reached optimal levels. Article 27 of Law Number 8 of 2015 provides the normative basis for the duties, authorities, and reporting obligations of Polling Station Supervisors. However, when these reporting obligations are implemented through SIWASLIH, the recruitment system has not fully ensured Polling Station Supervisors' readiness for digital literacy competence. Thus, the main problem does not lie in the absence of oversight duties. Rather, it lies in the lack of synchronization among the provisions on the duties and obligations of Polling Station Supervisors, selection instruments, training, facilities, and the actual capacity of Polling Station Supervisors to use SIWASLIH.

Based on the synthesis of legal system theory and legal effectiveness theory, this recruitment dysfunction is influenced by several interrelated factors. In the

¹⁶Interview with Implementing Informant 4, Former Polling Station Supervisor, 67 years old, November 24, 2025.

legal substance element, Article 7 of Bawaslu Regulation Number 19 of 2017 still formulates competence requirements in general terms and has not derived them into indicators of digital literacy competence. In the legal structure element, Decree of the Chairperson of Bawaslu Number 301/HK.01.01/K1/09/2024 does not include practical application or use testing or digital documentation competence in the interview assessment matrix. In the society element, there are personnel aged above 50 who require adaptive training design without being treated exclusively. In the facilities element, the use of personal mobile devices, limited device specifications, and areas with limited cellular connectivity make application-based reporting more difficult. In the legal culture element, Polling Station Supervisors are transitioning from manual to application-based reporting.

As a follow-up, this study recommends gradual improvements. First, Bawaslu needs to revise the technical recruitment instruments for Polling Station Supervisors to include indicators of digital literacy competence and practical testing of SIWASLIH use. Second, Bawaslu Regulation Number 19 of 2017 needs to be clarified so that the phrase abilities and expertise includes digital literacy competence as a functional prerequisite in the digital oversight system. Third, SIWASLIH development needs to be directed toward an offline-first application design so that reporting does not depend entirely on network stability. Fourth, technical training must be based on practical simulations and supported by easy-to-use visual and printed guides for personnel aged 50 and above. Fifth, Bawaslu needs to establish a task force for technological assistance at the subdistrict level and strengthen digital literacy activities at the village or urban village level. In the long term, limited delegative affirmation at the statutory level may be considered to strengthen the legal basis for regulating digital reporting and standardizing Polling Station Supervisor competence. The integrated implementation of these strategies is expected to establish accountable, inclusive, and high-integrity digital oversight governance.

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