

# Electronic Signature Policy through the Singo Application at the Secretariat of the DPRD of Malang City

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## ABSTRACT

*This study aims to analyze the application of the Singo application as well as the obstacles and efforts in its implementation based on the Minister of Home Affairs Regulation Number 1 of 2023. The research was conducted at the Secretariat of the Regional People's Representative Council (DPRD) of Malang City. The data analysis technique in this study used qualitative descriptive analysis. The research findings show that implementing Minister of Home Affairs Regulation No. 1 of 2023 through the Singo Application at the Secretariat of the Malang City DPRD is running quite well based on four Edward III policy indicators: communication, resources, disposition, and bureaucratic structure. The socialization conducted has helped internalize the use of the application, although there is still a need for increased training and technical guidance to reduce concerns of TTE misuse. Infrastructure support, such as computers and mobile phones, is adequate, but application maintenance has not been optimized, so manual signatures are still used when disruptions occur. The disposition of implementers shows a supportive attitude, but high workload constraints hinder the effectiveness of the process. Coordination between implementers is good, but human resource capacity building and more effective supervision are needed. It is expected that the secretariat of the Malang City DPRD will conduct periodic socialization, provide online technical guidance, provide additional supervisory personnel, and maintain the Singo application to improve the effectiveness of electronic signature implementation.*

**Keywords:** Electronic Signature, Policy Implementation, Singo Application.

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## 1. INTRODUCTION

The world has entered the information society era, encouraging Indonesia to adapt to utilize information optimally. The government supports this transformation through Presidential Instruction No. 3 of 2023 on National Policy and Strategy for E-Government Development, which instructs all ministries, agencies, and local governments to integrate and optimize information technology in management systems and government work processes. E-Government aims to create electronic-based services based on the common goals of stakeholders, reflecting an inclusive collective vision. In addition, the government must also develop flexible work systems to support complex interactions with the community, the business world, and internationally. Implementing electronic signatures is a strategic step towards holistic management and optimal utilization of technology, as stipulated in Law No. 11/2008.

The Malang City Government has implemented the "Singo Application", an online-based electronic signature innovation developed by the Malang City Communication and Information Office. The legal basis for implementing this application refers to Presidential Regulation No. 95/2018 on Electronic-Based Government Systems, Article 40 paragraph (6), which regulates the guarantee of non-repudiation through digital signatures and digital certificates. In addition, Minister of Home Affairs Regulation Number 1 of 2023 Article 42 stipulates that electronic signatures are used to verify and improve administrative efficiency. To support this implementation, the Malang City Government collaborates with the National Cyber and Crypto Agency (BSSN), which provides information technology infrastructure, issuance of electronic certificates, utilization, and improvement of human resource competencies. After the technical guidance, assistance in issuing electronic certificates continued.

The Secretariat of the DPRD (Regional People's Representative Council) of Malang City supports the implementation of electronic signatures as part of e-government implementation with the main task of organizing the secretariat of the DPRD. The Singo application is designed to make it easier for ASN (State Civil Apparatus), leaders,

and DPRD members to apply for digital signatures as needed. However, the results of internal monitoring and evaluation revealed several obstacles, such as using manual signatures during urgent activities or when the application is under maintenance, concerns about the potential misuse of electronic signatures, and the need to adjust the work culture of the apparatus. The main contributing factors include the lack of effective communication and socialization, although the infrastructure is adequate, user understanding is still limited. The bureaucratic structure also faced challenges in supervision as mail volumes increased. The lack of socialization affects implementation, so manual signatures remain an alternative.

This study aims to analyze the Singo application's implementation and the obstacles and efforts in its implementation at the Malang City DPRD Secretariat based on the Minister of Home Affairs Regulation No. 1 of 2023. The results of this study are expected to contribute theoretically, which can add academic insight and provide an overview of the implementation of the Singo application as an electronic signature system within the Malang City government. Practically, this research is an input for the Malang City DPRD Secretariat and other government agencies in supporting the implementation of the Minister of Home Affairs Regulation No. 1 of 2023 through optimizing the Singo application.

## **2. LITERATURE REVIEW**

According to Kartasmita (in Widodo, 2021: 13), public policy is an effort to understand what is done or not done, the factors that influence it, and its impact. Dye (1992: 2) defines public policy as “whatever government chooses to do or not to do”, which means all government actions or decisions, whether done or not. Edward III and Sharkansky in Joko Widodo (2021:12) state that public policy includes what the government says, does, or does not do, reflecting the objectives of government programs. According to Dye (in Widodo 2021:13), there are three elements of public policy: public policy itself, policy actors, and the policy environment. Anderson (in Widodo, 2021: 14) adds that policies are always goal-oriented, in the form of actual government actions, are positive or negative, and are based on authoritative regulations.

Implementation is an important stage in the public policy process, carried out after policy formulation with clear objectives. According to Gaffar (2014: 295), implementation includes activities to deliver policies to the community to produce the expected impact. These activities include preparing further regulations such as government regulations, presidential decrees, or regional regulations, preparing resources such as facilities, infrastructure, and finance, and determining the parties responsible for implementation. Mazmanian and Sabatier in Wahab (2014: 64-65) emphasize that implementation focuses on activities that occur after the policy is passed, including administration and its impact on society. This process begins after goals are set, programs are designed, and funds are allocated. Lester and Stewart (in Winarno, 2014: 101-102) call implementation a legal administration tool that involves various actors, organizations, and procedures to achieve policy objectives.

Policy implementation is a government action that aims to achieve the objectives of the policy decision. According to Edward III in Tahir (2020), successful implementation is influenced by four main factors. First, effective communication, including transmission, clarity, and consistency in policy delivery, is needed to avoid misunderstandings and ensure that implementers understand their duties. Second, resources, including competent staff, formal authority, clear information, and adequate facilities, complement each other to support policy implementation. Third, the implementer's disposition or attitude involves willingness, commitment, honesty, and responsibility in implementing policies. Fourth is the bureaucratic structure, which requires effective SOPs and inter-organizational coordination to ensure smooth policy implementation. These four factors contribute to each other in creating efficient and effective policy implementation.

Electronic government (e-government) uses information technology, especially the internet, to create modern interactions between government society and other stakeholders and improve public service quality. According to Rianto and Lestari (2012), e-government aims to improve service quality through new mechanisms. Harvard JFK School of Government (in Indrajit, 2016) mentions three elements of successful e-government implementation, namely support (real support in the form of policies, resources, and infrastructure), capacity (government's ability to provide financial resources, technological infrastructure, and competent human resources), and value (real benefits felt by the community). The implementation of e-government improves service quality, transparency, cost efficiency, and community empowerment. The main characteristics of e-government are modern interaction, the use of information technology, and improving the quality of services to the community.

E-government is implemented to create an efficient, effective, and economical relationship between the government, society, and businesses. This concept is important given the dynamics of modern society, so the government needs to adjust its functions so that people can enjoy their rights and carry out their obligations comfortably. According to Yahya (2015:44), e-government development has four main objectives. First, to build a network of information and public service transactions that are quality, easily accessible, and reach all regions of Indonesia. Second, to encourage economic growth, maintain stability, and increase international trade competitiveness through interaction with the business world. Third, creating an interactive communication mechanism between the government and the public to support public participation in policy formulation. Fourth, to create a transparent and efficient management system and to streamline services between government agencies and regions.

Singo is a web-based application that attaches electronic signatures to PDF-formatted digital documents accessed through computers or mobile devices. Electronic signatures verify the signer's identity and guarantee the document's integrity and authenticity. These signatures are unique, using a combination of hash functions and asymmetric encryption, where the slightest change to the document will result in a different hash value, making its authenticity easily detectable. This ensures that documents are more secure than manual signatures. Legally, electronic signatures are equivalent to manual signatures, as guaranteed by Article 11 of the ITE Law (Electronic Information and Transaction Law), as long as they meet the requirements regarding the identity of the signer, complete control during the signing, detection of changes to the document, and the signer's consent to the signed electronic document.

### **3. RESEARCH METHODS**

#### **3.1 Research Design**

This research uses a descriptive qualitative method to describe systematically, factually, and accurately the implementation of the Minister of Home Affairs Regulation No. 1 of 2023 on Office Manuscripts within the Local Government through the Singo Application at the Malang City DPRD Secretariat. Data were collected through interviews, observations, and documentation, then analyzed to identify problems, supporting factors, and policy implementation obstacles.

#### **3.2 Research Location**

The research location is the object of research where the research is conducted. Using the Singo Application, this research was conducted at the Secretariat of the Regional People's Representative Council (DPRD) of Malang City, the Regional Apparatus Organization (OPD). This location was chosen because it is relevant to implementing the Minister of Home Affairs Regulation No. 1 of 2023, especially in supporting administrative efficiency amid the many agendas of DPRD leaders and members outside the office.

#### **3.3 Data Analysis Technique**

Data analysis in this study used a qualitative descriptive method to describe data systematically, factually, and accurately without generalization. The analysis technique refers to the Miles, Huberman, and Saldana (2019) model, which includes four stages: data collection, simplification, presentation, and conclusion drawing and verification. This process is carried out simultaneously to produce an in-depth, organized, contextual analysis.

### **4. RESULTS AND DISCUSSION**

#### **4.1 Research Results**

Law No. 23/2014 on Regional Government states that regional governance is carried out by the Regional People's Representative Council (DPRD) and the regional head with an equal position. The DPRD acts as the regional head's working partner with legislation, budgeting, and supervision. In contrast, the regional head is tasked with implementing Regional Regulations and policies that have been determined. In supporting the role of the DPRD, the DPRD Secretariat is tasked with providing administrative services and support for the duties and functions of the DPRD, as stipulated in Government Regulation Number 18 of 2016 concerning Regional Apparatus, which was last amended by Government Regulation Number 72 of 2019. The Malang City DPRD Secretariat also carries out this task as a regional apparatus that supports the smooth administrative functioning of the DPRD.

According to Miles, Huberman, and Saldana (2014), data analysis is carried out interactively and continuously until it reaches saturation. In the implementation of Permendagri Number 1 Year 2023 through the Singo Application

at the Malang City DPRD Secretariat, data were first collected through interviews with informants who are policy implementers. The data was then presented (data display) for further analysis. The analysis used George C. Edward III's theory, highlighting four important policy implementation elements: communication, sources, disposition, and organizational structure. This approach helps understand how policies are socialized, the readiness of infrastructure and experts, and the commitment of the State Civil Apparatus (ASN) and leaders in supporting implementation based on information obtained from resource persons.

Communication is an important indicator of successful policy implementation, achieved through socialization with policy actors or implementors. In Edward III's public policy theory, there are three main elements in communication: transmission, consistency, and clarity. Socialization is an important factor in policy implementation, but its implementation is not optimal. The first informant stated, "The socialization of the Singo application at the DPRD Secretariat in Malang City was carried out by Diskominfo Malang City in 2023, but there has been no periodic socialization since then. Diskominfo should carry out regular socialization to improve user skills". Therefore, more intensive and continuous socialization is needed to improve user understanding. Although most staff understand the application, there are concerns about the risk of misuse of electronic signatures (TTE), as in other countries, such as Australia, regarding security and legality issues (Srivastava, 2011).

Clarity of communication in the form of coaching and technical guidance has not been implemented optimally by the Communication and Informatics Office of Malang City. The second informant stated, "For coaching and technical guidance related to this application, I have not received it; only socialization was carried out in 2023". Coaching should be conducted at least once a year to improve user skills. This activity is important to ensure that the Singo App runs optimally at the DPRD Secretariat in Malang City. The lack of technical guidance leads to skills gaps that could hinder the implementation of the application. According to Edward III's theory, clarity of communication is essential to ensure that information is delivered in a structured and sustainable manner. Therefore, coaching and technical guidance for operators need to be done regularly to create a better understanding and increase user acceptance of the application.

Consistency in policy implementation requires special attention, especially regarding application maintenance. The third informant stated, "There is no maintenance from Diskominfo, it is proven that this application often experiences maintenance. If maintenance is done, errors in the application will rarely occur". Maintenance of the Singo App is not yet optimal. The app's appearance has not changed since it was first used, and the frequent maintenance shows a lack of attention to maintenance. Inadequate maintenance makes the app unreliable and limits user effectiveness. In Edward III's theory, successful policy communication requires consistent transmission of information, including technical aspects such as app maintenance. Therefore, concrete steps are needed, such as increasing the frequency of socialization, carrying out regular technical coaching, and ensuring regular maintenance. Thus, the application will be easier to use and more trusted, and it will support the implementation of policies by the Minister of Home Affairs Regulation Number 1 Year 2023.

Edward III's theory explains that resources are a key factor in successful policy implementation. Resources include budget, facilities and infrastructure, and the skills of policy implementers (East & Liu, 2006; Pangestu & Hariri, 2022). Technology such as cell phones and computers are important components in implementing the Singo Application at the DPRD Secretariat in Malang City. The available devices are adequate to support the application as long as there are no technical disruptions, such as maintenance. One informant stated, "As the operator of the Chairperson of the Malang City DPRD, I am helped by the mobile phone facilitated by the office, separating personal and work matters and allowing the use of the application at any time". Despite this support, technical problems still arise and hamper efficiency. Therefore, device management must be improved to ensure smooth application and optimal policy support.

In addition to facilities and infrastructure, user understanding of the application is important in supporting policy implementation. Most staff already understand how to use the Singo App, although more socialization is needed, especially when there is a change in leadership. These changes often impact the understanding of new staff who need further guidance. One informant stated, "Using this application is not difficult. As a supervisor, I am waiting for the PDF result of the letter. If there are no corrections, I forward it to the operator, who processes the letter according to the menu in the Singo App. The letter will then be electronically signed according to its type". Although the technological tools are adequate, continuous socialization is needed to ensure that all staff, including new ones, have an in-depth understanding and can overcome obstacles during application implementation.

Based on the analysis, resources at the Malang City DPRD Secretariat have supported the implementation of the Singo App, but some challenges remain. Staff understanding of the application and device maintenance must continue to be addressed to ensure the smooth operation of the application. In addition, intensive and regular socialization is key to maintaining staff understanding, especially in the face of leadership changes. Factors such as support from leadership, adequate devices, and user understanding are the main pillars that must be managed effectively. With good resource management, the successful implementation of policies through the Singo App can be achieved by the expected goals. This shows that sustainability and resource optimization play a significant role in supporting the effectiveness of policy implementation.

The disposition or attitude of implementers is an important factor in determining the success of policy implementation, including the attitude, motivation, and commitment of implementers to carry out tasks according to policy objectives (Komarudin et al., 2023). In implementing the Singo Application at the Malang City DPRD Secretariat, the attitude of the implementers has been quite good, but there are still obstacles. Letter errors often occur due to a lack of supervision, significantly when the volume of letters increases. In addition, when maintenance occurs, manual signatures are still used. Implementers acknowledge that the app makes the electronic signature (TTE) process more straightforward as it speeds up the workflow. However, the lack of socialization and internal and external supervision raises concerns about the risk of forgery. A fourth informant mentioned, "Lack of supervision often hampers TTE, so manual signatures are still legitimately used". Therefore, mayoral regulations or circular letters are needed to support consistent implementation.

Implementers' actions in running the Singo application showed exemplary commitment. The work process starts with the letter received by the supervisor, which is to be corrected and classified and then forwarded to the operator. The operator will process the letter according to the application flow, and if there are no corrections, each operator will send an electronic signature. Although the attitude of the implementers was supportive of the application implementation, obstacles still arose, especially in monitoring and evaluation (monev). Leadership changes also affected the understanding of new staff, so more socialization was needed to ensure policy sustainability. Limitations in routine monitoring caused the implementation not to run optimally. Therefore, the involvement of leaders in scheduled maintenance is significant in improving the effectiveness and efficiency of the implementation of this application.

In conclusion, the disposition of implementers in implementing the Singo App shows a positive attitude and commitment. However, there are still obstacles, such as the lack of socialization, monitoring, and evaluation. This aligns with Edward III's theory, which emphasizes the importance of implementers' attitudes in supporting policies. More intensive and continuous socialization is needed to improve implementation success, especially for new staff. Regular monitoring and evaluation are also needed to ensure that implementers support the policy optimally. Leadership support through more specific rules will help overcome existing obstacles so that applications can run more effectively according to the policy objectives.

An effective bureaucratic structure includes a clear division of tasks, an efficient supervisory mechanism, and a well-organized coordination flow (Rahmi et al., 2024). In Edward III's theory of public policy implementation, bureaucratic structure is one of the main variables determining policy success (Kusuma & Simanungkalit, 2022). Public policies are often complex, requiring collaboration from various parties to ensure optimal implementation. In the case of the Singo Application at the Malang City DPRD Secretariat, the bureaucratic structure plays an important role in the modernization of electronic-based official manuscripts. The available resources will not be optimized if this structure is not supportive. Therefore, the bureaucratic structure must support policies through effective division of tasks and good coordination between implementers (Sutmasa, 2021).

The division of tasks has been done well in implementing the Singo App. The appointment of supervisors to oversee the Electronic Signature (TTE) process is one of the efforts to improve. However, the high workload, especially when the volume of letters reaches 40 per day, results in less than optimal supervision. One informant stated, "The division of tasks for this application is not easy. I have changed the position several times, and now the assignment feels more appropriate, with Mr. Adi as the supervisor and the letter corrector. The corrected letters will be sent to the respective operators, who report to the leadership. After approval, the TTE is carried out". Although this process was already in place, the number of corrections and returned letters slowed down the TTE. Additional human resources are needed to improve supervision and speed up the workflow.

Although coordination exists, no formal system integrates mitigation measures for workload spikes or application maintenance. As a result, manual signatures are still used as an alternative. The existing bureaucratic structure shows that task division and coordination are in place, but weaknesses in supervision and the absence of periodic evaluation mechanisms hinder the optimization of policy implementation. To improve the effectiveness of the Singo App, it is necessary to strengthen supervision by adding human resources or supporting technology, establishing a scheduled evaluation mechanism, and creating a more integrated coordination system between units. These steps will support policy implementation by the Minister of Home Affairs Regulation No. 1 of 2023 and Edward III's theory.

Based on Edward III's theory, supporting factors in policy implementation include internal and external elements that influence policy success. Internal factors in implementing the Minister of Home Affairs Regulation No. 1 of 2023 through the Singo Application at the Malang City DPRD Secretariat include the understanding and ability of human resources (HR). Implementors can use the application well, supported by infrastructure such as mobile phones provided for operators, making it easier to process electronic signatures (TTE) anytime and anywhere. This is particularly relevant given the leaders' busy schedules. External factors include clear regulatory support and the modernization of electronic-based official documents. The Singo application supports administrative efficiency through TTE flexibility. With the synergy of internal and external factors, implementing this policy positively impacts administrative modernization.

In addition to supporting factors, there are barriers to implementing Minister of Home Affairs Regulation No. 1 of 2023 through the Singo Application at the Secretariat of the Malang City DPRD. The main obstacles include the lack of socialization, technical guidance, and application maintenance by Diskominfo Malang City. The socialization was limited to Regional Apparatus Organizations (OPDs) and not comprehensive to the public, raising concerns about the potential misuse of electronic signatures (TTE). Minimal technical guidance has resulted in suboptimal user skills, while infrequent application maintenance risks system damage. Maintenance is needed to reduce the frequency of maintenance and ensure electronic documents remain secure. These barriers indicate the need for more attention from the government to support the successful implementation of the policy as a whole.

#### **4.2 Discussion of Research Results**

The following will discuss the research results on implementing electronic signatures through the Singo application. Implementing the Minister of Home Affairs Regulation No. 1 of 2023 through the Singo Application at the Secretariat of the Malang City DPRD aims to speed up and facilitate the ratification of important letters and documents using electronic signatures (TTE). TTE is a key feature in government digitization that supports fast, secure, and efficient document approval without manual signatures (Nova Haikal & Mahmudah, 2024). The application of the Singo App as part of e-government is by Presidential Regulation No. 95/2018 on Electronic-Based Government Systems (SPBE), where Article 42 paragraph (1) states that electronic signatures function as a means of authentication and identity verification, ensuring the integrity of information, and increasing the efficiency and effectiveness of local government administration.

Using the Singo App has fulfilled two of the six strategic objectives of e-government: improving administrative efficiency and ensuring information reliability. Based on G. Edward III's policy implementation theory, successful policy implementation is determined by four primary indicators: communication, resources, disposition, and bureaucratic structure. These four indicators are interrelated in determining the effectiveness of policy implementation. Researchers found several findings relevant to these indicators from the observations and interviews. These findings included communication between relevant parties, the availability of adequate resources, the attitudes and commitment of policy implementers, and the effectiveness of the bureaucratic structure in supporting the implementation of the Singo App. These findings are summarized and analyzed according to the research focus.

As stated by Syarif et al. (2014), communication is an important indicator in policy implementation, and it includes the intensity, clarity, and consistency of policy orders. In implementing the Singo App, communication was conducted by the Communication and Informatics Office (Diskominfo) of Malang City through socialization in 2023. This socialization aims to disseminate information related to the use of the Singo App within the Malang City Government, hoping to build a shared understanding and perception among users. However, Diskominfo has not thoroughly carried out coaching and technical guidance related to the application. In addition, application maintenance has not been optimized since its use, resulting in a lack of consistency in policy implementation.

Based on Edward III's theory, effective communication in policy implementation requires structured and continuous information delivery. This is important to ensure that the implementation of the Singo App runs optimally and by the Minister of Home Affairs Regulation No. 1 of 2023. Unfortunately, the socialization and coaching conducted by Diskominfo have not been optimal, especially for new staff and in the adaptation process of new leaders. According to Holtel et al. (2020), changes in work culture towards digitalization take longer to be accepted thoroughly. Diskominfo needs to strengthen socialization, technical guidance, and continuous application maintenance to improve the quality of policy implementation, reduce concerns, and prevent misuse of electronic signatures (TTE).

Resource indicators in policy implementation include human resources (HR), facilities, budget, and information, as described by Edward III. In addition, Grindle emphasizes that the capacity of implementing agencies, including the availability of resources, is an important element in supporting policy success. Resource support has been done well in the context of the implementation of Permendagri Number 1 of 2023 through the Singo Application at the Malang City DPRD Secretariat. Operators can understand and explain the use of the application to leaders, ensuring the electronic signature (TTE) process runs smoothly. Letters received and corrected by supervisors are submitted to leaders for approval. After that, the operator processes the TTE before the letter is sent back to the supervisor to be forwarded to the relevant parties.

Technology infrastructure support at the Malang City DPRD Secretariat includes providing devices such as computers and mobile phones, which support the efficiency of work processes. The user's understanding of the application is also quite good, supported by the positive attitude of the leadership, which has helped the smooth implementation of the Singo Application. However, regular infrastructure maintenance and updates are still required to ensure the sustainability of technology functions. Glyptis et al. (2020) mentioned that infrastructure maintenance is integral to the success of e-government based on the principles of efficiency and transparency in SPBE. Therefore, special attention to the management of technological infrastructure is a strategic step in ensuring the sustainability of this application.

In Indonesia, efforts to introduce technology to government administration are still facing challenges, especially in infrastructure maintenance and renewal. According to Hening and Kumara (2019), constraints such as budget limitations, lack of training for officials, and lack of coordination between agencies are often the main obstacles. Many government agencies still rely on old technology that has not been updated, resulting in gaps in service speed and system integration. Maintenance of IT infrastructure is often lacking, causing damage and decreased functionality that impacts public services. Therefore, infrastructure maintenance and renewal should be prioritized, involving the central government, local governments, and technology service providers.

Implementing electronic signatures through the Singo Application at the Malang City DPRD Secretariat has shown significant progress. However, there are still challenges in aligning implementation with national regulations, such as Presidential Regulation No. 95/2018 and the need for increased training and socialization to ASN. Based on Edward III's theory, implementer disposition, resources, and effective communication are key factors in improving the effectiveness of e-government implementation. Regular evaluation, monitoring, and increased training are needed to correct shortcomings. In addition, infrastructure updates should be conducted on an ongoing basis to ensure optimization of the Singo app. With these steps, e-government implementation can run more efficiently, improve the quality of public services, and accelerate the transition to digital-based governance.

Indicators of disposition or the attitude of implementers are important factors in the success of policy implementation, including implementing the Singo Application at the DPRD Secretariat in Malang City. Based on Edward III's implementation model, implementers' attitudes, motivation, and responsibility are key to policy success. Implementers must have confidence in the policy objectives and be responsible for their success. Merilee S. Grindle's model also emphasizes the importance of implementer capacity, including attitudes and skills, in supporting policy success. In the context of the Singo App, the leadership's commitment and the officers' response show that the program is well supported. The division of tasks was carried out according to roles, involving staff, the Young Legislative Analyst as supervisor, TPOK, meeting administrators as operators, the Secretary of the DPRD, and the Chairman of the DPRD. The Singo App was positively received as it accelerated the electronic signature (TTE) process.

The implementation of the Singo App was well structured, involving operators tasked with processing TTEs according to their respective roles. However, communication constraints between parties are still a significant challenge. The supportive attitude of the implementers is shown through file supervision by the Young Legislative

Perisalah and the expectation of more regular monitoring and evaluation (monev). The DPRD secretary has conducted monev, but socialization and evaluation are considered less than optimal, mainly due to leadership changes. According to Mazmanian and Sabatier, support from senior authorities and commitment at all levels of government are critical to successful implementation. Implementer capacity, as Grindle asserts, including attitudes and skills, plays a significant role in ensuring policy effectiveness, especially in e-government.

Infrastructure development, such as the Singo application and training for civil servants, are important components in the successful implementation of e-government. The Singo application supports the digitalization of government but still faces challenges, such as suboptimal application updates and maintenance and limited training for new staff. Training is essential to ensure all staff understand the technical use of the application and comply with TTE-related regulations (Lubis et al., 2024). Although most staff are familiar with the Singo application, concerns regarding the potential misuse of TTE and the need for further socialization, especially for new staff, are still felt. Therefore, ASN capacity building needs to focus not only on technical aspects but also on understanding regulations and ethics in using electronic signatures by the government.

Bureaucratic structure is an important element in successful policy implementation, especially in the division of tasks and coordination between implementers. An ideal structure should support policy implementation through effective monitoring mechanisms and good coordination. Implementing Permendagri No. 1 of 2023 through the Singo App requires an adequate organizational structure, sufficient resources, and a work culture that supports optimal policy implementation. The successful implementation of the Singo App at the Malang City DPRD Secretariat relies heavily on process clarity and bureaucratic coordination. Without well-defined procedures and effective coordination, program implementation can face administrative and bureaucratic obstacles that interfere with smooth implementation.

Several challenges were encountered in implementing the Singo App, including high workloads, such as handling up to 40 letters per day, which resulted in excessive workload for implementers. Although task sharing, such as the appointment of a controller to oversee the TTE, was in place, the lack of periodic evaluation of the effectiveness and security of the application was a hindrance. In addition, the potential for manipulation, such as barcode forgery, and the lack of a formal system to anticipate technical problems or workload spikes make coordination suboptimal. As a result, manual signatures are still used as an alternative. To overcome these obstacles, coordination and periodic evaluations must be strengthened to ensure the application is implemented as intended.

In practice, the TTE generated through the Singo App is a quick response (QR) accompanied by the signing official's name and title. QR scans validate documents and certificates and allow downloading files again for further verification. Based on interviews and observations, documents with TTE are distributed through online media such as email or WhatsApp, supporting the goal of efficiency and reducing paper usage. With PDF format, official documents can be distributed immediately after the e-signing process is completed, thus speeding up administrative workflow without the need to print documents.

The Singo application is also supported by a partnership with Balai Sertifikasi Elektronik (BSrE), recognized as an Electronic Certificate Provider (PSrE) based on Decree No. 936/2019. This cooperation ensures that the TTE has legal force and meets the stipulated regulations. However, according to Grindle and Thomas (1991), successful policy implementation is also influenced by the policy's political and economic context and characteristics. Technical challenges and work culture, such as using manual signatures, affect the level of policy acceptance among ASNs and leaders. Therefore, a more systematic approach is needed to encourage the adoption of this policy.

In analyzing the implementation of TTE at the Malang City DPRD Secretariat, Rogers' (2003) innovation diffusion theory states that innovation adoption is influenced by relative advantage, compatibility, complexity, trial, and observability. Using the Singo App provides benefits such as time efficiency and reduced paper usage, supporting improved administrative performance. However, the main challenge lies in the app's compatibility with existing habits and procedures and the complexity perceived by new users. The level of acceptance will be higher if supported by intensive socialization and adequate training so that users can understand the system better.

Linking Grindle and Rogers' theories, implementing TTE policy in the DPRD Secretariat of Malang City requires an approach involving social aspects and organizational culture. Strengthening socialization and training must be a priority to ensure that all the tools involved can adopt this new system well. Although the legal basis and policy objectives are clear, successful implementation requires comprehensive support from all parties, including ASNs and



leaders, to encourage changes in work culture. With these steps, the Singo App can support more effective and efficient government digitalization and improve the quality of public services in Malang City.

Analyzing the supporting and inhibiting factors for implementing the Minister of Home Affairs Regulation No. 1 of 2023 through the Singo Application is crucial to understanding the dynamics of e-government policy implementation, particularly regarding electronic signatures. One of the main supporting factors is resources, including adequate technological infrastructure and human resource capabilities at the Malang City DPRD Secretariat. Support from the National Cyber and Crypto Agency (BSSN) in issuing electronic certificates is also important, as it ensures the authenticity and integrity of electronic signatures used in official documents. The combination of good infrastructure and support from relevant institutions creates work efficiency and effectiveness that encourages organizational readiness to adapt to changes towards digitalization.

However, several inhibiting factors still slow down the implementation of the Singo App at the DPRD Secretariat in Malang City. One of these is the communication barrier, where, despite socialization, a thorough understanding of the application is still limited. The old habit of using wet signatures is still dominant, slowing the transition to more efficient electronic signatures. Lack of clarity of communication, consistency of policy orders, and the lack of technical guidance and coaching for application users are also obstacles. Leadership changes also impact the continuity of policy implementation. In addition, the lack of application maintenance hampers the electronic signature process, especially when the application is under maintenance, so manual signatures are still often used as an alternative.

From the analysis and interviews, the main challenge in implementing this policy lies in communication. Edward III's policy implementation theory emphasizes the importance of effective communication for policy success. Although socialization has been carried out, ASNs at the Malang City DPRD Secretariat, especially those accustomed to wet signatures, still have a limited understanding of this application. Solutions include increased socialization intensity, thorough training, and more structured application maintenance to increase user confidence in e-signatures. With better communication strategies and intensive training support, implementing the Singo App can be optimized and support the transition to a more effective digital-based government.

## **5. CONCLUSIONS AND SUGGESTIONS**

The following conclusions are based on the research results regarding implementing electronic signatures through the Singo application. The implementation of Permendagri No. 1 of 2023 on Office Manuscripts in the Local Government Environment through the Singo Application at the Secretariat of the Malang City DPRD runs quite well based on four Edward III policy indicators, namely communication, resources, disposition, and bureaucratic structure. In the communication aspect, the socialization conducted by the Diskominfo of Malang City in 2023 succeeded in building a common understanding among supervisors, operators, and leaders. However, periodic socialization and technical guidance are needed to improve user skills and reduce concerns regarding the potential misuse of electronic signatures. Meanwhile, infrastructure support such as computers and mobile phones is adequate, so the application process runs smoothly. However, manual signatures are still often used when the application undergoes maintenance, indicating the need for regular maintenance.

Regarding disposition, implementers' perceptions, responses, and actions showed a supportive attitude toward using the Singo App. Implementers understood their respective tasks and responded well to the application for its convenience in speeding up the signature process. However, high workloads, such as the large number of documents to be signed, often cause bottlenecks in the electronic signature process, mainly when document or maintenance errors occur. Concerns over misuse of the application also remain, caused by the lack of socialization and the absence of regulations or circulars as a legal basis for the use of this application. Regular monitoring and evaluation (M&E) and increased training and socialization for all relevant parties are needed to support the sustainability of the implementation.

The bureaucratic structure in implementing the Singo App is well organized through the division of tasks, including appointing a controller to oversee the TTE process and an operator in charge of processing documents to the leadership. However, high workloads often mean that supervision is not maximized. Coordination between implementers is done through media such as WhatsApp, with a workflow that involves supervision, correction, and leadership approval before TTE is processed. Although this system is already in place, there is a need to increase the capacity of human resources to support more effective supervision, as well as technology development to minimize

barriers. Periodic evaluations and a more integrated coordination system are also needed to improve the efficiency and effectiveness of Singo App implementation.

Supporting factors for implementing the Singo App include a good understanding by implementers, adequate infrastructure such as mobile phones and computers, and cooperation with BSSN to ensure the security of electronic certificates. However, several barriers were also identified, including a lack of socialization and technical guidance from the Malang City Diskominfo, limited human resources in supervision, and a lack of application maintenance, leading to operational disruptions. These barriers indicate the need for more attention to human resource development, application maintenance, and provision of more intensive training and socialization. By overcoming these obstacles, implementing Permendagri No. 1 of 2023 through the Singo Application can run more optimally, support administrative efficiency, and strengthen the transition towards government digitalization.

Based on the analysis of the implementation of electronic signatures through the Singo Application at the Malang City DPRD Secretariat, several strategic steps are suggested to improve the effectiveness of this policy implementation. First, periodic socialization by Diskominfo Malang City to OPD application users and the public is needed to ensure an even understanding, especially in changes in leadership and staff. The socialization involves resource persons from Diskominfo, the Electronic Certificate Center, and the State Cyber and Crypto Agency. Second, online technical guidance through video conferencing platforms such as Zoom can improve user competence without requiring physical presence. Third, additional supervisory personnel are needed to cope with the high volume of documents that must be processed. Finally, regular application maintenance is important to ensure it remains optimized, secure, and relevant to user needs, including fixing bugs that reduce efficiency.

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