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Implementation of Digital Population Identity Policy in Public Services of the Population and Civil Registration Service of Parepare City, South Sulawesi Province

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Abstract. This study aims to analyze the implementation of Digital Population Identity (IKD) in public services at the Population and Civil Registration Office of Parepare City and identify factors that still pose obstacles to its implementation. This study used a descriptive qualitative method with George C. Edward III's implementation theory, which includes communication, resources, disposition, and bureaucratic structure, as well as Servqual theory in analyzing public services.The results indicate that the implementation of IKD has been quite successful, but there are still aspects that are not optimal. NVivo coding results indicate that resources obtained a percentage of 2.7%, reflecting the continued limitations in facilities, supporting devices, internet networks, and smartphones. In terms of public services, network errors were the most dominant obstacle, accounting for 5.9% of the time, while reliability was only 0.1%, indicating that service consistency is still affected by network disruptions and application technical issues. Furthermore, low levels of digital literacy also contribute to difficulties for some individuals using the Digital Population Identity (IKD). Therefore, improvements to facilities and infrastructure, strengthening of the network and application system, and increased outreach and support for the public are needed to optimize IKD implementation and support improvements in the quality of public services.

Keywords: *Policy Implementation, Digital Population Identity (IKD), E-Government.*

A. INTRODUCTION

E-government represents a significant application of information technology that plays a crucial role in supporting public service delivery in Indonesia. The rapid advancement of information technology has prompted the government to transform its administrative operations through the development of various digital-based systems. These systems are designed to create more effective and efficient government processes while ensuring adaptability to future service needs. The government's commitment to fostering e-government adoption is evidenced by Presidential Instruction Number 3 of 2003 concerning the National Policy and Strategy for E-Government Development. This policy serves as a foundation for government efforts to enhance the quality of public service delivery through the use of digital information technology (Lestari et al., 2021).

Advancements in information technology have brought about fundamental changes in governance and public service delivery. Governments are now required not only to provide easily accessible services but also to leverage digital technology to create service processes that are effective, efficient, transparent, accountable, and responsive to public needs. These changes have driven a shift from conventional administrative models toward the "Digital Government" paradigm, a governance approach that positions digital technology, data, system integration, and innovation as integral components of the governance process. Digital Government extends beyond the mere use of applications in service delivery; it encompasses transformations in organizational governance, data management, inter-agency coordination, and the relationship between the government and the public. Under this paradigm, public services are designed to be simpler, faster, secure, inclusive, and user-centric. The study underpinning this research positions Digital

Government as a new paradigm that integrates digital technology, data, innovation, and collaboration into governance.

A strategic component of Digital Government is digital identity. Digital identity serves as an authentication and verification tool that enables citizens to access various services electronically. Its existence supports service integration, reduces the need for repeated identity verification, accelerates administrative processes, and enhances service efficiency. Studies on the role of digital identity within Digital Government indicate that it holds a strategic position as foundational infrastructure connecting the public to various digital public services. The Digital Population Identity (IKD) serves as a digital representation of a resident's identity, functioning as an authentication tool for accessing public services. The implementation of IKD is governed by Minister of Home Affairs Regulation Number 72 of 2022, which outlines standards and specifications for hardware, software, and Electronic Resident Identity Card (KTP-el) blanks, as well as provisions for the administration of Digital Population Identity. This policy serves as the framework for central and regional governments to manage the activation and utilization of IKD.

The implementation of IKD aims to enhance the efficiency of population administration services, strengthen the security of resident identities, support data integration, accelerate identity verification processes, and reduce reliance on physical documents. From a public service perspective, IKD implementation is expected to offer greater convenience to the public by enabling access to population documents via digital devices. Conceptually, the development of digital identity is also linked to efforts to foster greater inclusivity in public services. Addo and Senyo (2021) explain that digital identity can bolster the effectiveness of Digital Government, expand public access to services, and strengthen the integration between population data and public service systems.

Nevertheless, the implementation of digital identity still faces a number of challenges. The successful application of this policy depends not only on regulatory support and technological availability but is also influenced by various other factors that facilitate its execution. This situation is evident in the implementation of the Digital Population Identity (IKD) in Parepare City. To boost the activation of the IKD, the Parepare City Government—through the Population and Civil Registration Agency—has implemented several strategies, including public awareness campaigns, in-office activation services, and proactive outreach services targeting schools, government agencies, universities, districts, and sub-districts. These measures reflect the local government's commitment to supporting the digitalization and transformation of population administration services.

According to research data, the Parepare City government set a target for approximately 33,000 residents eligible for the standard ID card (KTP) to activate their IKD. By 2024, the number of activations reached approximately 25,000 residents, or 17.45% of the eligible population. Furthermore, data available up to May 2025 shows that 30,124 out of 161,599 eligible residents—approximately 18.64%—had activated the service. While the data indicates an increase in activations, the majority of eligible residents are not yet actively using the IKD. However, a high activation rate does not necessarily imply that the policy implementation is proceeding optimally. IKD implementation is measured not only by the number of people who have activated the service but also by the extent of the application's use in daily life, the sustainability of service usage, the quality of service provided, the public's understanding of IKD functions, and the local government's ability to integrate the IKD with various other public services. Consequently, the success of the policy implementation requires a more comprehensive analysis that considers the factors influencing the implementation process on the ground. Challenges in implementing the Digital Population Identity (IKD) in Parepare City stem from various issues, including a lack

of public understanding regarding IKD benefits, limited digital literacy, device incompatibility, network constraints, and concerns over personal data security. Furthermore, internal organizational factors—such as staff readiness, human resource competence, the intensity of outreach efforts, and coordination among implementing units—influence policy execution. Thus, IKD implementation is a process involving not only technological aspects but also organizational factors, resources, communication, and the behaviors of both implementers and the public as service users. Given the empirical conditions, theoretical background, and identified research gaps, this study is deemed essential to gain a deeper understanding of IKD implementation within the Parepare City Population and Civil Registration Agency.

To understand this process, the study employs George C. Edwards III's (1980) policy implementation theory, which comprises four key aspects: communication, resources, disposition, and bureaucratic structure. Communication is analyzed to examine how information regarding IKD is conveyed to the public. Resources are assessed to evaluate the readiness of personnel, facilities and infrastructure, networks, devices, and supporting technologies. Disposition is examined to understand the attitudes, commitment, and responses of implementers in executing the IKD policy. Meanwhile, bureaucratic structure is analyzed to look at the division of tasks, procedures, coordination, and operational mechanisms involved in IKD implementation.

Utilizing Edwards III's perspective complements the ideas proposed by Addo and Senyo (2021); while Addo and Senyo highlight the potential of digital identity to support access, rights, participation, and inclusion, Edwards III's theory is applied here to understand the factors determining IKD policy execution at the local government level. Consequently, this study seeks to examine how the potential of digital identity is translated into public service practices.

The research on IKD in Parepare City is relevant for broadening the scope of studies regarding digital identity within the context of public services in Indonesia. This study does not position the IKD as a technology that automatically yields better services; instead, it views it as a policy and technology whose benefits are shaped by the implementation process, organizational readiness, technological conditions, and the capabilities of the public as users.

B. METHOD

The research was conducted at the Population and Civil Registration Agency (Disdukcapil) of Parepare City, South Sulawesi Province. This study employs a qualitative method with a descriptive approach. Data sources include both primary and secondary data; primary data were obtained through direct interviews with relevant stakeholders, specifically the Head of Disdukcapil, the Head of the Population Administration Information System (PIAK) Division, PIAK Division staff, and members of the public using the Digital Population Identity (IKD), while secondary data were derived from supporting documents, such as Minister of Home Affairs Regulation Number 72 of 2022.

Data analysis involved organizing interview results, categorizing information based on research themes, interpreting findings, and utilizing the NVivo application to assist with coding and the identification of data patterns. The analysis of policy implementation in this study utilizes the four key aspects proposed by Edwards III: communication, resources, disposition, and bureaucratic structure. Meanwhile, public service quality is examined through five dimensions: tangibles (physical evidence), reliability, responsiveness, assurance, and empathy.

C. RESULTS AND DISCUSSION

1. Implementation of the Digital Population Identity (IKD) Policy in Parepare City

Based on coding results using the NVivo application in the study on the implementation of the Digital Population Identity (IKD) in Parepare City, several key indicators emerged as the most dominant factors in the policy implementation process: bureaucratic structure, disposition, communication, and resources. These coding results indicate the percentage of coding references for each indicator, derived from interviews with research informants.

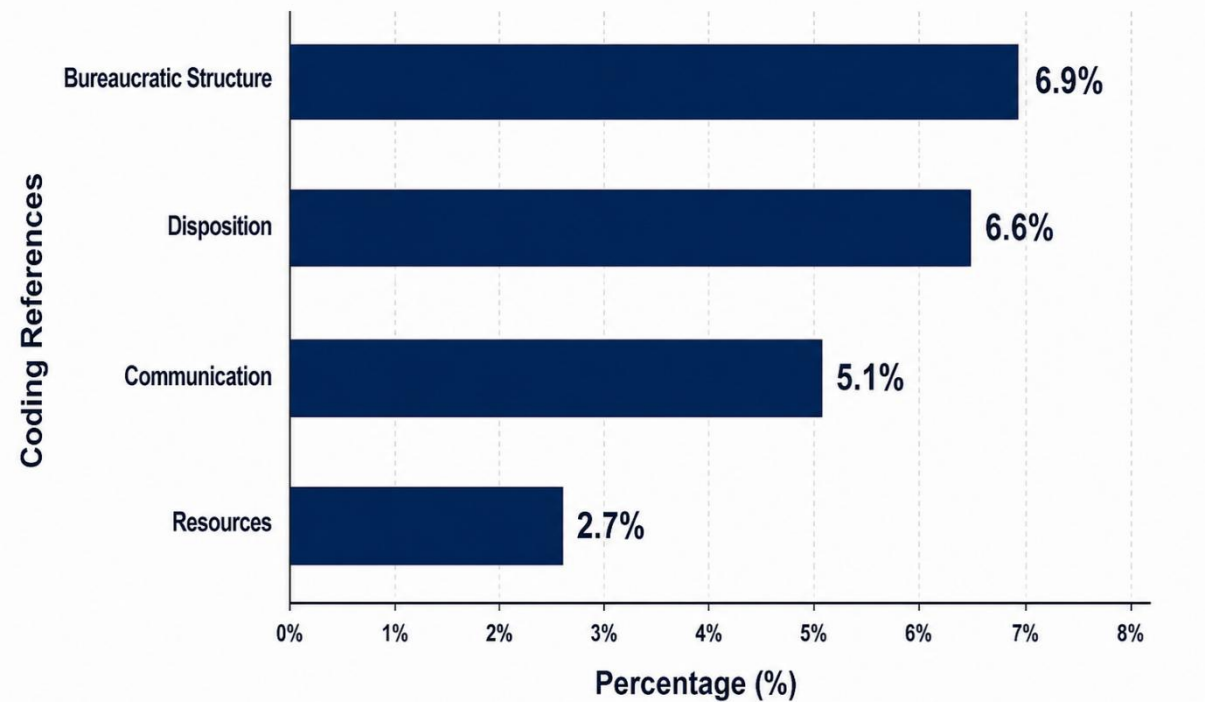

Figure 1. Diagram of IKD Policy Implementation in Parepare City

Source: NVivo Analysis Results, 2026

Based on the NVivo coding diagram, the bureaucratic structure indicator is the most dominant, with a coding percentage of 6.9%. This indicates that IKD implementation in Parepare City is heavily influenced by bureaucratic mechanisms, standard operating procedures (SOPs), and service systems integrated with the Population Administration Information System (SIAK). A clear bureaucratic structure facilitates the digital-based population administration service process, allowing IKD implementation to proceed in a more focused and organized manner. In addition to bureaucratic structure, the disposition indicator also shows a relatively high coding percentage of 6.6%. This demonstrates that the attitudes, commitment, and readiness of staff to support IKD implementation are crucial factors in the success of digital-based population administration services. Staff at the Parepare City Population and Civil Registration Agency are considered to possess a strong commitment to assisting the public with the activation and use of the IKD application. The communication indicator shows a coding percentage of 5.1%. This indicates that communication regarding IKD implementation has been actively conducted through direct outreach to the public, schools, government agencies, and state-owned enterprises (BUMN), as well as through proactive "outreach" (jemput bola) methods. These communication strategies aim to enhance public understanding of the use of digital population identities. Meanwhile, the resource indicator shows the lowest coding percentage compared to the other indicators, at 2.7%.

This indicates that resources remain a constraint in IKD implementation in Parepare City. Limitations regarding service facilities, supporting equipment, internet connectivity, and public access to smartphones act as obstacles to the execution of digital-based population administration services. Thus, the NVivo coding results indicate that IKD implementation in Parepare City is primarily influenced by bureaucratic structure and staff disposition, whereas resource factors remain a challenge requiring improvement to support the optimization of digital-based population administration services.

2. Factors Supporting and Hindering the Implementation of Digital Population Identity (IKD) in Parepare City

Based on coding results using the NVivo application regarding factors supporting the implementation of Digital Population Identity (IKD) in Parepare City, several key indicators with varying levels of percentage coverage were identified. These coding results reveal the most dominant factor supporting the implementation of digital-based population administration services.

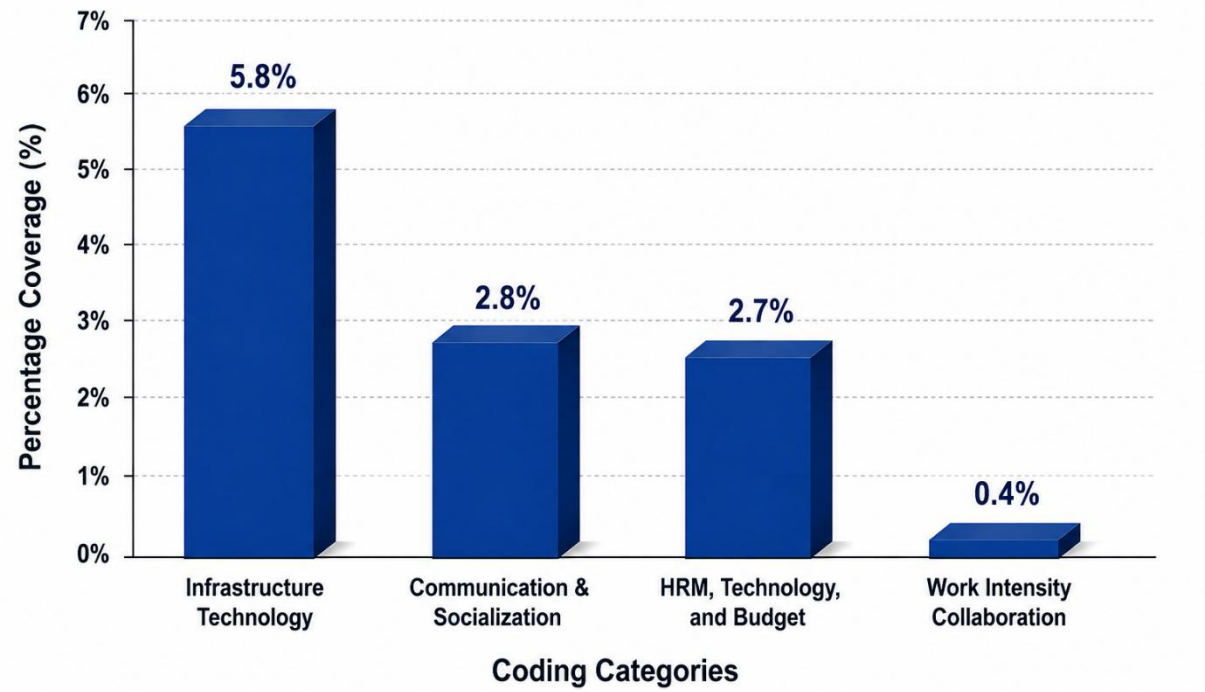

Figure 2. Diagram of Factors Supporting and Hindering IKD Implementation in Parepare City

Source: NVivo Analysis Results, 2026

Based on the NVivo coding diagram, the technology infrastructure indicator emerged as the most dominant supporting factor, with a coverage percentage of 5.8%. This indicates that the successful implementation of IKD (Digital Population Identity) in Parepare City is heavily influenced by the availability of digital service systems, internet networks, and service integration through the Population Administration Information System (SIAK). Adequate technology infrastructure facilitates faster, more practical, and more efficient population administration services, thereby enabling the public to access digital population identity services with greater ease. In addition to technology infrastructure, the communication and outreach indicator also showed a significant coverage percentage of 2.8%. This demonstrates that the outreach efforts conducted by the Parepare City Population and Civil Registration Agency (Disdukcapil) play a crucial role in supporting IKD implementation. Outreach is carried out directly with the public through a proactive "ball-

pickup" approach, delivering services directly to government agencies, schools, state-owned enterprises (BUMN), and communities at the urban village (*kelurahan*) level. This communication strategy helps improve public understanding regarding the usage procedures and benefits of the IKD application. Indicators related to human resources, technology, and budget also showed a coverage percentage of 2.7%. This highlights that staff readiness, service technology support, and service facilities are vital factors in supporting IKD implementation. Staff at the Parepare City Disdukcapil are considered committed and prepared to assist the public in activating and using the IKD application. Furthermore, the use of digital-based service technology helps enhance the effectiveness of population administration services. Meanwhile, the inter-agency cooperation indicator showed the lowest coverage percentage, at approximately 0.4%.

Despite this low percentage, inter-agency cooperation remains a supporting factor in IKD implementation. Collaboration is carried out through outreach activities and IKD activation services involving government agencies, schools, state-owned enterprises (BUMN), the business sector, and other stakeholders to expand service reach to the public. Accordingly, NVivo coding results indicate that technological infrastructure is the most dominant factor supporting the implementation of the Digital Population Identity (IKD) in Parepare City. Furthermore, communication and outreach, human resource and technological support, and inter-agency collaboration also influence the successful implementation of digital-based population administration services.

3. Public Services Most Frequently Raised and Discussed During the Implementation of Digital Population Identity (IKD) in Parepare City

Based on coding results using the NVivo application regarding public service aspects of the Digital Population Identity (IKD) implementation in Parepare City, several indicators were identified, reflecting percentage levels derived from research informant interviews. These coding results illustrate the public service aspects that appeared most frequently and were most discussed during the IKD implementation process.

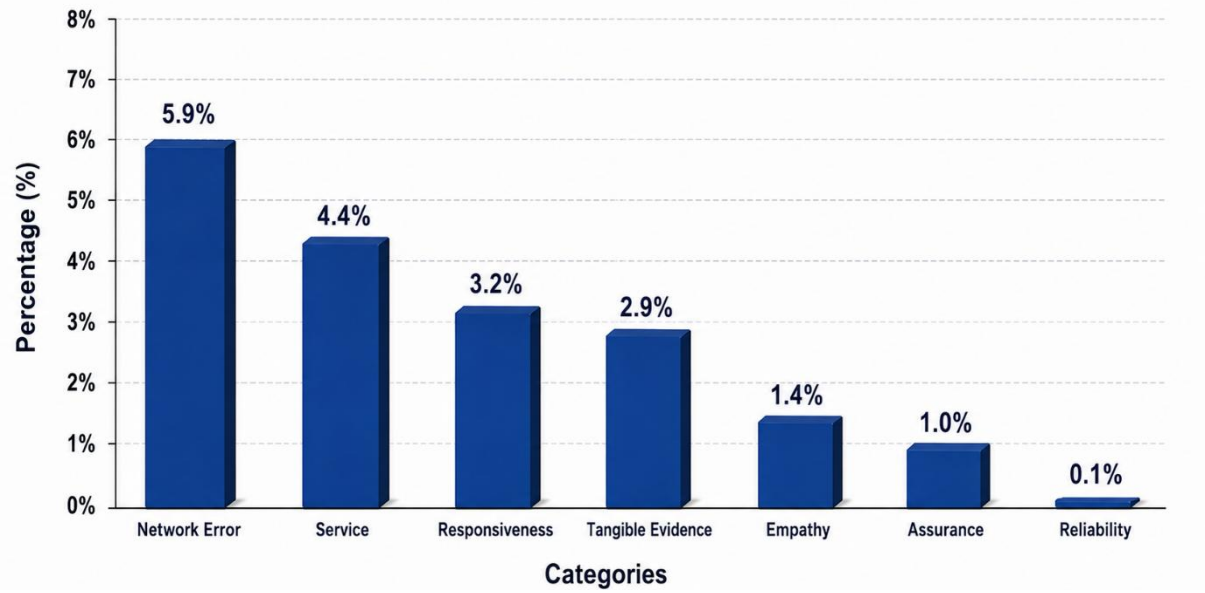

Figure 3. Public Service Diagram

Source: NVivo Analysis Results, 2026

Based on the NVivo coding diagram, the "network error" indicator shows the highest percentage at 5.9%. This indicates that network disruptions and system errors are the most dominant issues in the implementation of digital-based public services via IKD. Internet

connectivity issues and application system glitches frequently affect the activation and usage of the IKD application, making them a primary concern in the execution of digital-based population administration services. In addition to network errors, the service indicator also shows a relatively high percentage at 4.4%. This demonstrates that digital-based population administration services via IKD have been a central focus of the research.

The implementation of IKD is considered capable of enhancing public service effectiveness, as the public can access their population identity more conveniently via smartphones. The responsiveness indicator shows a percentage of 3.2%. This indicates that employees of the Parepare City Population and Civil Registration Agency (Disdukcapil) are perceived as sufficiently responsive in assisting the public with IKD application activation and usage. Employees also actively provide education and guidance to community members who encounter difficulties using the digital application. Furthermore, the tangible evidence indicator shows a percentage of 2.9%. This indicates that digital service facilities, such as centralized networks, service devices, and supporting infrastructure are available for IKD implementation. However, limitations in service facilities remain an obstacle to IKD activation in the field. The empathy indicator shows a coverage percentage of 1.4%. This indicates that Disdukcapil Parepare employees demonstrate care and concern for community members facing difficulties with the IKD application. Employees strive to provide assistance and solutions so that the public can still obtain optimal population administration services. Meanwhile, the assurance indicator shows a coverage percentage of 1.0%. This indicates that aspects of data security and service reliability in IKD implementation are addressed through a monitoring system integrated with the Population Administration Information System (SIAK). The reliability indicator showed the lowest percentage, at approximately 0.1%.

This indicates that, although IKD services are considered relatively fast and convenient, there remain technical issues, such as internet connectivity and users' devices, that affect service consistency. Consequently, NVivo coding results reveal that the implementation of IKD-based public services in Parepare City is primarily influenced by network and digital service constraints; meanwhile, the reliability of the service requires improvement to ensure that digital-based population administration services operate more optimally, effectively, and consistently.

D. CONCLUSION

The implementation of the Digital Population Identity (IKD) policy at the Parepare City Population and Civil Registration Agency has proceeded quite well, contributing to the modernization of population administration services. This implementation was carried out through communication and outreach, resource support, staff disposition, and a bureaucratic structure featuring clear service procedures and work mechanisms. NVivo analysis reveals that bureaucratic structure is the most dominant aspect (6.9%), followed by disposition (6.6%), communication (5.1%), and resources (2.7%). These results indicate that bureaucratic structure and staff commitment are crucial supporting factors, whereas resource limitations remain a primary obstacle to IKD implementation.

From a public service perspective, the adoption of IKD has enhanced convenience, speed, and practicality in population administration services. However, service quality is not yet fully optimal. Network disruptions and system errors are the most significant issues (5.9%), while reliability is recorded at 0.1%. Key barriers to IKD implementation include limited facilities and equipment, internet network disruptions, technical application issues, limitations regarding public smartphones, and low digital literacy among some segments of the population. Overall, while IKD implementation in Parepare City has positively impacted population administration services, it has not yet reached its full potential. The main

challenges lie in resource constraints, network and application system disruptions, limitations regarding public devices, and low digital literacy. Improvements in these areas are necessary for IKD implementation to deliver public services that are more effective, consistent, and equitable.

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