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QUALITY OF DIGITAL POPULATION IDENTITY SERVICE AT THE POPULATION AND CIVIL REGISTRATION OFFICE OF LANGKAT REGENCY

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Abstract

The digital transformation of public administration has made population administration among the services most directly affected by government innovation. The Digital Population Identity (Identitas Kependudukan Digital/IKD), regulated under Minister of Home Affairs Regulation No. 72 of 2022, represents a strategic shift from the physical National Identity Card (KTP-el) toward a digital credential accessible via smartphone. This study examines the quality of IKD service at the Population and Civil Registration Office (Disdukcapil) of Langkat Regency through five SERVQUAL dimensions: tangibles, reliability, responsiveness, assurance, and empathy. A qualitative descriptive approach was adopted, with data collected through semi-structured interviews with key informants (Head of Public Service Division, Satria Hamdani), primary informants (section heads and IKD service officers), and additional informants (members of the public), supplemented by non-participant observation and documentation analysis. Findings indicate that IKD service in Langkat Regency is generally adequate across all five SERVQUAL dimensions: physical facilities at the main office are well-equipped; SOP implementation is structured and consistent; staff demonstrate proactive responsiveness, including outreach services to remote sub-districts; residents hold a comparatively high degree of trust in data security; and officers provide patient, empathetic assistance to digitally unfamiliar users. Principal constraints include limited internet infrastructure in remote areas, comparatively low digital literacy among older and rural residents, dependence on a centralized national system creating local service disruption risk, and a limited number of dedicated service staff relative to service demand. Recommendations address infrastructure investment, digital literacy programming, and inter-agency coordination improvements.

Keywords: Service Quality; Digital Population Identity; IKD; Public Service; SERVQUAL; Population Administration; Langkat Regency

INTRODUCTION

The fourth industrial revolution has fundamentally transformed the administration of government and public services. Digital transformation is no longer an option but a strategic imperative for governments seeking to deliver efficient, accessible, and citizen-centred services (Indrajit, 2016). Population administration is among the sectors most directly affected: the management of population identity data, previously anchored to physical documents and manual processes, is being progressively migrated to digital platforms that promise greater accuracy, speed, and accessibility for citizens across diverse socioeconomic and geographic contexts.

Public service quality constitutes a central dimension of governmental legitimacy and democratic accountability. Law Number 25 of 2009 on Public Service establishes that every citizen has a right to high-quality public services, and that service providers bear an obligation to deliver services in accordance with clearly defined standards (Indonesia, 2009). The emergence of e-government has added a digital dimension to this obligation: governments must not only deliver services efficiently but also ensure that digital service channels are secure, accessible, and genuinely usable by all segments of the population, including those with limited digital competency (Dwiyanto, 2018).

The Digital Population Identity programme (Identitas Kependudukan Digital/IKD) represents the Indonesian government's most significant recent innovation in population administration. Regulated under Minister of Home Affairs Regulation No. 72 of 2022 and implemented through the Ministry of Home Affairs' Directorate General of Population and Civil Registration, IKD transforms the physical National Identity Card (KTP-el) into a digital credential accessible via a dedicated government smartphone application. IKD integrates multiple functions—identity verification, access to government services, and population data management—into a single digital platform, with the long-term aim of progressively replacing the physical KTP-el as the primary population identity instrument.

Langkat Regency, located in North Sumatra Province and covering an area of approximately 6,263 km² with a population exceeding one million residents distributed across 23 sub-districts, presents a particularly instructive context for examining IKD service quality. The regency combines the administrative capacity of its capital Stabat with extensive rural and semi-rural areas, creating a service delivery challenge characteristic of many Indonesian districts: concentrated institutional resources in the urban centre, with the obligation to extend digital services to a geographically dispersed and socioeconomically diverse population.

This study addresses two research questions: (1) How is the quality of IKD service at the Disdukcapil of Langkat Regency across the five SERVQUAL dimensions? (2) What are the principal factors inhibiting effective IKD service delivery? The study applies Parasuraman, Zeithaml, and Berry's (1988) SERVQUAL framework as its analytical lens, generating findings relevant both to Langkat Regency's service improvement and to the broader literature on digital public service quality in decentralized governance contexts.

REVIEW OF LITERATURE

Public service constitutes one of government's central functions in meeting citizens' basic needs and achieving national development objectives. Under Law Number 25 of 2009, public service encompasses all forms of service activities conducted by state apparatus to

fulfil citizen needs in accordance with applicable regulations. Setiawan (2023) identifies four essential elements of public service: the service provider; the service recipient; the type of service; and satisfaction of service users. Rahim (2022) distinguishes three forms: services organized by private parties; services organized by government of a primarily governmental character; and services organized by government fulfilling both public and individual needs. In the population administration context, Disdukcapil functions represent the third category.

Service quality is defined by Parasuraman, Zeithaml, and Berry (1988, p. 23) as the extent to which a service meets or exceeds customer expectations. Their SERVQUAL model structures quality measurement across five dimensions: (1) Tangibles—physical facilities, equipment, and staff appearance; (2) Reliability—the ability to perform the promised service dependably and accurately; (3) Responsiveness—willingness to help customers and provide prompt service; (4) Assurance—knowledge, competence, courtesy, and integrity of service apparatus; and (5) Empathy—caring, individualized attention provided to customers. Putriani et al. (2022) emphasize that measuring service quality enables organizations to detect service gaps, identify improvement priorities, and verify whether service delivery meets user expectations.

Population administration service, encompassing the recording and management of population data under Law Number 24 of 2013, includes identity registration, civil registration of vital events, and issuance of legal population documents. Digital Population Identity (IKD) represents the most recent innovation in this sector, providing a digitized KTP-el credential accessible via smartphone. IKD enables identity verification in both in-person and online government service contexts and is designed to progressively replace the physical identity card. Successful IKD adoption requires not only technical infrastructure but also user competency, institutional readiness, and public trust in digital data security (Wardani, 2023).

Service quality is shaped by multiple interrelated factors. Moenir (2010) identifies six principal factors: the awareness of service apparatus regarding their obligations; clear and enforceable service rules; adequate organizational capacity; staff income and competence levels; physical facilities and equipment; and the service orientation of the organization. In digital service contexts, ICT infrastructure quality—network reliability, application usability, and data security—constitutes a critical additional determinant (Indrajit, 2016). Hardiansyah (2018) further emphasizes that the management of expectations—ensuring that digital services deliver on their promises—is a central challenge in public e-service quality governance.

Prior research provides important contextual benchmarks. Daaris and Imam (2024) found that in Bima Regency, digital licensing service quality was constrained by staff competency gaps and public unfamiliarity with digital processes, despite technical infrastructure investment. Rahmawati, Arlan, and Urahmah (2024) documented systematic inequity in IKD access in Hulu Sungai Utara District, with elderly and rural residents facing disproportionate barriers. Hasanah and Assyahri (2024) highlighted that younger residents (Generation Z) express strong preferences for digital administration but maintain high expectations for reliability and data security. Anggraini (2023) found that public perception of digital innovations in population services in Medan was generally positive but dependent on socialization quality and infrastructure readiness. These findings collectively establish the analytical context for the present study.

RESEARCH METHOD

This study employs a qualitative approach with a descriptive design, appropriate because the research seeks to understand, describe, and analyze IKD service quality as experienced by service providers and users in their institutional context (Sugiyono, 2018). Field research was conducted at the Population and Civil Registration Office of Langkat Regency (Jalan Tengku Amir Hamzah, Kwala Bingai, Stabat Sub-district) over approximately three months in 2026.

Informants were selected purposively across three categories. Key informants: the Head of Public Service Division, Satria Hamdani, as the primary institutional authority for IKD service standards. Primary informants: section heads and IKD service officers with operational knowledge of daily service processes, troubleshooting, and staff-public interactions. Additional informants: three members of the Langkat Regency public (Budianto, Rudi, and one further resident) who had undergone IKD activation, representing the citizen perspective on service quality.

Data were collected through three methods: semi-structured interviews using guides developed from the five SERVQUAL dimensions; non-participant observation of IKD service processes at the Disdukcapil office and during outreach activities; and documentation analysis of official SOP documents, IKD programme reports, and government monitoring data. Data validity was ensured through source triangulation (cross-checking across informant categories), method triangulation (interviews, observation, documentation), and member checking with key informants. Analysis followed the Miles, Huberman, and Saldaña (2014) interactive model: data reduction, data display, and conclusion drawing with verification.

RESULTS AND DISCUSSION

The Population and Civil Registration Office of Langkat Regency administers population and civil registration affairs for the regency's residents, including the issuance and management of population documents and the implementation of digital identity services. The office's vision is to realize population administration that is orderly, accurate, complete, and dynamic, and is aligned with the regency's wider development vision. IKD service quality is analyzed below across the five SERVQUAL dimensions, followed by analysis of the principal inhibiting factors.

Tangibles: Physical Facilities and Digital Infrastructure

The tangibles dimension concerns the physical evidence directly visible to service users: service facilities, working equipment, staff appearance, and supporting infrastructure. In the IKD service context, tangibles extend to the digital infrastructure—network connectivity, device availability, and application functionality—that users must access to activate and subsequently use IKD.

> *"Facilities at the main office are adequate. We have dedicated workstations for IKD activation, stable internet connectivity, and support devices for residents who do not bring their own smartphones. For outreach services to villages, however, we rely on portable connectivity solutions, and network quality in remote areas is not always reliable." — Satria Hamdani, Head of Public Service Division, interview 2026*

Observational data confirmed adequate physical facilities at the Disdukcapil office: dedicated IKD service counters, functional computer workstations, staff in formal attire, clear directional signage, and an organized waiting area with queue management. IKD activation requires residents to possess a compatible smartphone running Android 8.0 or above; for residents without compatible devices, officers provide activation using office-provided devices. The tangibles dimension is assessed as adequate at the main office level but variable during outreach services in remote sub-districts, where network infrastructure limitations represent the primary constraint. This aligns with Rahmawati et al.'s (2024) finding that infrastructure inequality between urban administrative centres and rural areas is a systemic determinant of unequal digital service access in Indonesian regencies.

Reliability: Consistent and Procedurally Accurate Service Delivery

Reliability concerns an institution's ability to deliver service accurately, dependably, and in accordance with established procedure—a dimension of considerable importance in public service because it demonstrates the organization's capacity to honour its service commitments (Parasuraman et al., 1988).

> *"The IKD service SOP is applied to ensure the transition process from physical KTP-el to digital identity runs in a structured and orderly manner. Each step is standardized: data verification, biometric matching, activation, and confirmation. Officers receive training on the SOP before deployment."*
> *— Satria Hamdani, Head of Public Service Division, interview 2026*

Budianto confirmed: 'The service ran exactly as the officer explained. My data was checked, my face was scanned, and the activation was completed without any error. I was informed of each step throughout.' Implementation of IKD service in Langkat Regency has run in a structured manner consistent with established procedures. The reliability dimension is assessed positively, with service consistency maintained through SOP documentation and systematic officer training. Data discrepancies, when they occur, are traceable to mismatches between physical documents and the central population database—a national data quality challenge rather than a local implementation failure.

Responsiveness: Staff Assistance and Proactive Service Programming

Responsiveness describes the capacity of service staff to provide assistance, respond promptly to requests, and proactively address service challenges. In the IKD context, it includes staff willingness to guide residents through the activation process, promptness in resolving technical difficulties, and proactive outreach to communities with lower digital familiarity.

Staff demonstrated responsive attitudes at the service counter, explaining activation stages clearly and repeating instructions as needed. More significantly, the office has established a mobile outreach programme through which officers visit sub-district offices, community centres, and village halls to conduct IKD activation for residents unable to travel to the main office. A service officer explained: 'If we wait for residents to come to us, we will not reach everyone. We go to them—to the villages, to the markets, to community events. This is part of our service commitment.' The responsiveness dimension is assessed as adequate, with evidence of both reactive counter service and proactive outreach. However, digital literacy variation creates asymmetric service demands, and the limited number of designated IKD officers constrains consistent responsiveness during peak periods (Moenir, 2010).

Assurance: Knowledge, Competence, and Data Security

Assurance concerns the knowledge, competence, courtesy, and integrity of service apparatus in building public trust and a sense of security among service users. For IKD, assurance has a particularly significant data security dimension: residents must trust that their biometric data and population records are protected from unauthorized access.

> *"As a member of the public, I know that my data in IKD is protected by the government system. The officer explained that the data is encrypted and can only be accessed through my personal PIN. I feel confident in the security of the system." — Rudi, community member, interview 2026*

The Disdukcapil employs a PIN-protected access system for IKD, with data encryption managed at the national level by the Ministry of Home Affairs' central data center. Officers are trained to explain the security architecture during activation, emphasizing the distinction between the resident's personal PIN and population data accessible to authorized agencies. The assurance dimension is assessed positively: residents report a comparatively high degree of trust in IKD data security, and officer competence in explaining security features is consistent across informants. This is particularly significant given the importance of public trust as a precondition for voluntary digital identity adoption (Goetsch & Davis, 2014).

Empathy: Individual Attention and Inclusive Service Orientation

Empathy is the capacity of service apparatus to demonstrate attention, care, and understanding of individual needs throughout the service process, emphasizing friendly communication and a willingness to accommodate each service user's specific situation (Tjiptono, 2014). For IKD, empathy is most critically tested in interactions with residents facing the greatest barriers to digital adoption.

Observation documented clear staff involvement in supporting residents with limited digital literacy: officers actively provide step-by-step direction, employ accessible language, and maintain patient attitudes without making residents feel embarrassed about unfamiliarity with digital devices. A community member observed: 'The officer was very patient. I have never used this kind of application before and I was worried about making a mistake. The officer did each step together with me, made sure I understood, and did not rush me. I felt taken care of.' This level of individual attention extends to modified service procedures for elderly residents, who may require multiple activation sessions before becoming comfortable with independent IKD use. The empathy dimension is assessed positively, representing one of the programme's most consistent strengths.

Factors Inhibiting IKD Service Quality

Four principal inhibiting factors were identified that constrain IKD service quality across the five dimensions:

Limited Internet Infrastructure in Remote Areas: Network connectivity in a number of Langkat Regency's more remote sub-districts is insufficient to support IKD activation, which requires stable internet for biometric verification and database synchronization. Officers conducting outreach services in remote areas frequently encounter connectivity failures that suspend activation processes. This is a systemic constraint requiring investment in telecommunications infrastructure beyond the capacity of Disdukcapil alone (Indrajit, 2016).

Low Digital Literacy Among Part of the Population: The IKD application requires users to manage PIN creation, login, and identity verification processes. Residents over 50 years old, those with limited formal education, and those in areas with limited prior smartphone exposure lack the digital competency for independent IKD use. This literacy gap increases per-activation officer time and creates risk of systematic exclusion of certain population segments, undermining IKD's equity objectives (Hasanah & Assyahri, 2024; Daaris & Imam, 2024).

Dependence on Centralized National System: IKD data management relies on the Ministry of Home Affairs' central database, meaning any national system disruption—scheduled maintenance or technical issues—directly suspends local IKD service without local mitigation capacity. This centralization dependency requires a coordination and communication protocol between the national system and local offices to minimize service disruption impact on the public.

Limited Number of Dedicated Service Staff: IKD represents a new function superimposed on Disdukcapil's existing workload. The current staffing complement is insufficient to simultaneously serve walk-in residents and conduct outreach programmes, particularly given the extended per-user service time required for digitally unfamiliar residents. This is the primary determinant of responsiveness constraints during peak demand periods (Moenir, 2010).

CONCLUSION

IKD service at the Population and Civil Registration Office of Langkat Regency has, in general, run adequately as part of the broader digital transformation of Indonesian population administration. Evaluated against the five SERVQUAL dimensions: reliability (structured SOP, consistent officer training) and assurance (resident trust in data security, officer competence) are the programme's strongest dimensions. Empathy (patient, person-centred assistance for digitally unfamiliar users) represents a consistent service strength. Responsiveness is adequate overall, with both reactive and proactive service models, though staffing constraints create peak-period limitations. The tangibles dimension is adequate at the main office but reflects infrastructure inequality in remote areas.

Four principal inhibiting factors constrain service quality: limited internet infrastructure in remote areas; comparatively low digital literacy among older and rural residents; dependence on a centralized national system creating local service disruption risk; and a limited number of dedicated IKD service staff. These are systemic constraints requiring strategic responses across governance levels.

Three recommendations follow. First, the Langkat Regency government should prioritize internet infrastructure expansion in remote sub-districts, potentially through coordination with the Ministry of Communication and Information Technology's broadband extension programmes, to ensure equitable IKD access for all residents. Second, Disdukcapil should intensify and institutionalize digital literacy programs—in partnership with village governments, schools, and community organizations—targeting elderly residents and rural populations with particular sustained attention. Third, the Ministry of Home Affairs should develop a local contingency communication protocol for national system maintenance periods, enabling local offices to inform the public of scheduled downtime and minimize service disruption impact.

Future research should employ mixed methods—combining the qualitative process insights of this study with quantitative SERVQUAL surveys among representative resident samples—to generate statistically robust measurements of IKD service quality variation across Langkat Regency's diverse sub-district contexts, enabling more precise geographic targeting of infrastructure and literacy investments.

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