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Citizen data governance in the DTSEN era: personal data protection and the accuracy of social assistance targeting in the urban villages

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ABSTRACT

The transition to the National Single Socio-Economic Data (DTSEN) positions the urban village (kelurahan) as a collection node for welfare data, while the Personal Data Protection Law requires data processing to be limited, transparent, and secure. Drawing on street-level bureaucracy, administrative burden, and data governance theory, this study analyzes how citizen data management practices in kelurahan shape personal data protection and the accuracy of social assistance targeting. It employs an embedded multiple-case study of nine kelurahan in Palangka Raya City, purposively selected across three subdistricts for variation in settlement type and research focus. Interviews with 20 documented informants (eight kelurahan officials, two neighborhood unit (RT) heads, and ten residents), observation, and documents were triangulated, and 111 excerpts were coded with a hybrid deductive–inductive codebook and analyzed through coding matrices and cluster analysis. The findings reveal four patterns. Data protection operates as staff habit rather than written procedure. Copies of identity documents circulate via WhatsApp and the personal phones of RT heads, who act as informal data processors. Kelurahan collect data but have no authority to correct welfare deciles. Digital participation channels burden vulnerable residents. Together, these patterns form a cycle of trust erosion: repeated document requests without a clear purpose reduce residents' willingness to report changes in their circumstances, leaving the data increasingly outdated. Accuracy and data protection should therefore be addressed jointly through a data protection standard operating procedure, processing agreements with RT heads, purpose notification for residents, assistance with the proposal-and-objection mechanism and two-way correction feedback.

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Introduction

Accurate targeting of social assistance depends on the quality of the data the state uses to identify its citizens. Indonesia is currently rebuilding this data foundation. Presidential Instruction No. 4 of 2025 merges the Integrated Social Welfare Data (Data Terpadu Kesejahteraan Sosial, DTKS), the Socio-Economic Registration (Registrasi Sosial Ekonomi, Regsosek), and the Targeting Data for the Acceleration of Extreme Poverty

Eradication (Pensasaran Percepatan Penghapusan Kemiskinan Ekstrem, P3KE) into the National Single Socio-Economic Data (Data Tunggal Sosial dan Ekonomi Nasional, DTSEN) (Presiden Republik Indonesia, 2025). The procedures for updating these data are set out in Minister of Social Affairs Regulation No. 3 of 2025. Under this regulation, data proposals from villages (*desa*) or urban villages (*kelurahan*) may be discussed in a deliberative forum (*musyawarah*) and then submitted to the regent or mayor through the subdistrict head (Kementerian Sosial Republik Indonesia, 2025). Guidelines for inter-agency sharing of DTSEN are set out in Regulation of the Minister of National Development Planning/Head of Bappenas No. 7 of 2025 (Kementerian PPN/Bappenas, 2025). Residents have felt this restructuring directly. During 2025, approximately 13.5 million beneficiaries of the National Health Insurance contribution assistance scheme (Penerima Bantuan Iuran Jaminan Kesehatan Nasional, PBI-JKN) were deactivated following a welfare-decile-based adjustment, while reactivation was offered only on a limited basis, including through field verification (Rohman, 2026).

At the same time, Law No. 27 of 2022 on Personal Data Protection (the PDP Law) has been fully in force since October 2024. The law requires data collection to be limited, specific, lawful, and transparent, and processing to be consistent with its purpose and secure against unauthorized access (Republik Indonesia, 2022). At the lowest administrative level, the kelurahan and the neighborhood unit (Rukun Tetangga, RT) are where copies of resident identity cards (Kartu Tanda Penduduk, KTP) and family cards (Kartu Keluarga, KK) are most often collected, both for administrative certificates and for social assistance verification. A single photocopy of a family card thus serves simultaneously as input for targeting accuracy and as an object of data protection. The research problem, therefore, is not only whether DTSEN data are accurate or whether personal data are protected, but how the everyday handling of citizen documents at the kelurahan level shapes both at once, and why national data integration does not by itself resolve the errors and risks that originate at these collection nodes.

The data governance literature provides well-established frameworks for examining this problem. Khatri and Brown (2010) divide data decisions into five domains: data principles, data quality, metadata, data access, and the data life cycle. Abraham et al. (2019) emphasize that data governance is fundamentally about decision rights and accountability rather than technology alone. Benfeldt et al. (2020) show that data governance often fails because it becomes a collective action problem: everyone uses the data, but no one feels ownership of it. Janssen et al. (2020) add that trust in data-driven decisions depends on clearly assigned responsibility for data quality. Research on the datafied welfare state adds that digitalizing social protection reconfigures state–citizen relations rather than merely improving efficiency (Dencik & Kaun, 2020) and that digital identification can produce new forms of exclusion alongside its promised gains (Masiero & Bailur, 2021). However, data governance frameworks have emerged largely from large organizations rather than from the service counters of kelurahan offices, and they assume that decision rights can be assigned within a single organization.

Research on social assistance targeting in Indonesia has developed along a different path. Alatas et al. (2012) compare *proxy means test* targeting with community-based assessment. Bah et al. (2019) show that targeting errors arise more often at the stage of finding poor households than at the stage of measuring their poverty. Banerjee et al. (2018) demonstrate that tangible information in citizens' hands, such as program identity cards, strengthens their bargaining position. Kusumawati (2019) finds that targeting errors stem more from implementation factors, including possession of identity documents, than from the ranking formula. Widyaningsih et al. (2023) note that many local governments fail to update data regularly because of weak commitment and capacity, including in organizing village deliberative forums. McCarthy et al. (2024) show that simplified targeting methods produce errors that local officials, village apparatus, and residents must continually correct. Meanwhile, studies of personal data protection in Indonesia are largely normative-juridical and focus on the rights of data breach victims or on compliance in the digital financial services sector (Aura et al., 2025; Theresa & Marlyna, 2024) rather than on data processing practices in frontline government units. These two strands of research rarely intersect, even though in the kelurahan both are carried out by the same officials, at the same desk, with the same files. Chudnovsky and Peeters (2022) show how burdens around identity documents can cascade into exclusion from social programs, but they examine the absence of documents rather than what happens to documents once residents hand them over. The research gap is therefore threefold. Empirically, little is known about how personal data are handled before they enter national welfare databases. Theoretically, data governance frameworks do not fit the hybrid arrangement in which kelurahan staff and volunteer RT heads jointly handle citizen data. Conceptually, targeting accuracy and data protection are treated as separate agendas, so the possibility that weak protection itself degrades accuracy has not been examined.

This study draws on three lenses to bridge this gap. The first is street-level bureaucracy. Lipsky (2010) shows that frontline bureaucrats develop routines and exercise discretion to cope with resource constraints. In weaker institutional settings, such coping often takes the form of improvisation and informal workarounds (Peeters & Campos, 2023). Bovens and Zouridis (2002) describe a shift from *street-level* to *system-level bureaucracy*, in which

decisions once made by officials are now made by information systems, while Busch and Henriksen (2018) call this phenomenon digital discretion. Kersing et al. (2022) further show that data tools reshape frontline workers' norms about data quality. The second lens is administrative burden. Herd and Moynihan (2018) and Moynihan et al. (2015) distinguish learning, compliance, and psychological costs, which fall most heavily on vulnerable groups. These burdens are distributed according to citizens' human capital and resources (Chudnovsky & Peeters, 2021; Christensen et al., 2020), and citizens with more administrative capital navigate them more successfully (Masood & Nisar, 2021). The review by Halling and Baekgaard (2024) confirms this unequal distribution, and Madsen et al. (2022) show that digital self-service shifts the work of officials onto citizens. Peeters (2023) describes this as digital administrative burden, while Palukka et al. (2025) show that such burdens can foster citizens' distrust of service institutions. Widlak and Peeters (2020) add the concept of the burden of correction: when administrative data are wrong, it is citizens who must prove the error (see also Peeters & Widlak, 2018), and when data are exchanged across organizations, even the administration may be unable to trace the source of an error (Peeters & Widlak, 2023). The third lens is data justice and contextual integrity. Taylor (2017) and Masiero and Das (2019) show that the datafication of anti-poverty programs can weaken the position of the poor. Nissenbaum (2010) explains that privacy violations occur when information flows outside the norms of the context in which it was shared. Bannister and Connolly (2011) remind us that citizen trust is a prerequisite for, not a by-product of, digital government transformation. Together, these lenses structured the analysis. Data governance specifies who should decide on data, street-level bureaucracy explains how frontline actors behave when no one formally does, and administrative burden and contextual integrity explain how the resulting practices are experienced by residents. Data governance and the principles of the PDP Law informed the deductive codes, whereas street-level bureaucracy, administrative burden, and participation theory provided the concepts used to name and interpret the inductive codes (Table 2).

Palangka Raya City offers a relevant context. Its poverty rate is relatively low, at 3.62 percent in 2025 (Badan Pusat Statistik, 2025). However, this aggregate figure masks vulnerability in the riverbank settlements along the Kahayan and Rungan Rivers, including floating houses (*rumah lanting*), whose residents depend on informal income such as fishing and daily wage labor. The welfare status of such households changes quickly and is difficult for data-updating cycles to track, and the fieldwork for this study took place in the midst of the transition from DTKS to DTSEN.

Accordingly, this study analyzes how citizen data management practices in kelurahan shape personal data protection and the accuracy of social assistance targeting in the DTSEN era. Specifically, it aims to (1) map the practices of storing, accessing, and sharing citizen data at the kelurahan level in the DTSEN era; (2) explain how the allocation of decision rights over welfare data creates challenges for targeting accuracy and shapes residents' experiences; and (3) explain the relationship between data protection and data accuracy and formulate realistic governance improvements for kelurahan. To this end, it uses an embedded multiple-case study of nine kelurahan in Palangka Raya City, combining interviews, observation, and documents analyzed with a hybrid deductive–inductive codebook. Its novelty lies in examining data protection and targeting accuracy together at the collection node rather than as separate legal and economic questions. Its main contribution is to show that data accuracy and confidentiality in the kelurahan are not two separate agendas but two sides of the same document-handling practice. The study also offers two analytical concepts: the RT head as an informal data processor and the data trust erosion cycle.

Method

This study adopted a qualitative approach with an embedded multiple-case study design (Yin, 2018). Each kelurahan was treated as a case, with data flows, managing actors, and verification and data protection practices as embedded units. Nine kelurahan were purposively selected from three subdistricts (*kecamatan*) using three criteria: (1) location within Palangka Raya City, where the transition from DTKS to DTSEN was under way during fieldwork; (2) variation in settlement type, covering riverbank settlements, the urban core, and peri-urban areas; and (3) variation in the entry point to the problem, with some cases focusing on data management and protection and others on social assistance targeting, so that the link between the two issues could be examined from both directions. Four kelurahan in Pahandut Subdistrict (Pahandut, Pahandut Seberang, Panarung, and Tumbang Rungan) served as the main sites because this subdistrict includes riverbank settlements along the Kahayan River, including floating houses, where household welfare changes quickly. Four kelurahan in Jekan Raya Subdistrict (Menteng, Palangka, Petuk Katimpun, and Bukit Tunggal) and one in Sebangau Subdistrict (Kereng Bangkirai) served as comparison cases for literal replication; that is, they were expected to show similar patterns if the mechanisms observed in the main sites were not specific to riverbank settlements (Yin, 2018).

Fieldwork took place from September to October 2026, and the document review was conducted in October 2026. The work was carried out by the research team of the Government Studies Program. Techniques included

semi-structured interviews; non-participant observation of service counters, archive rooms, and residential areas; and a review of documents such as regulations, statistical publications, and program data. Interview guides were developed for four informant groups: kelurahan leaders, data operators or staff of the Social Welfare Service Center (Pusat Kesejahteraan Sosial, Puskesos), RT heads, and residents. Interview items were derived from the five data decision domains (Khatri & Brown, 2010) and the processing principles of the PDP Law. Each domain was translated into topics probed with every informant group. For example, data access was operationalized as who may see, copy, and send residents' documents and through which channels; the data life cycle as how long copies are kept and how they are destroyed; data quality as perceived mismatches between deciles and household conditions; and decision rights as who can propose, correct, or object to welfare data. Because the guides were semi-structured instruments for qualitative inquiry, their quality was ensured through this conceptual derivation and through triangulation across techniques and informant roles rather than through psychometric indices such as Cronbach's alpha, which apply to multi-item scales. Case and informant profiles are presented in Table 1.

Table 1. Case profiles, research focus, informants, and strength of evidence

Subdistrict	Kelurahan (code)	Research focus	Documented informants	Tech.	Level
Pahandut	Pahandut (PHD)	Proposal-and-objection mechanism, kelurahan deliberative forum, follow-up on data changes	1 official, 1 RT head, 2 residents	I, O, D	A
Pahandut	Pahandut Seberang (PHS)	Data management and protection; SIDOI and SIKS-NG	3 officials (lurah, operator, Puskesos)	I, O, D	A
Pahandut	Panarung (PNR)	Data management and protection	1 official, 3 residents	I, O, D	B
Pahandut	Tumbang Rungan (TBR)	Targeting accuracy of PKH, BPNT, and PBI-JKN	–	D	C
Jekan Raya	Menteng (MTG)	Data protection in administrative services	1 official, 1 RT head, residents[1]	I, O, D	A
Jekan Raya	Palangka (PLK)	Data governance and protection	1 key official	I, O	B
Jekan Raya	Petuk Katimpun (PTK)	Targeting accuracy; unregistered residents	5 residents	I, O	B
Jekan Raya	Bukit Tunggal (BTG)	Role of the kelurahan in proposing social assistance	–	D	C
Sebangau	Kereng Bangkirai (KRB)	Data management and protection	1 official	I, O	B

Note: Tech. = data collection techniques: I = interview; O = observation; D = document. Level = strength of evidence: A = primary data from more than one informant role or technique; B = limited primary data; C = document-based without field data (used as context). [1]The number of residents in Menteng was not specified in the field report. Source: validation of field reports, October 2026.

Before analysis, each field report was re-examined against four criteria: presence of primary data, internal consistency (dates, figures, and job titles), traceability of cited sources and regulations, and protection of informant identities. The results were mapped onto three levels of evidence strength, as shown in Table 1. Level C cases, namely Tumbang Rungan and Bukit Tunggal, were used only as context and not as a basis for field findings. In total, there were 20 documented informants, comprising eight kelurahan officials, two RT heads, and ten residents, in addition to residents of Menteng whose number was not specified in the field report. All informants gave verbal consent after the purpose of the study was explained, and the team did not retain copies of residents' identity documents. Because the study itself concerns personal data protection, all informants were anonymized with role and kelurahan codes based on Indonesian role abbreviations, for example, SKL-PHD for the Kelurahan Secretary (Sekretaris Kelurahan) of Pahandut, RT-PHD for an RT head in Pahandut, and W1-PHD for the first resident (*warga*) in Pahandut. Quotations were translated from Indonesian by the authors.

Sample adequacy was judged by information power rather than by a fixed number of interviews (Malterud et al., 2016). The study aim was narrow, focusing on data practices at a single administrative level; informants held specific roles in the data flow; the analysis was guided by established frameworks; and the cross-case strategy relied on replication across cases rather than on many informants per case. Consistent with replication logic, a pattern was reported as a finding only when it appeared in at least two cases, and each of the four patterns reported below met this criterion. Thematic saturation was not formally measured; the uneven depth of evidence across cases is instead made explicit through the evidence levels in Table 1 and is addressed in the limitations.

The analysis followed the interactive model of data condensation, data display, and conclusion drawing and verification (Miles et al., 2020). The unit of analysis was a verbatim excerpt from the field reports. A total of 111

excerpts from nine reports were selected and coded using a hybrid codebook (Table 2), yielding 149 coding references at the child-code level. Six parent codes were deductive, derived from the data decision domains, the dimensions of data quality (Wang & Strong, 1996), and the principles of the PDP Law. Three parent codes were inductive and developed from the data: street-level bureaucratic responses, citizen experience, and participation and deliberation. First-cycle coding used descriptive and in vivo codes, while second-cycle coding used pattern codes (Saldaña, 2021). Pattern codes were formed by grouping child codes that co-occurred across excerpts and cases, and a pattern was retained only when it was supported in at least two cases. Each excerpt was assigned attributes for case, subdistrict, level of evidence strength, and source role (official, RT head, resident, team notes, or document).

Initial coding was performed with the assistance of a large language model (Claude, Anthropic) and then reviewed by the researchers. The results were checked in two ways. First, each excerpt was automatically matched against its source text to ensure word-for-word correspondence. Second, each code was audited against a list of marker words compiled independently of the coding process. Codes not supported by marker words were re-examined, and two codes were corrected. The coded data were organized following the structure of an NVivo project (sources, cases with attributes, and codes) so that they can be imported and replicated in NVivo (Jackson & Bazeley, 2019). Three queries were run in Python with the SciPy library (Virtanen et al., 2020), following the logic of NVivo queries: word frequency, coding matrices (code × case and code × source role), and cluster analysis by coding similarity using the Jaccard coefficient and average linkage. The query results were not treated as statistical tests; they were used to show the distribution and patterns of themes across cases and were then reinterpreted against the original excerpts.

Trustworthiness was addressed through the criteria of credibility, dependability, confirmability, and transferability (Nowell et al., 2017). Credibility was supported by triangulating techniques (interviews, observation, and documents) and source roles (officials, RT heads, and residents) within cases, as shown in Table 1 and in the distribution of codes by source role reported in the Results. Dependability was supported by an audit trail: every excerpt retained its source, case, and role attributes, and the codebook, coding decisions, and query outputs were stored in the project structure described above. Confirmability was supported by the word-for-word source matching and the marker-word audit, which tested coding decisions against evidence independent of the coder. Transferability was supported by describing case contexts and evidence levels so that readers can judge the fit of the findings to other settings. Intercoder reliability coefficients such as Cohen's kappa were not computed. In interpretive qualitative analysis, such coefficients are contested because themes are developed through the researcher's engagement with the data rather than through the mechanical application of a fixed coding frame (Braun & Clarke, 2021; O'Connor & Joffe, 2020). The checks above were therefore used as the main safeguards, and the absence of a second independent coder is acknowledged as a limitation. Figure 1 summarizes the research design, from case selection to cross-case synthesis.

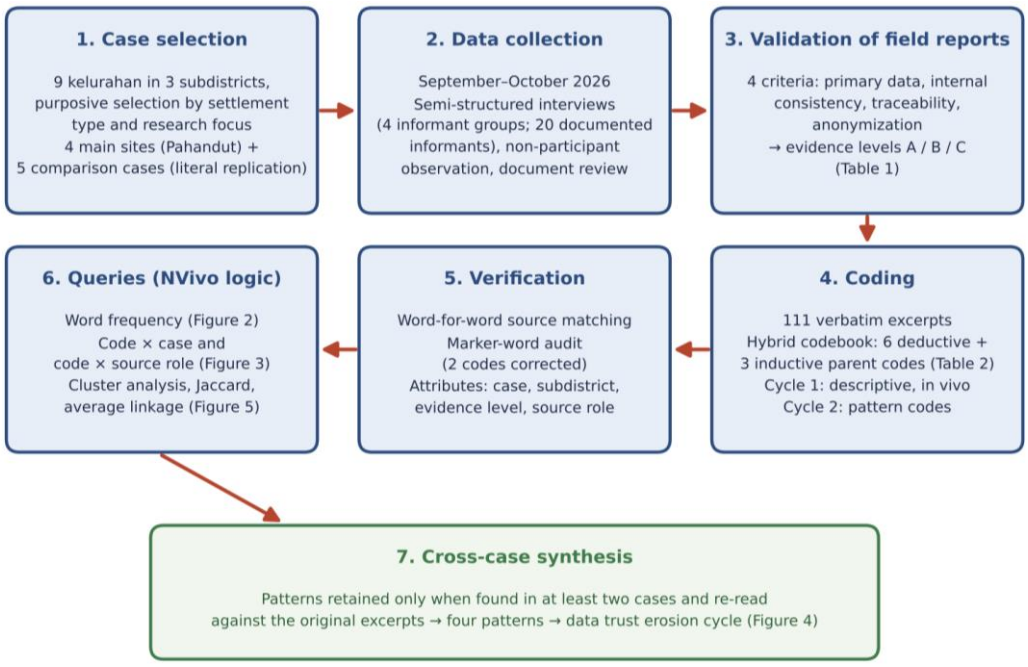


Figure 1. Research design: case selection, data collection, validation, analysis, and synthesis
Source: compiled by the authors, 2026.

Table 2. Analytical codebook

Parent code	Child codes	Conceptual reference
Data life cycle and storage	A1 open/vulnerable physical archives; A2 retention and disposal; A3 digital storage and public cloud	Khatri & Brown (2010)
Data access and sharing	B1 role-based access restriction; B2 third-party data requests; B3 informal channels (WhatsApp, personal phones)	Khatri & Brown (2010); PDP Law
Data quality and accuracy	C1 decile mismatch; C2 outdated data; C3 inconsistent population data	Wang & Strong (1996)
Decision rights and accountability	D1 centralized determination; D2 no feedback on proposal status; D3 no written SOP	Abraham et al. (2019)
Data protection principles	E1 understanding of confidentiality; E2 transparency of purpose to residents; E3 PDP training and literacy	PDP Law; Nissenbaum (2010)
Capacity and infrastructure	F1 operator constraints; F2 network and application disruptions; F3 geographical barriers	Widyaningsih et al. (2023)
Street-level bureaucratic responses*	G1 protective discretion; G2 redirecting referrals; G3 re-verification and after-hours work	Lipsky (2010); Busch & Henriksen (2018)
Citizen experience*	H1 digital administrative burden; H2 fatigue from repeated document submission; H3 fear of misuse; H4 resignation	Herd & Moynihan (2018)
Participation and deliberation*	I1 scheduled deliberative forums; I2 tokenistic participation	Arnstein (1969)

Note: * inductive parent code. Source: compiled by the authors, 2026.

Results and Discussion

Overview of the coded data

An initial overview of the corpus was obtained through a word frequency query (Figure 2). Apart from topic keywords (*data*, *warga* [residents], *kelurahan*, and *pihak* [parties]), the most frequent words fall into two groups. The first consists of administrative objects and systems, such as *berkas* [files] (12 occurrences), *pribadi* [personal] (11), *kependudukan* [population registration] (10), *KTP* [identity card] (9), and *arsip* [archive], *akses* [access], *dokumen* [document], and *fisik* [physical] (8 each). The second consists of objects of welfare decisions, such as *sosial* [social] (20), *bantuan* [assistance] (13), *desil* [decile] (10), *penerima* [recipient] (9), and *status* and *pusat* [central government] (6 each). This vocabulary shows that conversations about data in the kelurahan move between two concerns: the physical files that must be safeguarded and welfare decisions that are made elsewhere.



Figure 2. Most frequent words in the corpus of coded excerpts (word cloud)
Source: authors' analysis of 111 coded excerpts, 2026. Words are shown in the original Indonesian; topic keywords and function words were excluded, and the minimum word length was three letters.

Figure 3 presents the distribution of excerpts by parent code and kelurahan. The parent codes data access and sharing (B) and data quality and accuracy (C) were the most frequently referenced, with 22 excerpts each, followed by decision rights and accountability (D; 21 excerpts) and citizen experience (H; 19 excerpts). At the child-code level, outdated data (C2; 13 references), centralized determination (D1; 11), and informal channels (B3; 10) appeared most frequently. The distribution follows the focus of each case. Codes A and B were concentrated in Palangka, Pahandut Seberang, and Menteng, whereas code C was concentrated in Tumbang Rungan, Pahandut Seberang, and Petuk Katimpun. By source role, the citizen experience code (H) was drawn

mostly from residents themselves (9 of 19 excerpts), whereas the capacity (F) and frontline response (G) codes came mostly from officials (11 of 13 and 8 of 10 excerpts, respectively). Thus, the findings on residents' burden and resignation do not rest solely on officials' assessments. Pahandut Seberang contributed 33 excerpts (30 percent) because its report was the most detailed; the figures in Figure 3 should therefore be read as a distribution of themes rather than as weights of importance. Within the data protection cases, however, the matrix also reveals institutional variation that does not follow research focus. Pahandut Seberang combined role-based access restrictions with RT officials photographing documents on their personal phones, whereas in Palangka and Menteng informal channels were part of routine office or neighborhood workflows (Table 3). What differs across kelurahan is thus less the existence of formal rules than which office routines, such as separate operators, password rotation, or WhatsApp-based dispositions, have taken root. The four patterns below were derived from these code distributions by grouping co-occurring child codes into pattern codes, and each is reported together with the qualitative evidence underlying it.

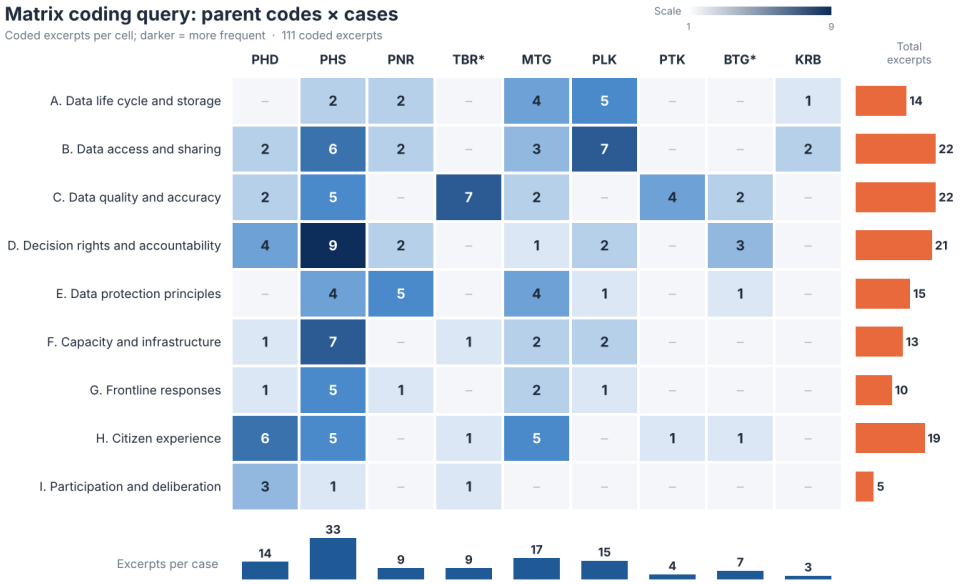


Figure 3. Coding matrix of parent codes by kelurahan (number of coded excerpts)

Note: Numbers indicate the excerpts coded to at least one child code within the parent code. An excerpt may be coded to more than one parent code, so column totals may exceed the number of excerpts per case. Source: authors' analysis, 2026.

Four patterns and the data trust erosion cycle

The first finding is that data protection operates as habit rather than procedure. None of the five kelurahan that examined data protection (Pahandut Seberang, Panarung, Palangka, Menteng, and Kereng Bangkirai) reported having a written SOP on personal data protection. In Pahandut Seberang, this absence was stated explicitly: only an archival SOP was available, while data security relied on close supervisory coordination with the head of the social welfare section. Officials in all kelurahan understood that resident data are confidential. In Panarung, officials stressed that the kelurahan is merely a temporary custodian of records because authority over population data lies with the Population and Civil Registration Office, in line with Law No. 24 of 2013 (Republik Indonesia, 2013). Nevertheless, practices varied considerably across kelurahan (Table 3).

Table 3. Comparison of citizen data management and protection practices

Aspect	Pahandut Seberang	Panarung	Palangka	Menteng	Kereng Bangkirai
Physical storage	Original documents returned to residents after service	Photocopies of KTP/KK kept for about one year	Folders and binders on open shelves and front-area desks	Resident data book kept by the RT; photocopies once seen in open folders	Physical documents as the primary medium
Digital storage	Scans deleted after upload to SIDOI	National ID numbers (NIK) and KK numbers not stored digitally	Scans sent via WhatsApp	Google Drive and local database	Not reported
Access control	Separate operator for each application; SIKS-NG password changed every 90 days	Restricted according to authority	Held by IT staff; data released through the lurah's disposition	Kelurahan secretary and head of social welfare section, together with the RT	All staff may access

Aspect	Pahandut Seberang	Panarung	Palangka	Menteng	Kereng Bangkirai
Sharing channels	RT officials photograph KTP/KK with personal phones	Not through public communication media	WhatsApp groups and private chats	Residents send photos of KTP/KK to the RT and WhatsApp groups	Applicants come to the office in person
Disposal	Not applicable (originals returned)	Destroyed after the retention period	Non-archival files burned, witnessed by cleaning staff	Residents unaware of the retention period	Not reported
PDP training	Technical training (bimtek) on applications only	Not reported	Not reported	Not reported	Not reported

Source: compilation of field data from cases focusing on data protection, October 2026.

These findings show that confidentiality rests on the personal caution of officials. The Pahandut Seberang report refers to this pattern as *habitual security*. In Khatri and Brown's (2010) framework, the data access and data life cycle domains have no clear decision owner at the kelurahan level. As a result, good practice in one office does not spread to others and cannot be accounted for when incidents occur. Two examples illustrate the problem. In Pahandut Seberang, the claim that no data leak had ever occurred was based on verbal statements rather than on a review of access logs. In Palangka, the burning of non-archival files stemmed from an intention to protect data. However, without an official record of destruction, this practice is difficult to distinguish from the disposal of archives, which under Law No. 43 of 2009 must follow a formal appraisal and disposal procedure (Republik Indonesia, 2009). Palangka officials themselves acknowledged that the formal archive disposal procedure is lengthy and requires the mayor's approval, so files pile up in the workspace. This exemplifies the collective action problem described by Benfeldt et al. (2020): rules exist at the city and national levels, but the cost of compliance falls on officials' desks.

The second finding is that copies of identity documents circulate through unregulated informal channels. In Palangka, the staff member managing the system explained that residents' files were scanned and sent through WhatsApp groups and private chats to speed up dispositions. In Menteng, residents who could not attend in person sent photos of their KTP and KK to the RT head or to residents' groups. They considered this practical but felt uneasy because the photos remained on other people's devices with no assurance that they would be deleted. In Pahandut Seberang, RT officials photographed residents' documents with their personal phones to speed up coordination. In Pahandut, information on assistance status circulated as links from the RT, and recipients collected assistance using coupons containing personal data. One resident explained, "If you are registered, you usually use an invitation coupon that contains your name, ID number [NIK], and street address" (W2-PHD).

In these practices, RT heads perform the function of data processors at the request of the kelurahan, but without the agreement, purpose limitation, or deletion obligation required by the PDP Law. This study refers to this position as an informal data processor. The concept parallels Madsen et al.'s (2022) finding of citizens becoming *accidental caseworkers* when services are moved to digital channels. The difference is that in the kelurahan, the work is borne by RT heads, volunteers who have no equipment, training, or legal protection. From the perspective of contextual integrity (Nissenbaum, 2010), a photo of a family card submitted by a resident for an RT cover letter moves into a chat group governed by entirely different norms. At this level, a leak does not require hacking; a phone changing hands is enough.

The third finding is that the kelurahan collects data but does not decide. The head of RT 04 in Pahandut stated, "The RT is only obliged to register people, while it is the decile that decides, even though sometimes the decile does not match reality" (RT-PHD). The RT head added, "Data most often come straight down from above" (RT-PHD). In Pahandut Seberang, kelurahan officials found residents living in hardship but classified in the upper deciles, while update proposals from the regions were often not processed or were rejected by the central system. The kelurahan also had no visibility over final decisions on membership in the Family Hope Program (Program Keluarga Harapan, PKH). The Pahandut Kelurahan Secretary estimated the verification waiting time: "As for how long verification at the center takes, according to my colleague, it is roughly one to three months" (SKL-PHD). This situation is consistent with the picture of *system-level bureaucracy* (Bovens & Zouridis, 2002). Welfare decisions are made through central ranking, while the kelurahan and RT absorb residents' complaints without the authority to correct them. This is a local form of the burden of correction described by Widlak and Peeters (2020): errors are made in one place, but the cost of proving them is borne elsewhere. McCarthy et al. (2024) found a similar pattern in rural Indonesia, where local officials, village apparatus, and residents must continually correct targeting errors.

Frontline responses to this situation took the form of discretion and redirection (Lipsky, 2010). Puskesos staff in Pahandut Seberang conducted door-to-door surveys late into the night or before dawn to reach residents living in floating houses. The same kelurahan prohibited the collection of food assistance by representatives of other households without a power of attorney, even though the distributor's application allowed it. This is an example of digital discretion that tightens, rather than loosens, system rules (Busch & Henriksen, 2018). In Menteng, data from Statistics Indonesia (Badan Pusat Statistik, BPS) and the Social Affairs Office were cross-checked with RT officials before use. In Pahandut, the RT head chose to direct residents straight to the Social Affairs Office: "If they are sent to the kelurahan, the kelurahan also sends them to the Social Affairs Office, and people can get upset if they are sent back and forth" (RT-PHD). Such discretion fills procedural gaps. However, it also means that service quality depends on individual initiative rather than institutional design, and that every re-verification adds another round of document collection.

The fourth finding is that participation channels are formally available but not always accessible. Claims and experiences regarding the kelurahan deliberative forum diverged sharply in Pahandut. The kelurahan secretary stated, "We do have the kelurahan deliberative forum here, and poverty data validation definitely takes place" (SKL-PHD). In contrast, the head of RT 04 stated, "The RT head has never been invited to decide who receives social assistance" (RT-PHD), and two recipient residents said they had never been invited to deliberate. Pahandut Seberang showed a different pattern, with a clear monthly schedule: proposals are entered from the 1st to the 10th, followed by a deliberative forum with RT heads, community unit (Rukun Warga, RW) heads, the Kelurahan Community Empowerment Institution, and Community Social Workers from the 11th to the 15th. This difference matters because Minister of Social Affairs Regulation No. 3 of 2025 states that proposals *may* be made through a deliberative forum, not that they must be (Kementerian Sosial Republik Indonesia, 2025). Consequently, the quality of participation is determined more by kelurahan leadership than by regulation. In Pahandut, the deliberative forum tends to sit on the rungs of tokenism on the ladder of citizen participation (Arnstein, 1969). Although Arnstein's ladder dates from 1969, it remains the reference typology for distinguishing tokenistic from substantive participation, and more recent assessments confirm that participatory innovations often lack the scope and powers needed to influence decisions (Fung, 2015).

Digital channels also burden residents. The Pahandut Kelurahan Secretary explained that the Cek Bansos application requires "photos of the front, the middle, and the bathroom of the house using a timestamp app," while "people do not really understand how to use their gadgets" (SKL-PHD). Documents on the social protection (Perlinsos) service also require a NIK, a Digital Population Identity (Identitas Kependudukan Digital) PIN, and facial verification for self-registration. One resident admitted, "The link is there, but I cannot open it because I do not understand how" (W1-PHD). This picture corresponds to the learning and compliance costs of administrative burden (Herd & Moynihan, 2018; Moynihan et al., 2015; Peeters, 2023). As Halling and Baekgaard (2024) note, these burdens weigh most heavily on citizens with the fewest resources. When these costs become unbearable, residents resign themselves: "If you are not registered, then you do not get it; it is just not your fortune, because it is not the RT who chooses but the government directly" (W2-PHD). In Petuk Katimpun, fishing households along the Rungan River reported falling incomes during the June–October 2026 dry season and when haze disrupted trading at the market. Changes this rapid can be captured only if residents themselves are willing and able to report them. This finding is consistent with Bah et al. (2019), who argue that the main targeting problem is finding poor households rather than measuring their poverty.

The fifth finding is that protection and accuracy are locked together in a single cycle. The findings above form a causal chain, presented in Figure 4. Because deciles are determined centrally and often do not match conditions on the ground, the kelurahan and RT carry out re-verification. Re-verification means that residents are again asked to submit their KTP and KK. In Pahandut Seberang, these repeated requests provoked protests from residents who felt they had submitted documents many times without result. Each round of requests adds to the copies of identity documents circulating on phones and in WhatsApp groups. In Menteng, residents were never told the purpose of data collection or the retention period, nor were they given a receipt, and some feared that their identities would be misused for fraud or online loans. This combination of fatigue, uncertainty, and fear makes residents reluctant to report changes in their circumstances. The Pahandut Seberang report noted residents in one RT who chose to remain silent when their decile was wrong. As a result, the data become increasingly outdated, and the verification cycle repeats. Figure 4 also marks four intervention points (I-1 to I-4) at which the cycle can be broken; these are elaborated in the Conclusion.

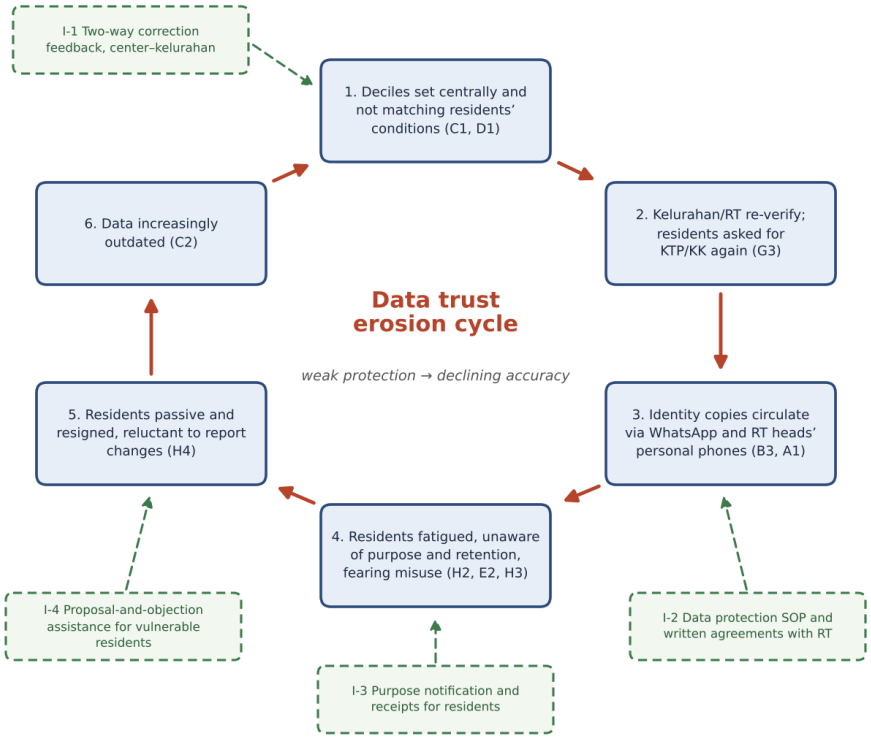


Figure 4. The data trust erosion cycle at the kelurahan level and its intervention points
Source: cross-case synthesis of findings, 2026. Codes in parentheses refer to the codebook (Table 2); I-1 to I-4 denote intervention points.

Weak data protection therefore not only creates a risk of leaks but also undermines the raw material of accuracy: residents' willingness to provide correct data. This argument extends Kusumawati's (2019) finding that identity document requirements can exclude the poorest residents. The problem lies not only in possessing documents but also in trusting that submitted documents will be handled appropriately. The argument also gives empirical substance to the notion of data justice (Masiero & Das, 2019; Taylor, 2017) and to Bannister and Connolly's (2011) view that trust is a prerequisite for digital government transformation. It is likewise consistent with Palukka et al. (2025), who show that digital administrative burdens can foster citizens' distrust of service institutions. In the kelurahan, this trust is built or eroded not by the DTSEN algorithm but by the way a single photocopy of a family card is received, stored, and sent.

Two alternative explanations for residents' reluctance to report changes were considered. The first is that reluctance simply reflects disappointment at not receiving benefits, regardless of how data are handled. This explanation fits the resignation expressed by recipients in Pahandut, but it does not account for Menteng, a case examined for administrative services rather than social assistance, where residents' unease concerned photos of identity documents remaining on other people's devices and fears of fraud or online loans. The second is that low reporting reflects limited digital skills rather than distrust. Digital barriers were indeed reported in Pahandut, yet the protests in Pahandut Seberang were directed at repeated requests for documents that residents had already submitted, not at the difficulty of digital channels. The evidence therefore suggests that benefit disappointment, digital burden, and distrust in document handling operate together rather than as substitutes. The present design cannot separate their relative weight, which is a task for the survey-based designs proposed below.

Cluster analysis based on coding similarity (Figure 5) supports this reading. Cases focused on data protection (Pahandut Seberang, Menteng, Panarung, and Palangka) form one cluster, while cases focused on social assistance (Petuk Katimpun, Tumbang Rungan, and Bukit Tunggal) form another. The most similar pair is Pahandut Seberang and Menteng (Jaccard coefficient 0.52, equivalent to a distance of 0.48 in Figure 5), followed by Panarung and Palangka and by Tumbang Rungan and Petuk Katimpun (0.50 each). Pahandut Seberang is also the case most similar to Pahandut (0.32), even though Pahandut itself joins the social assistance cluster. This position reflects the fact that Pahandut Seberang is the only case that examined both the population data system (SIDOI) and the welfare data system (SIKS-NG), so the link between the two issues is most visible there. Kereng Bangkirai joins its cluster only at a distance of 0.82, the farthest among the data protection cases. This position, as well as the proximity of Petuk Katimpun to Tumbang Rungan, should be interpreted with caution because it reflects thin data (only three child codes each) rather than substantive differences or similarities in practice.

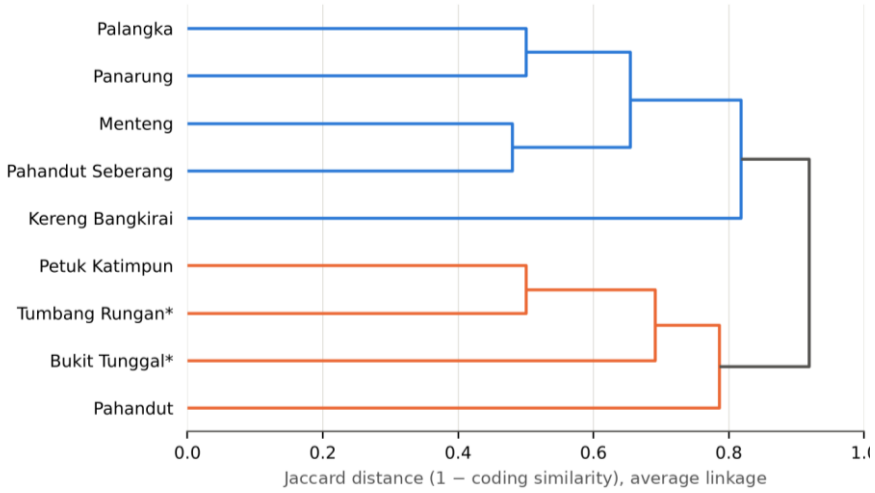


Figure 5. Dendrogram of the kelurahan cluster analysis based on coding similarity
Source: authors' analysis, 2026. Blue = cluster focused on data protection; orange = cluster focused on social assistance; * document-based case (level C).

The validation of field reports also revealed the same metadata problem at the research level. One report gave the area of Pahandut Seberang Kelurahan as 48.26 km² in one section and as 7.25 to 7.95 km² in another. The Petuk Katimpun report recorded population figures from the kelurahan without a traceable update date. Discrepancies in a variable as simple as land area suggest the scale of divergence risk for far more complex welfare variables and underscore the metadata domain in Khatri and Brown's (2010) framework.

Compared with prior studies, these findings confirm, extend, and qualify existing work. They confirm research on Indonesian targeting that locates errors in implementation rather than in ranking formulas (Bah et al., 2019; Kusumawati, 2019) and in the uneven capacity of local governments to update data (Widyaningsih et al., 2023); in Palangka Raya, too, the problem lay in finding and updating households rather than in measuring their poverty. They also confirm that local actors continually correct centrally produced classifications (McCarthy et al., 2024) and that citizens bear the burden of correction when administrative data are wrong (Peeters & Widlak, 2018; Widlak & Peeters, 2020). The findings extend administrative burden research, which has shown that burdens fall unevenly according to citizens' resources (Chudnovsky & Peeters, 2021; Christensen et al., 2020; Halling & Baekgaard, 2024; Masood & Nisar, 2021), by showing that burdens also have an informational consequence: they reduce the quality of the state's own data. They likewise extend Chudnovsky and Peeters' (2022) account of how burdens around identity documents cascade into exclusion; here, the cascade runs through repeated requests for documents rather than through their absence. The findings qualify the datafication literature (Dencik & Kaun, 2020; Masiero & Bailur, 2021; Masiero & Das, 2019; Taylor, 2017), which mostly locates risk in centralized databases and algorithms: in the kelurahan, the most acute risks arise before data reach any system, in WhatsApp groups and on personal phones. Finally, the findings resemble studies of frontline workers in weak institutional settings who compensate for gaps through improvisation (Peeters & Campos, 2023) and of frontline bureaucrats whose norms about data quality are reshaped by data tools (Kersing et al., 2022). The difference is that, in the kelurahan, part of this compensating work is shifted onto RT heads, who are not formally part of the bureaucracy.

Theoretically, the two concepts proposed here warrant conceptual status, rather than remaining empirical observations, because each names a mechanism that existing frameworks leave unexplained. The RT head as an informal data processor extends street-level bureaucracy theory (Lipsky, 2010) beyond the formal bureaucracy: the actor who exercises discretion over citizens' data is a volunteer with no mandate, resources, or accountability, yet performs a function that the PDP Law reserves for formally appointed processors. The concept thus exposes a blind spot in data governance frameworks (Abraham et al., 2019; Khatri & Brown, 2010), which assume that decision rights can be allocated within an organization, whereas at the kelurahan level the data flow crosses into a community role outside it. It also differs from Madsen et al.'s (2022) accidental caseworker, because the burden is carried not by the citizen concerned but by an intermediary who handles many residents' data at once, which multiplies the privacy risk. The data trust erosion cycle, in turn, links administrative burden theory to data quality. Burden research treats learning, compliance, and psychological costs mainly as outcomes for citizens (Herd & Moynihan, 2018; Moynihan et al., 2015); the cycle specifies a feedback loop in which these costs, combined with breaches of contextual integrity (Nissenbaum, 2010), reduce citizens' willingness to provide information and thereby degrade the data on which the state relies (Bannister & Connolly, 2011). In system-level and infrastructure-level bureaucracies (Bovens & Zouridis, 2002; Peeters &

Widlak, 2023), where decisions depend on data rather than on direct encounters, this feedback becomes a central rather than a peripheral concern.

The cycle can be stated as three propositions for testing in other local government contexts: (P1) the more often a household is asked to resubmit identity documents, the lower its trust in how its data are handled; (P2) lower trust reduces the likelihood that the household reports changes in its circumstances; and (P3) where purpose notification, receipts, and status feedback are provided, the relationship between repeated requests and reduced reporting weakens. Trust erosion could be operationalized through survey items on the number of document requests in the past year, awareness of the purpose and retention period, fear of misuse, and willingness to report changes, while accuracy could be measured by matching kelurahan proposals against decile status in DTSEN. Comparing kelurahan or villages with and without a data protection SOP would allow these propositions to be tested beyond Palangka Raya.

In practical terms, these findings have specific implications for DTSEN. First, Minister of Social Affairs Regulation No. 3 of 2025 makes villages and kelurahan the entry point for data proposals, but the deliberative forum as a venue for discussing them is optional (Kementerian Sosial Republik Indonesia, 2025). The contrast between Pahandut and Pahandut Seberang shows that, without minimum standards, the quality of proposals entering DTSEN will depend on the leadership of each kelurahan. Second, the decile-based deactivation of approximately 13.5 million PBI-JKN beneficiaries during 2025 (Rohman, 2026) shows that DTSEN classifications now directly determine citizens' entitlements. Yet the kelurahan has no visibility over the status of proposals and must wait months for central verification. The Pahandut Kelurahan Secretary described it as follows: "And the data will then go into the DTSN [DTSEN], but it will not necessarily be followed up right away" (SKL-PHD). Consequently, the burden of correcting misclassifications falls on the kelurahan and RT (Widlak & Peeters, 2020). Third, Regulation of the Minister of National Development Planning/Head of Bappenas No. 7 of 2025 governs inter-agency sharing of DTSEN (Kementerian PPN/Bappenas, 2025). However, the most vulnerable practices in this study occur before data enter the system, when a photocopy of a family card is received at the kelurahan desk or photographed with an RT head's phone. National-level data integration has thus not been accompanied by governance at its collection nodes, even though the quality of DTSEN cannot exceed the quality of the data entering from those nodes.

Conclusions

The accuracy and confidentiality of citizen data at the kelurahan level are closely interconnected. This study shows that data protection in the studied kelurahan relies on informal staff practices without written procedures, while identity documents circulate through WhatsApp and the personal phones of RT heads, who function as informal data processors. Meanwhile, centralized decisions on decile classification and eligibility leave kelurahan responsible for handling complaints without the authority to correct data. Repeated document requests, unclear data collection purposes, and limited citizen participation undermine public trust, reducing residents' willingness to report their circumstances and ultimately affecting data accuracy. Therefore, national data integration through DTSEN must be supported by stronger data governance at kelurahan-level collection points, where both data accuracy and public trust are established. Conceptually, this study connects data governance, street-level bureaucracy, and administrative burden through two contributions: the RT head as an informal data processor and the data trust erosion cycle. These concepts explain how informal intermediaries contribute to data processing and how administrative burdens and violations of contextual integrity can undermine public trust and data quality. The findings suggest five practical interventions within the kelurahan's authority: (1) adopting a data protection SOP covering collection, storage, transmission, and deletion; (2) establishing written data-processing agreements with RT heads; (3) providing residents with purpose notifications and document receipts; (4) assisting vulnerable residents in submitting proposals and objections; and (5) establishing a central-to-local feedback mechanism on proposal status. Although these interventions have not been pilot-tested, their effectiveness can be assessed through indicators related to SOP implementation, processing agreements, document receipts, assisted proposals and objections, and feedback response times.

This study has four main limitations: the absence of independent intercoder reliability testing, uneven evidence across cases, purposive case selection within a single city, and the lack of quantitative measurements of targeting accuracy. Consequently, the findings are analytically rather than statistically generalizable, and the proposed relationship between data protection and data accuracy remains to be empirically tested. Future research should examine this relationship through resident surveys or by matching kelurahan proposals with DTSEN decile classifications, while also comparing kelurahan and desa with different levels of authority and resources.

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