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From Legal Awareness to Protective Behavior: Personal Data Protection in Digital Population Administration Services

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Abstract

The digitalization of population administration services has improved public access and service efficiency while simultaneously increasing concerns regarding the security and misuse of personal data. This study examines the level of public legal awareness of personal data protection in the independent processing of population administration documents in Madiun City, Indonesia, and identifies the factors associated with such awareness. The study employed an empirical legal research design with a quantitative approach supported by qualitative data. Data were collected from 80 respondents through a 14-item questionnaire covering four dimensions of legal awareness: legal knowledge, legal understanding, legal attitudes, and legal behavior, supplemented by interviews. The analysis was guided by Soerjono Soekanto's framework of legal awareness and law-enforcement factors and Lawrence M. Friedman's theory of legal culture. The findings show that 80% of respondents demonstrated a moderate level of legal awareness, while 20% reached a high level, with no respondents categorized as low. Legal attitudes and legal understanding were relatively strong, whereas legal knowledge and, particularly, legal behavior were less consistent. This pattern reveals an awareness-behavior gap in which favorable attitudes toward personal data protection are not always translated into protective practices when handling population documents. Social experience and legal culture emerged as particularly salient factors shaping this gap. The study highlights that effective personal data protection requires not only regulatory frameworks and digital service infrastructure but also sustained legal and digital literacy initiatives that transform normative awareness into consistent privacy-protective behavior.

Keywords: Legal Awareness; Personal Data Protection; Privacy-Protective Behavior; Population Administration; Legal Culture

1. Introduction

The government continues to strive to improve the quality of public services by enhancing access to services, increasing transparency, and delivering efficient services tailored to the needs

of the public. Infrastructure and technology are key elements in these efforts to improve service quality. In this regard, technological infrastructure and digital literacy are fundamental

components in efforts to improve the public service system through digital services (Ruijter et al., 2023; Alsalem et al., 2026).

Population Administration Services, as one of the public service sectors, are a key focus of the government's efforts to achieve the digitization of public services. Population Administration Services are a government function aimed at ensuring the legal identity of every resident through the implementation of population registration, the recording of demographic events and vital events, and the sustainable management of population data (Fakrulloh, 2019; Tan et al., 2025). The population administration system produces official documents that serve as the basis for citizens to access various public services; therefore, the accuracy, security, and sustainability of population data management are critical elements in the administration of government (Tan et al., 2025; Gupta et al., 2024).

Civil registration documents contain personal data such as name, place and date of birth, address, National Identification Number (NIK), and other information closely related to an individual's civil rights and legal status (Law No. 24 of 2013; Law No. 27 of 2022). If this data is misused, various forms of crime can occur, such as fraud, identity theft, or unauthorized access to financial services (Astuti et al., 2024). Therefore, data security is a key priority in the administration of civil registration, as such protection is essential to ensuring the security, confidentiality, and legal certainty of every citizen's personal data.

Advances in information technology, coupled with the digitization of public services, have raised new concerns regarding the security of individual data managed within population administration information systems. The increasing use of personal data through various electronic systems has also heightened the risk of the dissemination and misuse of personal information by irresponsible parties. The trend of personal data breaches in Indonesia, which has been on the rise in recent years, indicates that personal data protection remains an issue requiring special attention. (Astuti et al., 2024; Choi, 2023; Suddekunte et al., 2024; Tan et al., 2025)

Data breaches that drew public attention in 2021 included incidents at a number of institutions and digital platforms. The threat of data breaches in 2022 has increased. In fact, according to data from Surfshark, Indonesia ranked among the top five countries worldwide with the highest number of accounts affected by data breaches in 2022. This indicates that the threat of cyberattacks, coupled with weak data security, leaves various sectors highly vulnerable to data breaches. This situation was one of the factors leading to the enactment of Law No. 27 of 2022 on Personal Data Protection (PDP Law), an effort to provide protection and ensure that the personal data of citizens, as data subjects, is managed securely and responsibly.

Even after the Personal Data Protection Act (PDP Act) was enacted, various cases of personal data breaches continued to occur in 2023. In fact, 2024 has highlighted increasingly complex data security issues. The occurrence of various personal data breaches indicates that the PDP Act serves only as a legal framework and a means of imposing sanctions. Its effectiveness must be supported by a series of obligations, ranging from the implementation of technical security standards and strict governance to public digital literacy. (Darnela & Rusdiana, 2025; Gotsch & Schögel, 2023; Gupta et al., 2024; Willems et al., 2023)

Articles 65 and 67 of the PDP Law prohibit the collection of personal data that does not belong to the collector for the purpose

of unlawfully benefiting oneself or another party, and impose legal sanctions on anyone who violates these provisions. According to Soerjono Sockanto's theory of legal consciousness, the effectiveness of the law is not only determined by the existence of legal norms but is also influenced by various interrelated factors, namely the substance of the law, law enforcement officials, supporting infrastructure or facilities, society, and culture. A law is considered effective if it is sociologically effective that is, if it is consistently enforced by the competent authorities, complied with by the public as legal subjects, and capable of realizing the objectives of law, namely order, certainty, and benefit in social life.

Based on this theory, the responsibility for safeguarding personal data lies not only with the government or entities that utilize the data, but also with the legal subjects themselves. Therefore, efforts are needed to raise public legal awareness regarding the protection of their own personal data (Choi, 2023; Ma & Chen, 2023; Suddekunte et al., 2024). Civil registration services, as the primary source of personal data, are among the services receiving government attention in efforts to secure personal data. The efforts undertaken involve actively promoting self-management of civil registration documents. This promotion is carried out through various measures, such as requiring an individual account for every civil registration document transaction, and mandating the submission of a stamped power of attorney for anyone who authorizes another person to handle their civil registration documents. The goal is to establish clear legal rights regarding the legal consequences arising from any use of personal data.

The independent processing of civil registration documents is intended not only to safeguard personal data but also to ensure that the resulting documents are verified and validated by the data subjects (Gupta et al., 2024; Willems et al., 2023). As is well known, nearly all Population and Civil Registration Offices at the regency and city levels have implemented online services that require data owners to create accounts. The goal is for the public to manage their own civil registration documents without going through intermediaries or brokers. This indirectly helps ensure the security of personal data (Ahmed & Ahmed, 2023; Tan et al., 2025).

In accordance with the directive from the Directorate General of Population and Civil Registration, all District and City Population and Civil Registration Offices are urged to continue innovating to provide fast, easy, and accurate population administration services by aligning with policy shifts that encourage the public to actively manage their own population documents without relying on intermediaries.

One of the agencies that has implemented this policy is the Madiun Regency Population and Civil Registration Office, which has introduced online services to reduce waiting lines and provided self-service kiosks (ADM) for citizens to print their own civil registration documents. In practice, this innovation still faces many obstacles, which have led to the continued widespread use of intermediaries in the processing of civil registration documents.

The Magetan Regency Population and Civil Registration Office is another agency that has implemented web-based online service innovations, providing ADM kiosks and an online queuing system to offer convenient services to the residents of Magetan Regency. The challenges faced by Madiun and Magetan Regencies in implementing self-service systems are nearly identical, including low digital literacy among the public and a persistent preference

for using intermediaries to handle population administration documents given that both regencies cover vast, rural areas where internet access is still far from adequate.

The Madiun City Government has also sought to improve the public's digital literacy while working to change the community's culture regarding the handling of civil registration documents by requiring self-service processing through both online and offline channels. One such initiative is the "3577" innovation, which allows for the processing of three civil registration services in 5.7 minutes within seven days. With this innovation, residents who handle their own paperwork will be served within 5.7 minutes, while those using intermediary services will be served within 7 business days. The goal is for the residents of Madiun City to actively manage their civil registration documents independently so that the process is faster and, indirectly, to safeguard their personal documents from falling into the hands of unauthorized parties.

Regulations concerning personal data including the National Identification Number (NIK), name, gender, place and date of birth, blood type, and other information collectively referred to as "population data elements" are governed by Law No. 24 of 2013 Amending Law No. 23 of 2006 on Population Administration (Population Administration Law). Under Law No. 27 of 2022 on Personal Data Protection, personal data is regulated more comprehensively. The obligation to report every birth is detailed in Article 27(1) of the Population Administration Law. Every civil registration event must be reported to the implementing agency namely, the Population and Civil Registration Office to be subsequently registered as a civil registration document. The Population Administration Law emphasizes that the confidentiality of personal data must be maintained, with legal sanctions imposed on those who disclose such data without authorization.

The existence of these regulations indicates that the protection of population data has been a matter of national legal concern even before the enactment of the Personal Data Protection Act. However, the scope of these regulations remains limited to the context of population administration. As the use of digital technology evolves and the processing of personal data increases across various sectors, more comprehensive regulations are needed to provide legal certainty, ensure respect for privacy rights, and strengthen legal protections against all forms of personal data misuse. This need was subsequently addressed through the enactment of Law No. 27 of 2022, which serves as the primary legal basis for the implementation of personal data protection in Indonesia.

Success in implementing the Personal Data Protection Act is not determined solely by the existence of regulations or technological security systems. Its effectiveness is greatly influenced by the level of legal awareness among the public as data subjects in understanding, safeguarding, and using their personal data responsibly. In the practice of managing civil registration documents, there are still people who hand over copies of their identity documents to unauthorized parties, share personal information on social media without considering security aspects, or use the services of intermediaries (brokers) to process civil registration documents without considering the potential for misuse of personal data. This indicates that there is still a gap between existing regulations and the public's behavior in protecting their personal data. (Botturi et al., 2024; Ma & Chen, 2023; Mazhar et al., 2025; Zhang et al., 2024)

Legal awareness is one of the factors that influence public compliance with applicable regulations. If the level of legal awareness remains low, efforts to protect personal data may not be fully effective. Conversely, increased legal awareness is expected to encourage the public to behave in a more responsible and vigilant manner and to comply with official procedures when handling civil registration documents.

In the context of self-service, the public no longer relies entirely on service staff but bears direct responsibility for uploading, submitting, and storing personal data through digital platforms. This requires adequate legal literacy and digital literacy. Given these circumstances, a study is needed to assess the public's level of legal awareness regarding the protection of personal data in the processing of civil registration documents. (Lund et al., 2026; Ruijter et al., 2023; Trein & Varone, 2023; Zhu et al., 2026)

This research is important because the growing digitization of public services creates opportunities for data security threats, necessitating proactive measures to reduce the risk of data breaches resulting from public service activities specifically, civil registration services. This study is expected to yield empirical data on the public's level of legal awareness regarding personal data protection in the processing of civil registration documents and the factors influencing it. Furthermore, it is hoped that the research findings can be used by stakeholders in formulating policies related to "personal data protection" in the field of civil registration services.

2. Methods

This study uses an empirical legal research method with a quantitative approach supported by qualitative data. The analysis employs the theory of law enforcement factors by Soerjono Soekanto and the theory of legal culture by Lawrence M. Friedman. To collect primary data, the researchers formulated fourteen statements covering the four aspects of legal awareness namely, legal knowledge, legal understanding, legal attitudes, and legal behavior as follows:

Table 1. Measurement Items of Public Legal Awareness

No.	Variable	Item
1.	Legal Knowledge Aspects	1. I am aware that Indonesia has a Personal Data Protection Law. 2. I am aware that personal data such as the National Identification Number (NIK), Family Card (KK) number, and demographic data are protected by law. 3. I am aware that the use of an individual's personal data requires the consent of the data subject. 4. I am aware that the misuse of personal data is subject to legal sanctions. 5. I am aware that civil registration officials are required to maintain the confidentiality of citizens' data. 6. I am aware that citizens have the right to protection of their personal data.

No.	Variable	Item
2.	Legal Understanding Aspects	7. I understand the risks that may arise if personal data is misused by third parties.
		8. I understand the importance of maintaining the confidentiality of civil registration documents such as the National Identity Card (KTP) and Family Card (KK).
		9. I understand that handling civil registration documents independently can reduce the risk of personal data misuse.
3.	Legal Attitude Aspects	10. I agree that everyone must maintain the confidentiality of their personal data.
		11. I agree that the protection of personal data is a right of every citizen that must be respected.
		12. I agree that people should handle their own civil registration documents to ensure the security of their personal data.
4.	Aspects of Law-Abiding Behavior	13. I am always careful before providing copies of my ID card, family card, or other civil registration documents to others.
		14. I prefer to handle civil registration paperwork on my own rather than use the services of unofficial intermediaries.

Prior to use, validity and reliability tests were conducted on the research instrument to ensure that the research instrument (questionnaire) used was truly accurate, precise, and consistent as a measurement tool, so that the data generated would be scientifically sound and the researcher's conclusions would not be erroneous.

According to Sugiyono, a valid instrument is one that is capable of measuring what it is intended to measure, so that the data it produces accurately reflects the actual conditions of the research subject. Therefore, each statement in the questionnaire must be tested beforehand to ensure that it can truly measure the variable under study.

Validity testing was conducted on all statement items using Pearson's product-moment correlation. The test results showed that all statement items had correlation coefficients that met the established validity criteria. Thus, all statement items were deemed valid and suitable for use as a research instrument to measure the level of legal awareness among the residents of Madiun City regarding the protection of personal data in the independent processing of civil registration documents.

After conducting validity testing, the next step is to test the instrument's reliability. Reliability indicates the degree of consistency with which an instrument measures a research variable. According to Ghazali, reliability is a measure of the consistency of respondents' answers to the items within a construct

or research variable. An instrument is considered reliable if it yields relatively consistent results when used repeatedly under the same conditions.

Reliability testing in this study used the Cronbach's Alpha method. According to Nunnally and Bernstein, a research instrument can be said to have good reliability if the Cronbach's Alpha value is greater than 0.70. The closer the value is to 1.00, the higher the level of internal consistency of the instrument used.

Based on the results of the reliability test conducted on the 14 statement items, a Cronbach's Alpha coefficient of 0.8552 was obtained. This value is above the minimum threshold of 0.70; therefore, the research instrument can be deemed to have a very high level of reliability—it is very strong and highly reliable. These results indicate that all items in the questionnaire demonstrate excellent internal consistency in measuring the level of legal awareness among the residents of Madiun City regarding the protection of personal data in the independent processing of civil registration documents.

The high Cronbach's Alpha value indicates that each statement item is strongly correlated in measuring the same construct, namely the public's level of legal awareness. Thus, the research instrument used meets the requirements for validity and reliability and is therefore suitable for use as a data collection tool in this study. The results of these tests provide confidence that the data obtained from the respondents can be used as the basis for analysis to answer the research question regarding the level of legal awareness among the residents of Madiun City regarding the protection of personal data in the independent processing of civil registration documents.

The questionnaire was distributed to eighty respondents, consisting of Population Administration service staff at the Madiun City Population and Civil Registration Office and members of the public applying for Population Administration documents. To gain a deeper understanding of the responses, the researcher also conducted interviews with several respondents.

Respondents were selected from service staff deemed knowledgeable about personal data protection and applicants for civil registration documents based on the types of documents being processed, including Family Cards, Electronic ID Cards, Birth Certificates, Marriage/Divorce Certificates, and other services such as Certificates of Change of Address, Death Certificates, and other certificates. Based on the Consolidated Net Data for the second semester of 2025, the population of Madiun City was 200,653 people, consisting of 74,083 households. Since the scope of this study focuses on the level of legal awareness among the residents of Madiun City regarding the protection of personal data when independently processing civil registration documents, selecting respondents based on the civil registration documents they are processing is appropriate. After the number of respondents was determined, data collection proceeded through questionnaires and direct interviews with service staff and members of the public applying for civil registration documents at the Madiun City Population and Civil Registration Office.

After the research data was collected through the distribution of questionnaires to respondents, the next step was to categorize the public's level of legal awareness regarding personal data protection in the independent processing of civil registration documents. This categorization was conducted to provide an overview of the respondents' level of legal awareness based on the scores obtained from their questionnaire responses.

In this study, the categorization of legal awareness levels was conducted using the theoretical (hypothetical) score categorization method developed by Saifuddin Azwar. According to Azwar, score categorization aims to place individuals into specific groups based on the position of their scores relative to the theoretical score distribution of the instrument used. This method uses the Hypothetical Mean (Mi) and Hypothetical Standard Deviation (SDi) as the basis for determining the boundaries of the low, medium, and high categories.

The research instrument consisted of 14 statements using a modified four-point Likert scale with a score range of 1 to 4. Based on the characteristics of this instrument, the theoretical minimum score was 14 and the theoretical maximum score was 56. Next, the Hypothetical Mean (Mi) and Hypothetical Standard Deviation (SDi) were calculated to determine the categorization intervals for the respondents' levels of legal awareness.

3. Results

3.1 The Public's Level of Legal Awareness Regarding Personal Data Protection in the Independent Processing of Population Administration Documents in Madiun City

Based on the results of the calculations, the scores were then grouped into three categories: high, moderate, and low. The results of this grouping showed that, out of a total of 80 respondents, 16 respondents (20%) fell into the high legal awareness category, 64 respondents (80%) fell into the moderate category, and no respondents fell into the low category. The following table shows the distribution of legal awareness among residents of Madiun City regarding the protection of personal data when independently processing civil registration documents.

Table 2. Level of Public Legal Awareness of Personal Data Protection

Category	Number of respondents	Percentage
High	16	20%
Moderate	64	80%
Low	0	0%
Total	80	100%

Based on the table above, it can be seen that the majority of respondents fall into the moderate legal awareness category, namely 64 respondents, or 80% of the total number of respondents. Furthermore, 16 respondents, or 20%, fall into the high legal awareness category. Meanwhile, no respondents fall into the low legal awareness category.

The results show that, in general, the residents of Madiun City have a fairly good level of legal awareness regarding the protection of personal data when handling civil registration documents on their own. The predominance of the "moderate" category indicates that the majority of residents possess the knowledge, understanding, attitudes, and behaviors that support the protection of personal data, although they have not yet fully achieved an optimal level of legal awareness.

The presence of 16 respondents in the "high" category indicates that some members of the public have a better understanding of the law than other respondents. This group not only knows about regulations regarding personal data protection but also understands the importance of maintaining the confidentiality of personal data and adopts appropriate behavior when handling civil registration documents. This high level of legal awareness is reflected in their caution when providing personal data to others and their tendency to handle civil registration documents independently.

On the other hand, the fact that no respondents fell into the "low" category indicates that all respondents possess at least a sufficient level of legal awareness regarding personal data protection. This finding indicates that the issue of personal data protection is well-known to the public and is a concern in the process of handling civil registration documents. This situation also shows that the public has recognized the importance of safeguarding personal data to prevent its misuse by irresponsible parties.

Overall, the results of this study indicate that the level of legal awareness among residents of Madiun City regarding personal data protection when independently handling civil registration documents tends to fall into the moderate category. Nevertheless, the absence of respondents in the low category is a positive indication that the public already possesses a solid basic understanding of personal data protection. Therefore, sustained efforts through public outreach, legal education, and the improvement of digital literacy are needed to raise the public's legal awareness from the moderate category to the high category.

According to Soerjono Soekanto's theory of legal awareness, the level of legal awareness encompasses four indicators: legal knowledge, legal understanding, legal attitudes, and legal behavior. If the categories for each indicator are identified, they can hopefully serve as a basis for more accurate assessments. The following presents research data based on these indicators of legal awareness:

Table 3. Categorization of Legal Awareness Levels by Indicator (n = 80)

Indicator	High (n / %)	Medium (n / %)	Low (n / %)
Legal Knowledge	13 (16.25%)	66 (82.5%)	1 (1.25%)
Legal Understanding	61 (76.25%)	19 (23.75%)	0 (0%)
Legal Attitude	79 (98.75%)	1 (1.25%)	0 (0%)
Legal Behavior	31 (38.75%)	49 (61.25%)	0 (0%)

3.2 Distribution of Respondents' Answers by Statement Item

The questionnaire consisted of fourteen statements covering indicators of legal knowledge, legal understanding, legal attitudes, and legal behavior. Each respondent answered the statements using the response options "Strongly Agree" (SS), "Agree" (S), "Disagree" (TS), and "Strongly Disagree" (STS). The distribution of respondents' answers to each statement item is presented in the following table.

Table 4. Distribution of Respondents' Answers by Statement Item (n = 80)

No.	Statement Item	SS	S	TS	STS
1	I am aware that Indonesia has a Personal Data Protection Law.	0	7	58	15
2	I understand that personal data such as the NIK, Family Card (KK) number, and demographic data are protected by law.	8	71	0	1
3	I understand that use of a person's personal data requires the consent of the data subject.	0	70	9	1
4	I understand that the misuse of personal data may result in legal penalties.	6	54	20	0
5	I understand that civil registration officials are required to maintain the confidentiality of public data.	5	59	15	1
6	I understand that individuals have the right to protection of their personal data.	6	70	4	0
7	I understand the risks that may arise if my personal data is misused by a third party.	7	52	20	1
8	I understand the importance of keeping civil registration documents, such as ID cards and Family Cards, confidential.	5	75	0	0
9	I understand that handling civil registration documents on my own can reduce the risk of personal data misuse.	6	70	4	0
10	I agree that everyone should protect the confidentiality of their personal data.	21	58	1	0
11	I agree that the protection of personal data is a right of every citizen that must be respected.	15	65	0	0
12	I agree that people should handle their own civil registration documents to protect the security of their personal data.	5	49	26	0
13	I am always careful before giving copies of my ID card, family card, or other residency documents to others.	0	31	48	1
14	I would rather handle my civil registration documents on my own than use the services of an unofficial intermediary.	13	66	1	0

Note: SS = Strongly Agree; S = Agree; TS = Disagree; STS = Strongly Disagree.

3.3 Categorization of Legal Awareness by Respondent Characteristics

Based on the results of data analysis using Saifuddin Azwar's theoretical (hypothetical) score categorization, the following results were obtained:

Table 5. Categorization of Legal Awareness by Respondent Characteristics (n = 80)

Characteristic	Category	High	Medium	Low	Total
Gender	Male	5	28	0	33
	Female	11	36	0	47
Age	> 45 years	3	7	0	10
	36–45 years	5	16	0	21
	25–35 years	2	13	0	15
	< 25 years	6	28	0	34
Education	Junior High School	1	0	0	1
	High School	8	33	0	41
	University	7	31	0	38

The categorization of legal awareness by respondent characteristics shows a consistent pattern across gender, age, and highest level of education: all subgroups are dominated by the "moderate" category, and no respondents fall into the "low" category. By gender, female respondents show a slightly higher proportion of

high legal awareness than male respondents (23.40% versus 15.15%). By age, the tendency increases with age, with the over-45 group having the highest proportion in the high category (30%), followed by the 36–45 group (23.81%), the under-25 group (17.65%), and the 25–35 group (13.33%); this suggests that life

experience and interaction with public services contribute to legal awareness. By education, the difference is not significant, as high school-educated respondents (19.51% high) and university-educated respondents (18.42% high) show nearly identical levels. Taken together, these findings indicate that the public's legal awareness of personal data protection is fairly evenly distributed across demographic characteristics, with gender and age exerting a more visible influence than formal education, implying that

increased legal awareness is shaped not only by education but also by access to information, experience, and government outreach.

Beyond respondent characteristics, it is also relevant to examine legal awareness according to the type of civil registration document being handled, since different documents may reflect different levels of exposure to personal data. The distribution is presented in the following table.

Table 6. Categorization of Legal Awareness by Document Type (n = 80)

Respondents	High	Medium	Low	Total
Electronic ID Card (KTP)	8	43	0	51
Family Card (KK)	6	13	0	19
Birth Certificate	2	0	0	2
Marriage/Divorce Certificate	0	1	0	1
Others	0	7	0	7
Total	16	64	0	80

Based on the type of civil registration document being processed, the majority of respondents were handling Electronic ID Cards (KTP), namely 51 respondents (63.75%), followed by Family Cards (19 respondents, 23.75%), other documents (7 respondents, 8.75%), birth certificates (2 respondents, 2.50%), and marriage/divorce certificates (1 respondent, 1.25%). Across all document types, the "moderate" category predominated and no respondents fell into the "low" category, indicating that the public processing various civil registration documents already possesses a fairly good level of legal awareness regarding personal data protection.

When compared by the proportion in the "high" category, respondents processing birth certificates showed the highest percentage (100%), although with only two respondents this cannot serve as a basis for general conclusions. Among the larger groups, the high category was most common among Family Card applicants (6 of 19, 31.58%), followed by Electronic ID Card applicants (8 of 51, 15.69%), while Family Card and other-document applicants fell entirely into the moderate category. The predominance of the moderate category among Electronic ID Card applicants may be influenced by the large number of people processing this document as their primary identity, which is most frequently used across public and administrative services.

Overall, legal awareness by document type falls into the moderate category, yet the absence of any respondents in the low category indicates that the public already holds a solid basic understanding of the importance of protecting the personal data contained in civil registration documents such as the NIK, family, birth, and marital status information. These findings suggest that outreach and education need to be continuously strengthened so that legal awareness can progress from the moderate to the high category across all types of civil registration services.

4. Discussion

4.1 Analysis of the Public's Level of Legal Awareness Based on the Four Indicators

The central finding is not merely that public legal awareness is generally adequate, but that its four components do not develop at the same pace. Respondents display a stronger normative orientation toward personal data protection than consistency in

everyday protective practices. This uneven pattern is analytically important because it shifts attention from whether citizens recognize privacy as a legal right to whether that recognition is translated into routine decisions when handling population documents. In Soerjono Soekanto's framework, legal awareness should therefore be understood as a progression from knowledge and understanding to attitude and behavior, rather than as a single undifferentiated condition.

Viewed through this framework, the comparatively strong legal attitudes suggest that the values underlying personal data protection have gained social acceptance. Citizens tend to regard confidentiality and control over personal information as legitimate rights and obligations. However, normative acceptance alone does not establish effective legal consciousness. The weaker position of legal knowledge indicates that some citizens may support data protection in principle without possessing sufficiently detailed knowledge of the Personal Data Protection Law, data-subject rights, institutional obligations, or sanctions for misuse. This distinction is consistent with privacy-literacy research showing that perceived familiarity with privacy issues may not correspond to actual knowledge or capability (Ma & Chen, 2023; Suddekunte et al., 2024).

The most consequential issue emerges at the behavioral level. Respondents' positive attitudes and relatively strong understanding coexist with less consistent caution in disclosing identity documents or relying on third parties. This pattern suggests an awareness-behavior gap: knowing that personal data should be protected does not automatically produce protective action. Achmad Ali's perspective helps explain this discrepancy because legal knowledge and understanding are not sufficient by themselves to ensure compliant behavior. International privacy research reaches a similar conclusion, showing that privacy knowledge, concerns, and self-efficacy may increase without producing equivalent changes in actual protective behavior (Stubenvoll & Binder, 2024).

This gap can also be interpreted as a form of the privacy paradox. In digital public services, citizens may value privacy while simultaneously prioritizing convenience, speed, familiarity, or assistance from others. Willems et al. (2023) demonstrate that privacy concerns in public services do not necessarily determine

disclosure behavior when citizens perceive benefits from a service. Gotsch and Schögel (2023) likewise emphasize that privacy attitudes and actual behavior are shaped by contextual and organizational conditions. In the Madiun context, the continued use of intermediaries or the casual sharing of document copies may therefore reflect practical convenience and established service habits rather than rejection of personal data protection norms.

Lawrence M. Friedman's concept of legal culture provides a broader explanation for this pattern. Legal culture concerns the values, expectations, and behavioral orientations through which people give practical meaning to law. The findings suggest that a supportive culture of personal data protection is emerging, but has not yet been fully internalized into routine administrative behavior. This interpretation is important because the effectiveness of the PDP Law depends not only on formal rules and institutional safeguards but also on citizens' everyday practices when collecting, storing, uploading, copying, and transferring personal documents.

Accordingly, the principal theoretical implication of the first research question is that legal awareness of personal data protection should not be evaluated solely from citizens' knowledge or expressed agreement with legal norms. A more meaningful assessment requires attention to the conversion of normative awareness into behavior. This extends the application of Soekanto's legal-awareness framework by showing that, in digitally mediated population services, the transition from attitude to behavior may be interrupted by convenience, digital capability, service habits, and reliance on intermediaries. Privacy literacy thus provides a useful complementary lens for understanding why favorable legal attitudes may coexist with inconsistent protective practices (Choi, 2023; Lyu et al., 2024).

The practical implication is that public education should move beyond general messages stating that personal data must be protected. Effective interventions should provide concrete guidance on when copies of identity documents may be shared, how authorization should be given, how digital population-service accounts should be secured, and how citizens can identify unnecessary requests for personal information. Experiential privacy education has been shown to be more effective when abstract risks are connected to concrete decisions and behaviors (Botturi et al., 2024). Such an approach is particularly relevant to independent population-document processing because citizens themselves increasingly become active handlers of sensitive data.

Taken together, these findings reveal a transition from normative acceptance toward behavioral internalization rather than a simple condition of high or low legal awareness. This interpretation provides a stronger basis for understanding personal data protection in public administration: the policy challenge is no longer only to make citizens aware of privacy rights, but to make safe data-handling practices habitual and feasible within everyday public-service interactions.

4.2 Factors Affecting the Public's Level of Legal Awareness Regarding Personal Data Protection in the Independent Processing of Population Administration Documents in Madiun City

The second research question concerns the conditions that shape legal awareness and its translation into protective behavior. Soekanto's law-enforcement framework indicates that legal effectiveness emerges from the interaction of legal substance, legal structure, facilities, society, and culture. The present findings

support an integrated interpretation of these dimensions rather than treating them as independent explanations. In a digital public-service environment, citizens encounter the law through regulations, service officers, technological systems, information channels, and socially established ways of completing administrative procedures.

This perspective also aligns with international research on data-driven government, which stresses that responsible digital public services require more than technical modernization. They depend on citizens' trust, capability, access, and understanding of how their data are governed (Ruijter et al., 2023). The Madiun case therefore illustrates how personal data protection becomes a shared governance issue: public institutions must provide secure procedures and understandable information, while citizens must possess the literacy and practical capacity to use those procedures safely.

4.2.1 Legal Substance Analysis

The existence of Law No. 27 of 2022 provides a clear normative foundation for personal data protection, but the findings indicate that formal availability of the law does not guarantee detailed public comprehension. The relevant issue is therefore not the absence of regulation, but the accessibility of its substance to ordinary service users. Legal communication should translate statutory concepts - such as consent, data-subject rights, confidentiality, and unlawful use - into situations citizens encounter when processing identity documents. This would narrow the distance between formal legal protection and citizens' operational knowledge.

In this sense, legal substance contributes to awareness only when citizens can understand its practical consequences. The finding reinforces Soekanto's proposition that legal effectiveness is sociological as well as normative: rules become effective when they are understood and incorporated into social practice. For personal data protection, this requires legal literacy that is closely connected to digital privacy literacy rather than dissemination of regulatory information alone.

4.2.2 Legal Structure Analysis

The Population and Civil Registration Office functions as the institutional interface through which citizens experience data-protection rules. Professional service procedures, confidentiality practices, and clear explanations from officers can strengthen trust and demonstrate how personal data should be handled. This institutional role is particularly important because citizens may model their own behavior on the practices they observe during public-service interactions. Thus, legal structure influences awareness not only through enforcement, but also through service design, communication, and institutional example.

Trust should nevertheless be accompanied by transparent procedures that minimize unnecessary disclosure and clearly distinguish official assistance from unofficial intermediation. Research on digital government indicates that willingness to share personal data with public institutions is sensitive to trust and the perceived legitimacy or importance of the governmental purpose (Trein & Varone, 2023). Strengthening institutional trust therefore requires both reliable data governance and visible safeguards that citizens can understand.

4.2.3 Resources and Facilities Analysis

Digital service channels and self-service facilities can reduce dependence on intermediaries and give data subjects greater control over their documents. Their protective value, however, depends on whether citizens can use them confidently and safely. Technology may reduce one category of risk while creating another if users lack the skills to manage accounts, credentials, document uploads, or electronic communication. Facilities should therefore be assessed not only by availability and speed but also by usability, accessibility, and privacy-by-design principles.

This point is especially relevant to the independent-processing policy. Encouraging self-service without adequate digital and privacy literacy may shift responsibility to citizens without equipping them to manage that responsibility. Privacy-literacy research suggests that effective protection requires both conceptual knowledge and practical skills (Suddekunte et al., 2024). Consequently, digital assistance, user-friendly instructions, and targeted education should accompany the expansion of online population services.

4.2.4 Social Factors Analysis

The demographic patterns reported in the Results should be interpreted cautiously because the study is descriptive and was not designed to establish causal demographic effects. The observed differences by gender and age may reflect variation in service experience, exposure to information, digital practices, or previous encounters with administrative procedures. They should therefore be treated as indications for further investigation rather than evidence that gender or age independently determines legal awareness.

Similarly, the relatively limited differentiation by formal education suggests that educational attainment alone may not capture the competencies required for personal data protection. Privacy-related behavior can be shaped by domain-specific knowledge, experience, access to trustworthy information, and digital skills. This reinforces the need for inclusive legal and privacy education that is not targeted solely on the basis of formal educational background.

From a policy perspective, segmentation may be more useful when based on actual service needs and digital capability. Citizens who depend on assistance, frequently share document copies, or have difficulty using online systems may require more intensive support regardless of their demographic category. This approach would connect social factors directly to observable privacy risks in population administration.

4.2.5 Legal Culture Analysis

Friedman's legal-culture perspective is particularly useful for explaining why formal compliance may lag behind normative support for personal data protection. Established habits - including asking relatives, agents, or other intermediaries to process documents - may persist even when citizens recognize the associated privacy risks. Legal culture therefore operates as the bridge between formal law and everyday administrative practice, shaping what citizens regard as normal, convenient, and acceptable.

The findings indicate that strengthening this culture requires repeated reinforcement through institutional practice and community-level learning. Citizens need to see secure document handling not as an exceptional precaution but as a routine

component of administrative responsibility. This interpretation corresponds with the privacy-paradox literature, which emphasizes that protective behavior is influenced by context and convenience as well as by attitudes (Gotsch & Schögel, 2023; Willems et al., 2023).

For this reason, interventions should seek to make the privacy-protective option also the easiest option. Faster self-service procedures, clear authorization mechanisms, secure document-sharing guidance, and accessible assistance for digitally less-confident users can reduce the practical incentives to rely on informal intermediaries. Such measures would connect legal culture with service design rather than placing the burden of compliance entirely on individual citizens.

4.2.6 The Most Dominant Factor Influencing Legal Awareness

Among the dimensions examined descriptively, social experience and legal culture appear especially salient for explaining the persistence of the awareness-behavior gap. This interpretation should not be read as a statistical claim that these factors are causally or quantitatively 'most dominant,' because the study did not estimate their relative effects using inferential modeling. Rather, the qualitative and descriptive evidence suggests that individual experience, established social practices, digital capability, and culturally embedded service habits are important mechanisms through which formal legal awareness is translated - or fails to be translated - into behavior.

The broader contribution of the study is therefore to show that personal data protection in population administration is a socio-legal and behavioral challenge as well as a regulatory one. Regulations, institutional safeguards, digital infrastructure, privacy literacy, and legal culture must operate together. For Madiun City, policy should prioritize practical legal education, privacy-oriented digital literacy, secure and user-friendly self-service systems, and consistent institutional communication. These measures can help close the gap between citizens' recognition of personal data protection as a legal norm and their actual behavior when handling sensitive population documents.

5. Conclusion

It can be concluded that, based on the results of a study of 80 respondents, the level of legal awareness among the residents of Madiun City regarding personal data protection in the independent processing of civil registration documents falls into the moderate category, with 64 respondents (80%) in the moderate category, 16 respondents (20%) in the high category, and no respondents in the low category. These findings indicate that the residents of Madiun City possess sufficient knowledge, understanding, and attitudes regarding the importance of protecting personal data; however, this has not yet been fully reflected in consistent legal behavior to safeguard personal data when handling civil registration documents specifically, by conducting these procedures independently without using intermediaries (brokers). Thus, the first hypothesis (H1), which states that the public's level of legal awareness falls into the moderate category, is proven or accepted, as the research results align with the initial assumption based on Soerjono Sockanto's Theory of Legal Awareness.

Regarding the factors influencing the level of public legal awareness regarding personal data protection in the independent processing of population administration documents in Madiun

City, it can be concluded that the level of legal awareness among the residents of Madiun City is influenced by legal substance, law enforcement, infrastructure or facilities, societal factors, and legal culture. Of these five factors, societal factors and legal culture are the most dominant in influencing the public's legal awareness. This finding indicates that the existence of regulations alone is insufficient to shape the public's legal behavior without being supported by legal literacy, digital literacy, and a sound legal culture. Therefore, the second hypothesis (H2) is also proven or accepted, as the research results demonstrate that the factors outlined in Soerjono Soekanto's Theory of Factors Influencing Law Enforcement and Lawrence M. Friedman's Theory of Legal Culture influence the level of public legal awareness.

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