

# Digitalization of Population Administration Services is a Inevitability, Hope and Challenge

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**Abstract.** Population administration services are undergoing a transformation from manual services to digital services. Digitalization of population administration services has many benefits, namely being easily accessible to the public, the state budget saver and being able to cut service bureaucracy. However, there are obstacles in implementing it, such as inadequate facilities and infrastructure, inadequate human resource competency of service staff, lack of public understanding in changing services from manual to digital, legal basis that needs to be improved, internet network that does not exist yet reach all corners Indonesia, the available budget is inadequate. This research uses qualitative methods with an empirical juridical approach. Data collection uses structured interviews with a list of prepared questions. Supporting data in this research uses literature studies. Data analysis includes data editing, data presentation and drawing conclusions. The results of the research found that technological developments can answer the problems faced in the implementation of population administration services so that population administration services can run effectively and efficiently, transparently and accountably, but are not free from risks and obstacles to making it happen, so an information security management system is needed to prevent data leaks and changes to the legal basis are needed, so that digitalization of population administration services becomes a inevitability.

**Keywords:** Digitalization, Population Administration Services, Hopes, Risks, Challenges

## 1 Introduction

The digital era has changed the economic, political and social landscape, and data has become a valuable commodity in this ecosystem. This data includes a wide range of information, such as consumer behavior, market access, and digital talent mobility, which is critical in a thriving digital economy. The digital era requires readiness and agility in facing rapid change. The rapid development of technology has resulted in the world becoming borderless, digitalization has become an inevitability, which, whether willing or not, will be implemented by every level of society. Digitalization is a conversion process from analog to digital using digital technology and data with an automatic operating system and computerized system. In the government sector, the application of information technology has been implemented for several decades. E-Government or electronic-based government is one manifestation of the use of information and communication technology in increasing the efficiency of services to the public. [1] One of the government's affairs in providing services to the community is population administration affairs, in this case population administration affairs are mandatory non-basic service matters but are the basis for providing all services. In the 1945 Constitution, Article 28

paragraph (1) of the second amendment and Article 34 paragraph (3) of the fourth amendment have mandated that the state is obliged to serve every citizen and resident to fulfill their basic needs in the context of public services and improving community welfare. Therefore, the implementation of public services carried out by state officials in various service sectors, especially those involving the fulfillment of civil rights and basic community needs, must be carried out in accordance with the mandate of the 1945 Constitution, Articles 28 and 34 [2], State duties in the field of population administration as follows:

- a. Providing legal protection to all Indonesian residents by providing Population Documents quickly, accurately, completely and free of charge.
- b. The state must be present at the door of the house to provide population administration services, so that the state, in this case the government, changes from a passive stelsel to an active stelsel.

Objectives of providing population administration services:

- a. Provides identity validity.
- b. Providing protection for the civil rights status of the population.
- c. Providing national population data and information.
- d. Realizing orderly and integrated population administration nationally.
- e. Providing population data which becomes a basic reference for other related sectors. [3]

In Article 13 paragraph (3) of Law Number 24 of 2013, the Population Identification Number is included in every Population Document and is used as the basis for issuing passports, driver's licenses, NPWPs, insurance policies, land title certificates, and the issuance of other identity documents [4], NIK which consists of 16 digits, is unique and distinctive, single, and attached to a person (and only to that person) for all time. The NIK will be imposed on each person when registered as an Indonesian resident, and the NIK cannot be changed until the person dies, the NIK is the basis of future public services.

Data as an important element in digital ecosystem, is utilized, protected and elaborated wisely. Population data used for all purposes is Population Data from the Ministry of Home Affairs which is responsible for domestic government affairs, including for use:

- a. Public service.
- b. Development Planning;
- c. Budget allocation.
- d. Democracy development and
- e. Law enforcement and crime prevention.

The output of this population administration service is in the form of population documents and population data. Population documents consist of: Population Biodata, Family Card, KTP-el, KIA, Certificate of Moving, Certificate of Moving Abroad, Certificate of Moving Abroad, Certificate of Coming from Abroad, Certificate of Residence, Certificate of Birth, Certificate of Stillbirth, Certificate of Annulment of Marriage, Divorce Cancellation Certificate, Death Certificate, Adoption Certificate, Indonesian Citizenship Relinquishment Certificate, Identity Replacement Certificate, Civil Registration Certificate, Birth Certificate, Death Certificate, Marriage Certificate, Divorce Certificate, Child Acknowledgment Certificate and Child Validation Certificate. A total of 24 population documents and 2 data, namely individual data and aggregate data.

Population administration services have undergone a transformation from services provided manually to digital, so that people no longer need to come to the population and civil registration office, saving time, reducing travel costs, saving on document photocopying costs, reducing queuing times, Population and registration services The civil service as the front guard providing population administration services is also experiencing budget efficiency, to cut time for

population administration services, and eliminate illegal levies, as well as digitizing archives, data stored digitally will last a long time, and be easy to find at a later time. However, the digitalization of population administration services is also inseparable from facing various obstacles, namely the need to change the legal basis to overcome problems in the field related to the implementation of digital services that did not exist under the old legal basis, improving the existing legal basis, the general public (people born before 2000) who are less familiar with the use of technology, people who do not have smartphones, inadequate internet networks, inadequate resources for service staff at counters, inadequate computer equipment, budgets for procuring service transition infrastructure when carrying out the digitalization process. inadequate, so that the population administration service target has not been achieved. However, digitalization is a necessity so the role of the central and regional governments is to ensure that the digital transformation of population administration services runs smoothly and that no region or community is left behind.

## **2 Method**

The method used in writing this journal is a descriptive research method by conducting interviews and observations, namely holding questions and answers with service officers and the public who provide population document services regarding the problem objects in this journal in order to obtain and support secondary data. The interview method used was the guided interview method, namely using a guideline for a list of questions that had been prepared in relation to the problem being studied. Location The interview was conducted at the Metro City Population and Civil Registration Service and was also carried out by observation and literature study in order to obtain primary legal materials and secondary legal materials in the form of statutory regulations, books, articles and journals related to the research object.

## **3 Result and Discussion**

The results of interviews with service officers at the counter stated that there were still a small number of people who used the "Disdukcapil in Hand" technology in processing population documents, because people were less familiar with using technology and preferred to use WhatsApp Online for their population documents or come directly to the Population and Registration Service office. local civil. Whatsapp online is more familiar to people in Metro Cities because people can directly communicate with service officers' cellphone numbers and most people feel more confident if they can come directly to the office. "Dukcapil Go Digital" has been implemented in the application of electronic signatures (TTE) or digital signatures on Family Cards, Electronic Resident Identity Cards, Child Identity Cards, Population Certificates, Birth Certificate Excerpts, Death Certificate Excerpts, Marriage Certificate Excerpts, Divorce Certificate Excerpts and Excerpt from Child Recognition Deeds, so that in the past, if an official was out of town, the documents to be signed piled up, now population documents can be signed anywhere, as long as the official has an internet network and supporting equipment is available so that they are no longer bound by time and space.

Currently, residents who need population documents can submit their population documents from home and have them sent home via digitalization services. These digital

services can be services via existing applications or communication media services such as WhatsApp. The implementation practice for applicant citizens if they use the communication media service is that the original documents they have must be uploaded via Whatsapp and also sent via WhatsApp to the officer number that has been appointed and determined by the local Dukcapil Service. When the process has been completed, the population documents will be sent via the number the applicant for the residence document. If people are able and have the time, they can also come to the office to collect existing documents. The service period is clear, practical without having to go back and forth to the office and all existing documents are free.

The implementation of digitalization of population administration services is carried out to save service time, this time savings can be obtained from no delays in verification and validation by authorized officials. This is obtained if the verifying official is not in his place. The official can still carry out his duties as explained above. So that residents can complete their population documents more quickly. The aim of digitizing population administration services is to simplify public services and make people happy and reduce unnecessary bureaucracy. TTE documents are guaranteed to be authentic and do not need to be legalized. Because digital documents are equipped with QR codes that can be scanned on Android or Apple based cellphones, this minimizes the risk of document loss, because if the physical document is damaged, people just have to reprint it if they still have the file. Apart from that, people who have installed Digital Population Identity on their cellphones or the Dukcapil Application in Hand can directly print or print the required population files on the Mandiri Dukcapil Platform Machine. This machine looks like an Automatic Teller Machine (ATM) and has functions and uses like an ATM whose operation can be used to print population documents.

Digitalization of population administration services actually aims to carry out the application of information and communication technology, increase the use of population digitalization for citizens, simplify and speed up public or private service transactions in digital form, and secure ownership of Digital Population Identity through an authentication system to prevent falsification and data leaks, and population data can be used for sectors that need it as a basis for public services by the government outside of public services in the field of population administration, for future development planning, budget and economic allocation planning, organizing democratic parties or assisting in the field of prevention and legal protection.

Digitalization of services can also realize budget efficiency and service efficiency at the dukcapil service. We asked this during the interview with the Head of Division. PIAK and Utilization of Data from the Metro City Dukcapil Service, data was obtained on the number of manual services from 2017 to 2019 as stated in table 1 and the number of services carried out digitally as stated in table 2 below:

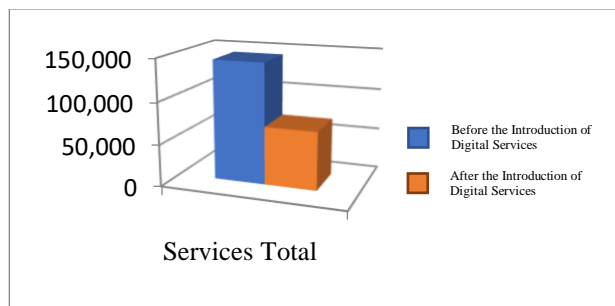
**Table 1.** Number of manual services for the Metro City Dukcapil Service from 2017 to 2019

<b>No</b>	<b>Year</b>	<b>Dafduk</b>	<b>Capil</b>	<b>Amount</b>
1	2017	43.500	4.479	47.979
2	2018	53.521	4.253	57.774
3	2019	32.867	5.395	38.262
Total				144.015

**Table 2.** Number of Digital Services for the Metro City Dukcapil Service from 2021 to 2024

No	Year	Dafduk	Capil	Amount
1	2021	15.584	2.238	17.822
2	2022	18.126	4.402	22.528
3	2023	17.518	4.696	22.214
4	2024	5.881	1.161	7.042
Total				69.606

Based on table 1 above, the total number of manual services for the three years from 2017 to 2019 is 144,015 services and in table 2 the total number of digital services for the four years is less than 2021 to 2024 (2024 is still ongoing) is 69,606 services. It can be seen that the number of services has decreased quite a lot, namely 74,409 services, this is due to the effectiveness of the services delivered to the public, so that conveying information through digitalization of services makes it easier for the public to obtain services. The impact is that people do not need to carry out repeated services, due to a lack of application requirements or rejection of services due to other technical matters such as long and complicated bureaucracy, quite long service times and other things. And for 2020 services are undergoing a transition period from manual to digital services so that the number of services has increased by 81,884 services, this is due to the transition period and indeed the volume of services is very large because of the community's need for population administration services. For more details, see graph 1 which shows the number of manual services from 2017 to 2019 and the number of digital services from 2021 to 2024:



**Figure 1.** Number of Manual services and digital services

From the graph above, it can be seen that the effectiveness of the service is indicated by the service graph decreasing after the introduction of digital services to the applicant community. The ease of service provided by digital services is not only effective but also very efficient. If it is based on manual services from 2017 to 2019, the population documents provided to the public are special paper which has a higher price compared to population documents after digital services, for example for family card services if special security printing paper is used, the price is Rp. 3,780/paper, when compared to digital services that use 80 gram A4 size regular HVS paper, one ream of which is the most expensive at IDR 57,750/ream. If divided by 500 because one ream is 500 papers, the price for one family card document is Rp. 115,-. So if we compare again between manual services and digital services, there is a difference of Rp. 3,780 – Rp. 115 = Rp. 3,665,- per family card. With this very large difference, budget efficiency can be seen

clearly. Likewise with services for civil registration deeds, the application of which is the same as family card services, when manual service still uses special paper, whereas after digital service only uses ordinary HVS paper, the difference is that the ordinary paper has digitalization technology included in it so that it is safe and secure. its authenticity can be guaranteed.

The explanation and statement above is a digital service whose implementation still combines digital services received face-to-face and digital services that are directly online without face-to-face contact. For non-face-to-face or online services, see table 3 below:

**Table 3.** Number of Digital Services for the Metro City Dukcapil Service from 2021 to 2024

No	Year	Dafduk	Capil	Amount
1	2020	242	35	277
2	2021	765	308	1.073
3	2022	1.091	175	1.266
4	2023	779	173	952
5	2024	191	25	216
Total				3.784

Seen in table 3 above, the number of services at the beginning of the implementation or transition of digital services was only a small number of around 200 services, but over time services continued to increase, namely in 2021 there were 1,073 services and in 2022 it increased to 1,266 services, but in 2023 services decreased at least 952 services because people may be bored at home due to the Covid-19 pandemic and then carry out new normal activities so that services decrease, but in 2024 online services will return to normal again.

Digitizing services will also make it easier for people with disabilities to obtain services, the services provided can be processed immediately even if people with disabilities are at home. By submitting an application with the available application and then being consulted that the applicant is a person with a disability who cannot go to the office, the officer will immediately come to the applicant or person with a disability and the documents can be delivered directly using email from the disability applicant, making it easier and faster to process the service.

To hear input and suggestions from stakeholders regarding population digitalization services, every year a public consultation forum is held involving elements of society and the stakeholders involved so that they can continue to improve and improve service standards to provide excellent service to the community.

Obstacles and challenges faced in implementing the digitalization of population administration services include, among others:

- a. Amend the rules related to the digitization of existing population administration services, both to add missing ones and improve the legal basis of Minister of Home Affairs regulations to amend the Population Administration Law. Law Number 23 of 2006 concerning Population Administration as amended by Law Number 24 of 2013 does not yet include Digital Population Identity, currently still using Minister of Home Affairs Regulation Number 72 of 2022 concerning Standards and Specifications for Hardware, Software and Card Blanks Electronic Population Identification and the Implementation of Digital Population Identity, it is necessary to include regulations regarding Child Identity Cards which were originally in Minister of Home Affairs Regulation Number 2 of 2016 concerning Child Identity Cards, as well as including regulations regarding reporting and recording deaths.
- b. Centralized internet network, if there is interference from the center then the population administration service process will stop.

- c. To access you must have an internet network. Not all areas have a good internet network.
- d. Community members must have an electronic mail address, not all people do, there are still many who do not understand technology, and the elderly are not used to technology.
- e. There are concerns among members of the public about their personal data being leaked and it being used by irresponsible individuals, for example using it for online loans.
- f. Not all people have a quota to install applications.
- g. Computer equipment that has to be renovated, because it needs someone who can install SIAK centrally.
- h. Adequate human resources to operate technology and information technology equipment.
- i. Adequate budget because previously there was a Special Allocation Fund from the Central Government. In the past 2 years there have been no DAK funds from the Center anymore so they have to rely on funds from the Regency/City Government APBD while not all regional governments have adequate fiscal funds, almost most of them depend on the Government budget. Center.
- j. Socialization regarding digital population administration services which have not yet reached all regions.

On July 16 2023, there was a leak of population data sold on online hackers breach forums. It is known that the 337,225,465 data sold on the dark web are quite complete. Starting from NIK, full name, date of birth, birth certificate number, blood type, religion, marital status, marriage certificate number and divorce certificate number, increase in marriage date/divorce date, physical abnormalities, people with disabilities, final education, type of work, NIK mother, father's NIK, mother's full name, and father's full name. Repeated data leaks in government data management institutions show that hackers have found the same weaknesses in various government data servers so extraordinary efforts must be made to prevent leaks again. The response from the Director General of Population and Civil Registration of the Ministry of Home Affairs, Teguh Setyabudi, was that the data in the breach forums, seen from the format of the data elements, was not the same as that in the existing population database of the Directorate General of Dukcapil at this time, and a preventive investigation and mitigation audit was carried out in collaboration with the Cyber Agency and National Code and Ministry of Communication and Information. For this reason, it is necessary to guarantee the security and protection of population data held by the Government.

The results of an interview with the Head of the PIAK Division of the Metro City Population and Civil Registration Service stated that the security of all citizen data is guaranteed when using digital population administration applications and services. In accordance with the mandate of the Minister of Home Affairs Regulation Number 57 of 2021 concerning the Population Administration Information Security Management System. The population administration information system is implemented by implementing the national standard of the Indonesian international organization for standardization/international electrotechnical commission 270001 (SNI ISO/IEC 270001). The Population Administration Information Security Management System, hereinafter referred to as ISMS, is part of the overall management system, based on a business risk approach, to determine, implement, operate, monitor, review, improve and maintain information security related to the implementation of SAK. The Population Administration System, hereinafter abbreviated to SAK, is a system that utilizes information and communication technology to administer Population Administration.

Currently, only a few provinces have become pilot projects for this ISMS, including Lampung Province, but not all districts/cities have obtained ISO 270001. Metro City is still preparing the facilities and infrastructure as well as human resources to obtain ISO 270001. SMKI covers:

- a. Information Security governance;
- b. human resource security;
- c. physical and environmental security;
- d. operational and communications security;
- e. asset management;
- f. Information Security incident management;
- g. service continuity management;
- h. control/access rights;
- i. compliance control;
- j. system development and maintenance; And
- k. TIK audit. [5]

It is not easy to fulfill the ISMS requirements so improvements and improvements must be made continuously to protect the confidentiality of existing documents and population data. The implications of implementing this ISMS are not only for information security for all who use information technology from the threat of misuse of information by irresponsible individuals, but also for the security of people's personal data so that it is not misused by other parties. Apart from that, the public as owners of personal data are also advised not to disseminate personal information either through print media or through social media.

When using digital population administration service documents, other people will not be able to enter a person's account in the application because it uses a PIN that is only known to the person concerned. Apart from that, strict verification and validation is also carried out with facial recognition technology so that confidentiality is guaranteed.

#### **4 Conclusion**

Digitalization of population administration services is a necessity. can make it easier for the public and public service institutions to carry out public service processes because it has several advantages, namely ease of access, budget savings and can cut bureaucracy. However, in its implementation there are still obstacles and obstacles in the field starting from the need to change and improve regulations governing the implementation of digitalization of population administration services, preparing qualified human resources to carry out services, preparing adequate funds for facilities and infrastructure in carrying out population administration services. digitally, to provide outreach and assistance to the community as users to carry out population administration services digitally and improve the security and protection of existing population data so that the public is guaranteed the security of their data and is not worried about data leaks.

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