



Digital Transformation : An Analysis of the Implementation of Civil Registration Information Systems (SIAK) in Local Governments

Rizal Hamdi¹, Rahmat Hidayatullah², Siti Khumayah^{3*}, Rahmayanti⁴
Public Administration, Faculty of Social and Political Sciences, University of Swadaya Gunung Jati

Corresponding Author: Siti Khumayah, siti.khumayah@ugj.ac.id

ARTICLE INFO

Keywords: Digital Transmation, E-Government, Population Administration, Public Services, SIAK

Received: 3, June

Revised: 17, June

Accepted: 18, July

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ABSTRACT

This study intended to assess the efficacy and obstacles of SIAK implementation in Majalengka Regency to improve the quality of public services. The applied method is a descriptive qualitative approach with the Design-Reality Gap Model (ITPOSMO). The findings show that SIAK has not yet been fully implemented because of various reasons in terms of technological capability, staff competencies and managerial linkup. Little information is given on quality of services, and resources are scarce. In summary, SIAK has the ability to help improve efficiency, but it has not been fully reached with its intended perfect design.

INTRODUCTION

The rapid development of information and communication technology (ICT) has caused the tremendous changes in different aspects of modern society. The public expects higher, better, faster, cheaper government, too, in the digital age. Old world bureaucracy - slow, complex and corrupt - is now irrelevant to the needs of modern society. This development has prompted the concept of e-government as a transformative tool for governance. It isn't just a technology trend it's a critical need to build an open, transparent and innovative government that is capable of responding to the complexities of today's social problems.(Andriyan et al., 2024)

E-Government E-government or electronic-government is a progressive form of innovation, a fusion of information and communication technology into the government administration process. This will be one of the strategic actions to enhance public service quality, accountability strengthening and good governance in the contemporary age.

Consistent with the bureaucratic reform vision and the commitment of Majalengka Regency government towards realizing good governance, the application of e-government is the strategic measure that cannot be postponed. This is also supported those who receiving PEPERA Electronically, who issued Presidential Decree of 3 in 2003 on the National Policy and Strategy for the Development of e-Government as the legal basis for achieving digital government in Indonesia.

Population population management discipline provide a very important strategic support for population growth, legal security, guarantee the civil rights of all citizens. In Majalengka Regency, the Civil Registry and Population Service has duties in issuing population documents like Identity Card (KTP), Family Card (KK) and Population Information Sheet Number (NIK) and recording the occurrence of a vital event, birth certificate. This is a service, to protect the provision of public services. In as much as these documents are legal evidence of a person's generosity and his existence, the Protection is a fundamental tool in the realization of the rights of citizens. Calling this service public, is a matter of high priority, and deserves to be considered as a public service a government should provide.(Arwandi Jai et al., 2016)

Challenges The implementation of SIAK in Indonesia still experience some challenges that mostly happen at national and local level. In all of these areas there are specific issues and problems, but it is the case that the system is being built up at this time and that with respect to the best management of population, further effort will be made to build up this system. The Population Management Information System (SIMDUK) programme was introduced by the government in 1996 to solve all population management problems. This SIMDUK method was in effect in cities and counties as population registration technique. Since then the system was modernized in response to increased complexity of demographic statistical needs stemming from technical development. Accordingly, the Population Administration and Data System (SIAK) began its operation in 2004. However, there was a limitation in its implementation, not yet being national thus give birth to duplicative of data

and inaccuracy. Therefore in 2020, Population Administration Information System (SIAK) was enhanced into Centralized SIAK, the new system where all population data are hosted on the national server, not depending on regional server. This is to ensure holistic synergies and prompt accessibility by several government bodies. (Jaya et al., 2021)

Despite its aim of reducing obstacles to public use of population document management services (in Sudan) the deployment of the Population Administration Information System (SIAK) according to the researchers' findings is still facing some(/a) challenges. SIAK was constructed to enable the administration of population data, enhance the quality of public service provision, and assist better policy creation by means of the integrated (in real time) data input, update and maintenance. Yet, following the evidence from the Population and Civil Registration Office of Majalengka Regency there are still some barriers affecting the effectiveness of such information system. These include delays in the production of population documents, discrepancies between information contained in population documents and the realities on the ground, and the limited access of residents in remote areas to the system of production of population documents. These difficulties signal problems in the use and practice of the SIAK, which might undermine its capacity to govern the population administration. Left unchecked, these issues have the potential to impede the attainment of the system's primary focus of delivering more efficient, effective and well-managed population administration services responsive to the needs of the community.

This study is intended to analyze the implementation of Population Collection Information (Dukuh) System, and how the population in collecting population card (KTP) with e-ID card is being done in regional of government as well as to assess its effectiveness through the barriers encountered in the process of the implementation. The population in this study is how the SIAK method is applied in the Population and Civil Registration Office for Majalengka Regency. Furthermore, other than the theoretical contribution, recommendation strategy can also result from this study as an effort for the development and advancement of SIAK as its implementation will work well, exist and the community will be able to utilize it accordingly. The working performance of the system is evaluated by speed, accuracy, convenience, and public satisfaction of population administration services. The research findings this initiative are therefore anticipated to furnish an integrated account of the success of SIAK deployment together with the drivers and barriers to achievements of outcomes.

We take the design-reality gap for analyzing the implementation of SIAK that is the differences between the ideal design of system versus the reality of the field. This idea is used for identification of the reasons leading to the disparity in terms of the initial system objectives and the actually achieved results, and as a consequence, of more suitable and applicable solutions to currently encountered barriers.

LITERATUR REVIEW

In the current age of digitalisation, we have to digitalise in every sector and also in the government. This has resulted in the emergence of e-government as a new approach to: provision of efficient, transparent and citizen-centered public services (Lindgren et al., 2019). In Indonesia, a dominant model of e-government is through what is called the Population Administration Information System (SIAK) which is designed to modernize population data management (Kemendagri, 2019).

This research, is entitled "Digital Transformation: Analysis of the Implementation of the Population Administration Information System (SIAK) in Local Government" indentified three main related interets:

Digital Transformation

Population Management Information System (SIAK) Majalengka Regency, is one of the systems as a part of the digitalization on public services. In the beginning 2004, SIAK was designed in distributed mode first, i.e. the data population was locally handled. But this mechanism encountered so many problems including redundancy and incompatibility of information, and complex data update policies between local governments and the central government. In 2020, in line with the acceleration of digital transformation across various sectors and in accordance with Ministry of Home Affairs Regulation No. 95 of 2019 on the Population Administration Information System, a centralized SIAK system was implemented. Under this model, population data from all regions is integrated into a single national server, enabling real-time access, higher accuracy, and improved service efficiency. This transformation aligns with the government's efforts to build a digital ecosystem, and the implementation of the centralized SIAK is an important step toward modernizing and integrating public services. (ZMP, 2022)

With the rapid advancement of technology in the 4. 0 era, particularly the Indonesian government faces new challenges where all bureaucratic staff are required to adapt to technological transformation. This will have a positive impact on providing effective and efficient public services to the community. Conversely, if a government or institution fails to accelerate digitalization, it will lag behind and slow down service processes (Irsyadi et al., 2023). The current era is one of significant change, where various innovations and transformations are occurring in various areas of life that were previously conventional and manual but are now shifting to digital (Puji Astuti et al., 2020).

Practice shows that bureaucratic employees must quickly adapt to the latest technological advances that require special skills because labor-intensive work can be replaced by rapidly developing digital technology, thereby creating more efficient public services. According to (Ris & Puvača, 2023), digital transformation is a holistic process that takes a broad view rather than focusing solely on specific business areas, transitioning from conventional business methods to the digital era.

Based on these definitions, the author can simply conclude that digital transformation is crucial for governments in the Industry 4.0 era. By using e-government, governments can provide good public services, work more efficiently, and improve accountability. However, the success of digital transformation cannot be determined by technology alone. Support from all relevant parties, such as leaders, employees, and the community, is also very important. Therefore, continuous efforts are needed to improve the quality of human resources and create an environment that supports digital innovation.

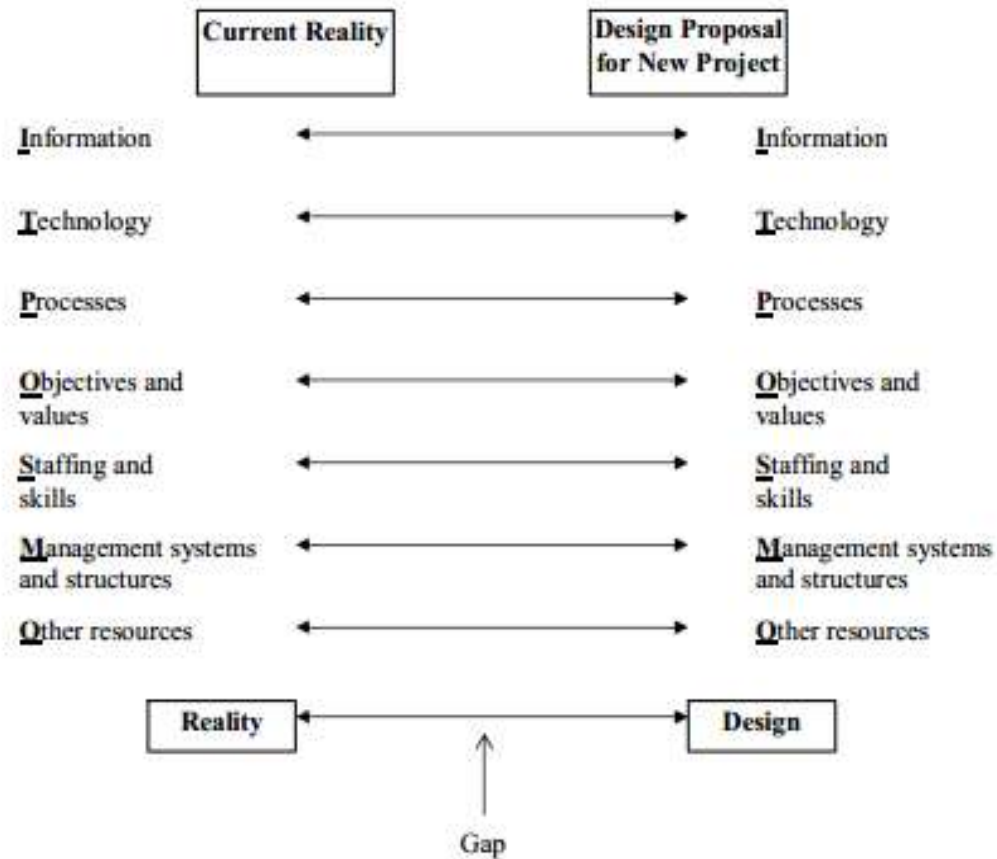
E-Government

The development of e-government has become a top priority that continues to grow in political activities, but the focus and attention have shifted mainly to digital government transformation at the national level (United Nations, 2020). According to the World Bank (2005) in (F. S., 2024), e-government is defined as the use of information technology (IT) such as wide area networks (WAN), the internet, and computing to improve the efficiency, transparency, and accountability of government service operations and to change relationships with citizens, businesses, and other government agencies. This definition provides a general overview of e-government, which involves the use of Information Technology (IT) by public bodies or institutions. The aim is to establish a governance relationship between the Government, the Private Sector, and the Community, thereby providing more productive, effective, and efficient services. The implementation of e-government is currently a key focus in efforts to prevent corruption in the government sector. The use of Information and Communication Technology (ICT) is considered by most people as an effective and practical method to promote transparency and minimize corruption (Muda & Fachrudin, 2024). Transparency of information is the key to the relationship between the government and the public. Openness in all aspects, from regulations to activities, reflects good governance in government, business, organizations, and communities. (Rahmayanti & Khumayah, 2024)

E-Government is defined as learning how government services (for the community and the business world) are developed and provided through digital platforms. This new generation of e-government focuses on technology-based processes in automated decision-making supported by the public. Specifically, the government has created a space where citizens not only generate data through their electronic devices but also play a central role in data processing. (Bolívar & Cediél, 2020)

According to Heeks (2002) at (Ayoung & Abbott, 2021), the theory of e-government implementation uses the "Design-Reality Gap Model" to analyze e-government projects, which consists of seven dimensions abbreviated as ITPOSMO. These seven dimensions are designed to help understand the differences or gaps between the design and reality of an implemented system. The ITPOSMO idea originated as a means to consistently abstract and examine e-governing application landscapes. This ITPOSMO model is a well-structured framework that includes a set of core elements which address from the most

basic need-to-know factors involved in the development and deployment of electronic government systems to the human-side policies and procedures.



Source: Heeks (2002) at (Ayoung & Abbott, 2021)

Figure 1. Model Design-Reality Gap

E-Government project implementers can make use of the ITPOSMO framework to detect possible discrepancy between design and implementation in their projects so as to prevent an e-Government project from failing. ITPOSMO comprises the following components: (a). Information: Refers to the information used in e-government applications (b) Technology: It examines the technology on which the application is based. (c) Process: This focuses on the analysis of work processes that have been performed in the organization in the context of the use of e-government to ensure effective and efficient processes. (d) Objectives and Values: The most critical aspect is the objective dimension, as this element encompasses various individual interests and political dynamics within the organization. Meanwhile, the value component reflects the culture and ethical perceptions of stakeholders in performing their duties. (e) Staffing and Skills: This dimension focuses on the human resources used in the implementation of e-government. This includes the total number of employees as well as their qualifications and skills in using the e-government system. This includes the need for staff capacity building and training. (f) Management system and structures: This dimension covers all management structures and processes required to manage and operate E-government, including

organizational or institutional hierarchies, decision-making processes, reporting systems, and coordination mechanisms between departments or units. (g) Other resources: This dimension covers various other resources such as time and budget to determine the success of e-government implementation.

There are several key elements of success in the implementation of e-government according to Indrajit (2010) in (Diva Cantika & Harapan Tua RFS, 2021), namely: (a) Support Element: The success of e-government requires support from the government, which includes political commitment, socialization, and continuity in policy implementation. (b) Capacity Element: The ability of local governments to implement e-government, including human resources, infrastructure, and financial resources. (c) Value Element: The government must ensure that the implementation of e-government provides tangible benefits to the community and other stakeholders.

Population Administration Information System (SIAK)

The definition of the Population Administration Information System, or SIAK, is regulated in Law No. 24 of 2013 concerning amendments to Law No. 23 of 2006 concerning Population Administration. It is an information system that utilizes information and communication technology to facilitate the management of population administration information at the level of administrators and implementing agencies as a single entity . In its implementation, the Population Administration Information System (SIAK) has the following objectives as stipulated in the Regulation of the Minister of Home Affairs of the Republic of Indonesia (Permendagri) Number 95 of 2019 concerning the Population Administration Information System: (1) To improve the quality of population registration and civil registration services; (2) To provide accurate, complete, and up-to-date national and regional data and information on the results of population registration and civil registration that is easily accessible; (3) To achieve systematic data exchange through a single identification system while ensuring data confidentiality.

Population administration, as a system, is a crucial element in the implementation of government administration and public administration because it serves to ensure legal certainty and protect the rights of individual citizens. This protection is realized through public services in the form of issuing various population documents, such as the Population Registration Number (NIK), Identity Card (KTP), Family Card (KK), and other civil registration documents, such as Birth Certificates, Death Certificates, and Marriage Certificates. Given the high population and increasing cases of crime, including document forgery such as passports and family cards, there is a need to improve administrative order and integrate the national population administration system. Accordingly, there is a demand for an information system for efficiently collecting, managing and controlling population data enabled by the development of information technology, particularly in a public service field. To cater to such needs, the central government has introduced, and fully implemented, an integrated Population Administration Information System (SIAK) to enhance the management of population data using ICT.

(Maskikit et al., 2023)

It is to holistically probe into the three questions above so that a complete picture could be formed on the operation of e-government implementation in the population administration information management at the local level. The findings of this study are anticipated to be useful for policy makers and practitioners who wish to build policies and strategies to implement e-government effectively and efficiently in order to enhance the quality of the public service, especially in the Majalengka Regency.

METHODOLOGY

A descriptive qualitative research design will be utilized to provide a rich and detailed portrait of the phenomenon in the context of the real world. It is seen as the right technique for investigating in-depth the implementation of the SIAK in the Majalengka Regency, since it enables researchers to capture anything true in relation to the events and situation observed without manipulation or interference. As an attempt to supplement the analysis, reach on literature was carried out, literature on SIAK in order to synthesize and enriched with the theoretical knowledge of the SIAK related literature, especially previous studies. (La Adu et al., 2022)

The method of data collection that had been employed in this research is in-depth interview with the systematic and complete. Key informants who manage SIAK were interviewed, including persons in charge of SIAK operators in the Population and Civil Registration Office of Majalengka Regency. Supplementary information was also collected through assisting informants, namely the Head of the Population and Civil Registration Office, the Head of the Population Administration Information Management Information and the public as the direct recipient of SIAK.

Data triangulation (refer to comparing data gathered from diverse sources to reduce bias) was used to test data validity and completeness of the data. Researchers will therefore be able to receive a full, valid, accountable description of what has gone into the operation of SIAK through this method. This systematic review gives a good base for a profound analysis of the challenges and opportunities to improve SIAK implementation in Majalengka Regency. (Foster, 2020)

RESEARCH RESULTS

The findings from the interviews, based on the seven dimensions of ITPOSMO are, that the implementation of SIAK in Majalengka Regency encounters several issues and causes a mismatch between the ideal and actual conditions of the system. Regarding the information, if SIAK illustrated good data with recent data data, the main issue will be low community's participation, related to community's acknowledge on better data quality or its rule as the community subjective behavior in documents, the change of the number of population that are going to be married, or deceased is not reported, resulting to invalid data.

Source: (Ministry of Home Affairs of the Republic of Indonesia, n.d.,)

Figure 2. Centralized Population Administration Information System (SIK) Application Page

Technologically, system efficiency is also affected by infrastructure limitations, which include: obsolete equipment and uneven access to the internet. Field processes and stages are also hindered by impediments, the most critical of which are that applicant did not fill all the required forms despite the fact that they are amended annually. The objectives and values of the SIAK system, aimed at enhancing service effectiveness and transparency, have not been fully realized because of lack of resources and weak community involvement. With Staff and Skills, inadequate reservoir of capable manpower in the use of the most recent technology and uncoordinated Management Systems and Structures between the Local and the Central governments lag the data validation process behind in the Management of Population Data. Lastly, in other resources, small staff and budget seem to be the critical barriers to achieving the most service. In general, the way of applying SIAK in Majalengka Regency has several substantial weaknesses which should be improved in order that those systems can work effectively and accurately.

DISCUSSION

The Population Administration Information System (SIAK) is a strategic early step to increase efficiency, accuracy and interconnectivity of the Indonesian population data. Ideally, SIAK has been conceived as a tool in order to always having newer real-time data on the population, and to allow high-quality results which the current technologies and working processes and skilled employees would make become available. The system is also anticipated to have quick and timely services to all people at all level and provide services that are easy to reach, including for remote areas. Active involvement of the community to report any changes in vital statistical data, including births, deaths and marriages, is a key to linking 'fully' such data and ensuring its timeliness and quality.

Yet, the fact is, implementation of SIAK in the Majalengka District has a massive challenge. This design-reality gap can be analyzed by applying the e-government implementation theory, more specifically the Design-Reality Gap paradigm as introduced by Heeks (2002) at (Ayoung & Abbott, 2021). This model represents the difference between ideal design of an information system and the real situation on the ground that may influence the performance of the system.

Information

Information Idealism: Information, especially a population administration information system (in Indonesia called Sistem Informasi Administrasi Kependudukan (SIAK) is an application which is created by the Home Affairs Ministry (Kemendagri) to manage population data. This application needs to be current, correct and readily available. The list should have identity of head of the family, marital status, address and other relevant details. This needs to be done to enable informed decision and policy making. In addition, SIAK must create appropriate statistical information for analysis.

Reality of Information: Quite a bit of data does not get updated as the public are not conscious of the responsibility to inform of changes like marriages and deaths, in practice. This results in the data on the system not matching the reality, which could possibly impede the authenticity of population certificates and public services. Furthermore, low public participation to update the dataset can be attributed to poor socialization process. Hence, education and awareness programmes are necessary to keep population data correct and current.

"We are pushing to get even more accurate statistics on population, but the biggest difficulty for us is the low percentage of the public who are aware that if they get married or have a death then they should report it. This is still not widely recognized by our community, but this issue implicates many public services," said Head of Majalengka Disdukcapil Population Administration Information Management Division (PIAK). *"In addition, although the Digital Population Information System (IKD) has been implemented to facilitate real-time data updates, many people are still reluctant to use it due to concerns about personal data security"*

Table 1. Progress Data on Population Documents per Subdistrict in Majalengka Regency

Jumlah Perkiraan KTP, Jumlah penduduk Usia 0 - 17 Tahun yang sudah memiliki Akta Lahir, Jumlah Pencatatan KIA, Aktivitas IKD, Jumlah Perkawinan Belum Tercatat dan Penertiban Akta Kematian s.d Bulan November Tahun 2024

No	Kecamatan	Jumlah Perkiraan KTP	%	Jumlah Penduduk Usia 0 - 17 Tahun Yang Memiliki Akta Lahir	%	Jumlah Pencatatan KIA	%	Jumlah Aktivasi IKD	%	Kawin Belum Tercatat	Akta Kematian
1	Lemahleuh	48.723	98,96	19.000		11.700	64,45	6.694	13,54	12.990	3.091
2	Bantarajeg	36.672	99,21	12.854	98,43	7.887	63,57	2.633	7,04	7.305	3.236
3	Cileung	51.232	98,83	19.372	94,58	8.397	48,37	2.032	3,96	8.790	3.534
4	Telaga	37.067	99,02	13.615	97,89	7.281	55,18	1.587	4,24	8.796	4.019
5	Angaputa	28.334	98,96	9.474	98,82	5.268	56,98	3.576	12,5	8.271	2.291
6	Maja	40.258	99,17	14.398	99,25	10.607	77,51	5.348	13,17	5.034	4.634
7	Majalengka	57.141	98,95	19.431	99,02	15.197	83,08	6.279	13,67	10.583	5.895
8	Sutahaji	37.235	98,12	13.208	99,64	10.415	82,94	4.848	12,91	4.780	3.981
9	Rajagalah	36.487	99,07	12.407	99,4	6.267	52,5	3.810	10,56	7.075	3.885
10	Leselmanding	48.965	98,93	17.617	98,05	10.077	58,04	6.750	11,62	6.551	5.518
11	Jelivongi	70.377	99,22	23.680	99,11	16.227	73,82	6.339	8,94	9.258	8.305
12	Dewasan	36.680	98,91	12.172	97,7	9.496	80,62	2.190	5,92	7.500	3.819
13	Kadipaten	36.337	98,83	11.984	97,15	9.241	78,12	4.100	11,47	3.752	3.895
14	Ketapaji	37.485	99,14	12.054	98,49	6.798	57,2	2.047	5,41	10.827	3.540
15	Jelajah	43.470	99,06	13.771	96,04	8.968	68,22	2.624	5,98	15.515	3.888
16	Ligung	51.137	98,89	17.129	97,9	9.738	58,8	4.653	9	12.057	6.706
17	Sumberjaya	49.621	99,13	17.338	97,02	9.803	57,05	1.946	3,89	7.337	3.896
18	Panyingkiran	25.187	99,39	8.609	100,13	7.179	87,81	2.920	11,52	4.151	3.413
19	Palasah	41.450	99,2	14.331	99,78	9.364	68,68	3.748	8,97	5.505	4.851
20	Cigugur	29.066	98,89	10.043	99,72	8.261	88,68	3.103	12,58	4.389	3.385
21	Sindangwangi	25.978	99,46	9.052	99,02	6.012	68,45	3.296	12,15	4.239	3.777
22	Banjaran	25.248	99,21	6.159	99,31	3.604	60,58	977	4,79	5.062	2.752
23	Cingambul	32.065	99,17	13.348	98,29	5.800	43,98	2.319	7,17	8.423	3.584
24	Karsakandel	41.025	98,93	14.201	97,05	9.856	71,58	2.589	6,27	8.777	3.488
25	Sindang	13.196	99,15	4.334	98,05	2.678	64,34	1.840	7,81	2.783	1.739
26	Makarna	36.448	99	14.100	99,08	9.814	69,78	2.650	7,2	8.773	3.672
	Jumlah	1.011.877	99,05	383.761	97,73	226.814	68,68	88.976	8,72	201.863	106.382

Source: (Kependudukan, 2024)

Based on the progress data in the image above, it shows that even though efforts to update population data have been made, the level of community participation in reporting changes such as marriages and deaths is still relatively low. This has resulted in some of the population data recorded in SIAK being inaccurate and out of date. Although the marriage validation program has been implemented to help record the marital status of residents, the progress of reporting is still not in line with the expected targets. This data reflects the challenges faced by the Population and Civil Registration Office of Majalengka Regency in ensuring the validity of continuously updated population data.

Technology

Technological Ideals: The technology or devices used in SIAK must be modern and in line with operational needs. The web-based system used must have high security to protect residents' personal data. The use of advanced information technology enables real-time data processing and reduces the weaknesses of distributed SIAK systems, which lie in the inconsistency of information between regions, thereby increasing the risk of duplicate data and inconsistencies.

Technological Reality: Technological constraints are one of the main obstacles to the implementation of SIAK. Much of the hardware used, such as

computers, has low specifications and is outdated. Internet connectivity is uneven across regions, especially in remote areas.

"Although technology for administrative services is available, there are still obstacles in the distribution and maintenance of equipment, especially in remote areas," said the Head of the Majalengka Population and Civil Registration Office. "The change in the SIAK system from distributed to centralized has indeed improved data integration with other agencies, but it has also slowed down direct access at the regional level, so the validation process takes longer. Limitations in infrastructure and internet connectivity further complicate the implementation of this system in the field"

Processes (Work Processes and Procedures)

Process Ideality: All users of the SIAK application, namely SIAK administrators at the district and sub-district levels, as well as stakeholders who are given access to operate the system (Ministry of Home Affairs, 2019). Data management in SIAK needs to be well structured. Every step in population administration must be clear and efficient, from population registration to recording important events such as births and deaths. This process must also be supported by standard procedures to ensure data consistency and quality.

Process Reality: In practice, obstacles often arise when applicants do not complete the required documents. Although SOPs are updated annually to simplify the process, implementation in the field is still hampered. The "jemput bola" program, which aims to bring services closer to communities in remote areas, faces obstacles in terms of logistics and funding, so it has not been able to be implemented optimally.

"The main obstacle in providing administrative services for residents is the incompleteness of the documents submitted by applicants, which prevents the process from being completed on time," said the Head of the Majalengka Population and Civil Registration Office. "In addition, although the outreach program was designed to bring services closer to people in remote areas, logistical and funding constraints remain obstacles to its implementation"

Objectives and Values

Ideal Goals and Values: The Population Administration Information System (SIAK) was designed to achieve the goals of improving service efficiency and population data accuracy, as well as the values of transparency and ease of access for the community.

Reality of Objectives and Values: In practice, the objectives of this system have not been fully achieved. Limitations in the supporting system and infrastructure often hinder efforts to realize these values.

"The service process is still confusing because the flow is unclear, especially in terms of the separation of service types," said one of the SIAK beneficiaries. "For example, ID card services are separated from other services, while family cards, birth certificates, and transfer letters are combined into one counter, which often confuses residents about where to go. Additionally, the priority system for the elderly, breastfeeding mothers, and people with disabilities is not functioning optimally, so vulnerable groups still have to wait a long time to receive services"

The reality on the ground shows that the community's basic need for fast service is still difficult to fulfill.

Staffing and Skills

Staff Ideals and Skills: Staff involved in the implementation of SIAK play an important role in the success of SIAK. A trained and competent workforce in the fields of information technology and population administration is essential. Continuous training must be provided to officers to ensure they are able to operate the system properly and keep up with technological developments.

Staff Reality and Skills: The limited number of staff at the Population and Civil Registration Office of Majalengka Regency is one of the biggest obstacles. With only 42 employees serving the entire region, it is not enough to handle the large volume of work. In addition, the quality of staff skills is often not commensurate with the demands of information technology developments. Based on statements from the SIAK Management Operator Staff at the Population and Civil Registration Office of Majalengka Regency

"Annual training is provided regularly, but it does not cover more in-depth technical aspects, such as adjustments to frequent updates to the SIAK system. In addition, the limited number of operators is an obstacle in handling data updates and ensuring that the system runs optimally, thereby increasing the workload."

Management and Structures System

Ideal System and Management Structure: To effectively implement the Population Administration Information System (SIAK), a management structure is needed that can support holistic and integrated population data management. Good management will ensure that all aspects of the system run according to plan and can adapt to changing needs. A clear organizational structure is also important to facilitate collaboration between government agencies in population data management.

Reality of the System and Management Structure: The management structure of the Majalengka Population and Civil Registration Office supports coordination between divisions through good communication and regular performance evaluations. Structured decision-making is focused on simplifying procedures and improving service effectiveness. Organizational flexibility in dealing with change is continuously strengthened by ensuring that each division coordinates efficiently with one another.

"Coordination between departments is a key factor in maintaining smooth service delivery," said the Head of the Majalengka Population and Civil Registration Office. "Each department is interlinked in the administrative process, so solid cooperation is needed to avoid obstacles. We have also eliminated procedures that burdened the public with the obligation to move between departments to complete documents. Now, staff accept incomplete documents and coordinate them internally to make services more efficient."

Other Resources

Ideal Situation for Other Resources: Special attention is needed from the central and local governments regarding operational budgets and physical infrastructure such as hardware and internet networks, which are also very important to support SIAK operations. Adequate infrastructure will ensure that the system can run smoothly without technical disruptions.

Reality of Other Resources: Limited staff numbers are a major obstacle to providing optimal services. In Majalengka Regency, there are only 42 staff members responsible for serving the entire region. Although regular training is conducted to enhance staff competencies, limited budgets often hinder efforts to increase the frequency and quality of training. As a result, staff skills do not always align with the evolving technological requirements. Additionally, budgets for procuring hardware and operational expenses for the SIAK system are frequently insufficient.

"The available budget is still limited and mostly only sufficient for basic needs, such as purchasing blank ID cards and ink," said the Head of the Population and Civil Registration Office of Majalengka. "After the central government stopped allocating funds in 2021, we have been completely dependent on the district budget, which is not always sufficient for the procurement or maintenance of electronic devices. Additionally, employee training and capacity-building programs have not been optimally accommodated, despite their importance in supporting the effectiveness of the centralized SIAK system in the future"

These limitations are reflected in several ways, such as the inability of staff to utilize the latest technology in population data management, or slow adaptation to system updates. Although regular training is conducted, limited budgets often restrict the frequency and quality of training that can be provided. This results in staff technical skills not always matching the needs of the latest technology. Staff who are less skilled in using technology-based systems also risk causing errors in data processing and slowing down services to the public.

Effectiveness of Centralized SIAK Implementation at the Population and Civil Registration Office of Majalengka Regency

The General Population and Civil-Registration Office from the Regency of Majalengka is developing a centralized Population Administration Information System (SIAK) since about five years ago as an effort of improving the effectiveness and accurateness of population data handling. The idea of switching from decentralized to centralized was to have easier management and less risk for data inconsistency. SIAK administrators also anticipate that one easily manageable and coherent system will enable population services to be more efficient, accurate and understandable with regard to the integrated approach.

During the five years of operation, the SIAK system has led to many positive changes. The society is now able to avail population administration services in the form of (NIK) Population Identity Number, ID Card (KTP), Family Card (KK), and civil registry documents (Birth Certificate, Death Certificate, and Marriage Certificate) in a quicker, and transparent manner. This allows for integrated and live management of population information and streamlines verification and document delivery procedures. For the Population and Civil Registration Office in Majalengka Regency, the adoption of centralized system of SIAK has assisted better accuracy of data, speed in the delivery transportation of services and better development planning based on precise and easily accessible data of population.

Yet, a centralized SIAK design approach also suffers from several limitations. For instance, frequent technical interruptions can cause that services do not run smoothly, especially when there is a growing system load. Furthermore, due to infrastructure challenges and access in some remote locales, this remains a barrier, since not all regions have access to internet connections that will support such service. The possibility to train HR staff in the management system in order to more effectively handle technical issues and offer more professional services has to be taken into account.

In general, the application of SIAK as a centralized system in Majalengka Regency has provided good impact to the population administration as well as efficiency, access and quality of the administrative data. Still, strategic actions are required to equalize the benefits of service innovation, the system quality, the technological infrastructure, and the HR competencies. Through a gradual process, a centralized SIAK can evolve further toward an optimal solution to assist and facilitate multi-purpose, responsive modern population management based on community needs.

CONCLUSION

From the analysis and interview, it can be inferred that The implementation of SIAK in Majalengka Regency has several barriers and bring deviations between ideal conditions and system reality. An information point of view of the main problem is the repeated denial of community to report any changes to our population data, such as marriages or deaths, thereby lowering the credibility of the data. On a technology leve infrastructure limitations are a bottleneck to the system's efficiency as ana an improvements gains slow on old systems and bad internet connections. Work processes and procedures also face challenges because applicants often fail to complete the required documents, despite the standard operating procedures (SOPs) being updated annually. In terms of objectives and values, the SIAK system, designed to enhance service efficiency and transparency, has not been fully realized due to resource constraints and low community participation. In terms of Staff and Skills, the limited number of employees and lack of skills in utilizing the latest technology slow down the process of managing population data. From the perspective of Systems and Management Structure, coordination between departments has been implemented well to improve service effectiveness, but obstacles in service procedures still need to be addressed. In terms of other resources, the limited number of staff and budget are the main obstacles to providing optimal services, especially after the central government stopped allocating funds in 2021 and the district became fully dependent on the district budget (APBD).

The implementation of the centralized SIAK system has proven to have a positive impact on effectiveness, particularly in terms of efficiency and accuracy of population data. The public can now process population documents more quickly and transparently, with data that is always updated to reflect actual conditions. However, challenges such as technical disruptions, infrastructure limitations in remote areas, and insufficient human resource capacity still need to be addressed. In general, the application of centralized system SIAK in

Majalengka Regency has increased the population administration system in an effective and efficient manner, although there is still improvement in the meningkatkannya infrastructure technology, strategies for improving community participation and strengthening the competence of human resources. Steady advancements are needed to help guarantee that the SIAK system can contribute fully to a more modern, open and flexible population management system that better reflects the requirements of society.

RECOMMENDATION

Strategic steps which must be done in an interrelated manner to narrow the gap between expectation and realization in operation of Centralized SIAK at Majalengka Regency. One requirement is strengthening infrastructure-upgrading outdated hardware for more advanced technology and ensuring even internet access in all parts of the country, including in the countryside. This function will accelerate accessing data, and increase system performance. Furthermore, publicity should be strengthened in order to let the public know that administering the population is important. People will have a better understanding of the significance of data changes in reporting through mass media and outdoor activities, and by leveraging the society leaders, public participation in of data reporting will be improved.

In addition, to improve human resources (HR), it is necessary to increase the number of staff at the Population and Civil Registration Office (Disdukcapil) of Majalengka Regency to reduce the heavy workload. More in-depth and technology-based training should also be encouraged by providing a special budget. Collaboration with universities or training institutions to create internship programs or involve young professionals will also enrich the technical capabilities of staff. On the other hand, the optimization of work processes and procedures must be carried out by updating standard operating procedures (SOPs) to be more flexible and responsive to community needs. The “jemput bola” program also needs to be expanded with adequate logistical and budgetary support so that it can reach remote areas.

Management systems and structures require improved coordination between local and central governments to ensure that data validation processes can be carried out more quickly and efficiently. Additionally, developing simpler data validation mechanisms can reduce delays in service delivery.

Nonetheless, the author recognizes that this study has several weaknesses. The research area was also restricted to Majalengka Regency, and did not include other regions that may have different issues. The qualitative method employed also relies strongly on the accessibility and openness of informants. Since the work was focused on rapid triages, it was not always possible to elicit extensive information from all informants. Expectations For future work, it is expected that a more comprehensive study can be made, including more regions and combining quantitative methods, for obtaining more complete results and that can be compared in a more objective way.

ACKNOWLEDGEMENTS

Acknowledgements The author cordially acknowledges all those who have helped him during the process of writing and completing this scientific article. Especially, he is indebted to his colleague lecturers and all stakeholders who provided with constructive comments, critics, and suggestions during the writing of this article.

We would also like to thank The Population and Civil Registration Office of Majalengka Regency, which provided valuable data and information which allowed the research presented in this paper.

Finally, the author would like to express his sincere appreciation to all the individuals, directly or indirectly, who have contributed their moral and material support for assistance with this study.

REFERENCES

- Andriyan, Y., Rajab, A. M., Pamungkas, A. C., Muhamad, S., & Rahakratat, R. (2024). Transformasi E-Government Menuju Good Governance di Pemerintah Kabupaten Sorong. *Samakta: Jurnal Pengabdian Kepada Masyarakat*, 1(2), 24–35. <https://doi.org/10.61142/samakta.v1i2.127>
- Arwandi Jai, S., Setyawan, D., & Adiwidjaja, I. (2016). Implementasi Sistem Informasi Administrasi Kependudukan. *Jurnal Ilmu Sosial Dan Ilmu Politik*, 5(1), 34.
- Ayoung, D. A., & Abbott, P. (2021). Minding the Design Reality Gap: An Empirical Evaluation of Telecentre Initiatives in Rural Ghana. *International Journal of Information, Diversity and Inclusion*, 5(3), 64–97. <https://doi.org/10.33137/ijidi.v5i3.36213>
- Bolívar, P. R., & Cediell, M. E. C. (2020). Digital Government and Achieving E-Public Participation: Emerging Research and Opportunities. In *Digital Government and Achieving E-Public Participation: Emerging Research and Opportunities*. IGI Global.
- Diva Cantika, D. C., & Harapan Tua RFS. (2021). Elemen Sukses Pelayanan E-Government dalam Penanggulangan Kemiskinan di Dinas Sosial Kota Pekanbaru. *Jurnal Ilmu Administrasi Negara (JUAN)*, 9(1), 49–60. <https://doi.org/10.31629/juan.v9i1.3228>
- F. S., O. (2024). A Systematic Literature Review of E-Government Implementation in Developing Countries: Examining Urban-Rural Disparities, Institutional Capacity, and Socio-Cultural Factors in the Context of Local Governance and Progress towards SDG 16.6. *International Journal of Research and Innovation in Social Science*, VIII(VIII), 1173–1199. <https://doi.org/10.47772/IJRIS.2024.808088>
- Foster, B. (2020). Information literacy beyond librarians: A data/methods triangulation approach to investigating disciplinary IL teaching practices. *Evidence Based Library and Information Practice*, 15(1), 20–37. <https://doi.org/10.18438/EBLIP29635>
- Irsyadi, A. R., Priyanto, E., Kuntadi, C., Arifin, A. L., Mahfudz, N., Dwianda, R., Winarko, S. P., Pranogyo, A. B., Habibi, M., Dwianto, R. A., Bakhtiar, A., Santoso, J., Haryono, T., Rianto, Surindra, B., & Meilina, R. (2023). Menuju

- Sukses Transformasi Digital. In *Menuju Sukses Transformasi Digital*. PT Penerbit IPB Press.
- Jaya, M., Rinaldi, H., & Heriyanto. (2021). Efektivitas Sistem Informasi Administrasi Kependudukan (Siak) Dalam Rangka Optimalisasi. *Jurnal Ilmiah Ilmu Administrasi Negara*, 8, 396–412.
- Kemendagri. (2019). Peraturan Menteri Dalam Negeri Republik Indonesia Nomor 95 Tahun 2019 tentang Sistem Informasi Administrasi Kependudukan. *Kementerian Dalam Negeri Republik Indonesia*, 65(1114), 2019.
- Kementerian Dalam Negeri Republik Indonesia. (n.d.). *SISTEM INFORMASI ADMINISTRASI KEPENDUDUKAN*.
- Kependudukan, A. D. (2024). *DATA PROGRES DOKUMEN KEPENDUDUKAN KABUPATEN MAJALENGKA*.
- La Adu, arifin, Hartanto, R., & Fauziati, S. (2022). Hambatan-Hambatan Dalam Implemetasi Layanan Sistem Pemerintahan Berbasis Elektronik (Spbe) Pada Pemerintah Daerah. *JIKO (Jurnal Informatika Dan Komputer)*, 5(3), 215–223. <https://doi.org/10.33387/jiko.v5i3.5344>
- Lindgren, I., Madsen, C. Ø., Hofmann, S., & Melin, U. (2019). Close encounters of the digital kind: A research agenda for the digitalization of public services. *Government Information Quarterly*, 36(3), 427–436. <https://doi.org/10.1016/j.giq.2019.03.002>
- Maskikit, C., Salam, S. F., Boli, V., Publik, I. A., Tinggi, S., Karya, I. A., & Merauke, D. (2023). Penerapan Sistem Informasi Administrasi Kependudukan Pada Kantor Distrik Merauke. *Jurnal Administrasi Karya Dharma*, 2(1), 2023.
- Muda, I., & Fachrudin, K. A. (2024). the Role of E-Government in Fraud Prevention in the Government Sector: a Systematic Literature Review. *Riau International Conference on Economics, Business and Accounting*, 1(2, July, Realesed on Januari), 587–601.
- Puji Astuti, R., Kumayah, S., & Agustina. (2020). Dinamika Transportasi Berbasis Online Di Era Revolusi Industri 4.0. *SAINS: Jurnal Manajemen Dan Bisnis*, 12 (2), 216–231.
- Rahmayanti, R., & Khumayah, S. (2024). Cultural Involvement in Information Policy Implementation in Indonesia: Growth Articles and Possible Future Research. *Jurnal Polisci*, 1(5), 209–218. <https://doi.org/10.62885/polisci.v1i5.280>
- Ris, K., & Puvača, M. (2023). Digital Transformation Handbook. In *Digital Transformation Handbook* (First edit). CRC Press. <https://doi.org/10.1201/9781003305163>
- United Nations. (2020). E-Government Survey 2020 - Digital Government in the Decade of Action for Sustainable Development. In *United Nations E-Government Surveys*.
- ZMP. (2022). *Migrasi Data Ke SIAK Terpusat*. Dinas Kependudukan Dan Pencatatan Sipil Kabupaten Agam. <https://dukcapil.agamkab.go.id/berita/detil/57/migrasi-data-ke-siak-terpusat.html>