

Effectiveness of Family Information System (SIGA) in Improving the Quality of Family Planning Services at BKKBN Jatim

Adinda Rahma Anisa¹, Ilmi Usrotin Choiriyah²
^{1,2} Muhammadiyah University of Sidoarjo, Indonesia



DOI : <https://doi.org/10.61796/icossh.v2i2.380>



Sections Info

Article history:

Submitted: April 15, 2025

Final Revised: May 01, 2025

Accepted: May 11, 2025

Published: May 24, 2025

Keywords:

Family Information System (SIGA)

Data Integration

BKKBN

Service Quality

Family Planning Data

Management

ABSTRACT

Objective: This study aims to analyze the implementation of the Family Information System (FIS) in family planning data management at BKKBN East Java. This study also aims to evaluate the impact of using SIGA on operational efficiency and service quality in the field. **Methods:** This study used a descriptive qualitative approach with data collection through interviews, observation, and document analysis related to SIGA implemented in BKKBN East Java. The research subjects consisted of BKKBN officers and beneficiaries of the family planning program. The data collected was analyzed to describe how SIGA operates and affects service performance. **Results:** The results showed that the implementation of SIGA has successfully improved the efficiency of data recording and reporting of family planning activities. The system speeds up administrative processes and minimizes errors in data management. However, challenges related to the quality of technological infrastructure and limited internet networks in some areas are still an obstacle to the optimal implementation of SIGA. **Novelty:** This research offers a contribution to understanding the impact of information technology implementation in family planning data management in Indonesia. The success of SIGA in East Java can serve as a model for similar implementation in other regions, with a focus on improving infrastructure and developing features that are more in line with field needs.

INTRODUCTION

The development of every human being is influenced by their environmental conditions [1]. Family is the smallest unit in society [2]. Based on the data of the Total Population of Mid Year 2024 from the Indonesian Central Bureau of Statistics, there are 281,603.8 thousand people [3]. As for the percentage of Population, Population Growth Rate, Population Density Percentage Distribution, Population Sex Ratio by Regency / City in East Java Province in 2024. Presented in the following table [4]:

Regency / City	Total Population (Thousand)	Population Growth Rate per Year	Percentage of Population	Population Density per square kilometer (KM ²)	Population Sex Ratio
Bangkalan	1.102,5	1,04	2,64	847	97,7
Banyuwangi	1.754,4	0,72	4,20	488	100,0
Blitar	1.263,7	0,86	3,02	724	101,1
Bojonegoro	1.325,3	0,48	3,17	573	100,6
Bondowoso	792,3	0,55	1,89	510	97,3
Gersik	1.364,0	1,06	3,26	1.086	101,4

Regency / City	Total Population (Thousand)	Population Growth Rate per Year	Percentage of Population	Population Density per square kilometer (KM ²)	Population Sex Ratio
Jember	2.603,8	0,70	6,23	786	99,3
Jombang	1.362,7	0,89	3,26	1.228	101,6
Kediri	1.689,9	0,88	4,04	1.109	101,9
Batu City	222,7	1,19	0,53	1.147	101,3
Blitar City	154,9	1,02	0,37	4.664	98,5
Kediri City	298,2	1,05	0,71	4.436	100,6
Madiun City	201,8	0,89	0,48	5.585	95,9
Malang City	872,7	0,90	2,09	7.857	98,8
Mojokerto City	137,4	0,99	0,33	6.796	98,2
Pasuruan City	219,4	1,43	0,52	5.626	100,1
Probolinggo City	249,5	1,09	0,60	4.564	98,6
Surabaya City	2.922,0	0,44	6,99	8.698	98,0
Lamongan	1.378,2	0,67	3,30	786	100,0
Lumajang	1.145,9	0,63	2,74	638	97,8
Madiun	757,8	0,48	1,81	681	97,9
Magetan	685,5	0,58	1,64	970	96,8
Malang	2.736,0	0,81	6,54	788	101,1
Mojokerto	1.154,3	0,83	2,76	1.172	101,1
Nganjuk	1.131,8	0,67	2,71	878	101,0
Ngawi	884,1	0,43	2,11	633	98,1
Pacitan	588,6	0,11	1,41	411	100,8
Pamekasan	884,7	1,07	2,12	1.113	96,8
Pasuruan	1.657,2	0,84	3,96	1.110	100,1
Ponorogo	962,9	0,38	2,30	679	99,3
Probolinggo	1.185,2	0,75	2,83	687	97,4
Sampang	1.016,3	1,26	2,43	827	98,8
Sidoarjo	2.171,5	1,12	5,19	2.999	101,0
Situbondo	700,7	0,57	1,68	424	96,6
Sumenep	1.153,2	0,68	2,76	553	94,1
Trenggalek	744,5	0,49	1,78	596	100,5
Tuban	1.225,2	0,60	2,93	621	99,7
Tulungagung	1.113,9	0,58	2,66	973	100,1

Based on data obtained from the Central Bureau of Statistics, there is a high population in Indonesia. In fact, the population growth rate in each district/city in East Java also shows a high rate. The condition of the increasing population growth rate and its unbalanced distribution will affect the quality of existing human resources. If the population is getting bigger without being balanced with good quality human resources,

this can complicate efforts to improve and equalize the welfare of every family without exception [5].

According to population growth theory, the population growth rate tends to increase exponentially, while the availability of resources increases arithmetically. This causes an imbalance between the population and the available resources, which can lead to social and economic problems. In addition, the demographic transition theory also explains that an increase in population at a certain stage can be caused by a high birth rate and a decrease in mortality due to improved health services and increased welfare. Interventions in the form of population control programs are needed to maintain a balance between the number of people and the quality of human resources [6].

One of the efforts made to overcome these problems is the establishment of a strategic program by the National Population and Family Planning Agency (BKKBN), namely the Family Planning (KB) program. This program aims to create a quality family so that it becomes the basis for improving human resources in Indonesia. Through regulating child birth rates, ideal spacing and age, and spacing each pregnancy, it is hoped that a quality family can be formed in terms of welfare, harmony, progress, and the ideal number of children [6].

The following is data on the effectiveness of BKKBN East Java family planning services in 2023 and 2024 based on quarterly assessments. This data illustrates the development of service performance measured using a scale of 1-4, with the following value categories:

Year	Quarter 1	Quarter 2	Quarter 3	Quarter 4
2023	3,92	3,94	3,96	3,97
2024	3,87	3,92	3,91	3,9

Data on the effectiveness of BKKBN East Java's family planning services in 2023 and 2024 showed consistent performance with the "Very Good" category in each quarter. In 2023, the effectiveness scores in Quarter 1 to Quarter 4 were 3.92; 3.94; 3.96; and 3.97, respectively. Meanwhile, in 2024, the service effectiveness score fluctuated slightly, namely 3.87 in Quarter 1, increased to 3.92 in Quarter 2, then slightly decreased to 3.91 in Quarter 3, and stabilized at 3.90 in Quarter 4. Overall, the data shows that the East Java BKKBN family planning service remains in the "Very Good" category with a score above 3.53, although there are slight changes in several quarters in 2024.



Source: siga.bkkbn.go.id

Based on Figure 1, in 2024, the Ministry of Population and Family Development / BKKBN Representative of East Java Province conducted a survey related to service effectiveness and anti-corruption perceptions. The survey results show that the Anti-Corruption Perception Index (IPAK) reached a value of 3.96, which is categorized as Very Good. In addition, the Service Quality Perception Index (IPKP) also scored 3.91, which is also categorized as Very Good. This achievement reflects the efforts of BKKBN East Java in maintaining transparency and improving the quality of services to the community optimally. With these results, BKKBN East Java continues to be committed to maintaining and improving service standards through innovation and professional and accountable management.

The problems faced by BKKBN East Java in improving the quality of family planning services are very complex. One of the main problems is the high rate of population growth that is not balanced with the distribution of population in each district/city. This imbalance causes difficulties in equitable distribution of family planning services. In addition, limited human resources trained in managing family planning data are also an obstacle in ensuring the effectiveness of family planning programs throughout East Java. As a result, the services provided are less than optimal in reaching the entire community, especially in areas that have high population and large density levels.

There are still technical and administrative obstacles in managing family planning data, which is done manually or with a system that has not been integrated. This results in data not being updated in real-time, making it difficult to conduct comprehensive monitoring and evaluation. The lack of utilization of information technology in family planning data management causes delays in presenting reports and making decisions. A

structured and integrated information system is needed to support the effectiveness of family planning services in BKKBN East Java. The Family Information System (SIGA) is expected to be a solution by providing convenience in managing data accurately, quickly, and efficiently.

Based on research [7] with the title "Implementation of the Family Information System (SIGA) Application Program at the Population Control, Family Planning, Women's Empowerment and Child Protection Office (Dp2kbp3a) of Sukabumi City," it was found that the use of SIGA by Dp2kbp3a employees had a positive and significant effect on the effectiveness of its services. The implementation of SIGA was able to effectively improve the quality of service provision and delivery of Dp2kbp3a.

Another study [8] with the title "Web-Based Family Planning Data Reporting Information System at DPPKB Sukabumi District" showed that this web-based application was able to manage family planning data storage and reports in a computerized manner. The application was designed using the prototype method by utilizing PHP and MySQL as the database. This is considered the right solution to overcome the problems of reporting and recording family planning data. Research [9] entitled "Information System to Determine Acceptance of Family Hope Program Assistance in Pasar Merah Timur Village" also shows that the development of a family information system is a determining factor in the acceptance of Family Hope Program (PKH) assistance. With the information system, the Kelurahan Office is easier to register prospective PKH recipients.

In this research, the focus of the study is the effectiveness of SIGA in improving the quality of family planning services, especially in BKKBN East Java. The high rate of population growth and its unbalanced distribution affect the improvement of the quality of human resources, including the welfare of every family in East Java. Supported by increasingly sophisticated technological developments, the SIGA Information System is needed as a digital-based medium for managing family data. Hopefully, SIGA will be able to improve the quality of family planning services at BKKBN East Java.

Therefore, the researcher felt interested in raising the title "The Effectiveness of the SIGA Information System in Improving the Quality of Family Planning Services at BKKBN East Java". This study aims to examine how the effectiveness of SIGA in improving the quality of family planning services at BKKBN East Java.

RESEARCH METHOD

This study aims to examine the effectiveness of the Siaga Information System (SIGA) in improving the quality of family planning services at BKKBN East Java using Campbell's theory of effectiveness, which includes program success, target success, program satisfaction, input-output efficiency, and overall goal achievement. The method used is qualitative with an analytical descriptive approach, using secondary data from the literature and primary data through in-depth interviews with Mr. Fajar, a Junior Expert Computer Technician at BKKBN East Java. Data were collected, analyzed, and concluded to comprehensively understand the effectiveness of SIGA.

RESULTS AND DISCUSSION

Results

This study aims to assess the effectiveness of the Family Information System (SIGA) in improving the quality of family planning (KB) services at BKKBN East Java. The method used was a qualitative approach with in-depth interviews with the informant, Mr. Fajar, a Junior Expert Computer Officer at BKKBN East Java. The data obtained were then analyzed using Campbell's effectiveness theory which includes five indicators: program success, target success, satisfaction with the program, input and output levels, and overall goal achievement.

1. Program Success (Keberhasilan Program)

According to Campbell's theory of effectiveness, the success of a program is measured by the extent to which the program is able to achieve its predetermined goals and work in accordance with the initial planning. This indicator is the main basis in assessing how effective a program is, because it reflects the extent to which the design, implementation, and impact of the program are in accordance with the plan[12]. In this study, the success of SIGA will be assessed based on its ability to achieve its main objective, namely as an effective tool in managing family planning data in BKKBN East Java. From an in-depth interview with Mr. Fajar, a Junior Expert Computer Technician at BKKBN East Java,

It was revealed that "*SIGA was initially designed to simplify the process of recording and reporting data, not only related to family planning services, but also broader field control activities, such as the management of toddlers, adolescents, and the elderly. The main goal of this initiative is to create an application platform that can combine all data related to family planning and public health*". (Source: interview January 21, 2025).

Mr. Fajar emphasized that the merging of these different types of data is very important to improve the efficiency of access and processing of information by officers in the field. Empirically, the research results show. SIGA has successfully achieved most of its objectives. Since its introduction in 2015, SIGA has undergone continuous improvement and development, including major updates in 2020 to 2022, despite initial technical challenges. One of SIGA's major achievements is its ability to combine previously separate data, such as population and family data, into one unified system. The graph shows a significant increase in the use of SIGA across all districts in East Java, from 47% in 2019 to 100% in 2023. This increase was accompanied by improvements in family data integration and reporting accuracy. Officer satisfaction also increased significantly from 60% to 93%, illustrating the systematic improvement and convenience of using SIGA which makes officers' work more efficient. This success was also noted nationally, as SIGA was implemented in all districts and cities in Indonesia by 2022, although there are still some applications that require further integration.



Figure 1. BKKBN award certificate from BPS

The BKKBN program has received external recognition of its success, which can be seen from the awards it has received. As seen in the picture above, BKKBN has received a Charter Award from the Central Bureau of Statistics (BPS) as a government agency with a Statistical Development Index score of 3.68 and a predicate of "Very Good". The award as "Best 1 Category of Non-Ministerial Government Institution (LPNK)" in the Evaluation of the Implementation of Sectoral Statistics 2024 shows that BKKBN's efforts in data management and statistics have been recognized nationally. This achievement is directly related to SIGA's ability to provide accurate and integrated data, which is the basis for the quality of statistics produced by BKKBN. This shows that the programs and systems implemented by BKKBN not only function internally, but also meet high quality standards in the eyes of external agencies authorized to assess the data. Thus, the success of SIGA not only achieves the program objectives but also reinforces the principle of 'Program Success' in Campbell's theory of effectiveness. This principle explains that a well-designed and effectively executed program is able to achieve its main objectives and have a measurable positive impact, even gaining official recognition [14].

In comparison with previous research, the study by Suarningsih shows that the implementation of family planning information systems in some parts of Indonesia still faces significant challenges, especially related to data integration that has not been optimized. However, the findings from this study show that SIGA has managed to overcome these problems by integrating various data relevant to family planning and public health into a unified and functional system. This difference represents significant progress in the development of an information system that is now capable of processing data with much higher efficiency, an achievement that was previously difficult to achieve in the application of similar technology at the local level. An earlier study by Suarningsih showed that the implementation of family planning information systems in certain regions of Indonesia was still limited, with many challenges related to data integration that had not been fully met. However, SIGA has managed to overcome these challenges, as revealed in this study, by integrating various data related to family planning and public health in one unified system. This comparison shows significant progress in

information systems that facilitate more efficient data processing, which was previously difficult to achieve in the application of similar technologies at the local level [2].

2. Goal Success (Keberhasilan Sasaran)

Target success indicators in Campbell's theory show how far a program is able to achieve specific goals and serve the intended group. It measures the program's direct impact on targeted individuals or groups, as well as assessing whether the program's operational objectives have been achieved as expected. In the context of SIGA, the success of the target is measured by its ability to improve the quality of family planning and field control services at BKKBN East Java. The goal is to ensure that every family who needs family planning services can receive good and timely services.

The data collected through the Family Information System (SIGA) has an important role for field officers in recording various activities related to family planning services and field control. Officers routinely input daily data on contraceptive services, family planning counseling activities, and various field control activities for groups of children under five, adolescents, and the elderly. This information is then used to monitor the progress and efficiency of services. The graph shows a significant increase in the achievement of SIGA targets in BKKBN East Java over the period 2019 to 2023. The percentage of family planning services provided in a timely manner increased dramatically from 70% to 92%, which is a strong indicator that services are becoming more efficient in reaching the community more quickly. In addition, the availability of daily data from officers and the completeness of family data collection also showed a positive trend, each reaching more than 90% by 2023.

"The continuous increase in the number of officers actively entering data on a daily basis shows that the use of technology is becoming more prevalent, as well as officers' awareness of the importance of proper digital recording". (Source: interview January 21, 2025).

Overall, these findings suggest that SIGA has helped realize the goal of faster, more accurate, and organized family planning services. While there are still challenges related to data updating and completeness, the goals are largely being met, with more organized record keeping and the use of technology easing supervision and control in the field.

IR KEPENDUDUKAN	INDIKATOR KELUARGA BERENCANA
	Tabel1 – JUMLAH WANITA KAWIN (10-49 TAHUN) MENURUT KELOMPOK UMUR
	Tabel2 – JUMLAH PUS (15-49 TAHUN) MENURUT KESERTAAN DALAM JAMINAN KESEHATAN
	Tabel3 – JUMLAH PUS MENURUT UMUR KAWIN PERTAMA
	Tabel4 – JUMLAH PUS MENURUT ANAK LAHIR HIDUP
	Tabel5 – JUMLAH PUS MENURUT ANAK MASIH HIDUP
	Tabel6 – JUMLAH PUS MENURUT ANAK IDEAL YANG DIINGINKAN
	Tabel7 – JUMLAH PUS STATUS HAMIL MENURUT KEINGINAN KEHAMILAN SAAT ITU
	Tabel8 – JUMLAH PUS STATUS HAMIL MENURUT EMPAT TERLALU DAN UMUR ANAK TERKECIL
	Tabel9 – JUMLAH PUS MENURUT KESERTAAN BER-KB

Figure 2. View of the SIGA Family Planning Indicator Module

The display of the SIGA Family Planning Indicators Module further demonstrates how SIGA provides a variety of tables that are very specific and relevant to the achievement of family planning program objectives. These reports include important data such as 'Table of Total Married Women (10-49 Years) by Age Group', 'Table of Total PUS (15-49 Years) by Participation in Health Insurance', to 'Table of Total PUS by Children Born Alive' and 'Children Still Living', and 'Total PUS by Participation in Family Planning'. The availability of this highly detailed data allows BKKBN East Java to recognize specific characteristics of the Fertile Age Population (PUS) and married women, such as the status of family planning use, the number of children they have, and even the desire for an ideal number of children. This information is critical for field officers to better tailor their counseling and family planning services, for example by focusing on those who are not using family planning or who have more than the ideal number of children [13].

A previous study by Faradiba et al (2021) showed that the success of family planning programs in some regions in Indonesia is often hampered by inaccurate data and delays in recording, which ultimately leads to untimely reporting. In contrast to these findings, SIGA in this study showed great improvement in the accuracy and speed of data recording, as evidenced by the increase in the percentage of family planning services provided on time from 70% to 92%. This clearly shows that SIGA has created a much more effective system for recording and reporting family planning service activities than the method reviewed in the previous study. Thus, SIGA not only fulfills but also reinforces the targeting success principle in Campbell's theory, by improving the quality and speed of services provided directly to beneficiary groups [10].

3. Satisfaction with the Program (Kepuasan Terhadap Program)

Satisfaction with the program is one of the important indicators in Campbell's theory, because it reflects the extent to which users or parties involved feel they receive and benefit from the program. This indicator not only assesses whether the program runs well technically, but also whether the program is truly accepted and appreciated by those who use or are involved in the program. This has an impact on the overall success and sustainability of the program. Based on interviews with informants, the level of satisfaction of BKKBN East Java officers with SIGA is generally quite high. Field officers stated that the system is very helpful in recording and reporting family planning activities, making their daily tasks easier. Empirical data also supports this by showing an increase in officer satisfaction with SIGA from 2019 to 2023. In 2019, the satisfaction level reached 65%, but in 2023 it increased to 91%. This increase is shown by more and more officers experiencing ease in their work due to using SIGA. This shows that the system has been well accepted and used by users.

In addition, the Elsimil (electronic ready to marry and ready to conceive) module, which is part of SIGA, has also experienced a significant increase since its introduction in 2021. In early 2021, only about 30% of Elsimil modules were available, but by 2023 this had increased to 85%. The increase shows the continuous efforts to improve and enhance the features of SIGA. At the same time, complaints against Elsimil modules reduced dramatically, from 45% in 2021 to only 18% in 2023. This shows that the developers are successfully fixing technical or functionality issues that previously existed.

"The efficiency of SIGA can also be seen from the decrease in the average time required for daily data entry. The daily data entry time has decreased from 45 minutes to only 25 minutes, indicating that SIGA has been optimized in supporting the work of field officers". (Source: interview January 21, 2025).

With this system, officers can work faster and more efficiently. Although it has many advantages, Mr. Fajar admits that there are still some shortcomings that need to be improved. This is especially true in relation to the completeness of the data in the Elsimil module, which will only be fully available at the end of 2023. This module is very important to monitor the readiness of prospective couples to participate in the family planning program. Therefore, incomplete data is still a challenge in recording activities relevant to prospective brides and pregnant women. In addition to the satisfaction obtained by officers, the success of a program can also be seen from the positive responses of the community who receive benefits.



Figure 3. Results of the Community Satisfaction Survey on BKKBN West Kalimantan Services

The results of the community satisfaction survey (SKM) on services provided by the Ministry of Population and Family Development / BKKBN Representative of West Kalimantan Province in the First Quarter Period of 2025, with a value of 3.69. This value is higher than the minimum limit of community satisfaction survey determined in Permen PAN RB No. 90 of 2021, which is 3.2. Although this survey was conducted at the BKKBN West Kalimantan Representative, this "Very Good" achievement reflects the BKKBN's national service quality standards and demonstrates that initiatives such as SIGA, which supports data management and services, contribute to positive community experiences. This high score indicates that the community is satisfied with the quality of services provided, which in turn strengthens the legitimacy and sustainability of the family planning program.

Previous research by Khofifah & Meirinawati (2024) showed that staff satisfaction with information systems in family planning services is often plagued by technical difficulties and inadequate data completeness, leading to low efficiency of staff work. In contrast to these findings, SIGA has shown a significant improvement in satisfaction, with officer satisfaction increasing from 65% to 91% over the period 2019 to 2023, thanks to the convenience it offers in data recording and reporting. While there are still challenges related to data completeness in the Elsimil module, the improvements made to the SIGA system demonstrate a strong commitment to improving the overall quality of family planning services [6].

4. Input and Output Levels

In Campbell's theory of effectiveness, the balance between input and output levels is a key indicator in assessing the effectiveness of a program. Inputs include all resources used in program implementation, such as manpower, budget, technological equipment, and time. Meanwhile, outputs are the direct and measurable results that result from the use of these inputs, for example data collected, reports created, or services provided.

"Effectiveness is considered achieved when the results obtained are equal to or even greater than the inputs used, indicating efficient and productive use of resources". (Source: interview January 21, 2025). Based on the interview with Mr. Fajar, it appears that the inputs allocated for the use of the family planning information system (SIGA) are quite large. These inputs include the labor of field officers in charge of inputting data on a daily basis as well as substantial costs for the development, maintenance, and updating of the SIGA application. Although the inputs are considerable, the outputs, which are integrated, accurate, and easily accessible data, are considered greater and provide far greater benefits than the inputs. This shows that resources are used efficiently, so that the investment made is able to produce optimal and value-added outputs for family planning services. SIGA effectively converts inputs in the form of time and resources into outputs in the form of organized data that can be used for better decision making.

YANKB	DALLAP	ELSIMIL-CATIN	ELSIMIL-BUMIL	EI
Laporan Tahunan	Laporan Bulanan	Laporan Bulanan Kum.		
Nama Laporan				
TABEL 1 - JUMLAH TEMPAT PELAYANAN KB BERDASARKAN JENIS				
TABEL 1A - JUMLAH TEMPAT PELAYANAN KB PEMERINTAH				
TABEL 1B - JUMLAH TEMPAT PELAYANAN KB SWASTA				
TABEL 2 - JUMLAH TEMPAT PELAYANAN KB BERDASARKAN KEPEMILIKAN				
TABEL 3 - JUMLAH TEMPAT PELAYANAN KB BERDASARKAN STATUS KERJASAMA DENGAN BPJS KESEHATAN				
TABEL 3A - JUMLAH TEMPAT PELAYANAN KB PEMERINTAH BERDASARKAN STATUS KERJASAMA DENGAN BPJS KESEHATAN				
TABEL 3B - JUMLAH TEMPAT PELAYANAN KB SWASTA BERDASARKAN STATUS KERJASAMA DENGAN BPJS KESEHATAN				
TABEL 4 - JUMLAH TEMPAT PELAYANAN KB BERDASARKAN KLASIFIKASI PELAYANAN KB				
TABEL 5 - JUMLAH TEMPAT PELAYANAN KB YANG MEMILIKI SARANA DAN PERLENGKAPAN YANG BISA DIPAKAI				
TABEL 5A - JUMLAH TEMPAT PELAYANAN KB PEMERINTAH				

Figure 4. Display of SIGA Annual Report Module

As a clear example of the quality of output produced by SIGA. The annual report module provides various types of tables that facilitate analysis related to family planning services, such as 'Table of Number of Family Planning Services by Type', 'Table of Number of Family Planning Services by Ownership', and 'Table of Number of Family Planning Services that Have Usable Facilities and Equipment'. The availability of

complete reports proves that SIGA is able to process input data into structured information, thus facilitating effective program monitoring and evaluation. The variety of report types indicates a high level of data detail, which is important for more targeted family planning programs. Such detailed and classified data output greatly contributes to strengthening SIGA's input-output efficiency claims[14].

While previous studies have often cited challenges in achieving input-output efficiency in information systems such as this, SIGA demonstrates that appropriate investments in technology can lead to better quality outputs, in line with Campbell's principles of efficiency. By automating the recording and reporting process, SIGA has managed to minimize errors and speed up workflow, allowing resources to be used more productively.

5. Achievement of Overall Objectives

Overall goal achievement is the last indicator of program effectiveness in Campbell's theory. This indicator measures the extent to which a program successfully achieves long-term goals and has a broad impact, in accordance with the vision and mission of the organization. This indicator represents a composite of all the aspects of effectiveness that have previously been assessed, providing an overall picture of the program's contribution to larger goals. In the context of SIGA, this means analyzing the extent to which the system not only meets operational targets, but also supports BKKBN's vision of improving the quality of families and human resources more broadly.

The achievement of SIGA's overarching goals can be seen in the system's ability to achieve BKKBN's long-term goals of improving the quality of family planning services and supporting the various field control programs as a whole. Although there are some technical constraints that need to be improved on an ongoing basis, SIGA has demonstrated its achievements as a more efficient and integrated system. It has greatly assisted field officers in carrying out their important tasks. The use of SIGA has also helped speed up data collection that was previously time-consuming, as well as facilitating data analysis related to family planning. Because of this, BKKBN East Java is now able to manage data in a more structured, comprehensive, and targeted manner. This success can be seen in internal operational efficiency as well as a direct contribution to improving the quality of human resources in East Java through effective and coordinated family planning programs.

DASHBOARD MONEY



Figure 5. Integrated Monitoring Dashboard for the Acceleration of Stunting Prevention of the Vice President Secretariat

The role of information systems in supporting national development goals can be seen from similar examples at the government level. For example, the 'Dashboard Monev Percepatan Pencegahan Stunting' managed by the Ministry of State Secretariat of the Republic of Indonesia/Vice President Secretariat. While the focus is on stunting prevention, this dashboard reflects how data is collected and visually presented to monitor progress, identify challenges, and inform strategic decision-making at the highest level. The dashboard reflects Pillar 5 of the accelerated stunting prevention effort, which is the development of an integrated monitoring and evaluation system. The ability to bring key data in an easily accessible and understandable format, such as the percentage of under-fives targeted and the coverage of national data sharing, is critical to directing programs appropriately and ensuring transparency. The presence of such an integrated monitoring system shows that various government programs, including family planning and stunting prevention, are increasingly relying on integrated information systems to achieve effectiveness and transparency [15].

Discussion

Overall, SIGA successfully incorporates various aspects such as program success, set targets, user satisfaction, as well as efficiency in data entry and processing, thus achieving an overarching goal for BKKBN East Java. The presence of a system that is able to present accurate and integrated data, such as SIGA and the reflection of the national dashboard, is an important basis for strategic decision-making and continuous improvement in the family planning program. This is in accordance with Campbell's theory, which emphasizes that an effective program must not only achieve certain targets, but also have an important impact on the overall vision and mission of the organization,

namely creating quality families and supporting optimal human resource development. As such, SIGA has proven to be an important tool that tangibly contributes to achieving overall development goals.

CONCLUSION

Fundamental Finding : The implementation of the Family Information System (SIGA) at BKKBN East Java has significantly enhanced the effectiveness of family planning services by improving time efficiency, data accuracy, staff satisfaction, and service quality, while achieving strong performance across Campbell's five indicators of effectiveness. **Implication :** These findings highlight the transformative role of digital information systems in strengthening public service delivery, demonstrating that integrated data management not only supports field control but also contributes to the achievement of long-term national goals in human resource development. **Limitation :** Nevertheless, technical barriers such as unstable internet connectivity, limited hardware compatibility in certain areas, and substantial input requirements constrain the system's scalability and equitable adoption across regions. **Future Research :** Further studies should explore strategies for improving technological infrastructure, enhancing system interoperability, and conducting comparative analyses across provinces to evaluate the broader impact of SIGA on public health and family planning outcomes at the national level.

REFERENCES

- [1] H. Dwistia, S. Sindika, H. Iqtianti, and D. W. Ningsih, "The Role of Family Environment in Children's Emotional Development," *Journal of Parenting and Children*, vol. 2, no. 2, pp. 1-9, 2025, doi: <https://doi.org/10.47134/jpa.v2i1.1164>.
- [2] N. M. Suarningsih, I. G. N. Santika, A. R. B. Roni, and R. J. Kristiana, "Character Education in Indonesia in Various Perspectives (Definition, Purpose, Foundation and Practice)," *Journal of Civic Education Research*, vol. 2, no. 2, pp. 61-73, 2024, doi: <https://doi.org/10.60153/jocer.v2i2.100>.
- [3] B. P. S. Indonesia, "Mid-Year Population (Thousand), 2022-2024," 2024.
- [4] B. P. S. P. East Java, "Population, Population Growth Rate, Percentage Distribution of Population Density, Population Sex Ratio by Regency/City in East Java Province, 2024," 2024.
- [5] A. N. Aini *et al.*, "Use of Family Planning Program in Kedungsumur Village, Krembung, Sidoarjo," *Nusantara Journal of Community Service*, vol. 4, no. 4, pp. 3057-3062, 2023, doi: <http://doi.org/10.55338/jpkmn.v4i4.1641>.
- [6] N. Khofifah and Meirinawati, "Service Strategy for Contraceptive Training in the Family Planning Program at the National Population and Family Planning Agency (BKKBN) of East Java Province," *Journal Publika*, vol. 12, no. 2, pp. 631-646, 2024.
- [7] N. Apriliani, D. R. A'dawiyah, A. Manan, and F. Farida, "Implementation of the Family Information System (SIGA) Application Program at the Sukabumi City Population Control, Family Planning, Women's Empowerment and Child Protection Office

- (Dp2kbp3a)," *Journal of Social Science Research*, vol. 4, no. 2, pp. 7175-7185, 2024, doi: <https://doi.org/10.31004/innovative.v4i2.9513>.
- [8] M. A. Syahrul, D. Apriandi, and C. M. Sufyana, "Web-based Family Planning Data Reporting Information System at Dppkb Kabupaten Sukabumi," *Journal of Informatics and Computers*, vol. 10, no. 1, pp. 56-63, 2022, doi: <https://doi.org/10.56689/infokom.v10i1.643>.
- [9] S. F. Yanti, Y. D. Lestari, and D. Hidayat, "Information System to Determine the Acceptance of Family Hope Program Assistance in Pasar Merah Timur Village," *Journal of Information and Computer Engineering*, vol. 5, no. 2, pp. 409-418, 2022, doi: <https://doi.org/10.37600/tekinkom.v5i2.689>.
- [10] S. Faradiba, S. Muchsin, and Hayat, "Performance Effectiveness of Online-Based Population Census Services at the Central Bureau of Statistics of Malang City," *Journal of Research Innovation*, vol. 2, no. 1, pp. 277-286, 2021.
- [11] S. Galih, Larasati, "Analysis of the Quality of Family Planning Program Services by the Semarang City Community Empowerment, Women and Family Planning Agency," *Public Policy and Management*, vol. 1, 2012.
- [12] M. Mawarti and A. Abdurahman, "Analysis of the Performance of Family Planning Extension Workers in Providing Counseling and Counseling Services," *Administratus*, vol. 6, no. 2, 2022, doi: [10.56662/administratus.v6i2.149](https://doi.org/10.56662/administratus.v6i2.149).
- [13] Riyadin, "The Effect of Service Quality on Community Satisfaction of Family Planning in Pekalongan District, Lampung Regency (Stu[in the Case of Pekalongan Village)," *Simplex Journal*, vol. 2, no. 1, 2019.
- [14] P. Mardiani, "The Effect of Leadership Behavior on the Quality of Government Apparatus Services at the Office of Women's Empowerment and Family Planning of West Kutai Regency," *Journal of State Administration*, vol. 2, no. 2, 2016.
- [15] Yerli Nixelery Ramly, Yoseph Kenjam, and Tadeus A.L Regeletha, "The Effect of Health Service Quality on Family Planning Patient Satisfaction at Sulamu Health Center in 2021," *SEHATMAS: Scientific Journal of Public Health*, vol. 2, no. 1, 2023, doi: [10.55123/sehatmas.v2i1.1331](https://doi.org/10.55123/sehatmas.v2i1.1331).

Adinda Rahma Anisa

Muhammadiyah University of Sidoarjo, Indonesia

Email: araadindaa2003@gmail.com

*** Ilmi Usrotin Choiriyah (Corresponding Author)**

Muhammadiyah University of Sidoarjo, Indonesia

Email: ilmiusrotin@umsida.ac.id
