

**The Influence of Health Information System and Employee Competency on the Quality of Public Services at the Health, Population Control and Family Planning Office of Central Papua Province**

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| <b>Keywords</b>                                                            | <b>Abstract</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| Health Information System, Employee Competence, Quality of Public Services | This study aims to analyze the influence of the Health Information System and Employee Competency on the Quality of Public Services at the Central Papua Provincial Health, Population Control, and Family Planning Office. Using a quantitative approach, this study collected primary and secondary data through observation, interviews, and documentation. The study population included all employees of the Health Office with a total of 52 people, and saturated sample techniques were used to determine the sample. Data analysis was carried out by multiple linear regression using the SPSS Version 22 application. The results of the study show that the Health Information System has a significant effect on the Quality of Public Services, where the good implementation of the information system not only increases the efficiency and effectiveness of services, but also contributes to public satisfaction with health services. Employee Competence also has a positive and significant effect on the Quality of Public Services, by increasing competence through training and leadership support, employees can provide better and responsive services. Simultaneously, the Health Information System and Employee Competency have an effect on the Quality of Public Services, where the combination of the two creates an environment that supports quality health services. This study concludes that the integration between efficient information systems and competent employees is the key to achieving optimal public service goals at the Central Papua Provincial Health, Population Control, and Family Planning Office. |

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**INTRODUCTION**

Public services in the health sector are one of the important aspects in improving the quality of life of the community. The Central Papua Provincial Health, Population Control, and Family Planning Office has a vital role in providing quality health services. A good health information system and adequate employee competence are expected to improve the quality of

public services (Salombe et al., 2025). In the era of globalization and advances in information technology, the health sector in Indonesia, including in Central Papua Province, faces complex challenges in providing quality public services. The researcher chose the research object at the Central Papua Provincial Health, Population Control and Family Planning Office, with a research focus on the Health Information System, Employee Competence and Public Service Quality. The quality of public services, especially good health services, is very important to improve public health and achieve sustainable development goals (Addinni, 2023).

Health Information System (SIK) or health information system (HIS) is a system used to collect, manage, and analyze health data. SIK has an important role in information management in the health sector, both for decision-making, health program planning, and health service evaluation (Pangemanan et al., 2023). Competency is the ability to carry out or perform a job or task based on skills and knowledge and supported by the work attitude demanded by the job (Pratama & Permatasari, 2021)

According to McClelland, competency is defined as a fundamental characteristic that a person possesses that has a direct effect on, or can describe, excellent performance. In other words, competence is what outstanding performers do more often in more situations with better results, than what average performers do (Rivai, 2009). (Monoarfa, 2012), "Public services are all service activities carried out by public service providers as an effort to fulfill public order and implement the provisions of laws and regulations". (Keliat, 2020) Explains that public services are activities that are intangible (cannot be touched) that occur due to interactions between consumers and employees or other things provided by the service provider, which are intended to solve consumer or customer problems. Public Service (Public Service) is a service or provision to the community in the form of the use of public facilities, both services and non-services, carried out by a public organization in this case a government (Aprianty, 2016). Public services according to the Ministry of Public Works Number 25 of 2004 are all service activities carried out by public service providers as an effort to meet the needs of service recipients, as well as in the context of implementing the provisions of laws and regulations. Decree of the Minister of State Apparatus Empowerment Number. 62 of 2003 concerning the implementation of public services.

Previous research by Pangemanan et al. (2023) highlighting the importance of health information systems (SIK) in effective health data management for decision-making, planning, and evaluation of health services. This study found that the implementation of good SIK can improve the efficiency of health services and improve the quality of overall health management. In addition, research by Addinni, (2023) emphasizing the importance of the quality of public services in the health sector as an important element to improve public health and achieve sustainable development goals. Good service quality in the health sector is expected to accelerate the achievement of national health indicators and improve people's welfare.

The novelty of this study lies in its focus which combines two main variables, namely the health information system (SIK) and the competence of employees in improving the quality of public services, especially in the context of the Central Papua Provincial Health, Population Control, and Family Planning Office. This study seeks to explore the relationship between the implementation of an effective health information system and the competence of employees in

providing quality health services in the region, as well as their impact on improving the quality of public services as a whole. Thus, this research makes a new contribution to understanding how these two factors can collaborate to improve the quality of health services in areas with limited geographical challenges and resources such as Central Papua Province.

This study aims to analyze the influence of the Health Information System and Employee Competency on the Quality of Public Services at the Central Papua Provincial Health, Population Control, and Family Planning Office. An effective health information system is essential in the management of health data and information, because with an integrated system, health data can be better managed, facilitating fast and informed decision-making. However, in many regions, including Central Papua, the implementation of this system still faces various challenges, such as limited infrastructure, lack of training, and low adoption rates by employees. In addition, employee competence is also a key factor in determining the quality of public services. Employees who have adequate skills and knowledge tend to be better able to provide responsive and quality services. However, many employees at the Health, Population Control and Family Planning Offices in Central Papua may still have limitations in terms of training and development, which has an impact on their performance. The quality of public services, especially in the health sector, has a great influence on the level of public satisfaction. Fast, precise, and friendly service is highly expected by the public, but there are often complaints related to slow service, lack of information, and dissatisfaction with existing procedures. The local context of Central Papua, with its unique geographical and demographic conditions, also influences access and quality of health services, so this study is important to provide a clearer picture of how information systems and employee competencies can be optimized to improve health services in the region.

## **RESEARCH METHODS**

This study uses a quantitative approach. The object of this research is at the Central Papua Provincial Health, Population Control and Family Planning Office. Data sources are from primary data and secondary data. Data collection methods: observation, documentation interviews. The population in this study is all employees at the Central Papua Provincial Health, Population Control and Family Planning Office, totaling 52 employees. The sample in this study was determined using the saturated sample technique. So the sample in this study is 52 employees at the Central Papua Provincial Health, Population Control and Family Planning Office. Data analysis used Quantitative descriptive analysis, which was analyzed with the form of Multiple Linear Regression, with the help of SPSS Application Version.22.

## **RESULTS AND DISCUSSION**

Multiple linear regression is a statistical method used to analyze the relationship between one dependent variable (bound) and two or more independent (independent) variables (Ningsih & Dukalang, 2019). In the context of the research on "The Influence of Health Information System and Employee Competency on the Quality of Public Services at the Central Papua Provincial Health, Population Control and Family Planning Office, the researcher can describe the variables involved as follows: Dependent Variables are Public Service Quality variables (Y) and Independent Variables (X) consisting of: Health Information System (X1)

and Employee Competency variable (X2). Multiple linear regression in this study has several important objectives in data analysis, including analyzing the Influence of Independent Variables on Dependent Variables partially (t-Test) and analyzing the influence of Independent Variables simultaneously (together) on Dependent Variables (F/Simultaneous Test). Furthermore, a validity test was carried out and a reliability test was carried out to test the reliability and feasibility of this research instrument.

The t-test (partial) is a statistical method used to test the significance of the influence of each independent variable on the dependent variable in a regression model (Putra & Haryadi, 2022). "The Influence of the Health Information System and Employee Competency on the Quality of Public Services at the Health, Population Control and Family Planning Office of Central Papua Province, the researcher can describe the variables involved as follows: The Dependent Variables are the Public Service Quality variable (Y) and the Independent Variable (X) consisting of: Health Information System (X1) and Employee Competency variable (X2), as follows:

**Table 1. Correlation Test Results**

| Coefficients <sup>a</sup> |                               |                             |            |                           |       |       |
|---------------------------|-------------------------------|-----------------------------|------------|---------------------------|-------|-------|
| Model                     |                               | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig.  |
|                           |                               | B                           | Std. Error | Beta                      |       |       |
| 1                         | (Constant)                    | 15.852                      | 2.672      |                           | 5.914 | 0.001 |
|                           | Sistem Informasi Kesehatan_X1 | .144                        | .083       | .221                      | 5.122 | .000  |
|                           | Kompetensi Pegawai_X2         | .214                        | .121       | 0.229                     | 4.789 | .002  |

a. Dependent Variable: Kualitas Pelayanan Publik\_Y

Based on the test results, the results of the t-test (Partial) in the table above can be interpreted as follows:

1. Health Information System (X1) on the Quality of Public Services (Y) at the Health, Population Control and Family Planning Office of Central Papua Province, based on the results of the t-test (Partial) above at the Significant value of sig. 0.000, If the significance value of the t-test < 0.05, then H<sub>0</sub> is rejected and H<sub>a</sub> is accepted, meaning that there is an influence between independent variables on dependent variables. This means that the Health Information System Variable (X1) has a positive and significant effect on the Quality of Public Services (Y) at the Central Papua Province Health, Population Control and Family Planning Office (Hypothesis 1).
2. Employee Competency (X2) to the Quality of Public Services (Y) at the Central Papua Provincial Health, Population Control and Family Planning Office, based on the results of the t-test (Partial) above at the Significant value of sig. 0.002, If the significance value of the t-test < 0.05, then H<sub>0</sub> is rejected and H<sub>a</sub> is accepted, meaning that there is an influence between independent variables on dependent variables. This means that the Employee Competency Variable (X2) has a positive and significant effect on the Quality of Public

Services (Y) at the Central Papua Provincial Health, Population Control and Family Planning Office (Hypothesis 2).

The F-test (simultaneous) is a statistical method used to test whether two or more independent variables together have a significant effect on one dependent variable in a regression model (Tofan et al., 2022). In the context of the research entitled The Influence of Health Information System and Employee Competency on the Quality of Public Services at the Central Papua Province Health, Population Control and Family Planning Office, the researcher can describe the variables involved as follows: The Dependent Variables are the Public Service Quality variable (Y) and the Independent Variable (X) consists of: Health Information System (X1) and Employee Competency variable (X2), as follows:

**Table 2. F Test Results**

| ANOVA <sup>a</sup> |            |                |    |             |       |                   |
|--------------------|------------|----------------|----|-------------|-------|-------------------|
| Model              |            | Sum of Squares | df | Mean Square | F     | Sig.              |
| 1                  | Regression | 101.173        | 1  | 50.588      | 6.639 | 003. <sup>b</sup> |
|                    | Residual   | 557.352        | 50 | 7.622       |       |                   |
|                    | Total      | 676.527        | 51 |             |       |                   |

a. Dependent Variable: Kualitas Pelayanan Publik\_Y

b. Predictors: (Constant), Kompetensi Pegawai\_X2

The test results on the F Test table (Simultaneous) show that the value of F is calculated as follows: 6.639 while the value of the F of the table is: 3.12 (Table 4.5 above) So that the value of F calculates the F of the table or  $6.638 > 3.18$ , with a significant level of  $0.003 < 0.05$ , then  $H_0$  is rejected and  $H_1$  is accepted, then it can be concluded that the variables X1, and X2 simultaneously (together) have a positive and significant effect on the variable Y. This means that the variables of the Health Information System (X1) and Employee Competency (X2) effect simultaneously (together) on the Quality of Public Services in the Health, Population Control and Family Planning Office of Central Papua Province (Hypothesis 3).

**Health Information System (X1) has a positive and significant effect on the Quality of Public Services (Y) at the Central Papua Province Health, Population Control and Family Planning Office (Hypothesis 1)**

The results of the analysis show that the Health Information System (X1) has a positive and significant influence on the Quality of Public Services (Y) at the Central Papua Provincial Health, Population Control and Family Planning Office, as stated in Hypothesis 1. Based on the results of the t-test (partial) which shows a significance value of 0.000, where this value is less than 0.05,  $H_0$  is rejected and  $H_a$  is accepted. This means that there is a significant influence between independent variables (Health Information Systems) and dependent variables (Quality of Public Services).

The Positive Influence of Health Information Systems can be seen in a good and integrated health information system that serves as a foundation to improve the quality of public services in the health sector (Purnawati et al., 2024). Some of the factors that support this positive influence include:

1. Information Accessibility.

A well-designed and easily accessible health information system plays an important role in improving the quality of health services. With this system, users including medical personnel, administrative staff, and the general public can quickly find the information they need, such as patient data, medical history, treatment protocols, and information about available healthcare services (Hade et al., 2019). This fast and efficient access has a direct impact on the speed of response in providing health services. When medical personnel can easily access relevant information, they can make faster and more informed decisions in treating patients. For example, in emergency situations, fast and accurate information is crucial to saving lives. In addition, an easily accessible information system also allows people to obtain the information they need about health, such as vaccination schedules, the location of health facilities, and information about diseases. This increase in the speed of response directly contributes to increased public satisfaction with the health services provided. When people feel that their needs can be met quickly and efficiently, their trust in the health system will increase. This not only creates better relationships between service providers and service recipients, but also encourages people to be more active in taking care of their own health. Overall, an easily accessible health information system not only improves operational efficiency in healthcare delivery, but also serves as a bridge to improve community interaction and satisfaction, ultimately contributing to the improvement of overall public health.

## 2. System Stability and Reliability.

A well-functioning health information system that is rarely disrupted plays a crucial role in the management and delivery of health services. The reliability of these systems is critical to ensuring that the data and information needed are always available to users, including medical personnel, health managers, and other stakeholders (Okay, n.d.). One of the key aspects of an effective health information system is its ability to provide consistent and timely access to accurate information. In emergency situations, where every second counts, the timely and reliable presence of data becomes vital. For example, in the case of a mass accident or disease outbreak, medical personnel and emergency response teams need to access information about the patient's medical history, treatment protocols, and available resources. With a well-functioning system, they can make informed and quick decisions, which can save lives. A reliable health information system also helps in the overall management of health resources. With data always available, managers can plan and allocate resources more effectively, as well as identify areas that need more attention or immediate intervention. The reliability of these systems also creates trust among users, as they are confident that the information they access is valid and reliable.

A well-functioning health information system not only improves operational efficiency in healthcare delivery, but also contributes to better decision-making in critical situations. By ensuring that accurate and timely information is always available, the system supports life-saving efforts and overall public health improvements.

## 3. Easily Accessible Technical Support

The availability of prompt and effective technical support is essential to ensure the effectiveness of health information systems. In a dynamic environment like healthcare, technical issues can arise at any time, from system outages to data errors. When these issues

occur, the ability to get immediate technical assistance becomes crucial to minimize downtime and ensure that the service continues to run smoothly. Responsive technical support allows medical personnel and healthcare staff to immediately address any issues that arise, so as not to interfere with the process of serving patients. For example, if the information system experiences a disruption during patient data input, the availability of prompt technical support will help resolve the issue without hindering service. This is especially important in situations where speed and accuracy are key, such as in emergency situations or when handling critical cases. With good technical support, health information system users feel more confident in using existing technology. They know that if there is a problem, they will not be alone in dealing with it and that help is easily accessible. This not only improves individual performance, but also increases the overall productivity of the healthcare team.

The availability of reliable technical support contributes significantly to the effectiveness of health information systems. By ensuring that technical issues can be resolved quickly, health organizations can maintain smooth operations and provide high-quality services to the community. Good technical support also reinforces the commitment to improving the quality of healthcare and patient satisfaction.

#### 4. Improving Service Efficiency.

An efficient health information system plays an important role in increasing the productivity of medical personnel and reducing the time required for various administrative tasks. By utilizing integrated technology and systems, medical personnel can access, manage, and process patient information more quickly and accurately (Effendy et al., 2024). This helps reduce the administrative burden that often consumes time and effort, allowing them to focus on their primary task of providing health services to the community. With an efficient system, processes such as patient registration, medical data input, and appointment scheduling are faster and easier. For example, the use of automated software can speed up the process of data collection and analysis, so that medical personnel do not have to spend hours completing repetitive administrative tasks. By reducing the time spent on administration, more time can be allocated to in-person interaction with patients, providing more personalized care, and answering their questions or concerns. The increase in the time available for direct services has a positive impact on the quality of services provided. When medical personnel have more time to focus on patient needs, they can provide more in-depth attention, perform more thorough examinations, and respond to patient needs more quickly. This not only improves patient satisfaction, but also contributes to better health outcomes.

An efficient health information system not only increases the productivity of medical personnel, but also creates a better environment for health services. By reducing the administrative burden, the system allows medical personnel to concentrate more on what is most important in providing high-quality care to the community.

Based on the above discussion, it can be concluded that the Health Information System has a significant influence on the Quality of Public Services at the Central Papua Provincial Health, Population Control and Family Planning Office. A good implementation of a health information system not only improves the efficiency and effectiveness of services, but also contributes to public satisfaction with the health services provided. Therefore, it is important

to continue to develop and improve the health information system in order to meet the increasingly complex and dynamic needs of public services.

**Employee Competency (X2) Has a Positive and Significant Effect on the Quality of Public Services (Y) at the Health, Population Control and Family Planning Office of Central Papua Province (Hypothesis 2)**

The results of the analysis show that Employee Competency (X2) has a positive and significant effect on the Quality of Public Services (Y) at the Health, Population Control and Family Planning Office of Central Papua Province, as stated in Hypothesis 2. Based on the results of the t-test (partial) which shows a significance value of 0.002, where this value is less than 0.05,  $H_0$  is rejected and  $H_a$  is accepted. This means that there is a significant influence between independent variables (Employee Competence) and dependent variables (Public Service Quality).

The Positive Influence of Employee Competency shows that employee competence plays a very important role in determining the quality of public services. Those who receive adequate training to use health information systems will be better prepared to carry out their duties.

The training provided to employees at the Health, Population Control, and Family Planning Office not only focuses on improving technical knowledge, but also plays an important role in building their confidence in using existing technology. By participating in the training, employees gain the skills necessary to operate health information systems and other tools more effectively. This increased confidence is very important, because when employees feel confident in their abilities, they can work more efficiently and effectively, which in turn improves the quality of services provided to society.

The support provided by the leadership also plays a crucial role in motivating and improving employee performance. When leaders provide tangible support—whether through mentorship, positive feedback, or recognition of employee achievements—it encourages employees to feel valued and motivated in carrying out their core duties. This sense of support creates a positive work environment, where employees feel safe to innovate and actively contribute. When employees feel supported by the leadership, they tend to be more committed to providing quality service. This sense of loyalty not only benefits the individual, but also contributes to the achievement of the organization's overall goals. Motivated employees will be more likely to put in the effort to carry out their duties, collaborate with colleagues, and focus on the needs of the community. Effective training and strong leadership support create positive synergies in the work environment, improve employee competencies, and ultimately contribute to improving the quality of public services in the health sector.

A positive and supportive work environment will encourage employees to innovate and contribute more to their work. Employees who follow the applicable procedures and provisions tend to be able to reduce errors that can occur in service. This compliance not only improves the quality of service but also ensures that every action taken is within the framework of existing regulations, thereby increasing accountability. Employees' ability to adapt to changes in existing policies or procedures is critical in an ever-changing environment. When employees can quickly adapt to change, they can continue to provide effective service even in different situations.

Employees who have skills in planning and managing their tasks will be more efficient

in carrying out their work. This skill allows them to manage time and resources well, so that they can increase productivity and the quality of services provided to the community.

The competence of employees at the Central Papua Provincial Health, Population Control and Family Planning Office has a significant influence on the quality of public services. By improving competence through training, leadership support, and skills in following procedures and adapting to changes, the Health Office can ensure that employees can provide better services and are responsive to the needs of the community. This ultimately contributes to increasing public satisfaction with the health services provided.

**Health Information System (X1) and Employee Competency (X2) have a simultaneous effect (together) on the Quality of Public Services at the Health, Population Control and Family Planning Office of Central Papua Province (Hypothesis 3)**

The test results on the F Test table (simultaneous) show that the F value is calculated as 6,639, while the F value of the table is 3.12. With this comparison, it can be seen that the value of the calculated F (6.639) is greater than the F of the table (3.12), and with a significance level of 0.003 that is smaller than 0.05, then  $H_0$  is rejected and  $H_1$  is accepted. This concludes that the variables of Health Information System (X1) and Employee Competency (X2) simultaneously have a positive and significant effect on the Quality of Public Services (Y) at the Central Papua Provincial Health, Population Control, and Family Planning Office.

Simultaneous Influence on the Quality of Public Services, through the Health Information System, where the Health Information System functions to increase efficiency in providing health services. With an integrated system, employees can access information quickly, process patient data, and administer more easily. This reduces the time required for administrative tasks, allowing employees to focus more on direct service to patients. The improvement of the quality of health services is greatly influenced by the use of a good health information system. This system has a significant positive impact on the quality of services provided to patients. With easily accessible and manageable information, medical personnel can quickly find relevant data about patients, including medical history, lab test results, and other important information. This allows them to provide more precise and faster diagnosis and treatment.

Speed and accuracy in delivering healthcare services not only increase patient satisfaction, but also contribute to better health outcomes. Patients who receive prompt and accurate treatment tend to feel more satisfied and trust in the healthcare system, which in turn can improve their adherence to the medication and medical advice provided.

An effective health information system also allows for data integration that facilitates the sharing and use of information in other systems. When patient data is easily accessible to various parties, including medical personnel, hospitals, and other healthcare institutions, collaboration in treatment and patient care becomes smoother. This supports a more holistic approach to healthcare, where all service providers can work together to provide the best care for patients. The use of a good health information system plays an important role in improving the quality of services. By providing quick and easy access to the necessary information, medical personnel can perform their duties more efficiently, ultimately contributing to patient satisfaction and better health outcomes. Data integration further amplifies these benefits, ensuring that all parties involved in patient care can collaborate effectively and deliver optimal

service.

This ensures that all parties involved in the healthcare process have access to the information needed to make decisions. This data integration also supports collaboration between various departments and medical personnel, so that services become more holistic and coordinated. Satisfaction with System Performance, where employees who are satisfied with the performance of the existing health information system tend to be more productive and motivated. A well-functioning system helps them in their daily work, thereby reducing stress and improving work morale. When employees feel supported by adequate technology, they will be more committed to providing quality service.

Thus, it can be concluded that both the Health Information System (X1) and Employee Competencies (X2) have a significant and positive influence on the Quality of Public Services (Y) simultaneously. The combination of an efficient system and competent employees creates an environment that supports quality health services. Integration and collaboration between these two variables are key to achieving optimal public service goals at the Central Papua Provincial Health, Population Control, and Family Planning Office.

## CONCLUSION

Health Information Systems have a significant influence on the Quality of Public Services, where the good implementation of health information systems not only increases the efficiency and effectiveness of services, but also contributes to public satisfaction with the health services provided.

Employee Competencies have a positive and significant effect on the Quality of Public Services, by improving competencies through training, leadership support, and skills in following procedures and adapting to changes, the Health Office can ensure that employees can provide better services and be responsive to the needs of the community (Hindom & Murliasari, 2024).

The Health Information System and Employee Competency have a simultaneous effect (together) on the Quality of Public Services, where the combination of efficient systems and competent employees creates an environment that supports quality health services. Integration and collaboration between these two variables are key to achieving optimal public service goals at the Central Papua Provincial Health, Population Control, and Family Planning Office.

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