



# Strategy to Improve the Quality of E-KTP Manufacturing Services Through the Use of Integrated Service Information System at Dinas Kependudukan dan Pencatatan Sipil of Nganjuk Regency

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**Abstract.** In this research, the main purpose is to find out the Strategy of Improving the Quality of E-KTP Manufacturing Services Through the Use of Integrated Service Information System at the Population and Civil Registration Office of Nganjuk Regency. Respondents in this study were people who conducted the management of E-KTP manufacturing at Dinas Kependudukan dan Pencatatan Sipil of Nganjuk Regency and the number of samples established as many as 100 respondents. Data collection using questionnaires and documentation, data that has met validity tests, reliability tests, and classical assumption tests. As a result of this study, integrated service information systems have a significant positive effect on the quality of service. Evidenced by a calculated t value greater than a table t with a significance value less than 0.05.

**Keywords:** Service quality · Integrated service information system · E-KTP manufacturing

## 1 Introduction

Nowadays technology is growing rapidly over time. Technologies such as smart tools and the internet are currently being created to help make human work more facilitated [1]. Impact of the development of science and technology. The development of information and communication technology produces positive benefits for human life and provides many conveniences, such as ease of interacting and obtaining information. Awareness of the importance of the use of information and communication technology is also applied in government systems.

Through the use of information technology in government agencies, the public wants clean, transparent, effective, efficient, and accountable government in the implementation of good governance and improving the quality of public services. The application of information and communication technology in the public sector in order to improve

the quality of service to the community is absolutely needed in carrying out functions as a device for typing, calculating, printing, multiplying data, transferring data, communicating, and others. The development of the world of information technology becomes one of the very important things and can even be said to be very vital in running a public service system that is run in the current system of government.

According to Sutabri [2], "Information technology is a technology used to process data, including processing, obtaining, compiling, storing, manipulating data in various ways to produce quality information, i.e. relevant, accurate and timely information, which is used for personal, business, and governmental purposes and is strategic information for decision making. Information technology is an electronic system for manipulating data quickly and precisely and is designed and organized to automatically receive and store input data, process it and generate output under the supervision of a program instruction step stored in memory."

In addition to the use of information technology through information technology, there is a number of people who make E-KTP in Dinas Kependudukan Dan Pencatatan Sipil Resulting in the number of documents that can be taken care of in many sub-districts, the system used in the sub-district is still done repetitive manual in some processes, which further increases the possibility of errors in the data processed and causes the quality of service to decrease. Then, the stage of the document processing journey carried out by the residents also could not be clearly known by the residents and between the village and subdistrict staff. In addition, there is no clear communication system between the Village and the District, so that the status of the management of population documents in Dinas Kependudukan dan Pencatatan Sipil It cannot be known with certainty by the village, and vice versa. For this reason, there needs to be a Sistem Informasi Pelayanan Masyarakat Terpadu (SIPEMAT) Who will integrate the existing data in the Village and Subdistrict, so that the consistency of the data will be guaranteed and residents and staff of the Village and Sub-District can also see each other and update (specifically for village and subdistrict staff) to the development of the process carried out on the documents that are being taken care of. It is expected that with this system, citizens will be easier to submit population documents and information about the status of developments from the submission of population documents carried out by citizens becomes clearer.

The application of integrated service information system has become a necessity as well as a demand of the public who want the quality of public services. Given the importance of implementing the use of information technology by computerized and integrated service information systems in increasing public speed in government agencies, researchers are interested in conducting research on "E-KTP Service Quality Improvement Strategy Through the Use of Integrated Service Information Systems at the Office Dinas Kependudukan Dan Pencatatan Sipil of Nganjuk Regency".

Based on the background of the problem that has been outlined, then the research problem can be formulated as follows:

Whether the integrated service information system affects the strategy of improving the quality of E-KTP services at the Office Dinas Kependudukan Dan Pencatatan Sipil of Nganjuk Regency?

## 2 Library Review

### 2.1 Operational Management

According to Heizer and Render [3], “operational management is a series of activities that generate value in the form of goods and services by converting inputs into outputs.”

According to Stevenson [4], “Operation Management is part of a business organization tasked with producing goods or services. Goods are physical equipment that includes raw materials, parts, subassemblies such as motherboards that are part of a computer, and end products such as handheld telephony. While services are activities that provide a combination of value from time, location and psychological value”.

From some of the expert opinions above, it can be concluded that operational management is a series of activities in the manufacture of goods or services through the process of converting inputs into valuable outputs to meet the needs of consumers.

There are three strategies that provide an opportunity for operations managers to achieve competitive advantage [3], such as:

- 1) *Differentiation* is really distinguishing a product or service from another company so that customers see it as a plus of the product. Differentiation is concerned with providing uniqueness that is difficult for other companies to emulate.
- 2) *Low Cost Leadership* is necessary to achieve maximum value as defined by the customer. The company provides a product or service at a lower cost that produces a product or service at a lower price than other competitors.
- 3) *Response* is all the value associated with product development and timely delivery.

### 2.2 Integrated Information Systems

According to Romney and Steinbart [5], “A system is a series of two or more interconnected components that interact to achieve a goal.”

Mulyadi [13, p. 5], said that “The system of a network of procedures is created according to an integrated pattern to carry out the company’s basic activities”.

According to Romney and Steinbart [5], “information is data that has been managed and processed to give meaning and improve the decision-making process. As in its role, users make better decisions as the quantity and quality of information is improved.”

According to Kadir [6], “an information system is a series of formal procedures by which data is grouped, processed into information, and distributed to users”.

According to Krismiaji [7], “information systems are organized ways of collecting, entering, and processing and storing data, and organized ways of storing, managing, controlling, and reporting information in such a way that an organization can achieve its predetermined goals.”

It can be concluded that an integrated information system is a configuration that helps coordinate the meitization of operations within an organization. This tool can be referred to as one of the steps forward of management information systems. Assist them in providing the necessary information that can decide over in an organization.

### 2.3 Services

According to Pasolong [8], “service as an activity of a person, group and/or organization either directly or indirectly to meet needs”. According to Dwiyanto [9], “Public service is a very important element in the administration of government. Public service is simply understood by various parties as a service organized by the government. All goods and services organized by the government are then referred to as public services.”

According to Putra [10], “Public service can be concisely interpreted as a service provided by the government to its citizens either directly or indirectly (i.e. through financing the provision of services organized by the private sector). Meanwhile, according to Mahmudi [11], “public service is all service activities carried out by public service providers as an effort to meet public needs and implement the provisions of the laws and regulations.”

Based on the above opinion, it can be said that public services are a form of service provided by the government to meet the needs of the people. Public services must also refer to and be supported by applicable laws or regulations so that they can be a reference in their organization. In addition to the government that is the organizer of public services, it is also possible for public services to be held by non-governmental parties, such as private or public. But it does not seem to argue that the role of government is so important in the implementation of public services for its people.

### 2.4 Frame of Mind

See Fig. 1.

### 2.5 Research Hypothesis

H<sub>1</sub> Integrated service information system affects the quality of service.

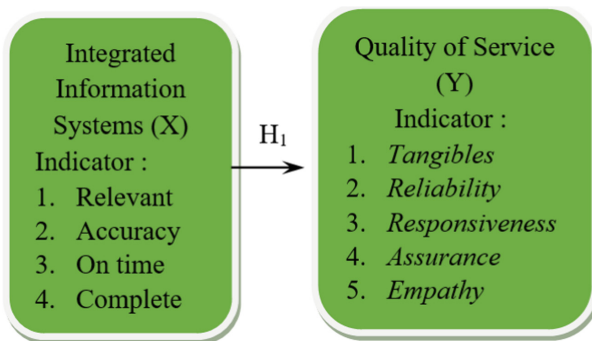


Fig. 1. Frame of mine. Source: Processed researchers, 2021

### 3 Research Methods

#### 3.1 Type and Design Research

Research conducted at the Kantor Kependudukan dan Pencatatan Sipil of Nganjuk Regency, researchers took quantitative method research methods. The research design used in this study is a deskriptive and verificative method. In this study, descriptive methods were used to find out how the public responds to integrated service information systems to improve the quality of E-KTP manufacturing services at Dinas Kependudukan Dan Pencatatan Sipil of Nganjuk Regency.

#### 3.2 Population and Sample

The population in this study is the entire community that does the management of E-KTP manufacturing at Dinas Kependudukan Dan Pencatatan Sipil of Nganjuk Regency in 2020, there will be approximately 1,215,519 people.

Samples were taken from the population using a tolerable error rate percentage of 10%. Determination of the sample size of respondents using the formula Slovin, which is shown as follows:

$$n = \frac{N}{1 + N(e^2)}$$

Note:

n = Sample Size

N = Population Size

e = error rate (10%)

Population: (N) = 1,215,519 people assuming error rate (e) = 10%, then the number of sample sizes based on the Slovin formula can be calculated by the following calculations:

$$\begin{aligned} n &= \frac{1.215.519}{1 + 1.215.519 (0,1^2)} = \frac{1.215.519}{1 + 1.215.519 (0,01)} \\ &= 99,991 \text{ rounded to } 100 \end{aligned}$$

Therefore, researchers took the same number of samples as the population, namely the people who did the management of the creation of E-KTP at Dinas Kependudukan Dan Pencatatan Sipil of Nganjuk Regency as many as 100 people.

**Table 1.** Questionnaire

Answer Options	Value Weight	
	Negative	Positive
Strongly agree/Always/very good/...	1	5
Agree/Often/well/...	2	4
Hesitating/Sometimes/good enough/...	3	3
Disagree/Rarely/unfavorably/...	4	2
Strongly disagree/Never/no good/...	5	1

Source: Sugiyono [12].

### 3.3 Data Collection Techniques

#### 1) Questionnaire

Researchers will distribute questionnaires to 100 people who conducted the management of E-KTP in the Population and Civil Registration Office of Nganjuk Regency who have become respondents to be filled out and then used as a source of data in the study. Questionnaire answers in the study used measurements on the Likert scale (see Table 1).

#### 2) Documentation

In this case, researchers use documents in the form of basic tasks and functions at Dinas Kependudukan dan Pencatatan Sipil of Nganjuk Regency.

### 3.4 Operational Definition of Variables

A variable is an attribute or trait or value of a person, object or activity that has certain variations set by the researcher to be studied and drawn to conclusions. Research variables can be divided into two:

#### 1) Independent Variables

Integrated Information System, According to Mulyadi [13], “Integrated Information System is a system of a network of procedures created according to an integrated pattern to carry out the company’s basic activities.”

#### 2) Dependent Variables

According to Sugiyono [12] devenden/bound variables are variables that are affected or that are the result of independent variables. In this study, the dependent variable is the quality of service (Y). According to Mahmudi [11], “public service is all service activities carried out by public service providers as an effort to meet public needs and implement the provisions of the laws and regulations.”

Operationalization of variables is required to determine the types and indicators of the variables associated with this study. Here is the operational definition of variables (Tables 2, 3, 4 and 5):

**Table 2.** The Operational Definition of Variables

Variable	Definition	Measurement	Scale
Integrated Information Systems (X)	System of a network of procedures created according to an integrated pattern to carry out the company's basic activities	Relevant Accuracy On time Complete	<i>Likert</i>
Quality of Service (Y)	All service activities carried out by public service providers as an effort to meet public needs and implement the provisions of laws and regulations	<i>Tangibles</i> <i>Reliability</i> <i>Responsiveness</i> <i>Assurance</i> <i>Empathy</i>	<i>Likert</i>

Source: Data processed by researchers, 2021

**Table 3.** Characteristics Based on Age

No.	Characteristic	Frequency	Percentage
1.	17 to 20 years	45	45,00%
2.	21 to 30 years	35	35,00%
3.	31 to 40 years	12	12,00%
4.	More than 41 years	8	8,00%
Total		<b>100</b>	<b>100,00%</b>

Source: primary data processed by researchers, 2020

**Table 4.** Characteristics Based on Gender

No.	Characteristic	Frequency	Percentage
1.	Male	59	59,00%
2.	Female	41	41,00%
Total		<b>100</b>	<b>100,00%</b>

Source: primary data processed by researchers, 2020

**Table 5.** Characteristics Based on Recent Education

No.	Characteristic	Frequency	Percentage
1.	High School/Equivalent	65	65,00%
2.	Diploma (D3)	18	18,00%
3.	Strata 1 (Bachelor)	10	10,00%
4.	Strata 2 (Postgraduate)	7	7,00%
Total		<b>100</b>	<b>100,00%</b>

Source: primary data processed by researchers, 2020

**Table 6.** Multiple Linear Regression Test

Coefficients <sup>a</sup>						
Model		UC		SC	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.371	1.005		5.347	.000
	X	.411	.071	.502	5.778	.000

### 3.5 Data Analysis Techniques

#### 3.5.1 Multiple Linear Regression Test

According to Sugiyono [12] multiple linear regression analysis is a regression that has one dependent variable and two or more independent variables. The multiple regression equations can be formulated as follows Table 6:

$$y = a + \beta_1x_1 + \dots + e$$

$$y = 5,371 + 0,411 X + e$$

Information:

y = Subjects in predicted dependent variables

a = Constant Value

$\beta$  = Regression Coefficient

X = Independent variables/variables that affect

e = error rate

The interpretation of the regression equation is as follows:

- 1) Constant value (a) of 5,371 means that if the integrated service information system variable (X) has a fixed value, then the quality of service (Y) is 5,371.



- 2) The beta coefficient value of integrated service information system variable (X) is positive at 0.411. This means that if the integrated service information system (X) variable increases by one unit, then the quality of service (Y) will increase by 0.411. It also means that if the integrated service information system (X) variable decreases by one unit, then the quality of service (Y) will decrease by 0.411.

### 3.6 Hypothesis Test

#### 3.6.1 Partial Test (Test t)

According to Ghozali [14], the t test is used to “partially test hypotheses to show the effect of each individually independent variable on the dependent variable. The t test is a regression coefficient test of each independent variable against a dependent variable to find out how much influence an independent variable has on a dependent variable”.

The hypothesis of this study is:

- H<sub>1,0</sub> Integrated Service Information System does not have a positive effect on the quality of service  
 H<sub>2,a</sub> Integrated Service Information System positively affects the quality of service

The t test is performed to see if each independent variable partially affects the dependent variable i.e. capital structure. How to detect the influence of independent variables on dependent variables is to look at the table of coefficients can be seen from the regression coefficient and the relationship between those variables. If the sign (-) then the independent variable negatively affects the dependent variable and if there is no sign (-) then the independent variable has a positive effect on the dependent variable.

While in the column “sig” is to see its significance with  $n =$  number of samples, then  $t \text{ table} = t (\alpha = 0.05)$ , it can be said that independent variables have a significant effect on dependent variables. If the value is less than  $\alpha = 10\%$  (0.10) then it can be said that independent variables have a very significant effect on dependent variables.

The above hypotheses will be tested based on the area of acceptance and the area of rejection specified as follows:

- a.  $H_0$  will be accepted if the significant value is greater than 0.05
- b.  $H_0$  will be rejected if the significant value is less than 0.05

Or in other ways as follows:

- a. If  $t \text{ calculates} > t \text{ table}$  then  $H_0$  is rejected,  $H_a$  is accepted
- b. If  $t \text{ calculates} < t \text{ table}$  then  $H_0$  is accepted,  $H_a$  is rejected

## 4 Conclusion

Based on research by researchers on strategies to improve the quality of E-KTP manufacturing services through the use of integrated service information systems at The Offices

Dinas Kependudukan Dan Pencatatan Sipil of Nganjuk Regency, Then the researchers can conclude that:

Integrated service information system affects the quality of service at The Offices Dinas Kependudukan Dan Pencatatan Sipil of Nganjuk Regency. Evidenced by the acquisition of a calculated value greater than a table t with a significance of less than 0.05.

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