

Efficiency of Public Service in Pekanbaru City With E-Government

Zamzami¹, Fajrizal², Mhd Arief Hasan³

Universitas Lancang Kuning, Pekanbaru, 28265, Indonesia

E-mail: zamzami@unilak.ac.id

Abstract: The use of technology in the field of computers today is increasing, along with the development of science and globalization of information that demands the creation of a state of computerization. E-Government is now the right solution for local and central government, it is because it can assist the government in managing government data and able to provide information to the community quickly, precisely and efficiently. The current service system at the Office of Population and Civil Registration of Pekanbaru City still uses a manual system that takes a long time and cost a lot. In this E-Government application will contain application feature profile information of the Office of Population and Civil Registration of Pekanbaru City, public service requirements, office address of Pekanbaru City Sub-district, community complaint, KK (Family Card), and birth certificate online. The general purpose of making E-Government application system is to provide a new alternative for the Office of Population and Civil Registration of Pekanbaru City in improving its public service system. And the specific purpose is to facilitate the delivery of information, the formation of the system of birth certificate and death online and realize the excellent service for the Office of Population and Civil Registration Pekanbaru and the public.

Keywords: E-Government; Office of demographic affairs; Service; Government

1. Introduction

The use of technology in the field of computers today is increasing, along with the development of science and globalization of information that requires the creation of a state of computerization. The role of information technology in supporting the operational system in government agencies today is felt very important. Because basically the majority of government services to the public are matters relating to the collection, processing, and provision of various data information, knowledge, and policies and dissemination to the community. Utilization of information technology and technology is known as E-Government (Electronic Government.). The advances in information and communication technology and the invention of modern communicational and information devices in today's world have created new forms of doing things and giving services, thus the accuracy speed and transparency have been increased, waste of time and costs have been reduced and doing things and giving services have been improved quantitatively and qualitatively (Grove, 1999)



E-Government is now the right solution for local and central government, it is because it can assist the government in managing government data and able to provide information to the community quickly, precisely and efficiently. So as to enhance the relationship between government and society. E-government also allows the customers to cooperate in different activities such as social activities (Hazlett & Hill, 2003). Globalization makes governments establish e-government in order to sell goods and services and export their culture to other countries (Lane & Lee, 2001). The aim of this study is to investigate the role of e-government establishment in the effectiveness of government organizations.

The current service system at the Office of Population and Civil Registration of Pekanbaru City still uses a manual system that takes a long time and cost a lot. By filling the blank manually at the local village office, the residents have to pay a lot of money. Coupled with the limited number of dispatchers who cause delays in the inputting process data citizens. So that causes the service handling becomes slow. With the E-Government application is expected to simplify the process of managing services and improve service systems for the better.

In this E-Government application will contain application features profile information of the Office of Population and Civil Registration of Pekanbaru City, public service requirements, office address of Sub-District Head of Pekanbaru City, community complaint, KK (Family Card), KTP (Identity Card) And birth certificates online.

Based on the above description the author tries to discuss and pour it in a study entitled "E-Government Applications On Office of Population and Civil Registration in Pekanbaru.

2. Basic Theory

2.1 E-Government

E-government allows governments to use new technology, which has access to government and service information, modifies their quality, and provides opportunities to cooperate in democratic processes and symbols (Hazlett & Hill, 2003). E-government is the use of easy-to-use information technology to offer Government services to customers directly and throughout the day. It also makes changes to anything that interacts with government Like citizens and commercial centers (Okotuma & caferly, 2000). In this case, an effective strategy significantly improves the government sector. These strategies include facilitating the process of providing services to citizens, removing additional levels of government management, preparing citizen accessibility, merchants, and employees Government information and services, facilitating institutional executive processes, reducing costs through Integration, removing additional systems, promoting the effectiveness of government operations to meet the needs Citizens, and ultimately achieve accountability, transparency and so on. Therefore, e-government is a collection of electronic Communications between government, corporations, and citizens (West, 2000).

2.2 Implementation of E-Government in Indonesia

In the instruction of the President of the Republic of Indonesia Number 3 Year 2003 on National Policy and Strategy of e-Government Development, mandates every Governor and Regent / Mayor to take the necessary steps in accordance with their respective duties, functions and authorities for the implementation of e-Government development national.

In general, mentioned about the things that become consideration of the implementation of e-Government in Indonesia, such as:

- The advancement of rapid communication and information technology and its widespread utilization potential, opens opportunities for accessing, managing and utilizing large volumes of information quickly and accurately.

- The utilization of communication and information technology in government process (E-Government) will increase efficiency, effectiveness, transparency, and accountability of government administration.
- To organize good governance and improve the effective and efficient public services it is necessary to have E-Government policy and development strategy.

3. Results

3.1 Company Overview

Office of Population and Civil Registration Pekanbaru City as one of the regional tools that help the Mayor in organizing the wheels of government, especially in the field of Population and Civil Registration have a very strategic role in organizing the orderly administration of population.

The series of population events which include resettlement of residents, Family Card ownership and Identity Card as well as important events which include birth, death, marriage, divorce, adoption / recognition and other important events concerning the population must be integrated in the national population database as well as the validity And the truth of the demographic document which is regulated in the framework of the realization of the discipline of population administration both from regional to national level, as mandated by Law Number 23 of 2006 which has been amended by Law Number 24 Year 2013 on population administration.

3.2. System of Proposals

The procedure of the proposed design is as follows:

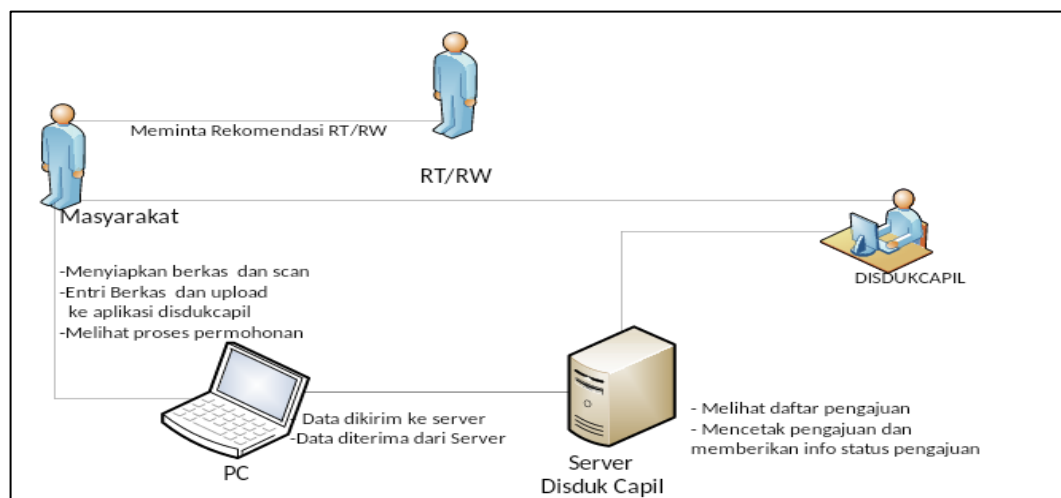


Figure 1: Design System

Explanation of operational system of procedure of handling submission of Birth Certificate and New Death on Disdukcapil Pekanbaru City that is:

- The residents asked for recommendations from local RT / RWs by completing the existing files.
- The public uploads all existing files through their pc units to the Disdukcapil Pekanbaru City web service system.
- The Disdukcapil officer can view the draft file submission through the system service. And provide status information submission.
- Officers can print the file submitted and then validate the file.
- The public can view the status information filing through the given tracking code. When it is finished the community comes directly to DISDUKCAPIL Pekanbaru City to retrieve the file.

3.3 System Design

At this stage, the authors provide information about the system design that the authors propose to tackle the problems of the system mentioned earlier.

- *Use Case Model Diagram*

The actors involved in this E-Government application can be classified into 2 actors namely operators and residents. For more details, the actor roles that exist in the system can be seen in table 1 identification of actor.

<i>Actor</i>	<i>Description</i>
Operator	Operators are responsible for managing submissions from residents (see filing and status updates).
People	Submitting filings for filing Birth and Death certificates. View status, and update data.

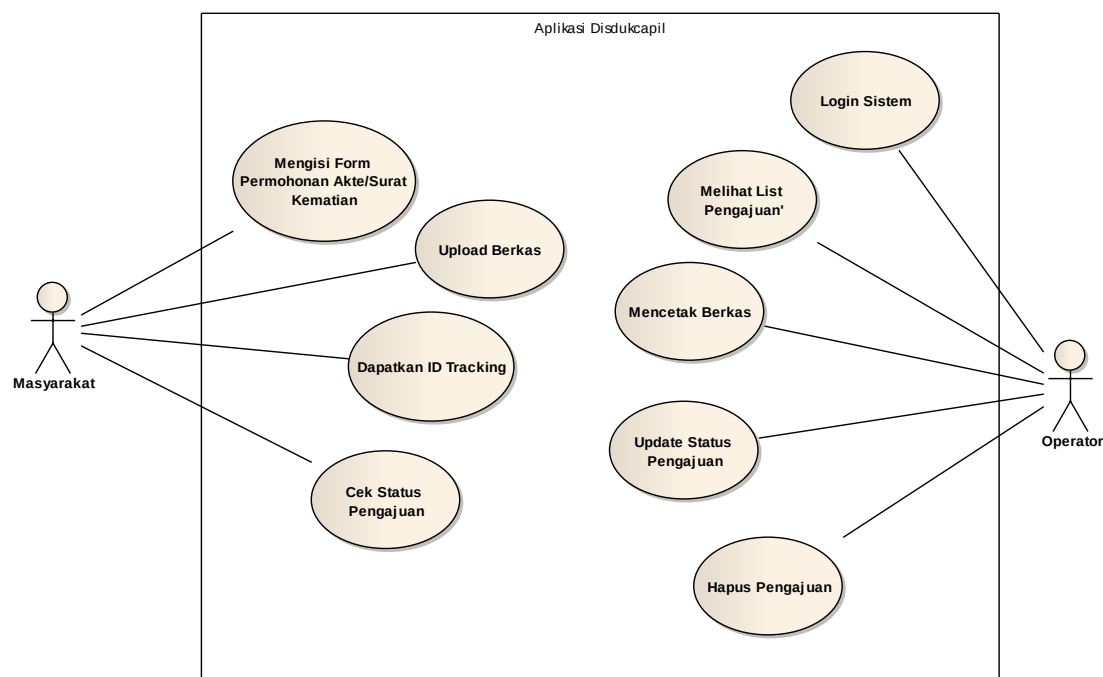


Figure 2. Use Case Diagram

- *Class Diagram*

Visualization of the proposed system object structure, described in Class diagrams. The proposed system object structure can be described in figure 3 below.

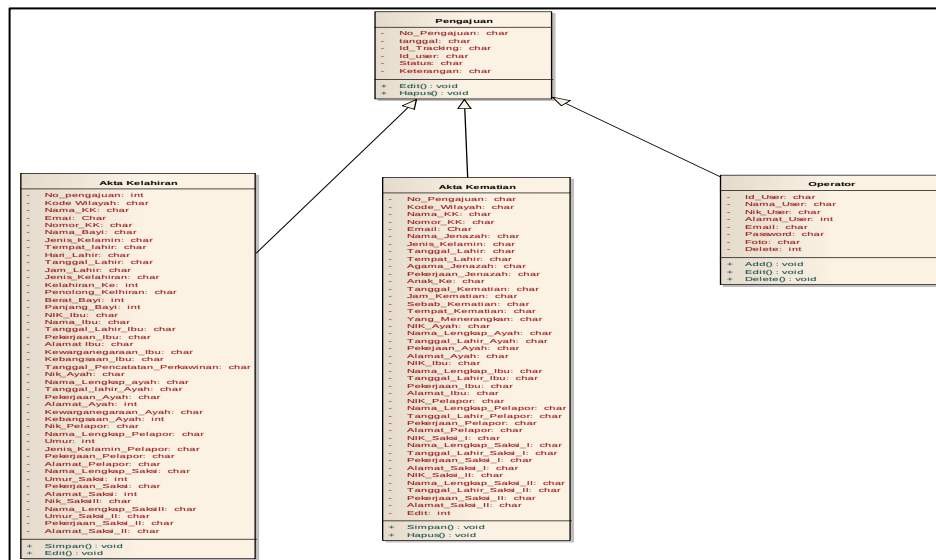


Figure 3. Class Diagram

- Page Form Design Process Death Data

The form is titled "E-DEKUPACAP" and "DATA #XXX(15)". It includes a sidebar menu with options like "MENU ADMIN", "DATA MASTER", "DATA USER", "DATA PENDAFTARAN KEMATIAN", "DATA PENDAFTARAN KELAHIRAN", and "LAPORAN". The main content area shows "NO. REGISTER : XXX(15)" and "JENIS PENDAFTARAN: KEMATIAN". It displays a table of data with columns for "DATA KEPALA KELUARGA", "DATA JENAZAH", "DATA AYAH", "DATA IBU", "DATA PELAPOR", and "DATA SAKSI". Each row has a status (e.g., "PENDING", "VERIFIED", "REJECTED") and a corresponding button (e.g., "ACCEPT", "REJECT", "KIRIM PESAN", "CETAK DATA").

Figure 4 Death Form Design

In this form the operator officer validates from the submission by the residents. Later the operator will provide information whether the information provided is complete or not and will also be given the status is completed if the Deed and the new KK has been printed.

3.4 E-Government Website Effectiveness Test

The effectiveness of e-Government website in Pekanbaru City Civil Registry Office is known from the time of service and pruning of the bureaucracy. It also looks effective from the distance traveled by the community to go to the Office of Population and Civil Registration of Pekanbaru City. Busy people do not need to be bothered to visit the Office of Population Civil Registration City Pekanbaru. The effectiveness test is also seen from the operator side. Operators do not need to be bothered with stacks of application files because all files have been uploaded via the website.

4. Data analysis

Evaluation is done through several activities, namely: (1) first experimental test and the first prototype of e-Government website by expert, (2) prototype practicality test by operator and community (3) prototype effectiveness test through time duration of service. The results of the analysis of the evaluation activities are:

4.1 Test the Validity of E-Government Websites

E-Government websites that have been designed on the computer are validated by seven validators (Appendix 1) using validity test sheets (Appendix 2). Based on the results of the validator's validation of the validation sheet, all validator answers are distributed to the Guttman table.

After all validator answers are compiled into Guttman's table, the next step calculates the economies of scale by using a scalogram analysis. For this we need to count the number of errors (e). If the calculated cells are empty of the "Yes" answer deviating from the questions 1 through 19 in table 2, the number of errors is 2. After the error response is obtained, the next step is to calculate the reproducibility coefficient (Kr) which shows the protability level and the prototype Use the following formula:

$$\begin{aligned} Kr &= 1 - \frac{2}{19 \times 719 \times 7} \\ Kr &= 1 - \frac{2}{133133} \\ Kr &= 1 - 0,015 \\ &= 0,985 \end{aligned}$$

The coefficient of reproducibility or Kr = 0.985 indicates that the E-Government website on the Population and Civil Registry Office of Pekanbaru developed has been very valid as above the validity requirement of 0.90. While the coefficient of scalability or Ks, with c is the possibility of getting the correct answer. Because the answer is yes and no, then chances are 0,5

n = Number of questions x number of respondents = 133

Tn = Number of answer options "Yes" = 119

$$\begin{aligned} Ks &= 1 - \frac{2}{0,5 (133-119) 0,5 (133-119)} \\ Ks &= 1 - \frac{2}{0,5 \times 140,5 \times 14} \\ Ks &= 1 - \frac{22}{77} \\ &= 1 - 0,28 \\ &= 0,72 \end{aligned}$$

Ks or Coefficient of Scalability is 0.72. This reinforces the reproducibility coefficient and states it is very valid since it is large and equal to 0.60. Based on the results of validity test analysis said that e-government website on Pekanbaru City Government has been declared valid by the validator.

Having obtained the degree of validity of this e-government website, the next step is to make a revision in accordance with advices given validator through the validation sheet. The suggestions provided by the validator in the process of e-government website development process are as follows:

1) First Validator

The first validator, providing input for the page on the learning website in accordance with website resolution standards that is 1024 x 768 pixels for e-government website can be received on two different monitor display technology resolution in general that is 800 x 600 pixels and 1600 x 1200 pixels.

The selection of navigation and toolbar of the website follow the concept of the letter L inverted, so that the availability of a proportional page for e-government website. In addition, the first validator also suggests coloring that supports website content such as text and graphics on e-government websites, as well as making layout consistencies so that users can easily find the information they are looking for.

2) Second Validator

The second validator gives inputs to the end of the series of activities on the e-government website material provided guidance in order to facilitate the community to proceed to the next procedural or vice versa. To support the layout of e-government website the second validator also provides input to be made interesting and not too formal in grammar.

3) Third Validator

The third validator gives input so that in the use of language in the material progress instructions are made in the sentence to draw the public's attention.

4) Fourth Validator

The fourth validator provides input in the development of e-government website so that each sub menu displayed is given introduction so that the purpose of the service can be known by the community

5) Fifth Validator

The fifth validator advises that the e-government website also comes with a discussion forum as a forum for questioning about procedural issues.

6) The Sixth Validator

Validator six commented that the use of e-government website at the Office of Population and Civil Registry should be used for the benefit of the general public.

7) The Seventh Validator

Validator seven does not provide any suggestions or comments about the e-government website.

Based on the suggestions given by the validator, the first prototype was revised so that the revision result would be worthy to be tested as an e-government website in the civil service apparatus and civil registration of Pekanbaru City as the operator and the community in Pekanbaru City.

4.2 Practice Test of E-Government Website Disdukcapil Pekanbaru

1) Test the practicality of the operator / apparatus

In practical test for operator / apparatus begins by doing observation afterwards conducted training use of e-government website to operator / apparatus. To see the practicality is done through a questionnaire of practicality by the operator / apparatus after trying to use the website. The results of the assessment of the practicality are distributed into the Guttman table.

$$K_r = 1 - \frac{1 \quad 1}{10 \times 310 \times 3}$$

$$K_r = 1 - \frac{1 \quad 1}{3030}$$

$$K_r = 1 - 0,033$$

$$= 0,967$$

Reproducibility coefficient or $K_r = 0.967$ to see the product termination, also need to be reviewed The coefficient of e-Government website scalability in Disdukcapil Pekanbaru developed.

$$\begin{aligned}
 K_s &= 1 - \frac{1}{0,5 (30-23)} \frac{1}{0,5 (30-23)} \\
 K_s &= 1 - \frac{1}{0,5 \times 70,5 \times 7} \frac{1}{7} \\
 K_s &= 1 - \frac{1}{3,53,5} \\
 &= 1 - 0,285 \\
 &= 0,715
 \end{aligned}$$

From the value of Ks (coefficient of reproducibility) is good to use, because the value of Ks below 0.715. From the results of the test of practicality test on the operator can be said that e-Government website practical on the test operator / apparatus.

2) Test the practicality to the community

In the small group practicality test obtained through a questionnaire of practicality by the community. The results of the assessment of the practicality of the community are distributed into the Guttman table.

$$\begin{aligned}
 K_r &= 1 - \frac{1}{10 \times 610 \times 6} \frac{1}{6} \\
 K_r &= 1 - \frac{1}{6060} \\
 K_r &= 1 - 0,017 \\
 &= 0,983
 \end{aligned}$$

The coefficient of reproducibility or Kr = 0.983 indicates that e-government website developed is very practical because of the above requirement of practicality is 0.90. While the coefficient of scalability or Ks. With c is the possibility of getting the correct answer. Because the answer is yes and no, then chances are 0,5

n = Number of questions x number of respondents = 60

Tn = Number of answer choices "Yes" = 54

$$\begin{aligned}
 K_s &= 1 - \frac{1}{0,5 (30-23)} \frac{1}{0,5 (30-23)} \\
 K_s &= 1 - \frac{1}{0,5 \times 70,5 \times 7} \frac{1}{7} \\
 K_s &= 1 - \frac{1}{3,53,5} \\
 &= 1 - 0,285 \\
 &= 0,715
 \end{aligned}$$

Ks or Coefficient of Scalability is 0.67. This reinforces the reproducibility coefficient and states practically that is 0.60. From the results of the analysis of moderate group practicality test can be said that e-government website is practical on the test community.

4.3 Test of Effectiveness

The effectiveness of E-Government website new data obtained after this system if it has been fully implemented in Pekanbaru City. The test is how long the service process presented by using the application compared to the manual service that has been going on.

5. Conclusions and Suggestions

First year's research has yielded according to the type of outcome. The main output that will be generated is E-Government Application to help Efficiency of public service in Civil Registry Office of Pekanbaru City. The outcomes will be achieved by implementing specific research objectives with the following indicators of success: It has been identified the types of services that need to be electronically the modeling for e Disdukcapil for the handling of birth certificates and deaths. The design has been made for further to be developed into application program that can be applied fully in Disdukcapil Office Pekanbaru City

6. Suggestion

The need for further testing of the developed model to be right on target. The program must be implemented immediately to provide great benefits for the people of Pekanbaru City.

7. References

- [1] Grove, A. S. (1999). *Only the paranoid survive: How to exploit the crisis points that challenge every company*. USA: Crown Business.
- [2] Hazlett, S-A., & Hill, F. (2003). E- government: *In the instruction of the President of the Republic of Indonesia Number 3 Year 2003*
- [3] *The realities of using IT to transform the public sector. International Journal of Managin Service Quality*, 13(6), 445–452.
- [4] Layne, K., & Lee, J. (2001). *Developing fully functional E-government: A four stage model. Government Information Quarterly*, 18(2), 122–136.
- [5] Martz, W. (2008). *Review of the book: The handbook of leadership development evaluation. American Journal of Evaluation*, 29, 584–589.
- [6] Okot-Uma, R., & Caffrey, L. (2000). *Trusted Services and Public Key Infrastructure*. London.