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The Effect of Information Technology Audit For E-Health of Indonesia Using ITIL Framework V.3 Domain Service Design

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ABSTRACT

This study explain about E-Health Surabaya is a web-based health service technology application that is used to help people register as patients in hospitals and health centers. Although its function is very useful, there are also people who still do not understand how to use this application, there are also some shortcomings that cause inconvenience in its use. So that research is conducted in which the application uses ITIL V.3 framework with Domain Service Design to conduct an audit of the maturity level of this E-Health Surabaya Web Application. ITIL (Information Technology Infrastructure Technology) is a framework used to manage information technology services to achieve predetermined targets. The methods used are Data Collection, Data Grouping, Calculation with Likert Scale, and Assessment Based on Service Maturity Level Framework. The results of the study are obtained from data processing of 13 respondents who have filled out the questionnaire, resulting in an overall average value of 3 which is based on the Service Maturity Level Framework is worth 3 namely Defined Process. In addition, recommendations are also given to the Service Level Management and Capacity Management sub domain so that it is expected that E-Health can be developed so that it can be easily used by all groups and can be integrated with e-kiosks in each area of the City of Surabaya for user convenience in their transactions.

Keyword : Tecnology, Audit, E-Health, ITIL V3, Framework, System and Information

PRELIMINARY

Lately, information technology has been widely used as a support for various business and government services. This is because seeing the benefits of information technology that can improve the performance and efficiency of services provided to consumers. Information Technology helps people create, store, change, communicate or disseminate information (Williams dan Sawyer, 2007). Customers or the public will be able to receive information or services easily, wherever and whenever through media such as computers or smartphone. As an example of public health services provided by the Surabaya government, E-Health Surabaya. E-Health Surabaya is a website provided by the Surabaya city government to facilitate the public in registering as a patient in several Surabaya hospitals that have been registered with BPJS. The aim is none other than to avoid the community from long queues when registering without having to come to the location of the hospital or health center in question.

The use of E-Health services is a good step made by the government in order to improve development, but in its application is still not optimal due to a few problems, namely lack of public knowledge about how to use it and some features that are not addressed. Therefore, this study will apply the "Information Technology Services Audit of the Surabaya City E-Health Website Using the ITIL V3 Domain Service Design Framework" to assess and make recommendations for the E-Health Surabaya website.

THEORETICAL BASIS

1. Information technology audit

Audit is an activity that is systematic, documented and structured to find a report or evidence which is then reviewed and evaluated objectively to determine whether it is in line with the organization's strategic objectives or criteria set by the organization (Sarno, Riyanarto dan Tiffano, Irsyat, 2009). Information systems audit aims to assess whether a computer system can protect assets and maintain organizational data integrity, can help achieve organizational goals effectively, and utilize existing resources efficiently (Weber, Ron, 2000). An information system audit is an evaluation tool for the use of information technology and seeks to benefit the organization. Audit activities are carried out to evaluate the evidence or findings and then report the discrepancies in accordance with specified rules (Singleton, Tommie dan Hall, James, 2009) and determine and report whether the level of information is in accordance with predetermined criteria by evaluating the evidence of the information.

2. Information Technology Infrastructure Library (ITIL)

ITIL is a framework to actualize management in information technology services so that it is structured so that it is on target. (McNaughton, Blake, Ray, Pradeep, dan Lewis, Lundy, 2010) ITIL provides a framework for managing information technology, "wrapping services", and focusing on measuring and improving and improving the quality of information technology services provided, both from the business perspective and customers (customers). This is a major factor in the success of ITIL, and has succeeded in contributing to more productive use and benefiting from the development of techniques and processes. Figure 1 illustrates the ITIL life cycle, which consists of 5 stages including Service Strategy, Service Design, Service Transition, Service Operation, and Continual Service Improvement (OGC, 2007).

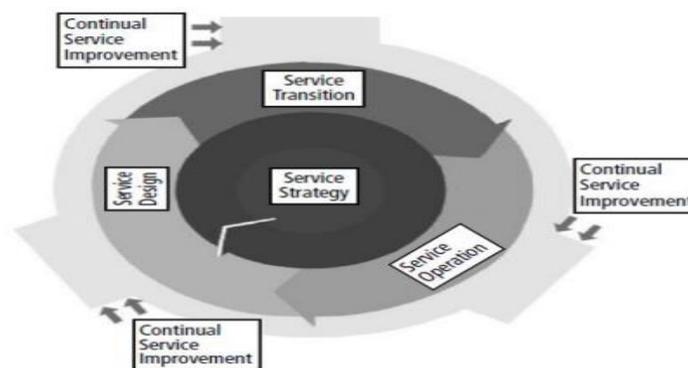


Figure 1. Service Life Cycle in ITIL (Hariyanti, dkk, 2018)

3. E-Health Surabaya

E-Health Surabaya is a health service information system provided by the Surabaya city government to facilitate the public in registering as a patient in a health center or hospital. With this web-based and android service, it not only makes it easier for people to register, but also avoids people from long queues, which is just sitting in front of a computer or cellphone anywhere. This system is already connected with BPJS membership services, so that more hospitals are available. KTP data and also BPJS can be connected to this E-Health service.

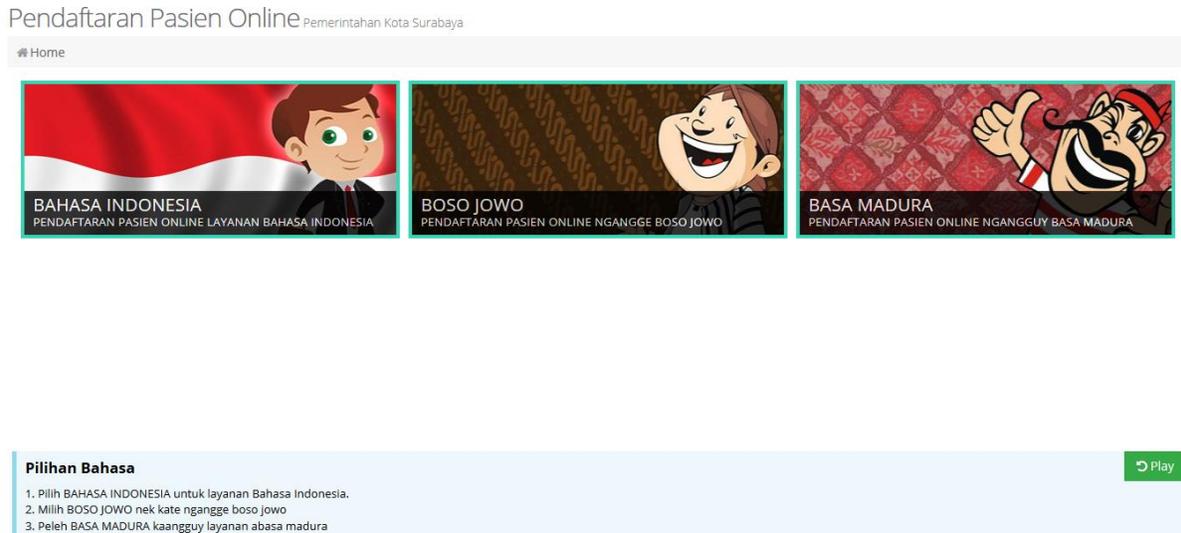


Figure 2. Initial view of E-Health Surabaya

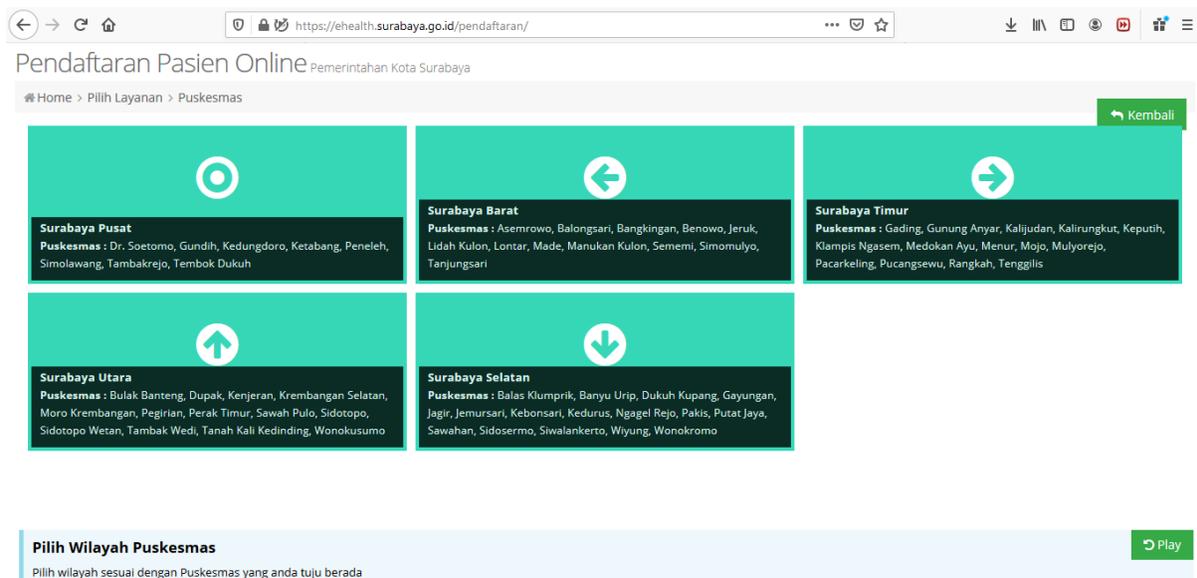


Figure 3 Display the Surabaya City E-Health menu

4. Service Design

Is a guideline for designing component designs of appropriate and innovative IT services covering aspects of processes, architecture, policies and documentation, in order to achieve the organization's strategic goals for the present and the future. The several sub domain components of the service design are as follows:

- a. Service Catalog Management: a sub domain that is useful for compiling information that is consistent for IT services and ensures that information is available and can be accessed precisely and easily by users.
- b. Service Level Management: SLM has a vital function which is to discuss, implement and document IT service targets that are in line with the organization's strategic objectives and then monitor and report to service providers to provide agreed service levels.
- c. Capacity Management: Useful for monitoring whether the service can be used easily by users according to the design that has been made.
- d. Availability Management: Useful to ensure the availability of services that have been designed, managed and run well.
- e. IT Service Continuity Management: Useful for managing and minimizing the impact of risks that occur in information technology services.
- f. Information Security Management: Useful to ensure the security of IT services is maintained and well managed.
- g. Supplier Management: Useful to ensure that IT service supply is available to support service operations in order to be on target and achieve organizational goals.

5. Likert Scale

It is a calculation with numbers to determine the scale obtained from respondent data, with the scale specifications presented in Table 1

Table 1. Likert scale

Number	Scale	Score
1	Strongly Disagree	0 - 1
2	Disagree	1,01 - 2
3	Enough	2,01 - 3
4	Agree	3,01 - 4
5	Strongly Agree	4,01 - 5

6. Service Maturity Framework

Is a level of maturity that is used to measure how feasible the instrument is tested, the scale of service maturity framework is described in table 2.

Table 2. Service Maturity Level Framework Model

Scale	Level Maturity Model
0,00-0,50	0- <i>Non Existent</i>
0,51-1,50	1- <i>Initial</i>
1,51-2,50	2- <i>Repeatable but Intuitive</i>
2,51-3,50	3- <i>Defined Process</i>
3,51-4,50	4- <i>Managed and Measurable</i>
4,51-5,00	5- <i>Optimized</i>

METHODS

The research method used is literature study and benchmarking. The literature study aims to find the variables to be studied, distinguish the things that have been done and determine what needs to be done, synthesize and obtain new perspectives, and determine the meaning related to the variables. Sources of literature used in this research include sources in the form of journal publications, electronic journals, reports, periodicals issued by United Nation for Asia-Pacific Information and Communication Technology and the Indonesian Ministry of Health, and electronic magazines. From the literature obtained, the issue of e-health in Indonesia has not been widely discussed, including its application in the form of hospital health service sites. Data collection on hospital site applications and data on ICT penetration in Indonesia is carried out to support and strengthen the literature review that has been carried out. Creswell, 1994, mentions the steps in data collection which include, 1) determining the boundaries of the research or problem, 2) collecting information through observation, interviews, documents and other visual objects, and 3) building a protocol for recording that information.

The second method is through benchmarking. Benchmarking is a method used in the process of improving performance by creating new things through innovation or continuous improvement by means of comparisons to other systems that are considered better. The parts that are compared are activities, units, or similar parts, both internally and externally. By carrying out the benchmarking process, management can determine strategic tactical steps in improving management performance. There are four types of benchmarking, namely internal, competitive, functional, and generic or general. The stages of the benchmarking process include (1) problem formulation, (2) determining comparison partners, (3) determining data collection methods, (4) data collection, (5) analyzing comparisons, (6) communicating findings, (7) making strategic plans, and (8) monitoring the development of benchmarking. As a method derived from Kaizen (continuous improvement), monitoring of improvements and anomalies is always carried out in implementing strategic plans.

In this study, the benchmarking method was limited to comparative analysis and continued to the analysis of internal potential in the application of telemedicine. Telemedicine is a long-distance health service that contains all medical activities, namely diagnosis, examination, prevention of disease outbreaks, continuous health education, and research and evaluation (Cipolatet. Al. 2003). Soegijardjo (2006) states that telemedicine (telemedicine) is an application of electronics, computers and telecommunications in biomedical engineering, to exchange medical information from one place to another to help carry out medical procedures. Meanwhile, Kassim mentioned telemedicine as the use of telecommunication networks in sending information and data directly for educational purposes and administrative needs, health activities that are focused on promotion, prevention of disease outbreaks, diagnosis, consultation, education, and collaborating with other health resources. the flow of information exchange requires a communication network in accordance with the characteristics of the information and the various applications running on it require an integrated management information system. Information referred to in health is everything related to patient medical record data and data in the health service system. This information can be in the form of text, sound, image, or a combination of the three. Meanwhile, data in the health service system can be in the form of patient data, financial data, health infrastructure procurement data, doctor data, and so on.

This type of research used in this research is quantitative research. Where according to Sugiyono (2000: 7) quantitative research is research in which the type of data is in the form of numbers or qualitative data which are extrapolated. The reason why researchers use this type of quantitative research is related to the purpose of this study itself, namely to describe a survey of community satisfaction with e-Health services at the Surabaya Health Institute based on respondents' answers to distributed questionnaires.

The population in this study were all people who use e-Health services at the Surabaya Health Institute. The sample used by the researcher uses the Slovin formula calculation with a margin of error of 10%. Based on the source, the data in the study can be grouped into 2, namely primary and secondary data. The research used a questionnaire as a data collection technique. While the data analysis technique used is quantitative data analysis. This is in accordance with the aim of the researcher to describe the results of the research on the survey of community satisfaction with e-Health services at the Surabaya Health Institute. In terms of analyzing research quantitative data, researchers used three stages, namely: data collection, data processing, and loading research results. This research instrument test of e-Health services at the Surabaya Health Institute uses a data collection method in the form of a questionnaire to a number of respondents, where respondents are people who receive e-Health services at the Surabaya Health Institute. As the main data source (primary) in this study, the questionnaire must be tested for validity and reliability first, so that the validity and reliability of each instrument as a variable measuring tool can be found. In testing this validity, researchers used statistical calculations using program tools. Question items are said to be valid if the value of r -count is the value of the Corrected Item Total Correlation > from the r -table (Nugroho, 2005).

E-health has unique characteristics both on the type of interaction, data type, and device (Briggs, 2004). This type of telemedicine interaction is real-time and store-and-forward, meaning that the process of information flow takes place immediately, wherever and whenever data is stored and forwarded in the form of information. Data types indicate the forms of data being transferred whether in the form of text, sound, images, or a combination of the three. This type of data will determine the appropriate information channels to use with existing network devices for both general and specific purposes. The basic applications in e-health include recording and reporting patient data, database and evaluation of health services, recording and reporting of drug data, telecoordination, simple teleconsultation, and distance medical education (Soegijardjo, 2006). As a medical application service, The benefits of e-health include three interrelated aspects, namely patients, hospitals, and doctors. The immediate benefits for patients are accelerating patient access to referral centers, getting first aid while waiting for direct help from a personal doctor, patients feeling close to home where relatives can provide support, and selecting patients who need to be hospitalized and who are not. The benefit for the hospital is the guarantee of quality service (service quality assurance) for the public with an automated hospital management operational system. Meanwhile, for doctors (or paramedics) it is the acceleration of information transformation to facilitate decision making and unlimited closeness to patients. E-health is applied in sectoral, regional, and national applications. Sectoral applications are limited to one sub-discipline of medicine or the health services field. Regional applications cover the entire area of health care limited to specific regions within a country. Meanwhile, the national application covers all areas of health services in all regions of a country (Wikis, access 2008).

In the research method, the sequence of problem solving design steps will be described by explaining the process one by one.

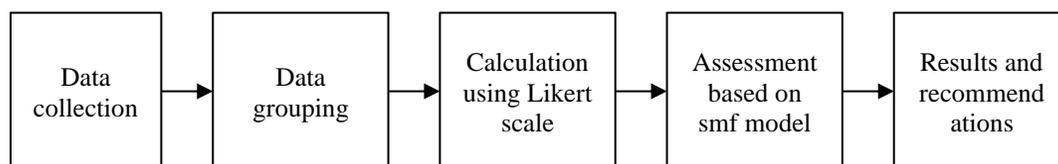


Figure 4. Step System Design

1. Data collection

This research uses a quantitative descriptive method using a questionnaire to measure the level of user satisfaction and the usefulness of the function of E-Health which is distributed to respondents randomly (random sampling) of 13 respondents.

2. Data grouping

It functions to calculate the data that has been filled out by the respondents then grouped according to the scale (scale 1-5) chosen by the respondent based on each question from the service domain sub domain.

3. Calculation Using Likert Scale

Serves to calculate the average value of each question from the service domain sub domain which will later be used in assessments based on SMF model.

4. Assessment based on SMF (Service Maturity Level Framework) model
Serves to provide value to the E-Health application which is useful as an indicator of whether the E-Health application in its functionality is effective when used by its users.
5. Results and Recommendations
Providing results and recommendations based on assessments that have been made using the Service Maturity Framework Framework model on E-Health applications.

RESULT AND DISCUSSION

After distributing the questionnaire through Google Form, obtained data of 13 respondents distributed to State Islamic University of Sunan Ampel students using the random sampling method. The following questions we asked respondents were presented in Table 3.

Table 3. Questions on Respondents

Sub domain ITIL	Question Code	Question
<i>Service Level Management</i>	SLM1	Does the E-Health interface design suit your needs?
	SLM2	Does E-Health provide correct and accurate services?
	SLM3	Is the contents of the E-health application information easy to understand?
	SLM4	Does the menu at E-Health provide the service needs that are what you are looking for?
	SLM5	Does E-Health make it easier for you as a user when you want to get treatment?
	SLM6	Is E-Health easily accessible anywhere and can be accessed using your mobile or computer?
<i>Capacity Management</i>	CM1	In what use does laying a button on E-health make it easier for you as a user?
	CM2	Does E-Health have a menu structure and layout that is easy to understand?

	CM3	Does E-health have an attractive display design?
	CM4	Do you get informative messages when you make a mistake?
	CM5	Does voice over in E-health make it easier for you to use this application?

After obtaining data from 13 respondents continued by calculating respondents' data on their satisfaction in using the Surabaya City E-Health website and calculating using the Likert scale presented in Table 4. Scale calculation is obtained by calculating the average value based on the Likert scale in Table 1 of the Theory Basis Chapter.

Table 4. Results of calculations and grouping of respondents' data on satisfaction of the E-Health

	Code	Question	SD (1)	D (2)	E (3)	A (4)	SA (5)	Average	Information
<i>Service Level Management</i>	SLM1	Does the E-Health interface design suit your needs?	0	1	6	5	1	3,46	Agree
	SLM2	Does E-Health provide correct and accurate services?	0	0	4	8	1	3,76	Agree
	SLM3	Is the contents of the E-health application information easy to understand?	0	0	7	3	3	3,69	Agree
	SLM4	Does the menu at E-Health provide the service needs that are what you are looking for?	0	1	6	5	1	3,46	Agree
	SLM5	Does E-Health make it easier for you as a user when you want to get treatment?	0	0	5	8	0	3,61	Agree

	SLM6	Is E-Health easily accessible anywhere and can be accessed using your mobile or computer?	0	0	5	7	1	3,69	Agree
<i>Capacity Management</i>	CM1	In what use does laying a button on E-health make it easier for you as a user?	0	1	4	8	0	3,53	Agree
	CM2	Does E-Health have a menu structure and layout that is easy to understand?	0	1	4	7	1	3,61	Agree
	CM3	Does E-health have an attractive display design?	1	1	5	5	1	3,30	Agree
	CM4	Do you get informative messages when you make a mistake?	0	1	6	5	1	3,46	Agree
	CM5	Does voice over in E-health make it easier for you to use this application?	0	1	6	4	2	3,53	Agree

After obtaining the average value of each question based on the sub domain of the ITIL v3 service design, then proceed with the calculation of the overall average value divided by the number of questions asked, then determined the value of the E-Health application based on the Service Maturity Level Framework in Table 2 Chapter Theory Platform. The results of the E-Health appraisal are presented in Table 5.

Tabel 5. Hasil penilaian berdasarkan Service Maturity Level Framework

Total Average Value	Number of Questions	Result
39,1	13	39,1/13 = 3
E-Health Score = <i>Defined Process</i>		

From the results of calculations based on the results of the average value of the questionnaire and also the number of questions asked, the results of the maturity level of the E-Health application in Surabaya based on the ITIL v3 framework are at Level 3 namely Defined Process. Which is a stage that has been carried out and has succeeded in making standard management standards on E-Health even though it has not been fully integrated (Muhamad Prabu Wibowo, 2008). SWOT Analysis of E-Health Implementation in Indonesia Telemedicine as a support system for improving the health level of the tiger does not want to be realized immediately, but realization without a strategic study of potential, opportunities, and challenges will weaken the implementation of the implementation. Telemedica is a health support system that cannot stand alone. There are parts that play a supporting role as well as the basis for implementation that an information system cannot abandon. Telemedicine integrity can be described as follows.

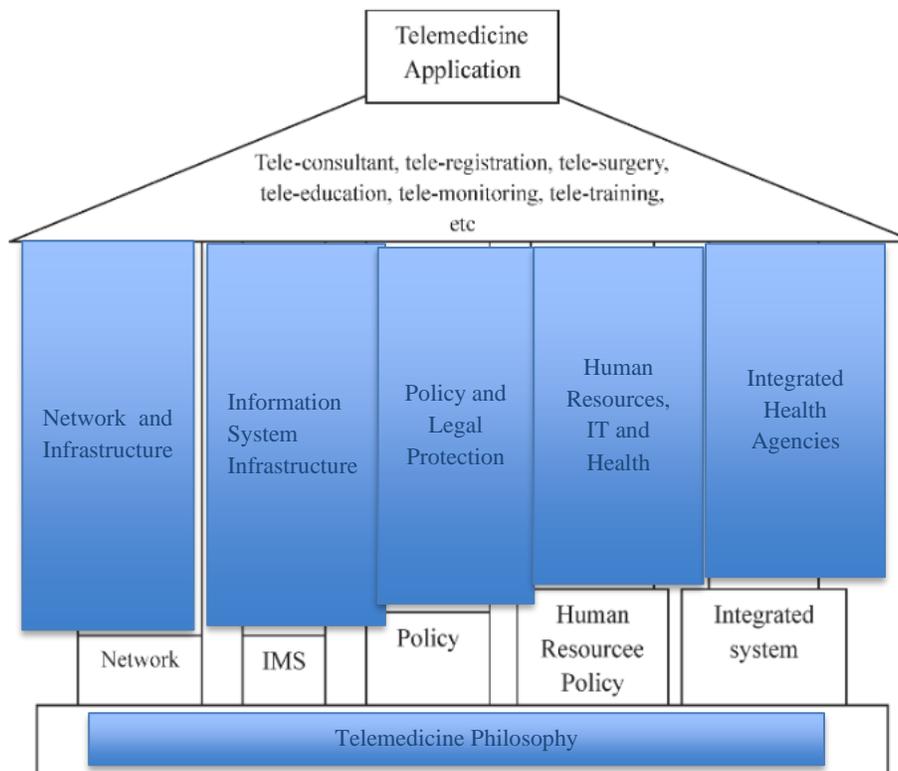


Figure 5. E-Health System

Research on the implementation of e-health really needs to be done as a basic foundation in formulating problems that come from findings in the field. This study will form the basis (philosophy) in the design and implementation of e-health applications. From the basis of this philosophy developed in the study of network infrastructure, information systems, policies, human resources, and system integration. These pillars cannot stand alone without other pillars. No matter how great the network technology and information systems are without humans who can run the application properly, there is no point in the application. Likewise, without the existence of a policy

that becomes the umbrella for implementing e-health, it will open up opportunities for system destruction, whether it is data manipulation, data validity, illegal checking, or errors in decision making. The e-health application must also be integrated with the government, other health agencies, specialist doctor associations, drug manufacturers, hospital equipment manufacturers, and system development. In the implementation of e-health, Indonesia has strength, especially basic strength in infrastructure. Communication network infrastructure is adequate, both terrestrial, wireless, satellite, and their combination, especially with the Palapa Ring. Health infrastructure has spread to remote areas in the form of hospitals, health institutions, posyandu, clinics, and medical personnel.

The number of educational institutions in the health and ICT sector is scattered in each region with a high capacity of expertise. There are quite a lot of telecommunication players, both cellular operators, construction services, and IT consultants. The main line is the synergy of the government's vision through the vision of the departments, namely Indonesia Sehat 2010 (Ministry of Health) and the Information Society 2015 (Ministry of Communication and Informatics). Indonesia has the opportunity with the emergence of a spirit of national independence in increasing ICT accessibility and slowly but surely the ICT infrastructure has penetrated all levels of society. On top of the strengths and opportunities that Indonesia has, it still has weaknesses and challenges in implementing e-health.

A number of weaknesses faced, namely the penetration of ICT is not evenly distributed, concentrated in urban areas with ICT infrastructure not owned by many communities or local health agencies. Analysis of design and information systems is still weak, making it vulnerable to changes in the structure of information systems. Some information systems are designed without paying attention to changes in the future and there is no legality of integration between the Health Law and the Law on ICT so that there is no guarantee of legal protection for the implementation of telemedics for both patients and telemedicine providers. The new ITE Law provides protection on electronic documents and electronic systems that can be used in e-health applications such as text documents, image documents (photo-rontg does not fully accommodate medical activities that are public needs, especially patients), as well as voice documents (heart rate recording).

The ITE Law has not been harmonized with the existing health law and there is no agency that has full authority on this issue. However, Article 4 paragraph (c) of the ITE Law states that the use of ICT is directed at increasing the effectiveness and efficiency of public services. Things that should be taken into account are the challenges faced both internally and externally in the implementation of e-health. The main challenge that will be faced is humans as implementers of this application. HR work culture is difficult to change, especially for those who reject the use of ICT and still stick to conventional systems. The process of changing this mindset will require a process that is not intermittent and will lead to resistance, fears that originate from lack of understanding so that efforts to increase public literacy towards ICT need to be accompanied by psychological preparation. The emergence of illegal practices against tampering with the e-health information system needs to be watched out for. Because data travels on virtual paths that are vulnerable to data piracy, an extraordinary level of security is required.

Table 6. Calculation Results for Each Indicator

No	Indicator	Percentage Total Score	Category
1	Requirements	87,5%	Very Satisfied
2	Procedure	83,2%	Very Satisfied
3	Time Service	85%	Very Satisfied
4	Product Type Specifications Service	85,6%	Very Satisfied
5	Competence Executor	83,4%	Very Satisfied
6	Behavior Executor	84,9%	Very Satisfied
7	Notices Service	77,3%	Satisfied
8	Handling Complaint Advice and Input	77,4%	Satisfied

Based on the table above, it can be seen that the percentage score of the community satisfaction survey variable answers to e-Health services at the Surabaya Health Institute has been running well and effectively. The explanation is as follows:

1. Requirements, indicators of requirements in community satisfaction with eHealth services at the Surabaya Health Institute has a percentage of 87.5% with the assessment criteria very satisfied. This indicates the assessment of people who have received e-Health services at the Surabaya Health Institute through a questionnaire that was distributed when researchers conducted data mining in the field, the community found it easy from an administrative and technical perspective in receiving e-Health services, and had been served by officers with very good. In this case the service requirements indicator ranks the highest based on the value calculated by the researcher, this indicates that the community is satisfied with the e-Health service requirements, so it can be said that the management and fulfillment of e-Health service requirements has met the element of convenience. So in this case, the community using eHealth services will find it easy to manage and fulfill the requirements of e-Health services. Therefore, the indicator of e-Health service requirements at the Surabaya Health Institute is very satisfying.
2. Procedures, Procedures Indicators in community satisfaction with e-Health services at the Surabaya Health Institution has a percentage of 83.2% with very satisfied assessment criteria. This indicates the assessment of people who have received e-Health services at the Surabaya Health Institute through a questionnaire that was distributed when researchers conducted data mining in the field, the community was given clarity in the procedures for eHealth services. and have been served by the attendant very well. Therefore, the indicators of the e-Health service procedure at the Surabaya Health Institute were declared very satisfying.
3. Service Time, indicator of service time in community satisfaction with eHealth services at the Surabaya Health Institute has a percentage of 85% with very satisfied assessment criteria. This

indicates the assessment of people who have received e-Health services at the Surabaya Health Institute through a questionnaire that was distributed when researchers conducted data mining in the field, the community received clarity on the timing of eHealth services, and had been served by officers very well. Therefore, the indicator of time for e-Health services at the Surabaya Health Institute is very satisfying.

4. Product Specifications, Types of Service Indicators of product specifications for the type of service in community satisfaction with e-Health services in the Surabaya Health Institute have a percentage of 85.6% with very satisfied assessment criteria. This indicates the assessment of people who have received e-Health services at the Surabaya Health Institute through a questionnaire that was distributed when researchers conducted data mining in the field, the community received clarity about product specifications for the type of e-Health service, and had been served very well by officers. Therefore, the indicator of product specifications for the type of e-Health service at the Surabaya Health Institute was declared very satisfying.
5. Competence, Implementer Competency indicator in community satisfaction with e-Health services at the Surabaya Health Institute has a percentage of 83.4% with very satisfied assessment criteria. This thing. This indicates the assessment of people who have received e-Health services at the Surabaya Health Institute through a questionnaire that was distributed when researchers conducted data mining in the field, the community received good service from competent e-Health service implementers at the Health Institute and received services by officers very good. Therefore, the competency indicators for implementing e-Health services at the Surabaya Health Institute are very satisfying.
6. Implementing Behavior Indicators of implementer behavior in community satisfaction with eHealth services at the Surabaya Health Institute have a percentage of 84.9% with very satisfied assessment criteria. This indicates the assessment of people who have received e-Health services at the Surabaya Health Institute through a questionnaire that was distributed when researchers conducted data mining in the field, the community received good service from implementers of e-Health services with good behavior at the Health Institution and received services. by the clerk very well. Therefore, the behavioral indicators of eHealth service implementers at the Surabaya Health Institute are very satisfying.
7. Service Notices Indicators of service announcements in community satisfaction with eHealth services at the Surabaya Health Institute have a percentage of 77.3% with the criteria for satisfaction assessment. This indicates the assessment of people who have received e-Health services at the Surabaya Health Institute through a questionnaire that was distributed when researchers conducted data mining in the field, the community was given clarity about e-Health service announcements received at the Health Institute and served by officers very well. . Therefore, the indicator of e-Health services at the Surabaya Health Institute was declared satisfactory. In this case the service announcement ranks the lowest based on the value calculated by the researcher, this indicates that there is still a lack of self-ability and responsibility of e-Health service officers to the community.

8. Complaint Handling Suggestions and Inputs The indicator for handling complaints, suggestions and input in community satisfaction with e-Health services at the Surabaya Health Institute has a percentage of 77.4% with the criteria for being satisfied. This indicates the assessment of people who have received e-Health services at the Surabaya Health Institute through a questionnaire that was distributed when researchers conducted data mining in the field, the community received openness regarding the handling of complaints about eHealth service suggestions and input from service implementers with good behavior at the Health Institution. Surabaya. Therefore, the indicator for handling complaints, suggestions and input for e-Health services at the Surabaya Health Institute is satisfactory.

RECOMMENDATIONS

From the results of the E-Health application value obtained, namely Defined Process, recommendations are still needed so that the application can be more optimal and better in the future and in accordance with the strategic objectives of the organization, as for the recommendations given are described in Table 7.

Table 7. Recommended E-Health applications

Sub Domain	Recommendation
<i>Service Level Management</i>	Services at E-Health in Surabaya City are good but still need to be integrated again with e-kiosks in each region so that people can more easily make transactions and register for treatment.
<i>Capacity Management</i>	Development is still needed for the laying and structure of application interfaces that tend to be tight and dense which sometimes confuses users in using applications

Based on the results of research in the field, overall e-Health services in Surabaya have run well and provide satisfying services, so the researchers suggest that they maintain what has been implemented. However, there are some suggestions from researchers that are constructive and may be able to further improve the implementation of e-Health services in the future, namely:

1. Based on the researchers' observations, it is hoped that the Surabaya health institution will add Human Resources (HR) at the counters and cashiers. Because all this time eHealth service officers are on guard at the counter / cashier, so if the counter / cashier is short on staff, the e-Health service is not functioning and uses manual queue numbers.
2. It is hoped that the e-Health service hours at the health institutions Surabaya will be extended, if previously the e-Health service was operated, it could be added longer.
3. Based on the results that show the highest community satisfaction lies in the requirements indicator, it is hoped that it can maintain the elements of the e-Health service requirements that have been implemented, which is to continue to provide facilities for the community in

managing requirements in accordance with the stipulated conditions for receiving e-Health services.

4. It is hoped that e-Health can increasingly improve e-Health services, especially in service notification indicators and handling of complaints and suggestions, so that people who are satisfied can be very satisfied.
5. The indicators in the research variable times In this, researchers used a single variable namely community satisfaction variable, to measure community satisfaction there are nine indicators community satisfaction that is listed in Decree of the Minister of Administrative Reform and Bureaucratic Reform No. 16/2014, The requirement indicator gets a percentage of 87.5%, procedure indicator 83.2%, time indicator service 85%, indicators of product type specifications service 85.6%, an indicator of implementing competence 83.4%, indicators of implementing behavior 84.9%, indicators service notice 77.3%, handling indicators complaints of suggestions and input amounted to 77.4%. In the results that have been presented have indicators the lowest is the service notification indicator namely 77.3%, while the highest percentage at 87.5% on the requirements indicator.

CONCLUSION

From the results of the analysis that has been done regarding user satisfaction in using the E-Health application in Surabaya, it can be concluded that:

1. The results of the audit of the maturity of E-Health health technology services in the city of Surabaya using a Likert scale shows that the maturity level of E-Health applications based on service domain design is at number 3 where based on the Service Maturity Level Framework is at level 3 namely Defined Process.
2. The results of the recommendations show that there is still a need for the E-Health application to be integrated with e-kiosks for the convenience of users in transactions and there is also a need for development of the layout and application interface so that it is in line with organizational goals, namely the ease of users in using E-health.
3. Based on the SWOT analysis, it is known that the e-health application is very likely to be applied in Indonesia. Its strength lies in the health infrastructure and adequate communication networks to build applications to the regions in the form of hospitals, health institutions, to Posyandu. The uneven penetration of ICTs with the capabilities and awareness of human resources that have not moved from the old character and illegal practices of data security can be both a weakness and a challenge in implementing telemedicine in Indonesia
4. Researchers draw the conclusion that community satisfaction with e-Health services at the Surabaya Health Institute is very satisfying. It can be seen from the data processing that the percentage value of the community satisfaction variable is 83.2%. This is included in the interval class 81% - 100% with the very satisfying category.
5. As for the indicators in the research variables this time, the researcher uses one single variable, namely the community satisfaction variable, to measure community satisfaction there are nine indicators of community satisfaction listed in the Decree of the Minister of Administrative

Reform and Bureaucratic Reform No. 87.5%, procedure indicators 83.2%, service time indicators 85%, service type specification product indicators 85.6%, implementing competency indicators 83.4%, implementing behavior indicators 84.9%, service notification indicators 77, 3%, the indicator for handling complaints and suggestions is 77.4%. In the results that have been presented, there is the lowest indicator, namely the service announcement indicator, which is 77.3%, while the highest percentage is 87.5% on the requirements indicator.

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