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AUDIT INFORMATION SYSTEMS IN DIGILIB UNIVERSITY OF UIN SUNAN AMPEL SURABAYA USING COBIT FRAMEWORK 4.1

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Abstract - Audit it is formed in monitoring and controlling the infrastructure of information technology as a whole. And it can also be carried out simultaneously in financial audits and internal audits, as well as in monitoring and evaluating other similar activities. Which aims to help organizations follow best practices so that their information stays safe. In this journal, we have the objective of planning a library of information systems security audit at UIN Sunan Ampel from the sheets at the time of the interview and documents derived from the results obtained when collecting data. The library is a unit to carry out the existing technical at UIN Sunan Ampel Surabaya. With the implementation of the existing information system, audit planning, audit implementation, and known levels of security must be made as well as making recommendations based on audit security results.

In this study the research method used is Cobit 4.1 using the DS domain (Delivery and Support) and using the DS3 process (managing performance and capacity) and DS5 (ensuring system security). The process of collecting data is based on observation, interviews, making and distributing questionnaires. In making and distributing questionnaires which are divided into: questionnaire I on existing to present the condition of UINSA Digilib UIN Surabaya, questionnaire II management awareness to present who care about library management to the UINSA Digilib, and questionnaire III maturity level is useful to present the maturity level of UINSA Digilib today and hope for the future. At these stages using the audit process is the stage of analyzing the existing conditions, the stage of determining the level of risk, the stage that determines the level of maturity, compiling recommendations, testing the recommendations, and making a model on governance .

At UINSA Digilib there are still many shortcomings produced. then these deficiencies become the basis for making recommendations that contain reports that are produced by audits, improvements that are based on the level of maturity and new governance models.

Keywords / Keywords: UINSA, Cobit 4.1, Digital Library, Audit

I. INTRODUCTION

With the development of today's modern era, in this life technology has entered in an important matter. useful for ease and effectiveness, for example as supporting the needs of a company / organization. Audit is a form of supervision and can control information technology infrastructure in an accurate way. Audit information technology can proceed concurrently with the audit of financial and audit , internal and overseen and evaluation of activities in other equally. At the time of the IT audit, the journey / process carried out simultaneously with the financial audit, as well as internal, as well as when overseeing and evaluating other things are the same. It aims to help organizations follow best practices to keep their information safe. In this journal, we have a goal of planning a library of information systems security audit at UIN Sunan Ampel Surabaya.

Using the cobit 4.1 method in the DS (Delivery and Support) domain and using DS3 (performance and capacity management) and DS5 (ensuring system security) processing. The process of collecting data is based on observation, interviews making and distributing questionnaires. In making and distributing questionnaires which are divided into: questionnaire I existing conditions to present the condition of UINSA Digilib UIN Surabaya, management awareness questionnaire II to present who care about library management to UINSA Digilib, and questionnaire III maturity level is useful to present the maturity level of UINSA Digilib today and future hopes. At these stages using audit programming is the stage of analyzing the existing state, the stage when determining the level of risk, the stage of determining the level of maturity, preparing recommendations, testing recommendations, and making a model on governance.

information systems in digital libraries have procedures and governance of information security as well as good data to be the most basic things in order to achieve online library services that have made library users easier on an ongoing basis. By fixing the complete management

aspects, there is an internal control mechanism, so that it is guaranteed in processing the security of the information system that does not have the element of error caused by errors or misuse. This can be caused by any sophisticated information security technology products that are used without the completeness of internal control mechanisms, this causes the information system to be very easy to break into and damage, and periodically requires inspection and system audits.

Therefore, the digital information system of UIN Sunan Ampel Surabaya library needs to be implemented in order to ensure that the performance management and capacity and security of UINSA's digital information system library can be used in accordance with established procedures and standards.

The UIN Sunan Ampel Surabaya Library has the responsibility and is committed to providing facilities in the form of access to digital collections by university academics. The existing digital collection consists of all scientific works in the form of theses, dissertations, and research reports. Not only does it provide a digital collection of university academic works, the library also displays scientific journal articles as well as necessary / important information about UIN Sunan Ampel Surabaya. Digital collections are not only in the form of text, but also can be in non-text form, and also in the future will plan audio and video. All of this digital collection is the development of GDL (Ganesha Digital Library) version 4.2 which has been established and its use has been since 2007. The emergence of ePrint UIN Sunan Ampel Surabaya-based Digital Library which has existed since August 2014 has not only become a new entity that is substantially displaying content that is perfect. because of this, criticism and encouraging suggestions are always welcome for the sake of convenience and have a satisfied impact on service users.

Based on the results of the interview, the UINSA Digilib was used in 2008. After that, there was also no action to improve or develop the existing system. The UINSA Digilib information system is used when requiring

library material catalogs in libraries located throughout the UINSA campus and storing library materials using digital formatting. UINSA Digilib hopes to be able to meet the needs of users when searching for references in the teaching and learning process and research.

This research, containing recommendations and governance models that are useful to show how to see the head of the library about DIGILIB is good and fulfilled that is needed by the user or the library. Resolution of existing problems using audits in the UINSA Digilib information system uses the COBIT framework. Domain Delivery and Support (DS) in the use of audits is needed when managing the system that has been designed. In this study the DS3 (Managing Performance and Capacity) process is used: which focuses on processing the performance and capacity of the system to be maintained and maintaining the availability of system services and DS5 (ensuring system security).

II. COBIT framework

The purpose of the COBIT framework itself is to display clear rules and good practices in information technology governance, useful as assistance to senior management, as well as risk management related to IT governance. Presenting a framework of information technology governance and guided to aim at the center of the detailed and Detailed Control Objective (DCO) by people in management, the use of business processes, users and auditors.

COBIT, which is already good at managing information technology and providing a useful framework for information technology governance, can make it easier to understand and manage the benefits associated with information technology.

III. COBIT Framework Model

DS3 Manage Performance and Capacity
 What is needed in managing performance as well as capacity of IT resources requires a process to be carried out periodically and to monitor the work done and to have capacity based on information technology resources.

when it is processed, a guarantee is given if the information from the resource is supported on the needs of the business that is always available to provide guarantees for the process. IT business optimizes the performance of IT infrastructure, resources and capabilities when responding to business needs can meet the requirements that exist in the control of IT processes in performance processing.

Focusing on meeting service level needs, minimizing downtime and making repeated IT performance and increasing capacity by monitoring. breakdown of objective control: DS3.1 works and plans related to capacity, DS3.2 launch capacity also Performance.

b. DS5 Ensuring system security (Ensuring system security)

This management system standard is carried out internationally for information security. It aims to help organizations follow best practices to keep their information safe. In this journal, we have the aim of planning a library of information systems security audit at UIN Sunan Ampel from reports at the time of interview and documents intended for results at the time of collecting data. The security audit of SI digital library of Sunan Ampel UIN Surabaya through COBIT 4.1 on DS5 (*ensuring system security*). details when controlling objectives: DS5.1 becomes a condition for securing the System.

IV. Stages in the Audit Process

Programming that was passed during the audit In general, namely:

a. Stages of analyzing existing conditions

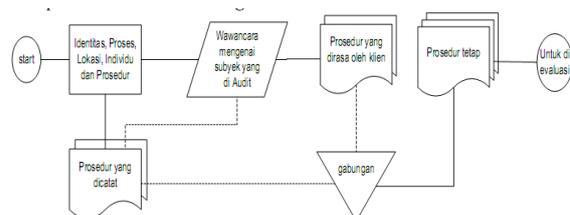


Figure 1. Stages of identifying the object being audited

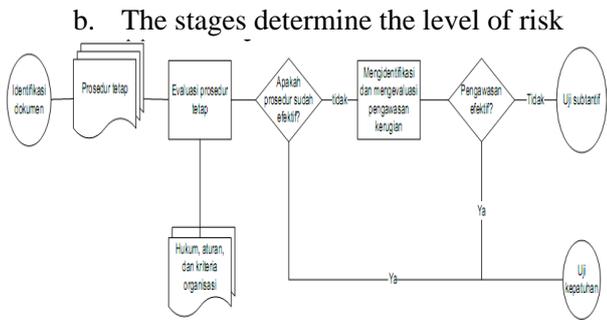


Figure 2. Stages of Evaluating the Audit

The sections in the stages that determine the level of risk are:

1) Audit Decency Testing

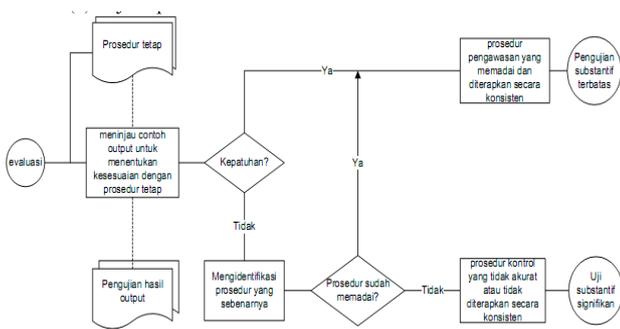


Figure 6. Stages of Audit Compliance testing

2) Audit Substantive Testing

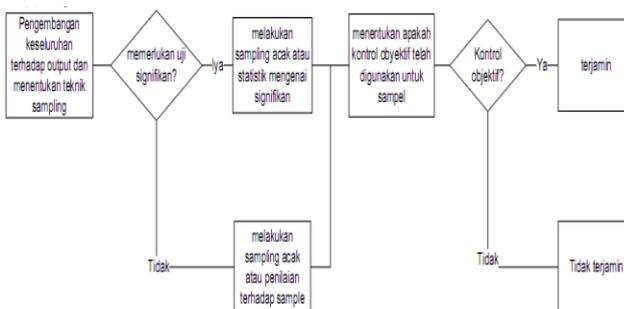


Figure 7. Stages of Substantive Audit Testing

V. RESEARCH METHOD

At the time of research, when the Digilib information system audit was carried out by the UINSA University library the COBIT 4.0 framework was used. The research was made in order to expect and be able to provide recommendations and design a governance

model that fits the needs of the subjects of this study that is useful in order to help improve the quality of the subjects of this study. Existing data when researching and collecting are used in library study methods, interviewing relevant parties, observations and questionnaires.

In carrying out this audit, there is a process that is when making three (3) types, namely: questionnaire I related to the current state of Digilib, questionnaire II is related to those who care about library management to Digilib (Management Awareness) and questionnaire III in order to know the current level of maturity and the level of maturity that is expected to Digilib (maturity level) and the distribution of questionnaires.

The implementation of this audit consists of:

a. Phase analysis of existing conditions

At this stage the process of identifying the object to be audited. This stage aims to be better known by means of something that is mandatory when objective control is carried out on duty to the party that will be responsible. When identifying the object to be audited, it can be seen in Figure 1. Identify the object of the object being audited and conduct an interview, then proceed with written procedures and good procedures by the library then combine them into procedures that cannot be changed. In order to know the current conditions in Digilib, questionnaires I can be used in the existing conditions so that we can find out what the assumptions are among the stakeholders of the users.

b. The stage determines the level of risk

The steps taken to determine the level of risk can be seen in Figure 2. If the Maturity Level II questionnaire is used, it can be represented in the two stages that determine the level of risk can be viewed from the lack of control that also affects the business Associated with DCO compliance.

c. The stage determines the level of maturity

The level of maturity is a representation of maturity based on the DS3 and DS5

processes in UINSA university libraries in the form of assessments or numbers on the use of the III Maturity Level questionnaire. Aside from this level of maturity, it means that the grouping starts at zero or non-existent level (still not there) to level five / optimized (optimized). His assessment at the adult level is aimed at the level of maturity. When processing IT it also identifies in an overall way all levels.

The income derived from this audit takes the form of: findings based on propriety tests conducted at the maturity level of the audited DS3 & DS5 process. What can be concluded from the results of the compliance test and recommendations is that which refers to what is improving when processing and leads to an increase in the level of maturity. The resulting audit was carried out by elaborating meetings and recommending those arranged according to the progress at COBIT.

VI. RESULTS AND DISCUSSION

I.Stages in the Implementation of Audit

When it was made and the distribution of questionnaires which were divided into 3 types, namely:

a. Questionnaire I Existing Conditions

Questionnaires are made so that the state of affairs in the business process DIGILIB Library now In this questionnaire the object questions are designed as best as possible so that answers from respondents can be the result of audit findings.

b. Management Awareness Questionnaire II

Questionnaires are made to find out information about things that threaten and have the potential to cause risks and will later affect DIGILIB's performance.

c. Questionnaire III Maturity Level

The questionnaire used in the measurement and assessment of the level of maturity of progress in managing performance and capacity (DS3) and progress ensures system security (DS5), in the present state (is-as), or in the desired state (to-be).

II.Stage in the Audit Process

a. Stage Analyzing Existing Conditions

Review UINSA's Library and UINSA's DIGILIB before conducting an information system audit. With the aim to obtain information related to business processes and other supporting processes on DIGILIB. By auditing an Information System that focuses on finding data, which is looking for processing on businesses and activities that support technology or not. In the questionnaire survey I Existing Condition is based on when answering from respondents who are stakeholders using DIGILIB to produce a condition analysis, namely:

- 1) Regarding respondents' visits to DIGILIB, some respondents answered that some respondents said they had never.
- 2) Respondents visit the catalog menu more often than other menus.
- 3) Respondents visit DIGILIB to find thesis reference material.
- 4) The menus on DIGILIB function properly.
- 5) Respondents are less satisfied with the services provided by DIGILIB
- 6) DILIGIB's appearance still confuses the visitors

b. Risk Determination Stage

In the Management Awareness II questionnaire survey based on the answers from respondents who are stakeholders users of DIGILIB produce data, namely:

- 1) In the process of managing performance and the process of ensuring system security it still needs to be improved because it is still lacking and low in terms of the results of respondents' data that is 45.35%.
- 2) While 23.67% stated sufficient in the process of managing performance and the process of ensuring system security.
- 3) The remaining 20.25% stated that it was good and met expectations in the process of managing performance and the process of ensuring system security.

c. Stage Determining Maturity Level

In monitoring questionnaire III Maturity Level produces the following data:

- 1) In DS3 process The current level of maturity (as / is) is at the second level (intuitive / repeatable)
- 2) In the DS3 process The expected level of maturity (to be) is at the third level (3) (defined / defined)
- 3) In the DS5 process The level of present maturity (as / is) is at the second level (2) (intuitive / repeatable)
- 4) In the DS3 process The expected level of maturity (to be) is at the third level (3) (defined / defined)

d. Recommendation

The recommendation here is to take corrective and defining actions on the attributes of maturity which are then directed to the expected level of maturity.

e. Governance Model

To achieve the maturation process at the expected level by considering corrective and defining actions, the solution is to design a governance model. The governance model is in the form of formulating policies and implementing guidelines in the process of managing capacity performance and the process of ensuring DIGILIB security.

VII. CONCLUSION

The conclusions obtained from the results that have been made on the information system digilib on UINSA Campus are:

1. At this time the level of maturity at Digilib is at level 2 that is repeated intuitively / repeatable, this is obtained from the results during the process when processing performance and capacitating / manage and capacity (DS3). However, the level of maturity that is in the next era (to be) Digilib during DS3 processing which displays the third level of maturity (3). that is, processes that define / defines those caused by the process when repairing what is needed are according to the ability of the UINSA library to be able to carry out improvements on

matters in managing the performance and capacity of Digilib.

2. Shows the level of maturity of one (1) which is at the initial level which is useful in the Digilib information system at present (as is). However, at the level of maturity that is needed when processing DS5 is the third level (3) that is when it is defined / defined. When processing data, it is also not considered when developing Digilib at the present time.

3. On recommendations based on audit reports, which propose improving the level of maturity and new and tested governance models, in order to be able to present suggestions when handling performance and capacity management and also handling problems when managing existing data in Digilib information system belongs to the UINSA campus.

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