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Ilham M
UIN Sunan Ampel Of Surabaya, Indonesia, ilham@uinsby.ac.id

Anis Eliyana
Airlangga University Of Surabaya, Indonesia

Indrianawati Usman
Airlangga University Of Surabaya, Indonesia

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Ilham[1], Anis Eliyana[2], Indrianawati Usman[3]
[1]Information Systems Study Program, Department of Technology, Faculty of Science and Technology, Sunan Ampel Islamic University Of Surabaya
Ahmad Yani Number 117 Street, Surabaya, East Java
ilham@uinsby.ac.id
[1,2,3]Department of Management, Faculty of Economics and Business, Airlangga University
Airlangga Number 4-6 Street, Surabaya, East Java

ABSTRACT

This study current technological developments have entered almost into the lines of people's lives. Currently, many public library have grown even bigger. And this development does not escape the good management of information technology governance. To maximize management to a better level, public library need information technology governance audits. The information technology audit used in this study uses the COBIT 5 framework which focuses on the APO04 and DSS01 domains. This study aims to improve the quality of services owned and to increase its competitiveness. The results of this study refer to the vision and mission of the public library in East Java, which is in accordance with the domain of management innovation (DSS01) and management operations (APO04) where the condition of the public library or maturity level is at level 3, which needs to be improved again.

Keywords: Information, Technology, Audit, COBIT 5, Maturity Level, Public, and Library in East Java

PRELIMINARY

The development of information technology has now entered almost all lines of public life, such as education, government to business. With the proper and good use of information technology, a public library in East Java can get so many benefits and it is not impossible that it will become a leading library in its field. The publich library itself is said to have used information technology properly and appropriately if it can handle or audit corporate governance itself. Therefore, it is necessary to conduct a governance audit to improve the effectiveness of the use of information technology and support efficiency in the Public library.

Information technology audit is an evaluation in knowing the level of conformity between information technology and existing procedures. And to find out an information technology has been implemented effectively and efficiently, ensuring data integrity and securing adequate assets. IT governance is a part of corporate governance which is the obligation of the board director or top level management. This governance functions to direct and control so that Public library goals are achieved and reduce any risks that may arise in the future. IT governance is also needed, because currently IT is no longer seen as a support for business processes, but is seen as a business strategy for a Public library (Marnewick and L. Labuschagne,2011)

In addition, by having a good IT governance audit, public library can minimize failures due to a lack of analysis and audits of good IT governance. An IT governance audit enables a Public

library to carry out IT development and development precisely in accordance with the Public library 's vision and mission. With this, it can be said that a Public library needs to have a good IT governance audit, especially an IT-based or digital Public library such as the Public library.

The public library is a multi-platform digital media public library that provides content or news to millennials in Indonesia. One of the products of the Public library is one of the five digital media with the most visitors in Indonesia based on comScore. public library already has advantages in its products, so that it can compete with other media that are already operating first. With a good IT governance audit, the public library can improve the quality of its services and can increase its competitiveness. However, currently public library does not have an IT governance audit. In this regard, this study is expected to provide an overview of the implementation of IT governance audits with the COBIT 5 framework or framework (A.Pasquini and E. Galiè, 2013).

Referring to the previous sub-chapter regarding the background, it can be concluded that the formulation of the problem in this study is: "What is the picture of the IT governance audit based on the COBIT 5 framework in public library?". This study aims to provide an overview of IT governance audits with the COBIT 5 framework or framework at public library so that the quality of services provided is always maximized.

METHOD

The methodology of this study uses qualitative, namely conducting observations and interviews with the public library, measuring IT governance using the process framework Maturity Assessment Tools - COBIT 5. The research carried out consisted of 5 stages, namely:

Identification Stage

This identification stage begins with determining the public library for the research observation site. The second identification stage, namely determining the formulation of the problem to be discussed in the research. The problem that we will make as a study material is how to plan an IT governance audit in the IT division of the public library based on the COBIT version 5 framework. The third identification stage, namely determining the research objectives and research boundaries. At this stage we also carry out literature studies and field studies. The identification stage is carried out for all determinations related to research.

Analysis Phase

The analysis stage is the second stage after the identification stage. This analysis stage is carried out to analyze what has been done after the interview and this stage is carried out to assess the condition of the public library object. At this stage it will affect the research output (whether it is in accordance with the formulation of the problem and the research boundaries that have been determined. The first stage of analysis, namely interviews and observations of the public library. In this first stage, we will find out how the condition of IT service management in the IT division of the public library. The second stage, namely analyzing the existing service conditions (real conditions) contained in the research object.

Based on an interview with the Lead Engineer of the public library on May 6, 2019, the public library has 1 server, where the server is not in this city, but is in its third-party data center in Jakarta. The network topology uses third-party power. Existing engineers are only devoted to handling the products of the public library. The Engineering Division is divided based on the products owned by the public library. Each product owned by the public library has a Person In Charge (person in

charge) and on top of the PIC is the Head of Engineering. Apart from being divided by product, there is also a System Analyst section which functions to analyze the products of the public library to suit their respective purposes. The System Analyst oversees the Quality Assurance section which functions to assess the quality of the products that have been developed by the Engineering Division and also the Testing section to test the products that have been developed. The organizational structure of the Engineering Division is shown in Figure 1.
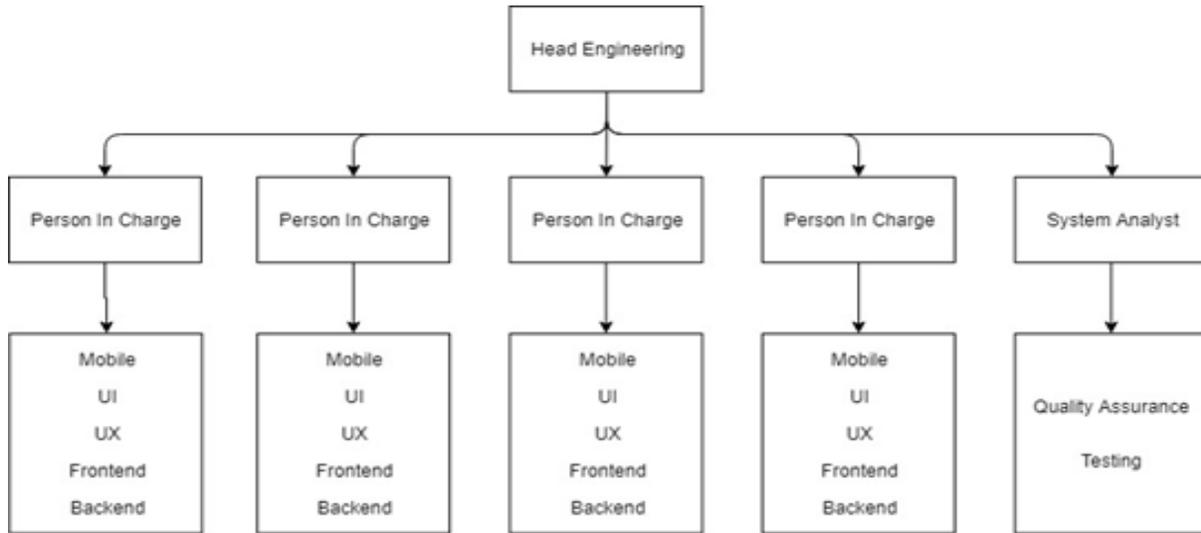

Figure 1. Structure of the Engineering Division

In the Engineering Division there are 22 employees, each person gets 1 computer, but for Person In Charge they get a computer and laptop. In developing products, the Engineering division uses Scrum-based development methods and uses the GO programming languages and PHP. In the product development process, the Engineering division uses several applications that support product development to run smoothly, as follows:

1. Slack Application (Application for communication between members of the development team).
2. YouTrack Application (Application for project management that can manage tasks in product development).
3. GitLab.
4. Slicker (Application for attendance, used by all public library employees).
5. Several other applications that were not available were made by the Engineering division themselves.

Design Stage
The third stage is about design. At the design stage, it aims to design a governance document based on the public library 's vision and mission of library which is matched with the COBIT 5 document.The vision and mission of the public library are then mapped with the Enterprise Goals in COBIT 5.

Maturity Level Assessment Phase
At this stage, the questionnaire data supports the assessment of the maturity level. Each criterion question has a value index that is used to measure the following maturity levels:

$$\text{Indeks} = \frac{\sum (\text{Total Of Respond Value})}{\sum (\text{Total Quisioner Question})}$$

RESULT AND DISCUSSION

Analisys Enterprise Goals

To get Enterprise Goals, it must be seen from the public library 's vision. So after mapping with the Enterprise Goals listed in the public library 's vision and mission is in Table 1.

Table 1. Enterprise Goals

No	Enterprise Goals
1	Customer-oriented service culture (EG6)
2	Product and Business innovation culture (EG17)

Analisys Information Technolgy Goals

After getting the Enterprise Goals, the next step is to map the Enterprise Goals into IT-Related Goals. The results of the mapping are in Table 2.

Table 2. Mapping Enterprise Goals to IT-Related Goals

IT-Related Goals			Enterprise Goals	
			Customer-oriented service culture	Product and business innovation culture
			EG06	EG17
			Customer	Learning and Growth
Financial	01	Alignment of IT and business strategy	Primary	Secondary
	03	Commitment of executive management for making IT-related decisions	Secondary	Secondary

	No			
	05	Realised benefits from IT-enabled investments and services portfolio	Secondary	Secondary
Customer	07	Delivery of IT services in line with business requirements	<mark>Primary</mark>	Secondary
	08	Adequate use of applications, information and technology solution	Secondary	Secondary
Internal	09	IT Agility	Secondary	<mark>Primary</mark>
	11	Optimisation of IT assets, resources and capabilities	Secondary	Secondary
	12	Enablement and support of business processes by integrating applications and technology into business processes	Secondary	Secondary
	13	Delivery of programmes delivering benefits, on time, on budget, and meeting requirements and quality standard	Secondary	Secondary
Learning and Growth	16	Competent and motivated business and IT personnel	Secondary	Secondary
	17	Knowledge, expertise and initiatives for business innovation	Secondary	<mark>Primary</mark>

However, not all IT-related Goals are taken, several IT-related Goals will be selected that have primary support to Enterprise Goals. The selected IT-related Goals are in Table 3.

Table 3. Information Technology-Related Goals Primary

No	*IT-Related Goals*
1	Alignment of IT and business strategy (ITG01)
2	Delivery of IT service in line with business requirement (ITG07)

| 3 | IT agility (ITG09) |
| 4 | Knowledge, expertise and initiatives for business innovation (ITG17) |

Analisys Information Technology Process

The next step is mapping or mapping IT Related Goals with the IT Process. In this case the appropriate IT Process will be selected from a total of 37 existing IT Processes.

The selected IT Process is an IT Process with Primary attributes. The results of the mapping that have been carried out are presented in tabular form and grouped according to the domain as shown in Table 4.

Table 4. Mapping IT Goals with IT Process

Domain	*IT Process*
Evaluate, Direct and Monitor (EDM)	EDM01, EDM02, EDM04, EDM05
Align, Plan, and Organise (APO)	APO01, APO02, APO03, APO4, APO5, APO07, APO08, APO09,APO10,APO11
Build, Acquire, and Implement (BAI)	BAI01, BAI02, BAI03, BAI04, BAI0G5, BAI06, BAI08
Deliver, Service, and Support (DSS)	DSS01, DSS02, DSS03, DSS04, DSS06
Monitor, Evaluate and Assess (MEA)	MEA01

After the mapping is complete, then selecting the appropriate IT Process is considered the most crucial. The selected IT Processes are shown in Table 5.

Table 5. IT Process Choice

No.	*IT Process*
APO04	Manage Innovations
DSS01	Manage Operations

The selected IT Process results are divided into 5 points, points 1 and 2 are the audit results of the maturity level of the APO and DSS domains, point 3 is an explanation of the maturity level, point 4 is analysis of problems and recommendations and point 5 is the analysis applied.

1. APO04 - *Manage Innovation*

The calculation results of the APO04 sub domain are shown in Table 6.

Table 6. Maturity Level APO04

Domain	Explanation	Level
APO04.1	Create an environment conducive to innovation	Level 3
APO04.2	Maintain an understanding of the enterprise environment	Level 2
APO04.3	Monitor and scan the technology environment	Level 4
APO04.4	Assess the potential of emerging technologies and innovation ideas	Level 3
APO04.5	Recommend appropriate further initiatives	Level 2
APO04.6	Monitor the implementation and use of innovation	Level 2
	Average	Level 3

2. DSS01 - *Manage Operations*

The calculation results of the DSS01 sub domain are shown in Table 7.

Table 7. Maturity Level DSS01

Domain	Explanation	Level
DSS01.1	Perform operational procedures	Level 2
DSS01.2	Manage outsourced IT services	Level 3

DSS01.3	Monitor IT infrastructure	Level 2
DSS01.4	Manage the environment	Level 2
DSS01.5	Manage facilities	Level 3

3. Maturity Explanation Level

The following is an explanation of the maturity level in Table 8.

Table 8. Maturity Explanation Level

Domain	Explanation	Value	Condition
APO04	Manage Innovations	3,08	Need Enhancement
DSS01	Manage Operations	3,05	Need Enhancement

Problem analysis and recommendations

The following is an analysis of problems and recommendations for the APO and DSS domains.

APO04 - Manage Innovation

Problem Analysis
The public library already has a good working environment so that workers can make innovations. In addition, public library still does not have a procedure for anticipating the presence of a new technology that allows changes to the system that is currently running.

Recommendations
Public library In East Java can continue to maintain and improve working conditions that are already good so that it becomes better for employees. In addition, public library can also identify or anticipate the possibility of new technology emergence.

DSS01 - Manage Operations

Problem Analysis
The public library uses third parties for network and server maintenance. Some things that public library have not done or have done but are not yet optimal, such as the absence of documented Standard Operating Procedure (SOP) documentation.

Recommendations

The public library can create a Standard Operating Procedure (SOP) and maintain the existing one to support its services.

Applicable analysis

Based on the results of mapping and further analysis, there are several things that can be applied by the public library, namely:

1. Preparation of Standard Operating Procedure (SOP)

Standard Operating Procedure (SOP) refers to PERMENPAN No. 21 of 2008 as a reference for the preparation of SOPs, is a series of standardized written instructions regarding various processes of government administration administration, how and when to be carried out, where and by whom. Documents contain routine tasks performed on each device, system and procedure. It is also mentioned in PERMENPAN No. 21 of 2008 that SOPs must fulfill several principles such as ease and clarity, effectiveness and efficiency, harmony, measurability, user orientation and legal certainty.

2. Identification of possible incidents / disruptions

This identification is done to anticipate something that could disrupt the business process in public library. It is recommended to regularly monitor devices that can detect environmental disturbances (such as fire, water, smoke, humidity, etc.). In addition, scenarios need to be drawn up when an incident or disruption occurs.

3. Inspection of IT and Non-IT facilities

Inspections are carried out regularly so that the existing facilities in the office are still in good condition. This examination is highly recommended to be carried out with a set and recorded schedule. Scheduling regular examinations will make the facility well maintained because it regulates the time of examination and who checks it. Checklists can also be made for facility inspection so that it is clear which facilities have been inspected by the employee responsible for this.

4. Maintaining working environment conditions

It is advisable to make policies such as limiting or prohibiting eating, drinking and smoking in sensitive areas and not storing flammable items near / inside the computer room. In general, the Open Plan Office concept is a spatial planning concept or physical environment that can be applied to support the productivity of the public library 's employees. public library. Open Plan Office is a layout concept that provides one or more desks (as needed) located in a room. Each one table can be used for several employees (four, six or eight people) or even depending on the needs and size of a room. There are additional accessories, quite a few plugs of the power cable as needed and a wifi hotspot. In terms of interior arrangement, you can do this by hiring an interior designer.

5. Identification / Anticipation of New Technologies

Study the latest emerging technologies, then analyze these technologies. After adjusting it to the needs of the public library and doing maintenance on the technology that has been used. So that the products owned by a public library use the latest technology.

6. Monitor the implementation and use of innovations

    After the latest technology is used, it is necessary to monitor its integration with business processes. Evaluate and adjust the innovation plan as needed.

CONCLUSION

    Based on the research that has been done above, several things can be concluded as follows:

1. Referring to the vision and mission of the public library, it can be concluded that the DSS01 and APO04 processes from COBIT 5 are the most similar to the public library 's library vision and mission.
2. Current conditions in public library related to the APO04 and DSS01 processes have been implemented but there are several activities that should have been carried out but have not been carried out and need to be improved such as documenting SOPs.
3. For the results, the maturity level is at level 3 where the public library still needs to improve the quality of management innovation and management operations.
4. Recommendations that can be carried out by public library to handle activities that have not been carried out in public library have also been prepared.

SUGGESTIONS

    Based on the results of the research that has been done, the authors recommend the following suggestions:

1. To increase efficiency and comfort in a room, the room should not be too full. And for comfort at work, the arrangement on the computer table should be used for items that are needed only.
2. To facilitate new employees and remind employees of existing procedures, the public library should be able to document SOPs.

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