

Evaluation of Information Technology Governance Using the COBIT 5 Framework (Case Study of Integrated Licensing Service Agency Medan City Government)

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ABSTRACT

IT governance is the responsibility of the board of directors and executive management in the organization. This, is an integrated part of organizational governance and contains leadership and organizational structures and processes that ensure that IT organizations contain and support IT organizational strategies and objectives implemented through applications or systems in the organization will provide added value to everyone who uses IT such as staff, managerial and directors, therefore IT is very much needed by organizations because it can provide added value to the organization. Application of IT as a supporting instrument in the administrative process as well as providing useful information for all circles, so that it is in accordance with the goals previously set. This is to ensure the use of information technology that can truly support the expected IT goals while also taking into account the efficient use of resources and risk management as the basis for IT governance.

Keywords: Frame work COBIT 5 from ISACA

INTRODUCTION

Information Technology (IT) has now become a very important requirement for organizations (government, industrial sector, private sector and education sector) as a supporting factor in increasing organizational activities in achieving goals. With the rapid development of technology, especially IT and computers, most

organizations make technological developments part of their organizational strategy.

The Medan City Government is one of the government organizations that has implemented Information Technology (IT) in the field of providing service fulfillment to the public. One form of public service is the one-stop integrated licensing service, where in this case the local government's interest in licensing services affects regional income and investment climate.

Medan City Government in implementing the Regulation of the Minister of Home Affairs Number 24 of 2008 has established the Integrated Licensing Service Agency (BPPT). Through this agency, it is hoped that licensing services will be carried out in accordance with the principles of transparency, participation, equality of rights, effectiveness, efficiency, balance between rights and obligations, and professionalism. It is hoped that the implementation of integrated licensing can provide services with simple procedures, thus making it easier for the community to take care of permits.

The Medan City Government BPPT currently manages 11 types of permits, namely Industrial Company Nuisance Permits, Non-Industrial Disturbance Permits, Trading Business Permits, Company Registration Certificates, Industrial Business Permits (IUI)

specifically for Small and Medium Industrial Companies (IKM), Optical Permits, Health Officer Work Permit, Parking Lot Permit, Special Advertising Permit for Banners and Banners, Construction Suit Business Permit and Management Permit, Drilling, Extraction and Utilization of Groundwater.

The Medan City Government to realize optimal and professional licensing services as well as community satisfaction in accordance with its vision and mission then utilize IT through an information technology-based service management information system. The IT service is implemented in the form of a web-based application. To achieve this, it is necessary to manage IT or what is known as Information Technology Governance (IT Governance).

Based on interviews that have been conducted with the IT manager of BPPT Medan City Government, it is known that several problems are as follows:

- a. Some devices such as website materials, social media accounts, and maintenance backup servers have not been fully managed properly due to limited human resources.
- b. Product source code data and work progress status records have the potential to be lost if there is damage to the development server because the use of the backup server is not optimal.
- c. The number of human resources is minimal for IT infrastructure because infrastructure team personnel are often involved in project work in the field.
- d. Standard operating procedures (SOPs) are not yet fully available in IT management, such as SOPs for IT asset management.
- e. The filtering system on internet services is vulnerable to network security, so that unauthorized parties have the potential to attack and access IT devices.
- f. There is no standardization of the use of anti-malware tools for each employee's personal IT device, so that it has the potential to spread malware on IT

devices in the organization's environment.

- g. Officers in the IT department often increase their workload to guide the operational use of applications and their supporting devices because the knowledge of human resources in the organizational environment of application service users is still not good.

Based on the background of the problems described above, it is known that IT services at the Medan City Government BPPT have not been managed properly, so it is necessary to conduct a study entitled "Evaluation of Information Technology Governance Using the COBIT 5 Framework" (Case Study: Integrated Licensing Service Agency) Medan City Government).

LITERATURE REVIEW

Conducting research aimed at IT that is applied through applications or systems in the organization will provide more value for everyone who uses IT such as staff, managerial and directors, therefore IT is very much needed by organizations because it can provide more value to the organization. (Jogiyanto, 2011)

Conducted a study aimed at implementing IT as a supporting instrument in the administrative process and providing useful information for all groups, so that it is in accordance with the previously set goals. This is to ensure the use of information technology that can truly support the expected IT objectives while taking into account the efficient use of resources and risk management as the basis for the need for IT governance. (Oktarina, T., 2017)

Surendro, Kridanto conducted research aimed at being an integrated part of organizational governance and containing leadership and organizational structures and processes that ensure that IT organizations contain and support organizational strategies and goals.

Weber, R.A conducted research aimed at evaluating the system to find out whether the implementation was in accordance with existing standards and criteria and at the same time fulfilling the organization's strategic plan. Information technology evaluation serves to ensure that an organization's IT uses resources efficiently, secures organizational assets, maintains the integrity and security of organizational data, and effectively achieves organizational goals.

ISACA C., 2014 conducted a study aimed at selecting the COBIT framework in this study with the consideration that the COBIT 5 framework from ISACA (Information System Audit and Control Association) provides a description of IT governance to describe the main role of

information and technology in creating corporate value.

ISACA C., 2012 conducted research aimed at bringing together all control needs and technical issues, besides that COBIT was also designed to be a tool to solve problems in IT Governance in understanding and managing risks and benefits related to information resources.

METHODOLOGY

The research method describes the stages carried out in the research. The research phase consists of several stages that are systematically related. This stage is needed to facilitate the research to be carried out. The research stage will be shown in Figure 1.

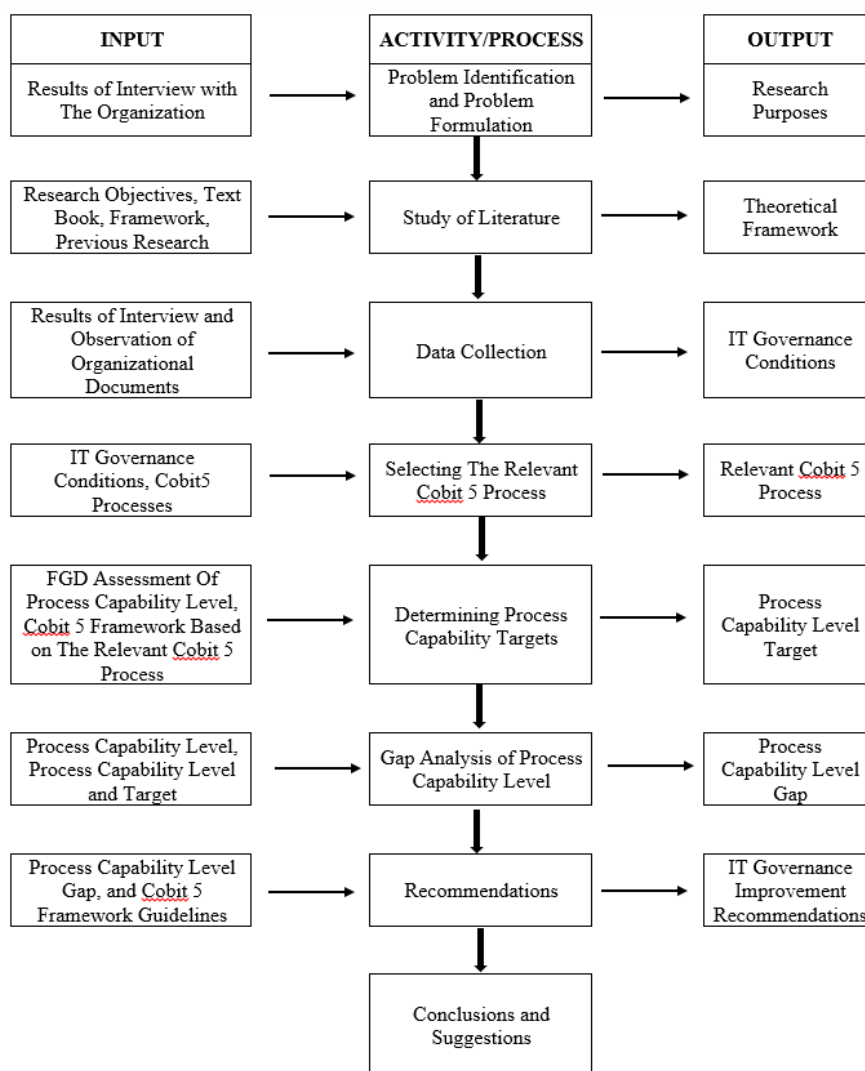


Figure 1. Research Method

Problem Identification and Problem Formulation

The initial stage of research preparation is carried out by outlining the identification of the problem and the formulation of the problem obtained through the interview process and studying organizational documents. The results of the output or output of the formulation of the problem in the form of research objectives are then used as input for the next stage.

Study of literature

A literature study was conducted to study various theories relevant to the scope and objectives of the research. Discussing the theory and also conducting studies on research related to IT governance, especially those using the COBIT 5 framework as reference.

Data collection was carried out in this study using several methods, namely:

- a. Interviews with several stakeholders in the organization that is the object of research. The interviews were conducted involving several senior resource persons with a minimum working period of 1 (one) year, namely;
 - (1). Director who is responsible for the management of IT operations of BPPT Medan City Government.
 - (2). Software Development Leader
The software development leader has a role in leading the technical team responsible for the development of application products in the IT unit of the BPPT Medan City Government. The technical team is the team that uses IT the most in developing, so they have sufficient knowledge in providing an IT description of the Medan City Government BPPT.
 - (3). IT Infrastructure Specialist
IT Infrastructure specialist is an employee of a third party company who is responsible for managing IT infrastructure as a resource person in this study. The data collection process is expected to provide an overview of IT

management which is the object of research.

- b. Collect and study documents related to the organization's IT management.
- c. Observation by visiting the organization and getting an overview of the organization. Observations are made by direct observation of the part of the system used, so as to get a clear picture of the system architecture used.

COBIT 5 Process Selection

The selection of relevant COBIT 5 processes is carried out based on data on the condition of IT services in the organization, in order to obtain COBIT 5 processes that are relevant to organizational problems.

Capability Level Assessment

The capability level assessment of each relevant COBIT 5 process is carried out referring to the PAM (Process Assessment Model) measurement model provided by COBIT 5. The capability level assessment method is carried out using the FGD (Focus Group Discussion) technique using the COBIT 5 Self-assessment Guide. This assessment involves the board of directors and several employees who represent each organizational unit.

Determination of Capability Level Target

The target for the level of capability of the relevant COBIT 5 processes to be achieved is carried out through interviews with relevant stakeholders. The target capability level will be used as a reference in making improvements and designing IT processes that have a capability level below the organizational target.

Gap Analysis

Gap analysis is the difference between the expected COBIT 5 process capability level target and the current state of the organization's current COBIT 5 process capability.

Recommendation

The preparation of recommendations presented to improve process capability and overcome the value of the process capability gap refers to the process attributes or indicators that must be achieved at each targeted process level.

Conclusions and suggestions

Making conclusions on the results of the analysis carried out, so that it can answer the research objectives. At this final stage, suggestions are also given for future researchers who carry out related research.

RESULTS AND DISCUSSION

Overall Gap Analysis

The following are the results of the audit, the results of the capability level are obtained for the whole process is as follows:

Table 1 Overall Gap Analysis

Process Name	Level Existing	Level Target	Gap
DSS01 ManageOperations	4	5	1
DSS02 Manage Service Requests and Incidents	4	5	1
DSS03 Manage Problems	4	5	1
DSS04 ManageContinuity	3	4	1
DSS05 Manage SecurityServices	4	5	1
DSS06 Manage Bussiness process Controls	4	5	1

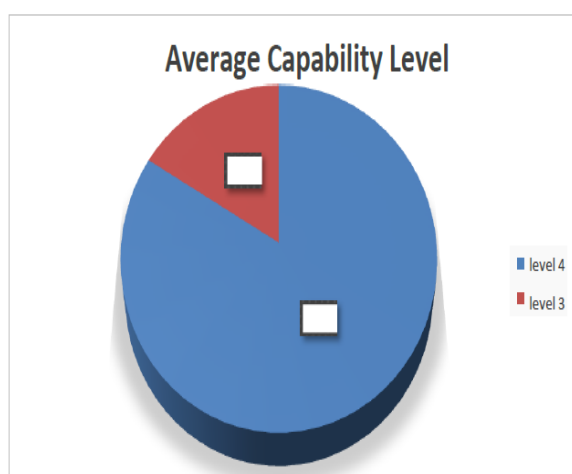


Figure 2 Capability Average Chart

From Table 1, it is obtained that the capability level of each DSS COBIT 5 domain process is obtained, from Figure 2 it

can be seen that the average capability level obtained is at Level 4, namely Predictable Process. This means that activities, policies and rules are documented and produce optimal services/information that have been monitored and analyzed. As well as to reach Level 5, namely Optimizing Process, which must be done, namely making innovations and strategies for developing activities according to the results of the analysis of activities that have been standardized previously as well as maximizing activities that have been running quite well.

General whole process

Previously, several recommendations were written based on each process in the DSS (Deliver, Service, and Support) domain. The following are some additional general recommendations based on the conditions of the Medan City Government BPPT within the scope of the Community Development Information System.

The overall Capability Level obtained is Level 4 Predictable Process, the target level to be achieved is 5 Optimizing process, so the recommendations made are as follows:

1. Tighten control of ongoing processes to maintain processes that are already running quite well
2. Making innovations to business processes so that they run varied for the better.
3. Based on priorities, the domain that is still lagging behind is DSS04, namely manage continuity, it is necessary to implement the recommendations first to improve performance in ongoing business processes
4. Improve and be consistent in controlling and evaluating the achievement of the 5-year blue print, especially the control and evaluation per 3 months and per year.

CONCLUSION

Based on the audit conducted at SGM CDC PT BPPT Environmental

Development in a case study. COBIT 5 Domain DSS (Deliver, Service and Support), the conclusion of this final project are:

1. At the pre-audit stage, the COBIT 5 DSS domain process has been obtained which is the entire process of the DSS domain that is in accordance with the governance conditions of SGM CDC PT BPPT Environmental Development and is used as the scope and used as the scope and audit standards, namely DSS01, DSS02, DSS03, DSS04, DSS05, DSS06.
2. From the audit results, it is known that there is 1 process that has a capability level of 3, namely DSS04, there are 5 processes that have a capability level of 4, namely DSS01, DSS02, DSS03, DSS05 and DSS06.
3. According to the capability level of each process, the target level for each process is determined, namely 1 Level above the capability level, which is determined based on analysis and also agreement with stakeholders, so that the target level is obtained for DSS01, DSS02, DSS03, DSS05 and DSS06 is Level 5, for DSS04 is Level 4
4. The overall capability level obtained based on the overall average is 4, which means that most of the activities in the DSS domain for PT BPPT CDC SGM Environmental Development have been carried out, there are implementation standards in carrying out the process, have been monitored, measured, and planning has been carried out. Future predictions have gone well.
5. The target level to be achieved is 5 Optimizing process, so the recommendations made are as follows:
 - a. Tighten control of ongoing processes to maintain processes that are already running quite well and innovations to business processes so that they run varied for the better
 - b. Based on priorities, the domain that is still lagging behind is DSS04, namely manage continuity, it is necessary to

implement the recommendations first to improve performance in ongoing business processes and improve and be consistent in controlling and evaluating the achievement of the 5-year blue print, especially control and evaluation every 3 months and per year.

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