



IT Governance with Framework Implementation Cobit 5 at Yapim Air Bersih Senior High School Medan

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Abstract

Technology information is very important thing nowadays in help the search process correct information . At SMA YAPIM Air Bersih Medan still use technology information that is still simple in give service to users , so that make it difficult in access information . Therefore That needed A analysis that can help finish problem that is one of technology analysis that can done with using the Cobit framework . Cobit or Control Objectives for Information and related Technology are framework used in governance analysis technology information . There are 3 things analysis according to Cobit shared namely the DSS, APO and MEA domains. Safira et al., (2021) in his research titled Technology Governance Analysis Information Use Cobit 5 (Case Study: Head Office By Banana Foster Lampung) which discusses about evaluation technology information that has been applied to the company with using the COBIT 5 framework with the APOo8 (Manage Relationship) domain. The existing problems that is system constraints information called GF which functions For arrange sales , stock and accounting turnover that is GF system used Enough Far so that response If happen problem Enough slow . Based on results evaluation governance analysis technology Information on YAPIM Air Bersih Medan High School , Implementation of IT governance during the IT work process at YAPIM Air Bersih Medan High School which includes the MEAo1, APOo9 and DSSo2 domains has been done with good . Capability level moment This is at level 4 (Predictable). Namely range in value achievement of 4 and required development documents related with the process domain being studied as well as improvement amount source power that manages technology information at the Yapim Air Bersih High School Medan.

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1. Introduction

In educational institutions it has Lots use technology information used For support various type appropriate activity with implementation vision and mission from agency said. In the era of Now If No utilise function from technology information so will make agency the left behind information and progress(Rouse,2020). But in the use of technology information security is very necessary so that

avoid from various unwanted threats. The benefits of IT governance are to regulate the use of IT and ensure IT performance is in accordance with the following objectives (Astuti, 2019).

YAPIM Air Bersih High School Medan has adopted technology information for a number of needs such as information systems in give service need information school. However, the information system that is running still has its own problem like supervision and assessment performance that has not been maximum. Problems that related with service to users who interact with each other relate with school (Altemimi, 2015). Therefore that needed information system governance analysis in settlement problem said. One of the technology analysis that can be done with using the Cobit framework (Amali, 2019).

Cobit or Control Objectives for Information and related Technology are framework used in governance analysis technology information. There are 3 things analysis according to Cobit shared namely the DSS, APO and MEA domains (Fauziah, 2018).

According to (Effendi, 2019) defines governance as a company's internal control system that has the main objective of managing significant risks in order to meet its business goals. Information technology is not only used as a supporting factor in the company, but also as part of the company's business strategy. In order for information technology to be used optimally, a governance is needed which can be called information technology governance (Noorhasanah, 2015).

Safira et al., (2021) in his research titled Technology Governance Analysis Information Use Cobit 5 (Case Study: Head Office By Banana Foster Lampung) which discusses about evaluation technology information that has been applied to the company with using the COBIT 5 framework with the APOo8 (Manage Relationship) domain. The existing problems that is system constraints information called GF which functions for arrange sales, stock and accounting turnover that is GF system used enough far so that response if happen problem enough slow. The method used that is through measurement level maturity level with method data collection namely studies literature, observation, interviews, and questionnaires. The results of the study using the APOo8 domain with the processes APOo8.01, APOo8.02, APOo8.03, APOo8.04, and APOo8.05 at level 4 (Managed and Measurable) which indicates implementation technology information has own indicators and has become target as well as objective in performance company (Dwi, 2015).

Furthermore, previous research that examined the implementation of information technology governance using the COBIT 5 framework at the Directorate General of Customs and Excise, the results of which stated that the overall capability level obtained based on the overall average was 2, which means that most activities in the DSS domain for the Directorate General of Customs and Excise have been implemented regularly, there is planning and well monitored (Riantini & Mulyana, 2019).

However achievement in every process is not yet fully fulfilled, and results evaluation level maturity from recapitulation results questionnaires distributed get average value of level 6 maturity moment this (maturity level as is) is 3.6. While level expected maturity company (maturity level to be) is 4, so that there is a gap of 0.4. Research furthermore titled Technology Governance Evaluation Information Using the Cobit 5 Domain EDM Framework at the Bina Darma Salatiga Foundation written by Taraudu (2021) which discusses about IT governance evaluation for achieve strategies and goals foundation, with do capability level measurement. Result of study using the EDM domain obtained results capability level measurement is at level 1 (Performed Process) This can be seen from the ongoing IT process walking on a foundation that runs with good and achieve the purpose (Mangalaraj & Taneja, 2014).

Study furthermore titled Technology Governance Analysis Information Using the Cobit 5 Domain EDM Framework written by Wicaksono et al., (2020) which discusses about use source Power technology at the Population and Records Service Civil Servants of Tangerang City as support activity service to society. The method used that is with measurement level capability where method data collection was carried out with method observation and interviews. The results of study using the EDM domain obtained mark average of 3.33 and is at level 3 (managed process). While the desired achievement target namely at level 5 (optimizing process).

2. Research Methodolgy

a. Location / Object Study

Study This use method qualitative with studies case at YAPIM Air Bersih High School . Object study This related management technology information . In addition to objects study there are also subjects research , subject study that is individual YAPIM Air Bersih High School which became sources and respondents in study This

b. Framework Study

Stages carried out in research this can seen in the figure 1.

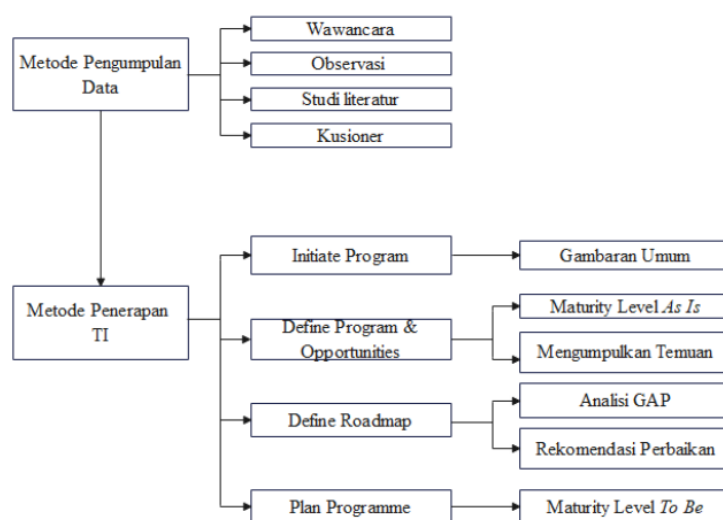


Figure 1. Framework Study

3. Results and Discussion

a. Method of collecting data

Collection in the research conducted at the YAPIM Air Bersih Medan High School aims to... For get information. Data collection method with will use two data sources analyzed, namely primary data and secondary data According to (Sugiyono, Quantitative, Qualitative and R&D Research Methods, 2016).

1. Primary Data

Primary data is data that comes from sources from collection information in a way directly in the field that is :

- Observation
According to (Widoyoko, 2014), observation is the systematic observation and recording of elements that appear in a symptom in an engineering research object which is carried out through a process of observation and discussion with IT employees who are directly involved in the IT governance process.
- Interview
- Questionnaire

2. Secondary Data

Secondary Data is the data obtained from a number of study related libraries with Topic problem study.

b. Data Analysis Methods

Data analysis process is carried out after get data from interview and questionnaire , continued with data analysis using technique descriptive data analysis qualitative with emphasis on data sources and facts . Data sources and facts the based on the results 4- stage data collection that is observation , interviews , questionnaires , and studies literature .

1. Technology Governance Implementation Methods Information

• Step 1 - Initiate Programme

At the stage This researcher do identification driving force in the organization as well as identify booster change moment This . Stage This related with goals , vision and YAPIM Air Bersih High School Medan, as well as structure existing organizations . This is explained in description general organization For identify the processes involved in COBIT 5 and the organization . At this stage This data obtained from results interview with source person namely Mr. Ubasari Purba , SS Head School field Curriculum at YAPIM Air Bersih High School Medan.

• Step 2 - Define Problems and Opportunities

At the stage This researcher explain about level ability YAPIM Air Bersih High School Medan at the moment this is related with IT activities . Determination ability moment This obtained from results completed questionnaire with the given maturity level model to 26 respondents . YAPIM Air Bersih High School Medan needs know ability management technology information , which shows ability YAPIM Air Bersih High School Medan at the moment This For manage and utilize technology information .

• Step 3 - Define Road Map

At the stage This researcher do definition objective improvements that will be done organization with gap analysis For identify possibility solution use technology information at YAPIM Air Bersih High School Medan. Gap occurs when mark existing capabilities with hope organization different . From the results The findings obtained from the maturity level questionnaire were obtained mark level maturity utilization technology information at the SCHOOL SMA Yapim Air Bersih Medan. Then from results findings the can gap is obtained if findings and assessments provided No in accordance with expectations at YAPIM Air Bersih High School Medan. Stages This also explains the maturity target you want to achieve. achieved by the organization , referring to the index maturity level assessment consisting of from level 0-5. Achievement level level IT maturity on value maximum is level 5.

• Step 4 - Plan Programme

At the stage This researcher compile program plans and proposals based on results analysis interviews and questionnaires administered to respondents at the Medan Air Bersih YAPIM School . The planning of the program based on focus area selected namely EDM (Evaluate, Direct, and Monitor) with the sub domains used EDM₀₁, EDM₀₂, and EDM₀₄. At the stage this is also given recommendation to YAPIM Air Bersih Medan as a suggestion for improvement , if Still There is a gap/ disparity between maturity levels at the moment this and what is expected .

2. Database Design

Application program This is database -based applications , then the data is processed and stored in database form consisting of from several structured fields . The database used in designing this website is from Ms. Access . The database consists of on gathering columns and databases, each column state one field and each row states One record. In web design needed making a number of table in the database which will later will keep all data that is processed to website page.

Database Name: yapimairbersih

Table :

1. Admin Table

Table name : admin

Primary Key : username

Table 1. Admin

Field Name	Type	Description
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Username	Short Text	Username
Password	Short Text	Password

2. Domain Table

Table name : Domain**Primary Key : Activity Control****Table 2. Domain**

Field Name	Type	Description
Activity_control	Long Text	Domain
Question	Long Text	Question content
Correspondent 1	Number	Response 1
Correspondent 2	Number	Response 2
Correspondent 3	Number	Response 3
Average	Number	Average result

3. Questionnaire Table

Table nam : Questionnaire**Primary Key : Process Domain****Table 3. Questionnaire**

Field Name	Type	Description
Domain_process	Short Text	Domain
Process_description	Short Text	Description results
Total_average	Number	Total average result
Level	Number	Level achieved
Condition	Short Text	Condition moment This

4. Analysis Table

Table name : Analysis**Primary Key : Process Domain****Table 4. Analysis**

Field Name	Type	Description
Domain_process	Short Text	Domain
Process_description	Short Text	Description results
At the moment	Number	Total results moment This
It is expected	Number	Which are expected
Gap Result	Short Text	Results

3. **Current Maturity Level Analysis This**

In the analysis level maturity required technological process determination appropriate information with COBIT 5 standard. At this stage this writer do study towards each activity based on results questionnaire all over respondents. After each activity to obtain mark furthermore writer merge all over activities and search average value for get level maturity moment this.

Table 5. Calculations level MEA maturity

Activity Control	Question	Correspondent			Average
		1	2	3	
MEA01	To what extent awareness school until moment This to monitoring and evaluation IT performance?	5	4	4	4.33
MEA01	To what extent implementation monitoring and evaluation IT performance?	5	4	4	4.33
MEA01	To what extent evaluation IT performance?	3	5	3	3.66

MEA01	How far has the development progressed? HR skills and expertise in form training done to support monitoring and evaluation IT performance?	3	4	3	3.33
MEA01	To what extent is the determination not quite enough responsibility and ownership in monitoring and evaluation IT performance?	4	5	3	4.00
MEA01	How far has it been done monitoring and measurement performance in monitoring and evaluation IT performance?	3	4	4	3.66
Average					3.88

Table 6. Calculations level DSS maturity

Activity Control	Question	Correspondent			Flat- Flat
		1	2	3	
DSS02	To what extent deep arrange settlement incidents and procedures request IT services ?	3	5	4	4.00
DSS02	To what extent request service will filled his request and the incident that must be completed ?	3	4	4	3.66
DSS02	How far is the school verify and approve request services and incidents submitted by users?	2	5	4	3.66
DSS02	How far is the school in investigate dig information about reason existence incident Then make solution alternative For finish incident the ?	5	5	4	4.66
DSS02	To what extent in finish complaint incoming incident so that the business process can walk with Good ?	5	5	4	4.66
Average					4.12

Table 7. Calculations level APO maturity

Activity Control	Question	Correspondent			Flat- Flat
		1	2	3	
APO09	How far is the school in utilise IT services in nefecti ?	4	5	3	4.00
APO09	How far is the agreement service reflect need company and IT capabilities ?	4	4	4	4.00
APO09	To what extent are IT services regulated? in agreement entered into by the parties school	4	4	4	4.00
Average					4.00

The result of the average of all activity past process domain rounded up For determine the appropriate level of maturity with evaluation from ISO/IEC 15504 are listed in the table following

Table 8. Average results calculation questionnaire

Process Domain	Process Description	Average	Level	Condition
MEA01	Monitor, evaluate and assess performance and suitability	3.80	4	Predictable
DSS02	Manage service requests and incidents	4.12	4	Predictable
APO09	Manage agreement service	4.00	4	Predictable
Average		4	4	Predictable

Level results maturity that has been obtained from analysis questionnaire previously Then will compared to with existing documents in accordance with category evaluation from ISO/IEC 15504.

Then done management more further necessary improved and developed so that the maturity expected in the School reach level 5.

Table 9. Results of the level maturity

Domi Process	Process Description	Maturity and Level	Validation Document n	Maturity It is hoped that n
MEA01	Monitor, evaluate and assess kine rja and suitability	4	0	5
DSS02	Manage service requests and incidents	4	0	5
APO09	Manage agreement service	4	0	5
	Average	4	5	5

4. GAP Analysis

Based on results maturity level calculation is obtained level maturity implementation technology information at the Medan Air Bersih Yapim High School . From the results calculation the obtained mark existing capabilities moment this and the value the expected abilities (to be) are different . So a gap is obtained between both of them , following This description of the gaps in each domain process used .

Table 10. Analysis level gap

Domi Process	Process Description	Maturity Level		
		At the moment	It is expected	GAP
MEA01	Monitor, evaluate and assess performance and suitability	3.88	5	5-3.88=1.12
DSS02	Manage service requests and incidents	4.12	5	5-4.12=0.88
APO09	Manage agreement service	4.00	5	5-4.00=1.00
	Average			1.0

Can be seen on from the average value of all domains is still Not yet reach level maturity expected by the school . This is can seen from the average distance across all domains above is distance 1.00 will need given recommendation improvements to each domain used so that can reach level expected maturity in school reach the level of Findings and recommendations MEA01 Monitor, Evaluate and assess improvements performance and suitability every existence a problem or processes that are not fit in school with the plan that has been set and determined related performance monitoring and compliance activities need taken action as soon as possible For find the best solution . And it is necessary existence policy or explanation in a way detailed regarding the soup about allocation all need source Power and required facilities in the process of monitoring , evaluation and assessment performance at the Yapim Air Bersih Medan High School . With make more procedures detailed and detailed regarding the settlement process service requests and incidents . Also do documentation in a way configured from all activities and incidents from beginning start the process so that finished . And do regular meeting no only very in 1 year with user , meeting the discuss service requests and incidents that occur .

4. Conclusion

Based on the results of the evaluation of information technology governance at SMA YAPIM Air Bersih Medan using the COBIT 5 framework, specifically in the domains of MEA01 (Monitoring, Evaluation, and Assessment), APO09 (Manage Service Agreements), and DSS02 (Manage Service Requests and Incidents), it can be concluded that the implementation of IT governance has been carried out

effectively. The evaluation shows that the capability level is at level 4 (Predictable), meaning that processes are well-documented and can be consistently controlled. This achievement level indicates that SMA YAPIM Air Bersih Medan has a sufficiently mature IT management system, although there is still room for improvement. However, further development is still needed, especially in the preparation of formal documents related to the processes in the analyzed domain. In addition, it is necessary to increase the capacity of human resources involved in information technology management in order to support the sustainability and efficiency of IT governance in the school environment. As a follow-up to this study, the researcher suggests that SMA YAPIM Air Bersih Medan consider using other frameworks in future IT governance evaluations for comparison purposes. Additionally, it is recommended that the school fully implement all components of the COBIT 5 framework to enhance the overall effectiveness and efficiency of IT governance.

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