

Evaluation of Information Technology Governance Using COBIT 5 and ISO/IEC 38500

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ABSTRACT

Infrastructure Section, Information and Communication Technology Development Division, South Tangerang City Communication and Information Office, one of the main tasks and functions is to provide services and management of internet network infrastructure for all Regional Apparatus Organizations (OPD) in South Tangerang City. The implementation of the Infrastructure Section is constrained by the problem of employee competence that has not reached the standard in internet network management and service, from these problems the researcher intends to evaluate governance using the COBIT 5 framework and ISO/IEC 38500 with recommendations for improvement in the Infrastructure Section. This study uses PAM (Process Assessment Model) with the Guttman scale to determine the results and level of capability. The use of COBIT 5 in this research will focus on the domain of EDM (Evaluate Direct Monitor) point 04, Ensure Resource Management and MEA (Monitor, Evaluate and Assessment) point 01, Performance and Conformance. The results and the level of capability obtained during the research were level 2 Managed Process with a value of 2.46 with a gap of 0.54. The level expected by the Infrastructure Section is at level 3 Established Process with a value of 3.00. Recommendations for achieving Level 3 are used ISO/IEC 38500.

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1. INTRODUCTION

The role of information technology in government agencies is increasing, each region is competing to apply information technology because it can help work activities. The implementation of information technology in government agencies is known as e-government, the goal is to develop government functions based on (use) electronics that can improve the quality of public services effectively and efficiently [1]. The application of information technology requires good governance to match the expected results and continues to evaluate with various frameworks in order to increase the level of maturity with a governance matrix to maintain and improve the quality of information technology that has been built [2].

The application of information technology cannot be separated from the role of internet network infrastructure as a liaison for activities involving the use of information technology [3]. South Tangerang Mayor's Regional Regulation, Number 12 of 2019, article 5, explains that the management of information technology for the implementation, management and development of E-Government, is carried out by the Office of Communication and Information [4]. The results of an interview with the Head of Information and Communication Technology Development (PTIK) Mr. H. Syaiful Bachri, S.Sos, From 2017 to 2021, the Department of Communication and Information (DISKOMINFO) of South Tangerang City, has built internet

network infrastructure for all Regional Apparatus Organizations (OPD) or better known as the Dinas (Government Agencies) within the government, even DISKOMINFO helps facilitate the internet to government agencies outside the OPD such as the Police Office, District Attorney, State Narcotics Agency and others, which are still within the territorial area of the city. South Tangerang. According to him, the internet infrastructure network that has been built, there are several obstacles including: the lack of human resources with knowledge in the IT field, the absence of a planned SOP on handling internet problems, the ineffectiveness of monitoring internet network infrastructure activities causing officers to have difficulty knowing whether or not the condition of internet services is active or not. The problem is due to the lack of employee competence, and the absence of standard rules regarding competency improvement in the form of training or workshops so that DISKOMINFO's mission of improving the quality of communication and information apparatus has not been achieved.

The results of the field survey revealed problems regarding the coordination and monitoring of internet network services between the internal infrastructure sections, which are divided into three divisions including the asset division, the field or troubleshooting division, and the Network Operating Centers (NOC) division which resulted in troubleshooting officers having difficulty analyzing internet network disturbances, whether the problematic device or from the provider's internet source that is experiencing interference.

Based on the problems that exist in the PTIK Sector Infrastructure Section of the Communication and Information Technology Office of South Tangerang City, the researcher intends to evaluate information technology governance using the framework (Control Objective for Information and related Technology version 5) COBIT v.5 and ISO/IEC 38500 ISO (International Organization for Standardization)/ IEC (International Electrotechnical Commission). COBIT 5 was chosen because it is a best practice framework that can evaluate information technology governance holistically for the entire enterprise and can be integrated with other frameworks. In this study, ISO/IEC 38500 will also be used to support the recommendations from the evaluation results conducted at the Communications Service. and Informatics, Information and Communication Technology Development Division, Infrastructure Section, South Tangerang City.

Information technology (IT) governance is an activity that must be carried out by the board of directors and executive management, so that an organization can run according to its objectives [5]. One of the causes for the failure of governance is that the management is charged to the technical level, while the technical level is ad hoc (temporary), handling an incident when there is a problem. The management level and the board of directors must handle the changing roles so that the information technology applied can achieve the vision, mission and goals, and the information technology can be measured through the IT governance matrix [1].

Evaluation is a measurement process using instruments and provides value from the achievement of planning, process, and monitoring results that are used to make decisions in achieving the goals of an organization [6]. Measurement of information technology governance requires a framework that can be used as a reference for better IT governance improvements. One of the base practice frameworks that can be used to evaluate IT governance is COBIT (Control Objective for Information and Related Technology) and ISO/IEC 38500:2008 ISO (International Organization for Standardization)/IEC (International Electrotechnical Commission).

COBIT 5 is a best practices framework that can be used as a guide for implementing IT governance and management to ensure that information technology investments have optimal value for the organization, in terms of benefits, risks and resources. COBIT has a broad and comprehensive spectrum of IT processes that are interrelated with one another, and can be integrated with other frameworks [7]. ISO/IEC 38500:2008 is a framework that focuses on the leadership level in evaluating, directing and monitoring the use of IT, there are six (6) principles and three (3) main models that can be used as support for decision making, each principle focuses on the goals of IT governance [8].

Competence is the ability to work, both individuals and teams who have the knowledge and skills as well as work attitudes in accordance with the standards expected to achieve results [9]. Competent means that a person can do the job in accordance with the position that has been set by the organization. Improving the competence of employees of an organization can be done by training and developing knowledge, training can be done by means of certified training or education, or non-formal non-certificate independent training.

Monitor is an activity to monitor reports or data sets to ensure that the results of an activity run in accordance with the compliance and suitability of Information Technology [10]. While coordination is a process of arrangement that is carried out or mutually agreed upon to achieve a goal effectively and efficiently [11].

Process Assessment Model (PAM) is an assessment to measure the process capability of information technology in an organization. COBIT 5 has seven assessment processes including: *Initiation, Planning the Assessment, Briefing, Data Collection, Data Validation, Process Attribute Level and the last is Reporting the*

Result [12]. This process can be used for capability level assessment. Capability level in COBIT 5 is the range of values obtained from each process domain, here is the table of capability levels in COBIT 5:

Tabel 1. Capability Level

Value Range	Capability Value	Capability Level
0-0,50	0,00	0 - Incomplete Process
0,51-1,50	1,00	1 - Performed Process
1,51-2,50	2,00	2 - Managed Process
2,51-3,50	3,00	3 - Established Process
3,51-4,50	4,00	4 - Predictable Process
4,51-5,00	5,00	5 - Optimizing Process

The Guttman scale developed by Lois Guttman is a cumulative scale to measure one dimension of a multi-dimensional variable, in order to obtain a firm answer because this Guttman scale only has two answers "agree" and "disagree". The model of the Guttman scale can be in the form of multiple choice, or in the form of a checklist, while the answer can be in the form of zero or one [8].

COBIT 5 provides a RACI chart that is used to determine decision-making activities in the form of a matrix, by using a RACI chart the organization can map each individual in understanding the rules and responsibilities of each set by the organization [13].

2. METHOD

The research method is the stages carried out in the process of research activities, the following is a research flow chart using the seven Assessment Model (PAM) processes contained in COBIT 5.

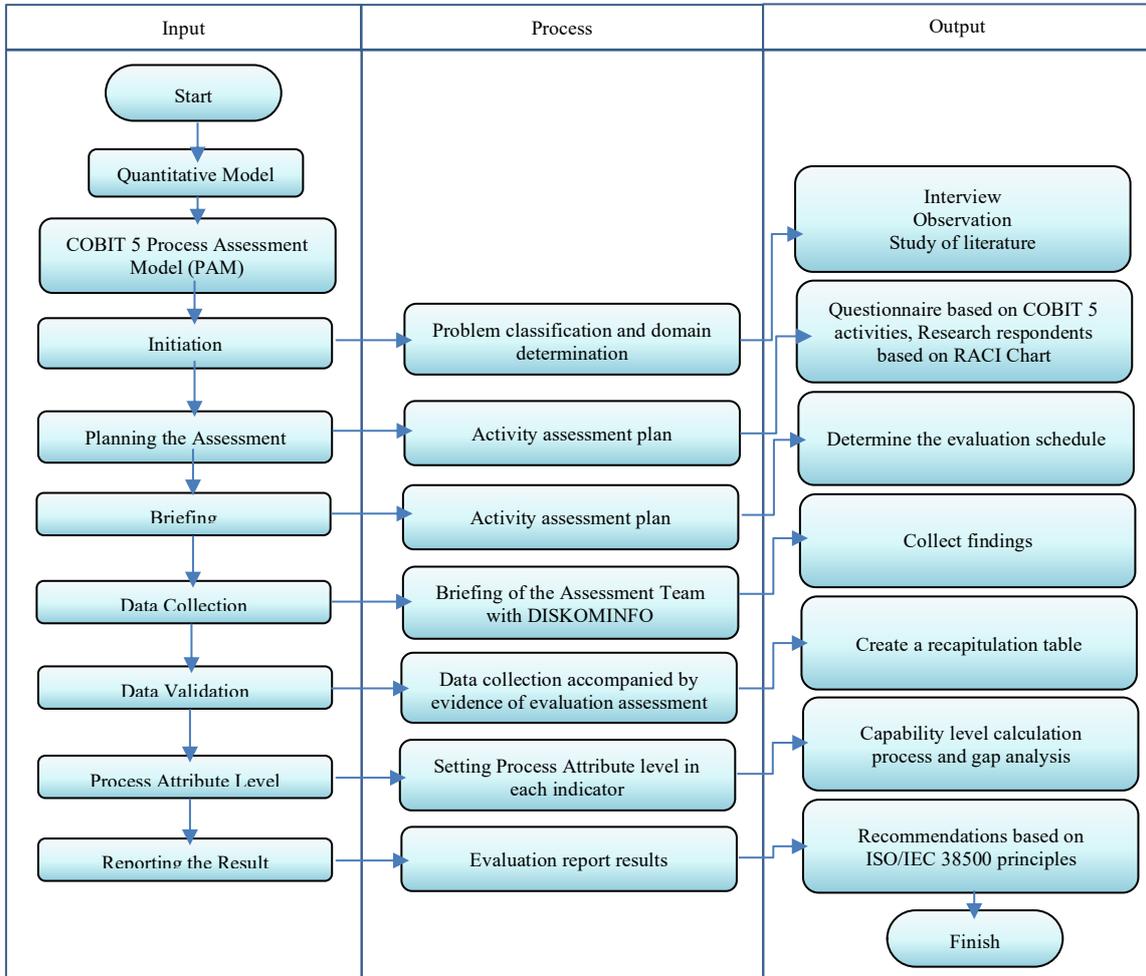


Figure 1. Research Flow

2.1. Initiation

Initiation is the mapping stage to determine the appropriate domain from the information obtained in the research. This initiation process was carried out by conducting an interview with the Head of the PTIK

Division, Mr. H. Syaiful Bachri. S.Sos, on March 15, 2021 and April 10, 2021. On that date also made observations to each Division of the Infrastructure Section. The results of the information obtained are mapped to the stages of enterprise goals, the results obtained from the mapping are Skill and motivated people and IT compliance with internal policies. The next process after obtaining enterprise goals, then mapping IT related goals, the results obtained are Competent and motivated Business and IT Personnel and IT compliance with internal police. The last stage of the two processes after getting IT related goals, mapping the determination of the domain to be used, the chosen domains are EDM04 and MEA01.

2.2. Planning the Assessment

Planning the Assessment is the process of making a questionnaire for the selected domain activities, namely EDM04 Ensure Resource optimization and MEA01 Monitor Evaluate and Assess Performance and Conformance, the method used in calculating the questionnaire using the Guttman scale, with the hope that the results obtained are specific because they only display agreed answers. and disagree. Sample questionnaire respondents were selected according to the purposive RACI Chart technique in the EDM04 and MEA01 process domains.

2.3. Briefing

Scheduling process to get the results of the questionnaire. distribution of questionnaires conducted on 01-09 may 2021, data collection on 09 may 2021 to 20 may 2021, recapitulation and analysis of questionnaire data on 21 may 2021 to 15 June 2021, reporting of assessment results from 25 July 2021 to 27 August 2021.

2.4. Data Collection

The data collection stage is an activity carried out on the domain process that has been determined by EDM04 and MEA01. The following is the evidence of the assessment obtained:

2.4.1. EDM04 Ensure Resource Optimization

2.4.1.1. EDM04.01 Ensure Resource Management

The limited competence of employees in the IT field results in the placement of positions that are not in accordance with the scientific field or supporting certificates of expertise. There are no standard rules regarding internet bandwidth capacity standards that are given to each agency, most of the quota for training and competency development activities is for civil servants (PNS) status, while non-civil servants are selected based on their will, not need. Documentation of performance results activities has not been fully carried out.

2.4.1.1.2. EDM04.02 Direct Resource Management

Maintenance of asset data that is spread across each agency has not been maximally carried out, resulting in many devices whose condition is not detected, the main tasks and functions given by the leadership to the asset division have not been carried out optimally.

2.4.1.1.3. EDM04.03 Monitor Resource Management

Internet network monitoring activities assigned to the NOC division have not been carried out optimally, because there are no work operational standards in dealing with problems that occur, internet network handling is carried out when problems occur and there is no ongoing supervision, resulting in field teams being constrained in solving problems. Documentation of problem fixes has not been fully carried out, which results in incomplete guidelines in overcoming problems in the field.

2.4.2. MEA01 Monitor Evaluation and Assess Performance and Conformance

2.4.2.1. MEA01.01 Establish a Monitoring Approach

Coordination between OPDs (Regional Apparatus Organizations) has not been carried out optimally, resulting in delays in information about internet disturbances at OPD, the lack of coordination also has an impact on the internal team of the Infrastructure Section, the field team does not get specific information about internet disturbances that occur at the location, resulting in delays in handling disturbances.

2.4.2.2. MEA01.02 Set Performance and Conformance targets.

Handling of internet network disturbances at agencies is carried out on a base on case basis (corrected when problems arise), lack of detailed information about disturbances at locations both from the NOC division, asset division and even from agencies only informing about internet connection disconnections, resulting in long handling of internet network disturbances by field team.

2.4.2.3. MEA01.03 Collect and Process Performance and Conformance Data

The lack of information about the condition of the internet network in each OPD as well as the limited information about asset data spread across the OPD, has an impact on the development or improving the quality of internet network infrastructure.

2.4.2.4. MEA01.04 Analyse and Report Performance

Information documentation on disturbance resolution activities has not been fully carried out, resulting in the absence of a settlement guide in the future. Lack of coordination between divisions is one of the causes of difficulties in analyzing problems. The lack of maximum coordination between agencies and divisions results in handling disturbances requiring a long time.

2.4.2.5. MEA01.05 Ensure the Implementation of Corrective Actions

Handling internet disturbances that is only done when there is a problem and there is no good information and documentation is very risky, if there is a problem of interference simultaneously at each OPD location, handling the resolution of the disturbance will certainly take longer.

2.5. Data Validation

The questionnaire that has been answered by the respondents is then calculated using the Guttman scale to obtain the capability level of both EDM04 and MEA01 domains. Here is the recapitulation result:

Table 2. Capability Level and Gap EDM04

Domain	Response	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5	Capability Level	Expected Level	Gap
EDM04.01	R1	0,00	0,24	0,59	0,88	0,00	0,29	2,00	3,00	1,00
	R2	0,00	0,15	0,31	0,46	0,62	0,38	1,92	3,00	1,08
Capability Level								1,96	3,00	1,04
EDM04.02	R1	0,00	0,31	0,63	0,94	0,00	0,31	2,19	3,00	0,81
	R2	0,00	0,15	0,30	0,60	0,80	1,00	2,85	3,00	0,15
Capability Level								2,52	3,00	0,48
EDM04.03	R1	0,00	0,33	0,67	1,00	0,00	0,00	2,00	3,00	1,00
	R2	0,00	0,43	0,57	0,43	0,00	0,71	2,14	3,00	0,86
Capability Level								2,07	3,00	0,93

The table above (2), in the EDM04 domain the average value obtained is 2.18 with an average gap of 0.82, the results are obtained from the Guttman scale calculation, where the capability value is added and then divided by the total value.

Table 3. Capability Level and Gap MEA01

Domain	Response	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5	Capability Level	Expected Level	Gap
MEA01.01	R1	0,00	0,33	0,67	1,00	0,00	0,00	2,00	3,00	1,00
	R2	0,00	0,13	0,43	0,65	0,52	0,65	2,39	3,00	0,61
	R3	0,00	0,22	0,44	0,67	0,59	0,19	2,11	3,00	0,89
	R4	0,00	0,19	0,39	0,33	0,78	0,97	2,76	3,00	0,24
Capability Level								2,92	3,00	0,08
MEA01.02	R1	0,00	0,33	0,67	1,00	0,00	0,00	2,00	3,00	1,00
	R2	0,00	0,20	0,40	0,60	0,80	1,00	3,00	3,00	0,00
	R3	0,00	0,20	0,80	0,00	0,40	0,50	1,90	3,00	1,10
	R4	0,00	0,17	0,44	0,67	0,89	0,83	3,00	3,00	0,00

Domain	Responden	Level 0	Level 1	Level 2	Level 3	Level 4	Level 5	Capability Level	Expected Level	Gap
	Capability Level							2,48	3,00	0,52
	R1	0,00	0,33	0,67	1,00	0,00	0,00	2,00	3,00	1,00
	R2	0,00	0,20	0,40	0,60	0,80	1,00	3,00	3,00	0,00
	R3	0,00	0,13	0,38	0,56	0,75	0,63	2,44	3,00	0,56
MEA01.03	R4	0,00	0,13	0,43	0,65	0,87	1,09	3,17	3,00	-0,17
	Capability Level							2,65	3,00	0,35
	R1	0,00	0,33	0,67	1,00	0,00	0,00	2,00	3,00	1,00
	R2	0,00	0,20	0,40	0,60	0,80	1,00	3,00	3,00	0,00
	R3	0,00	0,19	0,38	0,58	0,77	0,96	2,88	3,00	0,12
MEA01.04	R4	0,00	0,17	0,34	0,62	0,41	1,03	2,59	3,00	0,41
	Capability Level							2,62	3,00	0,38
	R1	0,00	0,36	0,73	0,82	0,00	0,00	1,91	3,00	1,09
	R2	0,00	0,20	0,40	0,60	0,80	1,00	3,00	3,00	0,00
	R3	0,00	0,20	0,80	0,00	0,40	0,50	1,90	3,00	1,10
MEA01.05	R4	0,00	0,17	0,44	0,67	0,89	0,83	3,00	3,00	0,00
	Capability Level							2,45	3,00	0,55

The table above (3), in the MEA01 domain the average value obtained is 2.62 with an average gap of 0.38, these results are obtained from the Guttman scale calculation, where the capability value is added and then divided by the total value.

2.6. Process Attribute Level

At this stage, every indicator that meets the requirements in the EDM04 and MEA01 domains is checked, to determine the category or assessment for each level, the level in COBIT 5 starts with level 0 to level 5. The following is the process of checking the completeness of the document:

2.6. EDM04 Ensure Resource Management

Table 4. GWP Performance Management

No	Goal Work Produk	Yes	No	Proof
1	Identify resource needs	√		Tasks, functions and work procedures of DISKOMINFO
2	Identify resource allocation strategy	√		Organizational structure
3	Identify resource competencies	√		Employee profile data
4	Identification of problems in resource management	√		LAKIP
5	Identify the risk of service interruption actions		√	

From the table above, only the identification of the risk of action and service interruptions for which data has not been obtained, because the handling of network disturbances is carried out when there is a problem and has not been properly documented.

Table 5. Product Management

No	Goal Work Produk	Yes	No	Proof
1	Performance result criteria	√		Tasks, functions and work procedures of DISKOMINFO
2	Resource management communication and direction	√		Organizational structure
3	Utilization and implementation of resource management strategies	√		Employee profile data
4	Resource competency allocation		√	LAKIP
5	Risk management plan for internet troubleshooting actions		√	

In the table above (4), the allocation of resources is not fulfilled in the document, because employees do not have certificates of expertise and even educational backgrounds are not in the IT field. The risk management plan document for handling internet disturbances, because the handling is done by case (done when a problem occurs).

The following is a table of process attribute levels at level 3 Established Process

Table 6. GWP & Process Definition

No	Goal Work Produk	Yes	No	Proof
1	Corrective action for internet service interruption problem			Tasks, functions and work procedures of DISKOMINFO
2	Employee competency training			Organizational structure
3	Documentation of resource performance results			Employee profile data
4	Resource management performance evaluation			LAKIP
5	Evaluate the risk of problem action			

In the table above (5), the documentation of competency training and employee development has not been fulfilled because the training participants are designated as civil servants, documentation of performance results has not been carried out, evaluation of the risk of future problems is constrained by undocumented data and information.

Table 7. GWP & Process Definition

No	Goal Work Produk	Yes	No	Proof
1	Supervision of resource allocation based on appropriate educational background		√	
2	The existence of SOPs that regulate the performance of Internet Network infrastructure		√	
3	There is a standard allocation of resources (assets) according to needs		√	

In the table above (6) the allocation of resources with an IT education background has not been fulfilled, there is no Standard Operating Procedure in carrying out network installation activities, and there is no allocation of asset resources scattered in each OPD.

2.7. MEA01 Monitor Evaluate and Assess Performance and Conformance

The following is a table of process attribute levels at level 2 Manage:

Table 8. GWP & Performance Management

No	Goal Work Produk	Yes	No	Proof
1	Identification of needs for internet network infrastructure development	√		Tasks, Principal and Functions of DISKOMINFO
2	Identify targets for internet network infrastructure development	√		Activity plan
3	Identification of internet service user data	√		List of internet infrastructure services
4	Identification of plans, opportunities and risks for developing internet network infrastructure	√		Activity plan
5	Identification of problems handling disturbances and development of internet network infrastructure		√	

In the table above (7), in the table above the documents that have not been fulfilled are the identification of problems handling disturbances and the development of internet network infrastructure, due to handling carried out when there are problems and there is no awareness about the importance of documentation.

Table 9. GWP & Process performance

No	Goal Work Produk	Yes	No	Proof
1	Objectives & scope of internet network infrastructure development	√		Work plan
2	Internet network service monitoring	√		Activity plan
3	Monitoring internet network services	√		Activity plan
4	Socialization plan related to coordination between OPD and Divisions related to socialization of internet network infrastructure	√		Activity plan

The following is a table of process attribute levels at level 3 Established Process:

Table 10. GWP & Process Definition

No	Goal Work Produk	Yes	No	Proof
1	Network installation data collection	√		Work plan
2	Performance report analysis	√		LAKIP
3	Documentation of internet network infrastructure development		√	Activity plan
4	Performance improvement recommendations	√		LAKIP
	Troubleshooting troubleshooting internet network disturbances		√	
	Socialization of coordination between OPD and divisions	√		Work plan

In the table above (9), the documents that are not fulfilled in the table above are the documentation of the development of internet network infrastructure, due to the lack of information on asset data and documentation of internet network disturbance handling activities.

Table 11. GWP & Work Product Management

No	Goal Work Produk	Yes	No	Proof
1	Flow or procedure for developing internet network infrastructure services		√	Work plan
2	Rules regarding coordination of network infrastructure services	√		PERWAL Number 12 of 2019, Article 5
3	Evaluation and assessment related to network infrastructure service development activities		√	Activity plan

In the table above (10), the procedures for developing internet network infrastructure services have not been fulfilled. Evaluation and assessment related to network infrastructure service development activities have not been fulfilled due to incomplete data and information documentation.

3. RESULTS AND DISCUSSION

The results of the questionnaire data recapitulation capability level for the Infrastructure Section for Information and Communication Technology Development, South Tangerang City DISKOMINFO, is at level 2 (process management) at this stage, meaning that DISKOMINFO has carried out IT planning, management, and implementation, but has not been carried out optimally. The following is a graph of the capability level and gap analysis for the EDM04 and MEA01 domains:

The picture above is in the Domain of the EDM04 Ensure Resource Optimization process, the current condition is at level 2 managing the process with a current maturity of 2.18 is quite good, there is a gap of 0.55 to reach the target level 3 to establish the expected process. Meanwhile, for MEA01 Monitor Evaluate and Assess Performance and Conformance, the current maturity is 2.62 with a gap of 0.38. The results of interviews conducted by DISKOMINFO in the city of South Tangerang expect that at level 3 Established Process, several indicators are needed, such as planning, monitoring, increasing the competence of both civil servants and non-civil servants who are actively involved in the Infrastructure Section.

Diagram Representasi Capability Level and Gap

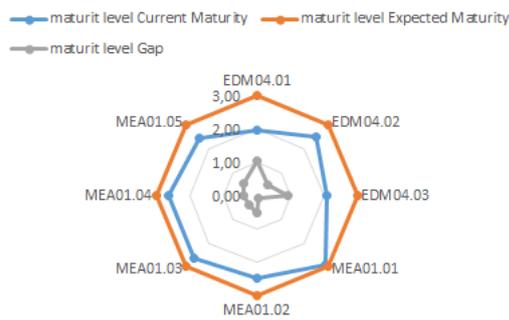


Figure 2. Capability Level and Gap

3.1 EDM04 Recommendation Based On ISO/IEC 38500 Activity

3.1.1. Responsibility

The infrastructure section, Information and Communication Technology Development Division, DISKOMINFO, South Tangerang City, periodically evaluates and monitors employee competencies to carry out the assigned main tasks and functions, add resources according to scientific competence, and carry out documentation of activities.

3.1.2. Strategy

The infrastructure section of the South Tangerang City Communication and Informatics Service evaluates, monitors and manages, makes standard operating procedures so that the handling of internet network service disruptions can be resolved quickly, accurately and measurably as well as improve IT resources.

3.1.3. Acquisition

Coordinate with related agencies, so that the application of network installations in buildings can be utilized and optimized.

3.1.4. Performance

Carry out an analysis of problems at the location by coordinating with the OPD, which is experiencing internet network problems, then coordinate with each division so that the completion of the handling of obstacles can be carried out quickly, precisely and measurably.

3.1.5. Conformance

Carry out main tasks and functions in accordance with predetermined provisions, so that each activity carried out in accordance with their respective authorities does not overlap one another's work which results in a decrease in work ethic.

3.1.6. Human Behaviour

Conduct a review of training to increase resource capacity while still identifying and evaluating the potential for developing resources, both civil servants and non-civil servants.

3.2. MEA01 Recommendations Based On ISO/IEC 38500 Activities

3.2.1. Responsibility

Each division of the infrastructure section establishes SOPs regarding the duties and main points of each division, and involves users in the OPD so that the handling of internet services can run well.

3.2.2. Strategy

Coordinate both internally in the Infrastructure Section and externally regarding the handling of basic level internet network problems for agencies, this can be informed directly by the NOC division or field officers when troubleshooting, it can also be done through social media.

3.2.3. Acquisition

Conduct regular monitoring of equipment (assets) and quality of internet network services in agencies/OPDs, provide an understanding of the gap between the internet, applications, sites and devices, so that there are no more misunderstandings about the obstacles faced by users. Furthermore, it can be used as information material about optimizing conditions in the field.

3.2.4. Performance

Evaluating risk management by monitoring and managing the installed network, to minimize the occurrence of obstacles that pose a greater risk. Identify risks to maintain the performance of installed internet network services and do documentation.

3.2.5. Conformance

Evaluating and monitoring the internet network installed in all agencies, so that improvements and developments can be made to improve and maximize internet network services, which can then be used as material for overcoming risk management.

3.2.6. Human Behaviour

Evaluate and monitor compliance with the main duties and functions of each division to ensure that each division carries out activities according to agreed procedures so that the settlement of problems in the field is in accordance with the SOPs that have been set.

4. CONCLUSION

Evaluation of governance using the COBIT 5 framework with recommendations using ISO/IEC 38500 activities has been carried out. The results of the capability level for the EDM04 and MEA01 process domains get a value of 2.46, the level expected by the Infrastructure Section is at level 3 establish process there is a gap of 0.54 to achieve this.

The process domain of EDM04 ensure resource optimization has a capability level 2 Managed Process value of 2.18, which indicates that there is an activity process from the identification of DISKOMINFO employee competencies, which has been planned, monitored and adjusted for employee performance development, but has not been carried out thoroughly for employees who involved in the Infrastructure Section, thus requiring the transfer of skills and knowledge to non-civil servants or even making a module on internet network knowledge.

The MEA01 process domain monitor evaluate and assess performance and conformance gets a capability level 2 managed process value of 2.6 which indicates that monitoring and coordination process activities are planned and adjusted in the development of network infrastructure, but the implementation has not been carried out optimally, further improvements need to be made coordination between agencies/OPD and the Infrastructure Section division, so that the development or improvement of the quality of internet network infrastructure services can be improved. Making SOPs related to management, monitoring and internet network infrastructure services needs to be carried out, so that the activities carried out are in accordance with the main tasks of each division and related agencies.

This research on COBIT 5 in conducting evaluations requires stakeholder openness so that the results obtained from research activities can be used as recommendations for improvement in accordance with what the organization expects, currently the 2019 version of COBIT is available, although there are not many changes, the use of the latest framework is certainly an improved version of previously. Concurrent use with other frameworks can increase research focus.

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