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Implementation COBIT 5 Framework for Measuring E-Government Maturity at Ministry of Law and Human Rights

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Abstract

The implementation of E-Government has been widely carried out by the current government to realized good governance to serve the citizen nowadays. The Ministry of Law and Human Rights or better known as the Kemenkumham in Indonesia, has implemented E-Government in various business processes (services). Still, in its implementation, E-government's application has not fully been able to maximize government services in organizations. The absence of an evaluation of the results of the application of E-Government is also an obstacle for management in making decisions in the planning, control, monitoring, and implementation of E-Government at the Kemenkumham. Therefore, we need a general maturity framework capable of guiding E-Government development and overcoming problems that arise. This study aims to measure the maturity level of e-government implementation by evaluating the E-Government system at the Kemenkumham. Measurement of maturity level is carried out by using the COBIT framework as an e-government maturity model involving 3 main domains, 6 aspects and 34 indicators in e-government on the capability of technical fungctions. The research method used was a survey method within the Kemenkumham. By these studies that the evaluation results would get recommendations for improvements in implementing E-Government for the next period.

Keywords
e-government; maturity framework; e-services; COBIT5; ICT services

I. Introduction

In accordance with government's program in realizing good governance through the implementation of E-Government, the Kemenkumham needs to continuously improve services to the community, both internally and ext'ernally. The application of e-Government is intended to achieve fair and clean governance. E-Government must be able to improve services to the community as a new mechanism for interaction between the government and the community by using information technology, especially the internet. E-Government is a breakthrough to provide better public services to the community. Through e-Government, the Kemenkumham is determined to create professional, accountable, synergistic, transparent, and innovative services by the values adopted.

The Kemenkumham has implemented E-Government in various business processes (services), but in its implementation, E-government has not fully been able to maximize E-Services in organizations. Organization must have a goal to be achieved by the organizational members (Niati et al., 2021). The absence of an evaluation of the results of the application of E-Government is also an obstacle for management decision-making in planning, monitoring, implementing E-Government at the Kemenkumham. Therefore, this research will measure the level of maturity of implementing the E-Government system that has been applied to the Kemenkumham. From the evaluation results, it is hoped that there will be recommendations for improvements in implementing E-Government for the next

period. By referring to the problem and research objectives, the scientific questions to be answered in this research are:

RQ: What is the e-government maturity level at the Kemenkumham?

Control of Objective and Technology Related (COBIT5) is a framework that will assist this research in evaluating the maturity level of E-Government. COBIT5 provides a comprehensive framework that can help companies or institutions achieve their goals regarding governance and management of information technology. The principle in COBIT 5 framework is to optimizing the use of ICT, by maintaining a balance between the level of risk and benefit of ICT and optimizing the use of information resources.

II. Review of Literature

a. Ministry of Law and Human Rights (Kemenkumham)

The Ministry of Law and Human Rights of the Republic of Indonesia (abbreviated as Kemenkumham RI) is one of the ministries within the Indonesia's government. The Kemenkumham is subordinate and responsible to the President. The Kemenkumham underwent several name changes, namely: "Department of Justice" (1945-1999), "Department of Law and Legislation" (1999-2001), "Department of Justice and Human Rights" (2001-2004), "Department of Law and Human Rights "(2004-2009), and" Kemenkumham "(2009-present).

Based on the 2015 Indonesian Presidential Regulation number 44, the Kemenkumham has the responsibility to administer legal affairs and human rights for the Indonesian people. In carrying out these responsibilities, the Kemenkumham carries out the following functions:

1. Formulation, determination, and implementation of policies in laws and regulations, prisons, intellectual property, general law administration, immigration, and human rights;
2. Coordinating the implementation of tasks, fostering, and providing administrative support to all members of the Kemenkumham;
3. Responsibilities of the Kemenkumham in the management of Indonesian state property/assets;
4. Supervision of the implementation of duties within the Kemenkumham;
5. Supervision of implementation and technical guidance on regional affairs of the Kemenkumhan;
6. Implementation of national law development;
7. Carrying out research in the fields of law and human rights;
8. Implementation of optimization human resources in the field of law and human rights;
9. Implementation of technical activities on a national scale;
10. Implementation of technical activities from the center to the regions; and
11. Implementation of substantive support to all organizational elements within the Kemenkumham.

b. E-Government

E-Government is the use of ICT such as the internet and computers to assist in providing public services to every citizen in a region or country. E-Government provides easy access for every citizen to get direct and convenient services in government affairs.

E-Government consists of digital interactions involving citizens and governments (C2G), or vice versa between governments and citizens (G2E). Not only between citizens and government, E-Government can also be in the form of interactions between

government and other government institutions (G2G), and between government and business/trade institutions (G2B). The delivery model of E-Government can be divided into: Interaction consisting of citizens communicating with assistance, citizen involvement in the category of using ICT such as computers and websites) and re-engineering of business process.

c. SPBE

Electronic Based Government System, Electronic Based Government System (SPBE) is a government administration using ICT to improve services to the public as SPBE users. As stated in the Presidential Regulation of 2018 Number 95 where SPBE aims to create an effective, accountable government in providing public services. SPBE management is also needed to improve integrity and transparency to the community.

d. COBID 5 Framework

COBIT 5 (Objectives for Information and Related Technology) is a framework for measuring the quality of information technology governance that helps to focus more on the strategic value of implementing information technology (IT strategic value) and ensures that IT implementation can support the achievement of the companies or institutional vision and mission.

Figure 1. *COBIT 5 Principles*

The COBIT5 framework, which consists of 5 main principles and is equipped with 7 enablers. COBIT 5 aligns five principles that enable enterprise organizations to build an effective governance and management framework based on the 7 enablers' holistic approach to optimizing investment in technology and information while providing benefits to stakeholders. In the figure, we can see the five principles of COBIT5 in Figure 2 and its enablers in Figure 2.

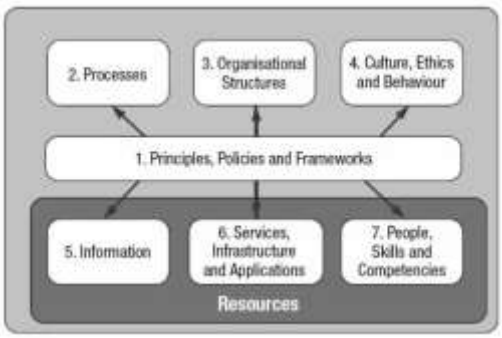

Figure 2. *COBIT 5 Enablers*

The COBIT 5 framework consists of five Principles:

1. Meeting Stakeholder Needs, namely see the needs of stakeholders, namely ensuring the principles of user requirements for stakeholders so ICT services that are made to meet needsthese stakeholders.
2. Covering the Enterprise End-to-end, namely ICT that is made to serve all aspects of the company / organization starting from the lower level transactional to top manager level decision making.
3. Applying Single Integrated Framework, namely implementing one a framework that interatcts with data and processes others in ICT services.
4. Enabling Holistic Approach, namely using the same approach holistic / holistic between ICT components in the organization so that they cooperate with each other achieve organizational goals.
5. Separating Governance from Management, namely differentiating between governance and management. Both of these disciplines have differences in terms of activities, needs structures and serve different purposes

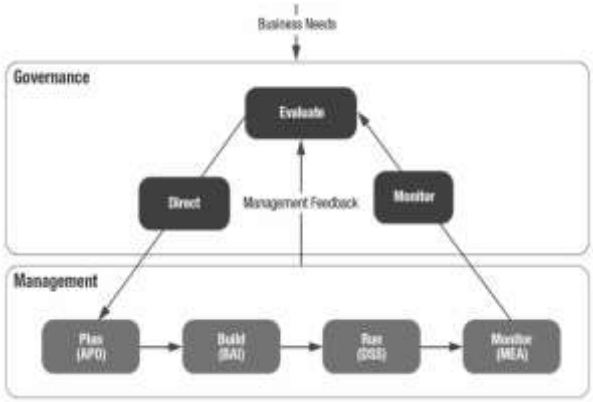

Figure 3. *COBIT 5 Governance and Management Key Areas*

In the COBIT5 framework, there are 6 process levels, the Capability Levels, namely:

1. Level 0 - Incomplete: Processes that have not or failed to be implemented.
2. Level 1 - Performed: The process that determines the achievement of goals.
3. Level 2 - Managed: Process that includes planning, monitoring, and adjusting.
4. Level 3 - Established: A process that has been built and then implemented to achieve the result of the process.
5. Level 4 - Predictable: The process that has been built is then operated with limitations that are able to achieve the expectations of the process.
6. Level 5 - Optimizing: The predicted process is constantly being improved to meet business goals and company goals

Table 1. Maturity Scale

Scale	Capability Level	Maturity Level Process
0.00 - 0.50	0	Incomplete
0.51 - 1.50	1	Performed
1.51 - 2.50	2	Managed

2.51 - 3.50	3	Establised
3.51 - 4.50	4	Predictable
4.51- 5.00	5	Optimizing

e. GAP Analysis

GAP = Target Capability (To Be) - Index Capability (As Is)

Table 2. Capability Achievement Scales

Scale	Status
< 15 %	Not Achieved
15 % - 50 %	Partially Achieved
50 % - 80 %	Largely Achieved
> 85 %	Fully Achieved

2.1 Research Instrument

To obtain research supporting data, this study uses two types of research instruments, namely:

a. Interviews

An interview was conducted with one of the commissioners of LMKN Creator to find out the problems currently faced by the Kemenkumham.

b. Questionnaires

To determine the capability level questionnaire was conducted on 5 participant members of the Kemenkumham, there are:

1. Member of the commissioners of LMKN Kemenkumham
2. Member of IT division from Directorate of Intellectual Property Rights
3. Member of IT division from Directorate of Human Rights
4. Member of IT division from Directorate General of General Legal Administration
5. Member of IT division from Directorate of Legislation

2.2 Data Collection

a. Current Condition

Based on the results of interviews with several issues regarding the application of E-Government to the Kemenkumham in the current period: There are many things that have not been regulated and put into the form of regulations related to the use of information technology, Lack of socialization of existing policies, so that many work units do not understand the contents of the regulations, Descriptions of the duties and functions of the directorates and sub-directorates of information technology organizations lack clear specifications, so that there are overlapping roles, the Pusdatin as the ministry's information technology coordinator, has not been involved in the planning and budgeting process, so the work unit is not getting budget, The Information Technology Steering

Committee has not carried out its duties optimally as a director, decision maker, and follow-up to the evaluation results of information technology, so the implementation of policies has been stagnant, The absence of a budgeting posture for system and information technology financing makes it difficult for budget proposals, The technology that is owned is still mostly using old technology that has not been updated, making it difficult in terms of ease and speed, The absence of information technology infrastructure support for the application of new technology, Lack of knowledge of human resources related to new technologies such as (IoT) internet of things, big data analytics, artificial intelligent that can be implemented, The absence of a budgeting posture for system and information technology financing makes it difficult for budget proposals, Third parties still control some main unit applications, making it challenging to collect data and are vulnerable to confidentiality, They are not yet following regulations on system development standards related to precise planning regarding application development stages, development request flow, and coordination between units, The format and structure of application data across work units vary, making it difficult for the integration process, The laws and regulations are not yet integrated, which results in overlapping and duplication in regulatory data, All ministry data and information have not been managed in one storage and management, There are still sectoral egos in each Main Unit and different vendors, making it difficult to process data exchange and integration, The lack of cooperation between the Kemenkumham and other agencies, Data interoperability has not been carried out well, The lack of optimal management of information technology devices at Regional Offices has resulted in the implementation of information technology running normally, Not centralized information technology devices in Regional Offices resulting in waste of costs, The role of information technology in Regional Offices is still considered support, so it is not a significant concern, Information technology devices or supporting equipment in Regional Offices have not met the Kemenkumham standards, Lack of coordination in information technology planning has resulted in inefficiencies in budgets, human resources, infrastructure, etc, The network of all primary units is not yet integrated to support the process of integrating one data, The inadequate fulfillment of internet needs in all work units results in less than optimal service, The absence of comprehensive documentation related to information technology equipment and infrastructure, Lack of awareness of system users on data security and information system, The absence of information technology risk management and vulnerability assessment related to information technology, Never done a penetration test, There are still many problems related to cybercrime, The absence of information technology security in information technology applications and infrastructure, The security function has not been fully described in the respective information technology institutions' duties and functions, Data centers are still separate in each main unit, making it difficult to unify, The ministry's data center does not yet have a disaster recovery center, resulting in data vulnerability, Pusdatin as the Data Center coordinator has not played an optimal role, The specifics of the duties and functions of the directorates and sub-directorates in some information technology organizations are not clear, so there are overlapping roles, Pusdatin, as the coordinator of information technology at the ministry level, has not yet described it as a coordinator of both numbers and strengths in the institution, The number of human resources for information technology with a total of 836 work units is felt to be insufficient, so it is necessary to add more, The competence of information technology human resources is still lacking, so it needs to be improved, The placement of information technology human resources in several work units does not match their competence, The functional position of Computer Administration is still seen as less attractive, Until now, the Kemenkumham

has not established and appointed an information technology auditor so that their performance cannot be assessed and the level of compliance of the work unit in implementing information technology governance cannot be determined, There are no regulations related to information technology audits, so an internal information technology audit has not been carried out, The competence of information technology human resources who understands science related to information technology audits does not yet exist, so training is needed.

b. Literature Study

The following is the result of a literature review from previous research:

Table 3. Literature Review

Title	Authors	Result
Measurement of E-Government Maturity Level at Local Government of the Islands	Ade Hasan, Assaf Arief	Based on the measurement process of ICT implementation of egovernment in the South Kalimantan Regional Government, it can be concluded that the results of the calculation of the questionnaire on each process domain which is at score 2, namely: level managed process means the process contained in the audit need to pay attention to the operational standards again, service as well as security, so that the ICT process is expected to be achieved optimally. The next suggestion is to pay attention again ICT processes and services accordingly according to the Operational Standards for the Regional Government of South Kalimantan regulations used, so that it can comply with business objectives and organization.
Measurement of Capability Level of E-Government on Services Quality in Pamekasan District Using COBIT 5.0 Framework	Aang Kisnu Darmawan, Arisandi Dwiharto	Overall, the results of the audit capability level of the ICT service level of the Pamekasan Regency Dispendukcapil are at level 3 (Established), which means that the ICT service process has been implemented according to existing ICT service standards. With details of the BAI domain with a capability index of 2.83 (Established), the DSS domain with a capability index of 2.50 (Established) and the MEA domain with a capability index of 2.83 (Established). The findings in the field are that the business processes in the ICT management of e-government services at the sub-district, sub-district and village levels show to be at level 0 (incomplete), which states that there is almost no ICT service governance process at that level. Based on the author's observations and observations in the field, there are three factors that cause the ICT governance process of e-government services at the sub-district, sub-district and village levels to be at level 0 (incomplete). First is the absence of a master plan for e-government governance in Pamekasan

		Regency, especially the dispendukcapil ICT services. Second, there is a lack of good coordination between ICT service managers / e-Government Dispendukcapil and ICT service managers at the sub-district, sub-district and village levels. The third factor found in the field was inadequate human resources in ICT. Subdistricts, wards and villages in the field were found to be lacking in terms of fulfilling competent human resources in the field of ICT. The three factors above make the Pamekasan Regency Dispendukcapil ICT services centralized in the Pamekasan Regency Population and Civil Registry Service. People who need ICT / e-Government services must come to Dispendukcapil in person. Suggestions and recommendations that can be done are to immediately make a master plan for e-Government services, more authority on governance at the sub-district and village / kelurahan levels by adding competent human resources in the field of ICT to provide better e-Government services.
An Analysis of Information Technology on Data Processing by using Cobit 5 Framework	Surni Erniwati	Based on the results of the questionnaire conducted in this study, the average maturity value was 2.69. From a scale of 3 which is defined as a value of 1 as a "low" condition, 2 as a "medium" condition and 3 as a "good" condition, it means that the company/organization has a repetitive pattern in data management activities. The results of the maturity questionnaire show a scale of 2 which means "good" for the current condition as well as for conditions that are expected to be taken a solution or corrective action to improve IT governance in the data management process at ASM Mataram. Improvements can be made by paying attention to priority aspects starting from the lowest maturity level, namely assistive devices and automation (TA), regulatory and measurement objectives (GSM), internal and external accountability (RA), skills and expertise (SE), and advice and communication (AC).
E-Government Maturity Level Analysis Using COBIT 5 Framework in Dinas Surabaya City Trade and Industry	Titus Kristanto , Lefi Andri Lestar, Sulistyowati	Based on the results of the research conducted, it can be concluded as follows: COBIT 5 Framework is a framework that can be used to measure the level of information system capability in accordance with the characteristics of the IT Division of the Surabaya City Industry and Trade Service. The results of the maturity level domain process, that the DSS05, APO13, and MEA01 process domains are at Level 3 (Established Process). Meanwhile, the DSS04 and APO01 process domains are at Level 2 (Managed Process).

The Evaluation of Electronic Based Government System Using E-COBIT 5 Study Case at Gorontalo City Government	Abd. Aziz Bouty, Hidayat Koniyo,Novian	The process of evaluating the electronic-based government system in the Gorontalo City government carried out in this study went quite well. The assessment process carried out refers to measuring the maturity level of technical function capabilities using the e-government maturity model (eMM). Measurements were carried out on 3 domains, 7 aspects, and 35 SPBE indicators. The results of this study indicate that the implementation of an electronic-based government system by the Gorontalo City government is currently running well, this is evidenced by the measurement results of the SPBE maturity level which obtained a total index value of 2.88 with the predicate "GOOD".
IT Governance Implementation Using COBIT 5 Framework in Bone Bolango BPMPTSP	Maskur , Nixon, Rusliy Mokodongan	From this research, several conclusions can be drawn. First, from the measurement results of the IT governance capability level which is at capability level 1 (Incomplete Process), namely: APO01 - Manages IT management frameworks and BAI10 - Configuration management. While the COBIT process has reached capability level 2 (Managed Process), namely: EDM04 - Ensuring optimal resources APO03 - Managing IT strategic plans APO04 - Innovation management APO07 - Managing HR BAI04 - Managing availability and capacity BAI09 - Asset management DSS01 - Operational management DSS03 - IT problem management MEA01 - Monitoring, evaluating, assessing performance and suitability Second, the results of the assessment of the level of IT governance capabilities in the aspect of "Optimization of IT assets, resources and capabilities" at BPMPTSP Bone Regency Bolango has not reached the desired target because there is still a gap between the current state and the targets set in each process.

c. Survey Verification

The Kemenkumham previously conducted a survey regarding the level of employee satisfaction with company ICT at the Regional Office of the Kemenkumham. The following is a list of survey participants:

Table 4. Participants

Regional Offices		
DKI Jakarta	Lampung	DIY Yogyakarta
Jawa Barat	Banten	Maluku Utara
Jawa Tengah	NTB	Sulawesi Selatan

Jawa Timur	Sulawesi Utara	Jambi
Gorontalo	Kalimantan Selatan	Sumatera Barat

Based on the results of a survey conducted in 15 Regional Offices of the Kemenkumham, the Regional Officel satisfaction index was 3,09 for ICT services, as shown in the table below :

Table 5. Regional Office Satisfaction Survey Results

No.	ICT Services	Scale
1.	Website	3,50
2.	Network and Bandwidth	2,70
3.	Video Conference	3,00
4.	Sisumaker	2,97
5.	Information Technology Policy	3,50
6.	Human Resources and Computer Institutions	2,97
7.	Data Center	3,00
Satisfaction Level		3,09

Table 6. Survey Assessment Indicators

Assessment	Indicator
Very Satisfied	5,00
Satisfied	> 3,00
Disatisfied	3,00 - 2,00
Very Disatisfied	< 2,00

From the tables we know the satisfaction level of ICT services at several regional offices was in the satiesfied indicator. This result would be a comparison of indicator research results of e-government maturity level at the Kemenkumham as the central institution.

III. Research Method

This research's implementation was divided into four stages—the first stage, determining the object of study. The object of this maturity level research was the Indonesian Kemenkumham. In the early stages of research preparation, it would be carried out to formulate problems related to a single data system for implementing e-government in the Kemenkumham agency. Then it would continue with a literature review of internal documents, journals, preceding, and other related documents.

The next stage was to select the COBIT 5 domain that will act as a research framework. After determining the domain, both primary and secondary data will be collected according to the desired COBIT 5 domain. Data collection was carried out with the help of research instruments, questionnaires, and interviews with 5 respondents. The questionnaire was conducted with 2 types of questionnaires: the management awareness questionnaire and the maturity level questionnaire.

Interviews were conducted to obtain information in questions and answers with respondents as supporters of the questionnaire results. Interviews are used to get complete details about the problem under study that is not in the questionnaire.

In the next stage, the research data collection process would be carried out. This data collection process consists of primary data and secondary data. Data related to the research were collected, with a quantitative capability analysis obtained from direct assessment to related parties using a checklist adapted from the COBIT 5 assessment tool template from ISACA. This step was taken to make it easier to translate and interpret the evidence needed. The data analysis process is carried out after data processing. Data analysis consists of management awareness analysis, current capability analysis (as is), expected level of capability (to be), and gap analysis.

The last stage is to verify the facts. Based on the results of this analysis, conclusions and suggestions will be generated regarding the problems in this study.

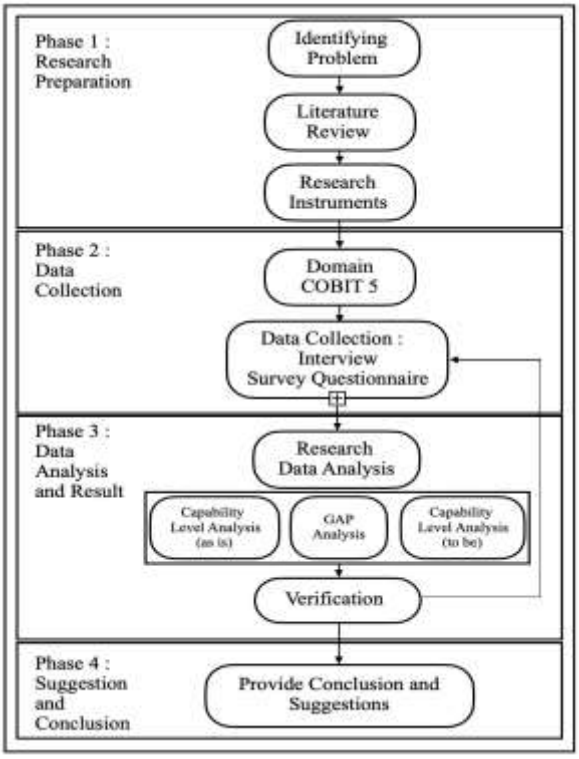

Figure 4. *Research Methodology*

IV. Results and Discussion

4.1 Capability Level Result

Following are the results of the 2020 SPBE evaluation assessment carried out by measuring the level of maturity using the COBIT 5 framework which refers to 5 main domains, 40 aspects as indicators in detail of the acquisition of index values for each domain, aspects and indicators:

Table 7. Evaluate, Direct and Monitor (EDM) Domain Index Value

Domain	Indicators	Scale
EDM1.	Ensure Governance Framework Setting and Maintenance	4,0
EDM2.	Ensure Benefits Delivery	3,8
EDM3.	Ensure Risk Optimisation	3,6
EDM4.	Ensure Resource Optimisation	3,8
EDM5.	Ensure Stakeholder Transparency	4,0
Index Capability		3,00

Table 8. Align, Plan, and Organize (APO) Domain Index Value

Domain	Indicators	Scale
APO1.	Manage the IT Management Framework	3,2
APO2.	Manage Strategy	3,8
APO3.	Manage Enterprise Architecture	3,6
APO4.	Manage Innovation	4,0
APO5.	Manage Portfolio	3,6
APO6	Manage Budget and Cost	4,0
APO7	Manage Human Respurces	3,4
APO8	Manage Relationships	3,8
APO9	Manage Service Agreements	3,8
APO10	Manage Suppliers	3,8
APO11	Manage Quality	3,8

APO12	Manage Risk	3,8
APO13	Manage Security	3,4
APO14	Manage Data	3,4
Index Capability		3,50

Table 9. Build, Acquire, and Implement (BAI) Domain Index Value

Domain	Indicators	Scale
BAI1.	Manage Programmes and Project	3,8
BAI2.	Manage Requirements Definition	4,0
BAI3.	Manage Solution Identification and Build	4,0
BAI4.	Manage Availability and Capacity	3,8
BAI5.	Manage Oragnisational Change Enablement	3,8
BAI6	Manage Changes	3,8
BAI7	Manage Changes Acceptance and Transitioning	3,6
BAI8	Manage Knowledge	3,8
BAI9	Manage Assets	4,0
BAI10	Manage Configuration	3,8
BAI11	Manage Project	4,0
Index Capability		3,85

Table 10. Deliver, Service, and Support (DSS) Domain Index Value

Domain	Indicators	Scale
DSS1.	Manage Operation	3,4
DSS2.	Manage Service Request and Incidents	3,8
DSS3.	Manage Problems	3,4
DSS4.	Manage Continuity	4,0
DSS5.	Manage Security Services	3,8
DSS6	Manage Bussiness Process Controls	4,0
Index Capability		3,73

Table 11. Monitor, Evaluate, and Assess (MEA) Domain Index Value

Domain	Indicators	Scale
MEA1.	Monitor, Evaluate, and Assess Performance and Conformance (APO)	3,4
MEA2.	Monitor, Evaluate, and Assess the System of Internal Control	3,8
MEA3.	Monitor, Evaluate, and Assess Compliance with External Requirments	3,8
MEA4	Manage Assurance	4,0
Index Capability		3,75

4.2 GAP Analysis

Based on the data obtained, calculations were calculated for each of the studied domains. EDM domain with a Index Capability of 3.84 or at the Predictable Process level. The APO domain has a Index Capability of 3.00 and is at the Defined Process level, the BAI domain has a Index Capability of 3.84 or a Predictable Process level, the DSS domain with a Index Capability of 3.00 is at the Defined Process level and the MEA domain with a value 3.00 is at the Established Process level.

Table 12. GAP Index Value

Domain	Target	Index Capability	GAP	Status
EDM	3,00	3,84	+0,84	Fully Achieved
APO	3,00	3,50	+0,50	Fully Achieved
BAI	3,00	3,85	+0,85	Fully Achieved
DSS	3,00	3,73	+0,73	Fully Achieved
MEA	3,00	3,75	+0,75	Fully Achieved
Maturity Level : 3				Fully Achieved

If the average calculation of all domains is carried out and reviewing the positive value of the GAP calculation, the results can be drawn that the E-Government Maturity Index at the Kemenkumham has been sufficiently achieved.

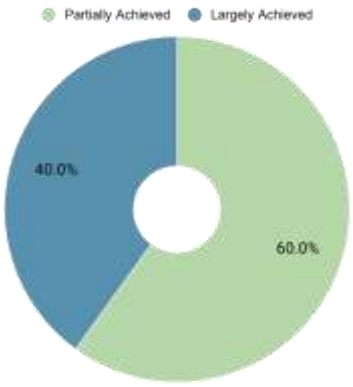

Figure 5. Maturity Index Achievement

However, if it is compared with the maximum limit of the capability level that can be obtained, which is 5.00, it can be seen that even though it has succeeded in achieving the predetermined target, the results have not been maximally shown in Table 13.

Table 13. GAP Optimizing Index Value

Domain	Optimizing Target	Index Capability	GAP	Status
EDM	5,00	3,84	-1,16	Largely Achieve
APO	5,00	3,50	-1,50	Partially Achieve
BAI	5,00	3,85	-1,15	Largely Achieve
DSS	5,00	3,73	-1,27	Partially Achieve
MEA	5,00	3,75	-1,25	Partially Achieve
Maturity Level : 3				Largely Achieve

4.3 Capability Level Analysis

Based on the data obtained from questionnaire data processing, the results of the measurement of E-Government Maturity at the Kemenkumham are at the Predictable Process level as illustrated in Table 14.

Table 14. Maturity Index Scale

Domain	Optimizing Target	Index Capability	%
EDM	5,00	3,84	76,8 %
APO	5,00	3,50	70 %
BAI	5,00	3,85	77 %
DSS	5,00	3,73	74,6 %

MEA	5,00	3,75	74,6 %
Maturity Level : 3 (Predictable Process)			74,6 %

In organizing SPBE in 2018, the Kemenkumham has not received the best assessment. Based on the SPBE assessment held by the Ministry of Administrative Reform and Bureaucratic Reform in 2018, the SPBE index of the Kemenkumham is at the level of 3. This means that there is an increase in the level of Maturity at the Kemenkumham by 43%. Even though it has increased, the E-Government Maturity level still hasn't reached the maximum level as depicted in figure 6.

Figure 6. *Capability Level Result*

This can be investigated from several process indicators that are still at the Established Process level. Several indicators of the process include:

Table 15. The COBIT 5 Process Enabler Needs to be Upgraded

Domain	Indicators	Index Capability
APO1.	Manage the IT Management Framework	3,2
APO7	Manage Human Respurces	3,4
APO13	Manage Security	3,4
APO14	Manage Data	3,4
DSS1.	Manage Operation	3,4
DSS3.	Manage Problems	3,4

This means that the Kemenkumham still needs to align the ICT governance for services and support for good information technology governance..

4.4 Recommendation

To achieve a better level of maturity, the Kemenkumham needs to carry out continuous control over every process of the ICT domain related to operational standards and security for the business being run. Some recommendations that can be put forward for improvement according to the COBIT 5 indicator are as follows:

a. APO 1 - Manage the IT Management Framework

To improve aspects of Manage the IT Management Framework, the following things can be done such as determine the roles and responsibilities of each job function, Establishment of an IT committee, guidelines for each management structure ,Adequate supervisory practices , follow the applicable national and international standards regarding governance and management, availability of sufficient and skilled resources to support the communication process, IT function placement evaluation activities, Guidelines / procedures governing documents, grouping, collecting and storing data, security guidelines / procedures and data control guidelines, policies / procedures that ensure data integrity and consistency, IT governance capability level audit activities. IT governance process improvement, Performance objectives and metrics for the identification of IT governance process improvements, measurement of IT processes and employee performance.

b. APO 7 - Manage Human Resources

To improve aspects of Manage Human Resources, the following things can be done such as planning for recruitment of employees, both civil servants, honorary and contract workers, policies in terms of transfer of employees or IT personnel, anticipate the handling of IT operations when facing holidays, conduct training and testing of backup IT personnel, identify gaps between the required skills and the potential of existing employees, skills development to avoid knowledge gaps between employees, report on the results of the competency and skills assessment of employees, documentation of results of evaluation of individual goals and employee performance, improvement planning activities for employee performance that have not reached the target, contract agreement policy for contract workers; Contract agreements for contract workers, periodic review of the contract agreement.

c. APO 13 - Manage Security

To improve aspects of Manage Security, the following things can be done such as increase user awareness of data security and information systems, conducting information technology risk management and vulnerability assessments related to information technology, do a penetration test, handling problems related to cyber crime, providing information technology security on information technology applications and infrastructure, describe the security function in the duties and functions of each information technology institution.

d. APO 14 - Manage Data

To improve aspects of Manage Data, the following things can be done such as equalize the format and structure of application data across work units so as not to complicate the integration process, performing interintegration of laws and regulations so that overlaps and duplications in regulatory data do not occur, manage all ministerial data and information in one storage and management, resolving sectoral egos in each Main Unit and vendor so as not to complicate the process of exchanging and integrating data, increase cooperation between the Kemenkumham and other agencies so that it is easy to integrate data externally, implement data interoperability well

e. DSS 1 - Manage Operation
   To improve aspects of Manage Operation, the following things can be done such as equalize the format and structure of application data across work units so as not to complicate the integration process, performing interintegration of laws and regulations so that overlaps and duplications in regulatory data do not occur, manage all ministerial data and information in one storage and management, resolving sectoral egos in each Main Unit and vendor so as not to complicate the process of data exchange and integration, increase cooperation between the Kemenkumham and other agencies so that it is easy to integrate data externally, implement data interoperability well
f. DSS 3 - Manage Problem
   To improve aspects of Manage Problem, the following things can be done such as chart/schematic for classifying problems, problem status report and solution steps, documentation to save a history of problems that occur and their solutions, the root cause logging activity is complemented by the most appropriate solution, problem resolution monitoring reports in the form of problem resolution results handled and sent to stakeholders, the activity of identifying the right solution.

4.5 Capability Level Verification

The Kemenkumham previously conducted a survey regarding the level of employee satisfaction with company ICT at the Regional Office of the Kemenkumham. Based on the results of a survey conducted in 15 Regional Offices of the Kemenkumham, the Regional Officel satisfaction index 2.85 or the level of satisfaction is quite close but the level is not satisfactory. This is in accordance with the results of research where the Maturity level is still at the Defined Process level. Apart from the results of the survey, other data that verify this level of maturity is the Kemenkumham. In addition, the results of this study have been verified with related parties from Kemenkumham and have been approved and accepted.

V. Conclusion

Based on the evaluation results of the E-Government maturity level at the Kemenkumham, currently the Maturity level is at the Defined Process Level. This means that E-Government has run well enough where at this level it has operated within the specified limits to achieve the expected results. Even so, there are several aspects that still need to be improved, such as aspects of Manage the IT Management Framework, Manage Human Resources, Manage Security, Manage Data, Manage Operations, and Manage Problems.

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