4 DOMAINS OF COBIT FRAMEWORK VERSION 5.0 THAT CAN BE USED TO EVALUATING INFORMATION TECHNOLOGY PROJECT MANAGEMENT GOVERNANCE IN THE IT FUNCTION

[1] DODY ADHIATMA, [2] NILO LEGOWO

Information System Department, BINUS Graduate Program-Master in Information System Management,
Bina Nusantara University Jakarta, Indonesia, 11480
Email: [1] dodyadhiatma04@gmail.com, [2] nlegowo@binus.edu

ABSTRACT

This research's conducted in IT Function at XYZ Company in Indonesia. IT Function in this company is one of the functions that work under Directorate of Finance, this IT Function has a responsible to provide some services for the child of XYZ company or the other Directorates that work under of the XYZ Company. The purpose of this research is to make readers know about Domains of COBIT 5 that can be used in the IT Function to make controlling in IT Project Management, determining level of IT Project Management performance in the IT Function, and also managing the framework that can be used to optimize IT Project Management Currently. The method that the Author used for this research is COBIT 5 Framework, and the method that the Author used to get some data with interview & questionnaire. Process of COBIT 5 that selected and relevant to face some issues that related IT Project Management such as EDM04 (Ensure Resource Optimization), BAI01 (Managing Programs and Projects), BAI03 (Managing Identification & Build Solutions), BAI06 (Managing Change), DSS06 (Manage Business Process Control) and MEA02 (Monitoring, Evaluate, and Assess). Based on the calculations that the Author had done, the score of capability rate in this IT function is 1.33, and also this IT Function has a target and plan for their future, that's about having a plan to reach level 3.00. It means, this IT Function has a GAP score 1,67. Recommendations from the Author that can be aimed and also be used for this IT Function to help making this Function be better is, to starting and doing some of the IT Processes from COBIT 5 that the Author had selected and calculated, such as EDM04, BAI03, DSS06, MEA02, because the IT Processess of COBIT 5 are still below the prescribed minimum standard, that's 85%.

Keywords: *Project Management, COBIT 5, TI Governance, PAM COBIT, Process Assessment Model.*

1.   INTRODUCTION

Utilization using Information Technology (IT) is one of the most important factors in achieving success in various of business fields. Majority of organizations or companies both public and private have used information technology with the aim to be supporter in improving the effectiveness and efficiency of performance within the company. Implementation of an IT investment if not be planned well, it will ultimately be full of failures or futility, because it can make wastage in costs. [5].

Control of Information Technology becomes the thing that we have to do, so that, It can be run in accordance with the IT Governance guidelines that the company has been made within. a Company that implements IT Governance can improve their performance, Firmansyah, M.R (2015), [2].

According to [3], the factor that can make a successful IT project is the creation of alignment between business and IT to be used. COBIT provides a comprehensive framework that helps so many companies to achieve what their goals in the corporate governance and also in IT management.

COBIT 5 is a management guide that provides measures, indicators, processes and set of the best practices to help many companies to get the most out of IT control and implementation, according to [8]. The company that we discuss, It has 27 subsidiaries, each headed by a Director. And the IT Function is one of the functions that work under the Directorate of Finance.

In 2017, There were more than six hundred project requests from all their subsidiaries with various types of demand projects that can be categorized as ERP, non-ERP, and Infrastructure. Each project will be handled by Project Manager who has been given a trust by PMO IT Leader.

To knowing about the progress of all projects that's running well, controlled, timely and appropriate then for Actual value every month must be above of the plan value, but the fact is, the Actual value from January 2016 to December 2016 only as much as 1 time is above the value plan, That's in May 2016. While in 2017 from January to November 2017, onlly 2 time that can be above the plan value, That's in July and August 2017. With the view of 2016 & 2017 progress can be seen during the project development is still some have not run optimally yet.

IT projects in this function can be said to be large level because It will cost a great deal also in the provision of resources programmer, analysis, and other support in projects that will run as business in each year. The project is said to fail if the project exceeds the budget by 10%, the project exceeds the set time by 10%, the project does not provide a 10% business benefit [10].

Projects can be defined as activities that are interconnected with each other, with the onset and ending period agreed upon by the organization in order to fulfill the stated objectives within the timeframe, costs and resources already set [11].

While in 2017 from January 2017 to November 2017 It's only 2 times above the plan

value, in July and August 2017. With the view of 2016 & 2017 progress It can be seen that during the project development is still some have not run optimally yet.

IT projects in this function can be said "large", because it will cost a great deal also in the provision of resources programmer, analysis, and other support in projects that will run as business in each year.

Based on the information that the Author got from   PMO IT Leader,   get information if the existing IT Project Management in IT function is still not optimal. There are still opportunities for the emergence of problems thssat occur in the execution, the problems that occur, such as:

a. Still not optimal stage of the division of user demand projects that will be handled by each Project Manager each year. The impact is likely:
    1. There's an opportunity for social jealousy because of the imbalance of project sharing that will be handled by Project Manager or team to be involved.
    2. Opportunity not optimal level of contribution of Project Manager or PM in developing IT project.

b. Uncontrolled number of incoming project requests and project requests to be undertaken annually, so it is not known which projects of demand users who are really serious to be developed by the IT developer team
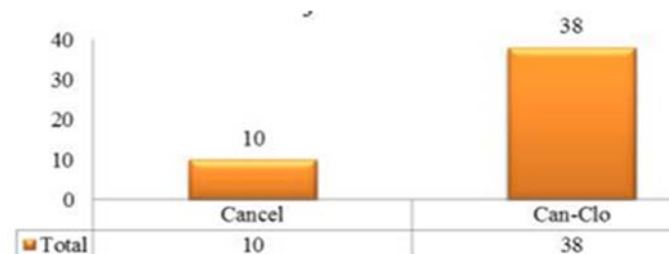

Figure 1.1 Jumlah Proyek Cancel 2017
(*Source* : Laporan Function TI,2017)

The potential impacts that can be arised:
1. The potential for a cancel in the middle of the process on the project by the demand of users.
2. Potential loss of time when the condition of the project has been done but the development of cancel.
3. The potential to provide material losses when the planned project has been carried

out its development but canceled in the middle of the demand devel process.

c. Unprotected project documentation for long-term guarantee and still many selected Project Managers who still do not keep documentation of each project request for upload in the project monitoring dashboard application. The impact of the impact that likely to emerge if

not optimized, such as: When an audit process will present a continuing problem, if the documentation is lost or not found.

d. Other Issues are likely to have an adverse impact on the current IT function, namely: Ineffective controls during the monitoring, evaluation, and evaluation stages in the face of many users 'requests in 2017, the lack of optimization of strategies and innovations created to address users' demands from each - the involved, not yet optimal level of contribution Source power (Manager, Project Manager, Relationship Management, programmer or application support dashboard monitoring) in developing the project, there has been no research that related Project Management for IT Project Function in 2017 by using the framework of COBIT 5.

The impact that will appear if not optimized, such as:

a. Will get complaints from users if not optimal, and the credibility of IT service provider functions will be questioned again.

b. Will get a reprimand from the SVP, even up to the Director level if the IT function's problematic.

c. Will have an effect the decline in performance, for example the number of projects will not be timely or workmanship will be continuesd in the next year.

d. The most fatal impact that will happen, IT related functions can be dissolved if it does not provide a positive change to the company.

In an increasingly advanced era, growing from before is a must in the company, whenever there's need for innovation to be better than before, including in the case of Project Management IT.

The COBIT 5 control is utilized for improvements to current and future Governance. However, COBIT 5 only provides controlling guidelines and It doesn't provide operational implementation guidance. COBIT 5 is a good practice across domains and also frameworks, where there's a process and presentation of activity that's managed and is a logical structure [13].

About research questions, the problem formulation of this research are:

1. What are the COBIT 5 domains that correspond to the IT functions of XYZ Company in the context of IT control ?
2. What is the level of IT project management capability in the IT function of this XYZ company using COBIT version 5.0?
3. What do you do to optimize the current IT project management?

The purpose and benefits of this research are:

1. Knowing what are the appropriate COBIT 5 domains in the IT function of this SOE Company in exercising control over IT project management.
2. Knowing the level of IT project management governance capability in the IT function of this state-owned enterprise by using COBIT 5.0.
3. Recommend to be improved governance and innovations that can be advised to optimize IT project management in many companies.

The author provides limits on the scope of this study:

1. The methodology used for this study with COBIT version 5.0 relating to IT project management.
2. Project management governance evaluated is IT project management at XYZ company in IT function ie Business Demand, IT Solution, IT Operation, SPC.
3. Just discuss the process and control on IT, while for more technical done in the project and cost-benefit analysis will not be discussed by the author.

2. LITERATURE REVIEW

The Information Technology Project is a project done using hard ware, software or network to produce a product, service or result [8].

Some information from [15], [2], [14], [4], [12], [5], [9] were using COBIT to measure how high the maturity of project management governance in their companies which ultimately results in improvement recommendations and best practice recommendations in IT project management governance.

The goal of IT governance is to realize the expected IT benefits, use & maximize those benefits, realize responsible use of Resource IT, can manage IT-related risks to ensure performance. COBIT 5 is the latest edition of the previous ISACA COBIT Framework that provides end-to-end business deployment of corporate Information Technology governance, to illustrate the key roles

of information and technology in creating enterprise value, there are 37 processes in COBIT 5.

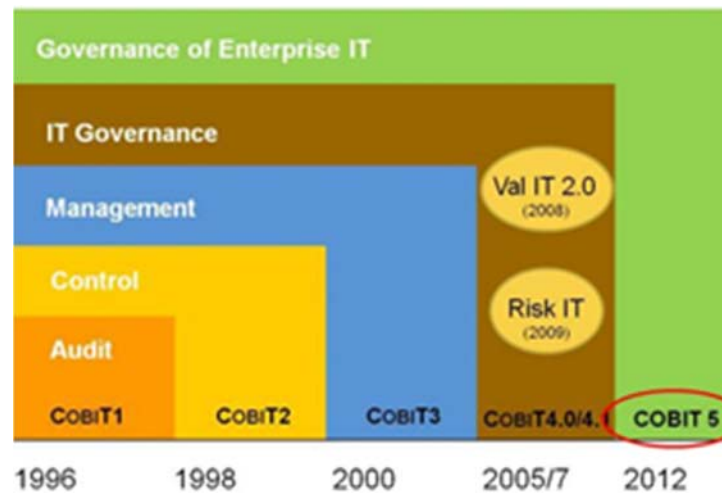COBIT 5 is the latest generation of ISACA guides addressing IT governance &management [6].

Figure 2. 1 Evolusi COBIT
(*Source* : thisiswhatgoodlookslike.com, 2017)

COBIT 5 has 2 main activity areas, including 5 domains, 37 processes, 210 process practices and 1112 activities. Two areas of activity IT Governance and area Management.

a. Governance Area has 1 domain ie EDM

(Evaluate, Direct, Monitor) with 5 process.

b. Area management consists of 4 domains ie APO (Align, Plan and Organize), BAI (Build, Acquire and Implement), DSS (Monitor, Evaluate and Assess).
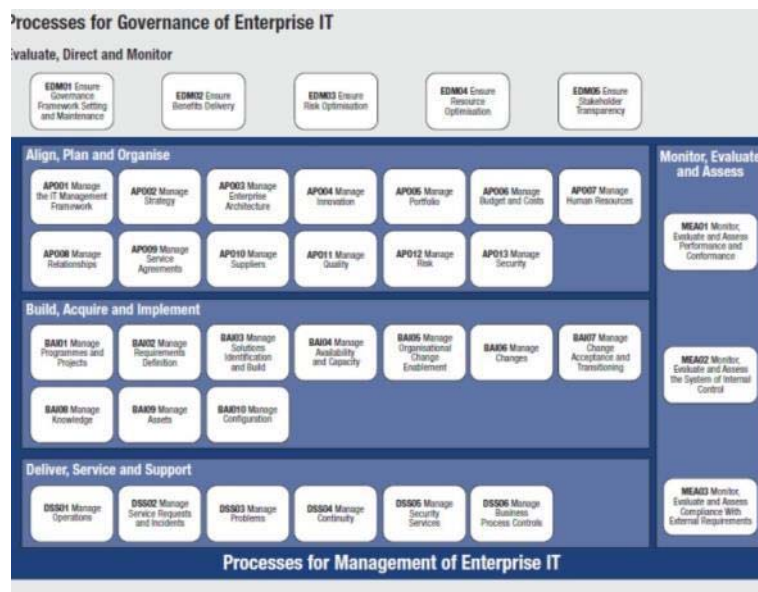
Figure 2. 2 Domain Proses Cobit 5.0
(*Source* : www.isaca.org , 2017)

In Figure 2.2 can be seen that the hierarchy of COBIT 5 there are 2 activities, namely Governance and Management. In the area of Governance consists of 1 domain, namely Evaluate, Direct and Monitor (EDM). The total process consists of 5 parts. In the Management area consists of 4 domains, namely APO, BAI, DSS and MEA. The number of processes is 32. If summarized, COBIT 5

consists of 2 main activity areas, 6 domains, 37 processes and 210 practice processes and 1,112 activities process performance indicators in the form of base practices and work products specific to each process and is used to determine whether a process is already level capabilities 1.
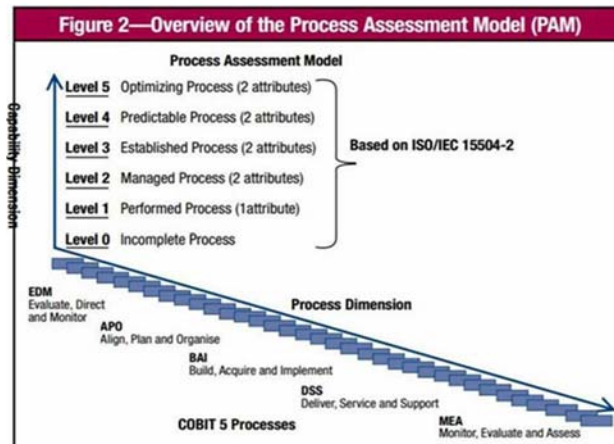
Figure 2.3 Indikator Assessment
(*Source*: ISACA, 2012)

Determination of Levels capability, the capability level of a process is determined based on whether the attributes of the process at that level has been partially or have been fully achieved, and whether the attribute level processes that previously have been fully achieved. Table 2.1 is the level achieved

Assessment Indicators

There are two types of assessment indicators: The process capability attribute indicator is applied to all processes, but the indicators are different for each capability. Performance indicators specific to the processes applied capability level 1.

Assessment Indicators

There are 2 types of assessment indicators:

a. The process capability attribute indicator is applied to all processes, but the indicators are different for each capability.

b. Indicators of process performance that are applied specifically for capability level 1. Process performance indicators in the form of base practice work product are specific to each process and are used to determine whether a process is at the level of capability 1.

Determination of Capability Level

The level of capability of a process is determined by whether the process attributes at that level have been partially or fully achieved, and whether the process attributes at the previous level have been fully achieved. Table 2.1 is the level and assessment to be achieved.

Table 2. 1 Assessment Level Kapabilitas Proses

Scale	Process Attributes	Rating
Level 1	- Process Performance	- Largely or Fully
Level 2	- Process Performance - Performenace Management - Work Product Management	- Fully - Largely or Fully - Largely or Fully
Level 3	- Process Performance - Performenace Management - Work Product Management - Process Definition - Process Deployment	- Fully - Fully - Fully - Largely or Fully - Largely or Fully

(*Source*: ISACA, 2012)

Stages of Measurement

In performing capability measurements on COBIT 5, ISACA has undertaken and has steps to mapping up to assess the level of IT governance capability in the organization. The steps that can be done to perform the measurement are as follows [7]:

1. **Creating Mapping Between Vision and Mission With Enterprise Goals In COBIT 5**

Figure 2.4 Mapping Langkah 1
(*Source*: ISACA, 2012)

2. **Make Mapping From Enterprise Goals Become IT-Related Goals**
    After getting enterprise goals, the next step is to find IT related goal.

Figure 2.5 Pemetaaan Langkah 2
(*Source*: ISACA, 2012)

3. Create Mapping IT-Related Goals and Processes COBIT 5

COBIT 5 has guided a mapping table between IT-Related Goals to COBIT 5 Process. The stages between IT-Related Goals so COBIT 5 in Figure 2.5.

Figure 2.6 Mapping Langkah 3
(*Source*: ISACA, 2012)

4. Conducting Assessment of Specified Processes In   Previous Stage

Table 2. 2 Process Assessment Scale COBIT 5

N - 0% - 15%	P - 15% - 50%	L – 50% - 85%	F – 85% - 100%

(Source: ISACA, 2012)

Keterangan kode pada Table 2.2 adalah:
a.   N = Not Achieved
b.   P = Partially Achieved
c.   L = Largely Achieved
d.   F = Fully Achieved

3. METHODOLOGY
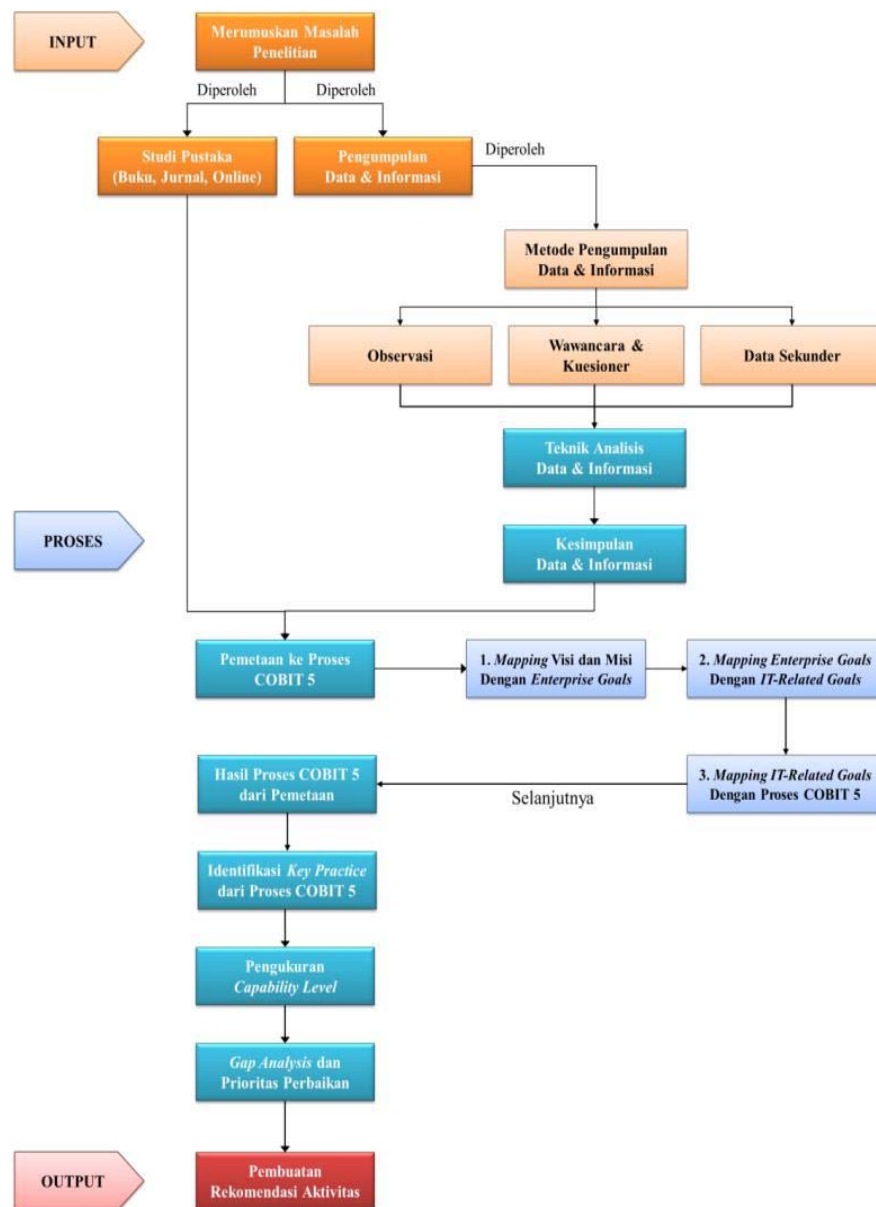
Figure 3.1 Kerangka Pikir Penelitian
(*Source*: Author, 2018)

There are also steps of this research mindset that is:

a. Formulation of Research Problems
b. Library and Data and Information Collection : Literature review. Data & Information Collection (Observation, Interview, Questionnaire, Secondary Data).
c. Process Mapping COBIT 5
c. Identify Key Practices From COBIT5 Process
d. Capability Measurement
e. Perform GAP Analysis and Priority Improvements
f. Creating Activity Recommendations

4.   DISCUSSION

Mapping Vision And Mission In Enterprise Goals Cobit 5

The first step to do is to mapping between the vision and mission functions with Enterprises Goals, the results generated in table 4.1 below.

Table 4.1 Mapping ke Enterprise Goals

Category	List Enterprise Goals	Result (Yes / No)
Financial	1. *Stakeholder value of business investment*	No
	2. *Portfolio of Competitive Products and Service*	No
	3. *Managed business risk (Safeguarding of Assets)*	No
	4. Compliance with external law and regulations	**Yes**
	5. *Financial transparency*	No
Customer	**6. Customer-oriented service culture**	**Yes**
	7. Business service continuity and availability	**Yes**
	8. Agile responses to changing business environment	**Yes**
	9. *Information-based strategic decision making*	No
	10. *Optimization of service delivery costs*	No
Internal	**11.Optimization of business process functionality**	**Yes**
	12. *Optimization of business process cost*	No
	13. *Managed business change programs*	No
	14. Operational and staff productivity	**Yes**
	15. Compliance with internal policies	**Yes**
Learning AndGrowth	**16. Skilled and motivated people**	**Yes**
	17. Product and business innovation culture	**Yes**

(Source : Mapping Result, 2018)

Mapping Enterprise Goals into IT-Related

ISACA has made an easy method for mapping Enterprise Goals into IT-related Goals. Below is a listing of Enterprise Goals against IT-related Goals defined by ISACA.

This mapping is the result of ISACA research and presented lam Balance Scorecard. The letter "P" means Primary or mandatory, while "S" means secondary or not mandatory. Of the 9 Enterprise Goals we have gained from the mapping stage between the vision, mission, and corporate objectives with Enterprise Goals are mapping as shown for getting IT-related Goals by simply taking the "P / Primer" category only.

Here   are   the   identified   IT-related   Goa

Table 4.2 Mapping to IT Related Goals

Kode	COBIT 5 *IT-Related Goals*	Yes / No
1	*Alignment of IT and business strategy*	**Yes**
2	***IT compliance and support for business compliance with external laws and regulations***	**Yes**
3	*Commitment of executive management for making decisions*	No
4	***Managed IT-related business risk***	**Yes**
5	*Realized benefits from IT-enabled investments and services portfolio*	No
6	*Transparency of IT costs, benefits and risk*	No
7	***Delivery of IT services in line with business requirement***	**Yes**
8	***Adequate use of applications, info and technology solutions***	**Yes**
9	***IT agility***	**Yes**
10	***Security of information, processing infrastructure and applications***	**Yes**
11	*Optimization of IT assets, resources and capabilities*	No
12	***Enablement and support of business process by integrating applications and technology into business***	**Yes**
13	*Delivery of programs delivering benefits, on-time, on budget and meeting requirement and quality standards*	No
14	***Availability of reliable and useful information for decision making***	**Yes**
15	***IT compliance with internal policies***	**Yes**
16	***Competent and motivated business and IT personnel***	**Yes**
17	***Knowledge, expertise and initiatives for business innovation***	**Yes**

Mapping IT-Related Goals & Process COBIT 5

In this section, the next step will be to mapping the results of IT-related Goals that have been mapped to COBIT 5 process. ISACA through COBIT 5 has provided a mapping method. From Figure 4.3 that has been mapped, if we use to map IT-related Goals, then found the COBIT 5 process identified.

As with Enterprise Goals and IT-related Goals, there may be one or more IT Processes that are also identified in other IT-related Goals, so the same IT Process will only be identified once. The COBIT 5 IT Process identified is as follow

Table 4.3 COBIT 5 IT Process That Identified.

Control Objective	Code Proses	Process Name
Evaluate, Direct and Monitor (EDM)	**EDM01**	*Ensure Governance Framework Setting and Maintenance*
	EDM02	*Ensure Benefit Delivery*
	EDM03	*Ensure Risk Optimisation*
	EDM04	*Ensure Resources Optimisation*
Align, Plan and Organize (APO)	**APO01**	*Manage the IT Management Framework*
	APO02	*Manage Strategy*
	APO03	*Manage Enterprise Architecture*
	APO04	*Manage Innovation*
	APO05	*Manage Portofolio*
	APO07	*Manage Human Resources*
	APO08	*Manage Relationship*
	APO09	*Manage Service Agreement*
	APO10	*Manage Suppliers*
	APO11	*Manage Quality*
	APO12	*Manage Risk*
	APO13	*Manage Security*
Build, Acquire and Implement (BAI)	**BAI01**	*Manage Programmes and Projects*
	BAI02	*Manage Requirements Definition*
	BAI03	*Manage Solutions Identifications Build*
	BAI04	*Manage Availability and Capacity*
	BAI05	*Manage Organisational Change Enablement*
	BAI06	*Manage Changes*
	BAI07	*Manage Change Acceptance and Transitioning*
	BAI08	Manage Knowledge
	BAI09	Manage Assets
	BAI10	Manage Configuration
Deliver, Service and Support (DSS)	**DSS01**	*Manage Operatins*
	DSS02	*Manage Service Requests and Incidents*
	DSS03	*Manage Problems*
	DSS04	*Manage Continuity*
	DSS05	*Manage Security Services*
	DSS06	*Manage Business Process Controls*
Monitor, Evaluate And Assess (MEA)	**MEA01**	*Monitor, Evaluate and Assess Performance and Conformance*
	MEA02	*Monitor, Evaluate and Assess the System of Internal Control / Monitor*
	MEA03	*Monitor, Evalauate and Assess Compliance with External Requirements*

(Source : Mapping Result Author, 2018)

In Table 4.3 is the Mapping Results for IT Process of COBIT 5, namely:
a. EDM01, EDM02, EDM03, EDM04, EDM05
b. APO01, APO02, APO03, APO04, APO05, APO07, APO08, APO09, APO10, APO11, APO12, APO13
c. BAI01, BAI02, BAI03, BAI04, BAI05, BAI06, BAI07, BAI08, BAI09, BAI10
d. DSS01, DSS02, DSS03, DSS04, DSS05, DSS06
e. MEA01, MEA02, MEA03

Identifikasi Key Practices Dari Proses COBIT 5

Table 4.4 Key Practices Cobit 5

Kode	Key Governance Practices
EDM04	*Ensure Resources Optimisation*
04.01	*Evaluate Resources Management*
BAI01	*Manage Programmes and Projects*
01.04	*Develop and Maintain The Programme Plan*
01.05	*Launch and Execute the Programme*
01.06	*Monitoring, control, and report on the programme outcomes*
01.08	*Plans Projects*
01.11	*Monitor and Control Project*
01.12	*Manage Project Resources and Work Packages*
BAI03	*Manage Solutions Identifications and Build*
03.05	*Build Solutions*
03.07	*Prepare for Solution Testing*
03.08	*Execute Solution Testing*
03.10	*Maintain Solutions*
Kode	*Key Management Practices*
BAI06	*Manage Changes*
06.02	*Manage Emergency Changes*
06.03	*Track and report change status*
06.04	*Close and Document the changes*
DSS06	*Manage Business Process Controls*
06.01	*Align Control Activities Embedded in Business Processes With Enterprise Objectives*
06.02	*Control the Processing Of Information*
06.03	*Manage Roles, Responsibilities, Access, Privileges, Lev Authority*
MEA02	*Monitor, Evaluate and Assess the System of Internal Control*
02.01	*Monitor Internal Controls*
02.02	*Review Business Process Controls Effectiveness*
02.03	*Perform control self-assessments*

(Source : Mapping Result Author, 2018)

Counting Capability Level

An example assessment on one of the Pre-selected IT Processes, EDM04.

Table 4.5. Contoh Capability Level EDM04

(Source: Author, 2018)

Table 4.5 is a summary of the assessment of the EDM process achieved at level 1 of the 65.33% rating score on EDM04, then Table 4.16 is the result of the EDM04.01 Questionnaire from the respondent workers in the IT function. There are 2 answers provided for respondents are "Exist" and "Not Exist".

Table 4.6 Result Koresponden EDM04.01

Respondent	Jabatan	Function TI	EDM		
			EDM04.01		
			Q1	Q2	Q3
R1	Dan lain-lain	BD	100%	100%	100%
R2	Senior Analyst	BD	0%	100%	100%
R3	Ast Manager	BD	100%	0%	0%
R4	Senior Analyst	IT SOL	100%	100%	100%
R5	Dan lain-lain	SPC	100%	100%	100%
R6	Junior Analyst	IT SOL	0%	0%	0%
R7	Senior Analyst	BD	100%	0%	100%
R8	Ast Manager	IT OPS	100%	0%	100%
R9	Dan lain-lain	IT SOL	100%	0%	100%
R10	Ast Manager	IT SOL	100%	0%	100%
R11	Junior Analyst	IT SOL	0%	0%	0%
R12	Ast Manager	SPC	100%	100%	100%
R13	Senior Analyst	SPC	100%	100%	100%
R14	Junior Analyst	IT SOL	100%	100%	100%
R15	Junior Analyst	IT OPS	0%	0%	0%
R16	Ast Manager	BD	100%	0%	100%
R17	Ast Manager	IT OPS	100%	0%	100%
R18	Ast Manager	IT SOL	100%	100%	100%
R19	Senior Analyst	BD	0%	0%	0%
R20	Ast Manager	IT SOL	0%	0%	0%
R21	Junior Analyst	SPC	100%	100%	100%
R22	Ast Manager	BD	100%	100%	100%
R23	Ast Manager	BD	100%	0%	100%
R24	Junior Analyst	BD	100%	100%	100%
R25	Dan lain-lain	IT SOL	100%	0%	100%
			76.00%	44.00%	76.00%
	Result *Score*		65.33%		

(Source: Author, 2018)

Table 4.7 Summary of EDM04 Calculations

EDM04 - *Ensure Resource Optimisation*				
Governance Practice	Output (Q)	Exist	Score	
EDM04.01 - Evaluate Resource Management	Guiding Principles For Allocation Of Resources And Capabilities	√	76,00%	65,33%
	Guiding Principles For Enterprise Architecture	-	44,00%	
	Approved Resources Plan	√	76,00%	
Average Score				65,33%

(Source: Author, 2018)

Summary of IT Process Selected Assessment

The final result after counting the level current of EDM04, BAI01, BAI03, BAI06, DSS06, and MEA02

Table 4.8 Summary of Selected IT Process Calculations

COBIT 5				
Domain COBIT 5	*IT Process*	*Process Practices*	*Current Score (%)*	*Target Min. Score (%)*
EDM	EDM04	EDM04.01	65.33	85.00
BAI	BAI01	BAI01.04	90.67	85.00
		BAI01.05	90.00	85.00
		BAI01.06	78.00	85.00
		BAI01.08	96.00	85.00
		BAI01.11	85.33	85.00
		BAI01.12	76.00	85.00
	BAI03	BAI03.05	32.00	85.00
		BAI03.07	90.00	85.00
		BAI03.08	78.00	85.00
		BAI03.10	68.00	85.00
	BAI06	BAI06.02	68.00	85.00
		BAI06.03	96.00	85.00
		BAI06.04	96.00	85.00
DSS	DSS06	DSS06.01	58.00	85.00
		DSS06.02	68.00	85.00
		DSS06.03	93.33	85.00
MEA	MEA02	MEA02.01	68.00	85.00
		MEA02.02	60.00	85.00
		MEA02.03	70.67	85.00

(Source: Author, 2018)
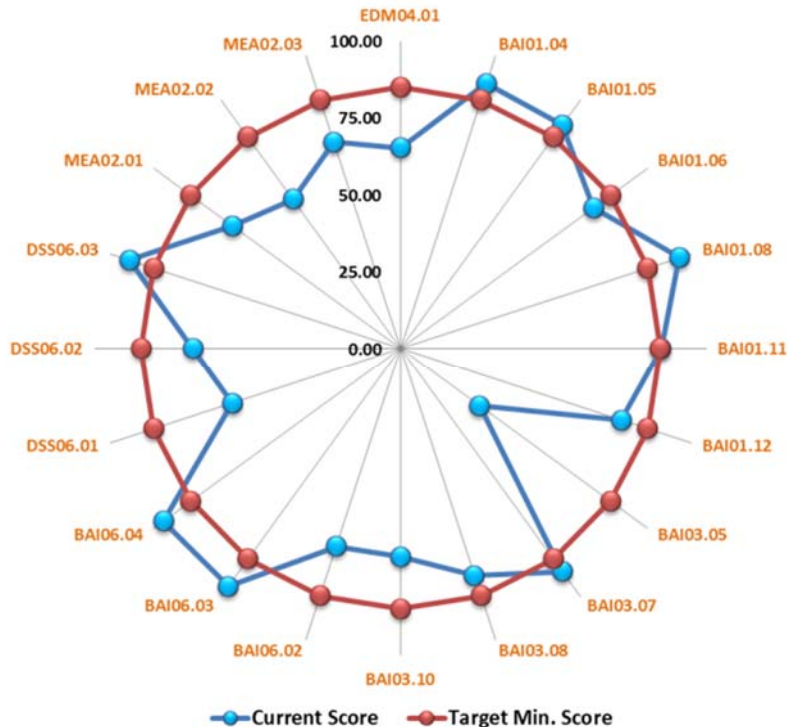
Figure 4.1 Result Assessment of Process Conditions - Radar
(Source: Author, 2018)
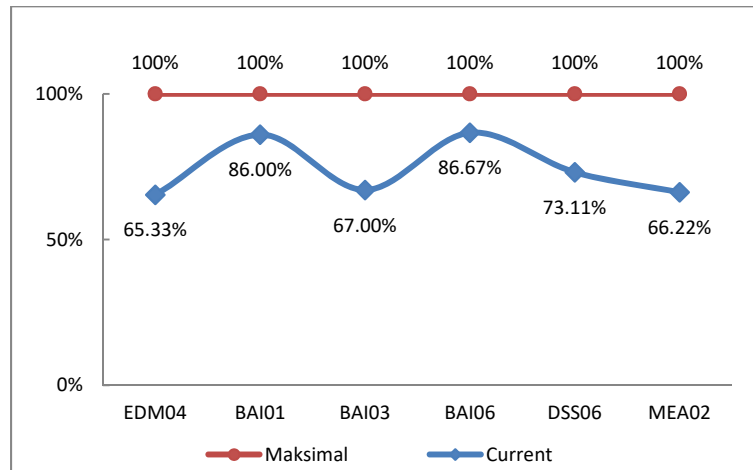
Figure 4.2 Result Assessment of Process Conditions - Point
(Source: Author, 2018)

Table 4.8 Result Rating Capability Level COBIT 5 (target)

IT Process COBIT 5			
Code Process	**Descripion Process**	**Current Score**	**Capability Level**
EDM04	*Ensure Resources Optimisation*	65,33%	L-1
BAI01	*Manage Programmes and Projects*	86,00%	L-2
BAI03	*Manage Solutions Identifications & Build*	67,00%	L-1
BAI06	*Manage Changes*	86,67%	L-2
DSS06	*Manage Business Process Controls*	73,11%	L-1
MEA02	*Monitoring, Evaluate, and Assess the System of Internal Control*	66,22%	L-1

(Source: Author, 2018

Figure 4.6 Result Capability Level

Table 4.9 Result Rating Capability Level COBIT 5 (Target)

Proses COBIT5	Proses Tingkat Kapabilitas						Level Kapabilitas
	0	1	2	3	4	5	
EDM04				√			*Established*
BAI01				√			*Established*
BAI03				√			*Established*
BAI06				√			*Established*
DSS06				√			*Established*
MEA02				√			*Established*

(Source: *Project Management Officer* 2018)

GAP Assessment in EDM04, BAI01, BAI03, BAI06, DSS06, and MEA02

From the results of previous calculations, it can be concluded that the Capability Level on the IT function is currently at the level of 1.33 and has a GAP of 1.67 to reach the target level of Capability Level, which is at Level 3. GAP Capability Level shows that the level of maturity in management projects in IT functions are still not optimal, so the potential for various negative risks to IT project management can occur with various opportunities.

$$\text{Capability Level} = \frac{(0 \times 0) + (1 \times 4) + (2 \times 2) + (3 \times 0) + (4 \times 0) + (5 \times 0)}{6}$$

$$= 1.33$$

Figure 4. 3 Result Average Capability Level Current
(Source: Author, 2018)

After knowing GAP score and target level that we want to be, and then We will give some recommendations.

Figure 4.4 Gap Analysis Capability Level In COBIT Process 5
(Source: Author, 2018)

5.   RECOMMENDATION

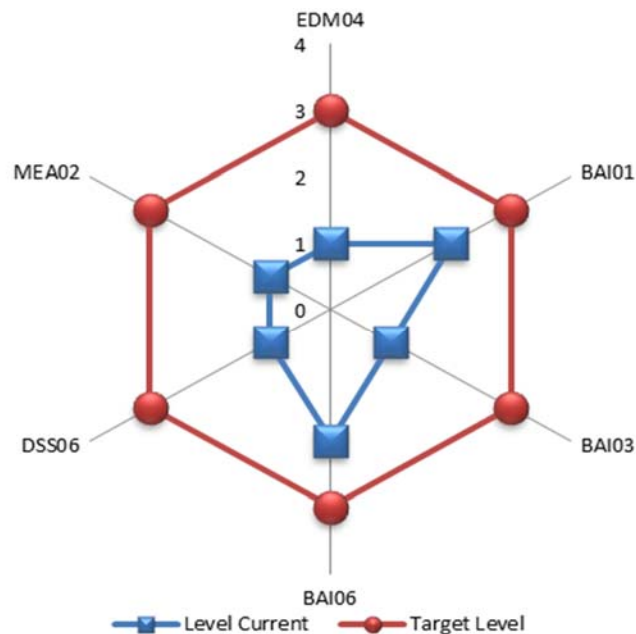Recommendations are suggestions given by the Author to the IT unit for the purposes of improvement on IS / IT governance. Suggestions to be given by Author obtained by Result analysis to each process by doing comparison between current condition (As is) and targets to be achieved by company, and others (To be), so that will get value of GAP Analysis. GAP Analysis will be used as or become parameter for Author in making recommendation improvement to things that have not optimally done

The following is recommendations that recommended by the Author for improvements to any pre-selected process:

a.   Level Level 1 to 2

The author provides recommendations in the form of suggestions to the IT function to create a list of output processes that are not yet available in IT functions (not exist) and are found for standard level 1, as follows:

1.   EDM04 - Ensure Resource Optimization

Recommend Guiding Principles For Enterprise Architecture, to help IT function become more optimal in the future in service to users, for example, corporate architecture in the practice of documenting the elements of business strategy, business case, business model, and technology, policies and infrastructure that form function / related companies.

2.   BAI01 - Manage Programmes and Projects

Recommend with the analysis of gaps in project planning, which is useful to help know the shortcomings and improve performance in the completion of IT projects and in the management of each project entry in IT to become more optimal in the future.

3.   BAI03 - Manage Solutions Identifications and Build

Recommend in the presence of Integrated and configured solution components in managing integrated and configured solutions. Recommend with periodic analyst maintenance or Periodic maintenance analyst that will be useful in the management and construction of solutions.

4.   DSS06 - Manage Business Process Controls

Recommend with analysis of Results of processing effectiveness reviews that can be useful in optimizing the review activities on the effectiveness of IT project management to be run.

From the recommendations described earlier is the process on cobit that needs to be replenished at level 1 in order to achieve 100% value, so that all necessary processes for IT project management can be done well and more optimally in the IT function for the future.

Although based on the Corresponding Results already entered into the category exist in the function of IT, but there is still a chance to be improved again to get the result score above 85.00% to 100% to be better than the current conditions.

b.   Level 2 to Level 3

As long as level 1 is fulfilled, the next stage suggested by the Author to the IT function is to list outputs in undiscovered processes for standard level 2 on the COBIT process, which has not reached level 2.

At level 2 for each COBIT process that has the same process output and is divided into two parts, namely Performance Management and Work Product Management with the aim that the company can meet the criteria at level 2, therefore it is recommended to do things like the following on points that have been provided at level 2

6.   DIFFERENCE FROM PRIOR WORK

After knowing the result of this case study, and some recommendations that author gave for this company, as an author I wanna explain about a section of difference from prior work and what I did until finishing this paper, such as :

1. Journal from Koencoro, Christian, Buliali, Joko Lianto, Perancangan Model Tata Kelola Manajemen Proyek Teknologi Informasi Menggunakan COBIT pada PT. X", Prosiding Seminar Nasional Manajemen Teknologi XVIII. MMT-ITS: Surabaya, 2013.

   - The result of comparison from the previous journal with my journal that I had created, as an author I could tell you as reader, if the way of measurement for correspondence results it differs from what I created for this paper, where from

the previous journal, there's no detailed mapping, as I had created for my journal.

2. Journal from Windy, Satya, "Pengukuran Kematangan Pelaksanaan Proyek Teknologi Informasi Menggunakan COBIT 5 dan PMBOK (Studi Kasus ATI Business Group)", Jakarta: Universitas Bina Nusantara, 2014.
   - The result of comparison from the previous journal with my journal that I had created, as an author I could tell you as reader, There's a difference of rules that used, if We have to compare between the previous journal with the journal that have been made by me as new author, where for the previous journals was done by using the rules of PMBOK 2000, while for research conducted by me, It does not use PMBOK 2000, because I only use COBIT 5 framework and rules from PAM COBIT 5, as well as data made by the author using a questionnaire.

3. Journal from Bimantara, Aryo Bayu, "Perancangan Tata Kelola Pada Proyek Pengembangan Sistem Dengan Kerangka Kerja COBIT 5 : Studi Kasus PT Bank XYZ (Persero) Tbk", Depok : Universitas Indonesia, 2015.
   - The result of comparison from the previous journal with my journal that I had created, as an author I could tell you as reader, There's a difference of rules that used, if We have to compare between the previous journal with the journal that had been made by me, if The previous journal was conducted in 2015 using SDLC. and for the previous journal that used COBIT 5 where the purpose of the previous journal is to plan with the help of COBIT 5, not to evaluate as I did in my journal that I had created in 2018

5. CONCLUSION & SUGGESTIONS

Conclusion

From the results of analysis related to the manufacture of IT rules in IT functions, it can be concluded that:
a. COBIT 5 process selected and relevant to IT issues related to IT project management Processes, there are EDM04 (Ensure Resource Optimization), BAI01 (Managing Programs and Projects), BAI03 (Managing Identification & Build Solutions), BAI06 (Manage Changes), DSS06 (Manage Business Process

Controls) and MEA02 (Monitoring, Evaluate, and Assess).
b. Based on the results of calculations that have been done by Author, the score of Capability Rate generated on the structure of IT work on the current IT function is 1.33, with the target level of Capability expected by the IT function for the future is 3.00, then there's a Gap 1.67.
c. Recommendations used to manage projects in the current IT function to be better assist that's by improving and initiating the reappraisal of IT Process on selected domains, but the results of existing analysis are below the minimum standard set at 85%, while the IT Process on domains against EDM04, BAI03, DSS06, MEA02.

Suggestions

Suggestions given by the author based on evaluations that have been done and need to be reconsidered to be able to improve the maturity level of management IT project management existing in the company for the future, namely:
a. For further research, if will do evaluation in an IT function at company and related to project management, hence writer suggest to researcher then can use 4 Domain at Cobit 5, that is EDM, BAI, DSS and MEA, and IT Process that can used are EDM04 (Ensure Resources Optimization), BAI01 (Manage Programs and Projects), BAI03 (Manage Solutions Identification & Build), BAI06 (Manage Changes), DSS06 (Manage Business Process Controls) and MEA02 (Monitoring, Evaluate, and Assess).
b. Measurement of Cappability Level level related to project management by using IT Process from COBIT 5 which has been selected can still change, because it allows the change of Cappability Level, Gap, and its Cappability target and must be adjusted back to the background and purpose of the company.

REFERENCES

[1] Adella P.E., "Evaluasi Layanan Teknologi Informasi di Kementrian Komunikasi dan Informatika Berdasarkan ITIL V3 dan COBIT 5", Depok: Universitas Indonesia, 2013.
[2] Bimantara, Aryo Bayu, "Perancangan Tata Kelola Pada Proyek Pengembangan Sistem Dengan Kerangka Kerja COBIT 5 : Studi Kasus PT Bank XYZ

(Persero) Tbk”, Depok : Universitas Indonesia, 2015.

[3] Deloitte, “Project Management Survey Report”, Johannesburg : Deloitte, 2009.

[4] Firmansyah, M.R., “Analisis Penerapan Tata Kelola Teknologi Informasi Menggunakan Cobit 5.0 di Perusahaan (Studi Kasus PT. Kereta Api Indonesia)”, Depok : Universitas Indonesia, 2015.

[5] Henrique, P. et al., “Evaluating IT governance practices and business and IToutcomes : A quantitative exploratory study in Brazilian companies”, Procedia Technology, 16, pp.849, 2015.

[6] ISACA, “A Business Framework for the Governance and Management of Enterprise IT”, USA : ISACA, 2012.

[7] ISACA, “COBIT 5 : Framework”, USA : ISACA, 2012.

[8] Kathy Schwallbe, "Pengertian Proyek Teknologi Informasi”, Source : http://library.binus.ac.id/, Jakarta: Universitas Bina Nusantara. Diakses: Februari 2018.

[9] Koencoro, Christian, Buliali, Joko Lianto, Perancangan Model Tata Kelola Manajemen Proyek Teknologi Informasi Menggunakan COBIT pada PT. X”, Prosiding Seminar Nasional Manajemen Teknologi XVIII. MMT-ITS: Surabaya, 2013.

[10] Miller, Metthew, “Kriteria Proyek Gagal”, Jakarta: Universitas Bina Nusantara. From : http://library. binus.ac.idss , 2018.

[11] Nurhayati, “Definisi Proyek”, source: http://e-journal.uajy.ac.id/9167/4/ 2TS13984.pdf, 2018.

[12] Sari, Indah Mayang, Ali, Ahmad Holil N, “Pembuatan Metode Evaluasi Kematan-gan Pelaksanaan Proyek Dengan Meng-gabungkan COBIT 5 Domain BAI 1.11 dan MEA 1.04 Dengan Best Practice PMBOK 4th Studi Kasus : Direktorat Pengelolaan Sistem”, Jakarta Indonesia, 2013.

[13] Supriatna, A, “Analisa penerapan togaf dan cobit Dalam tata kelola teknologi informasi Sebagai usulan pada kementerian energi dan Source daya mineral”, Retrieved 10 Agustus 2017, from http://repository.upnyk.ac.id/., 2012.

[14] Suryanto, Gondodiyoto, Sanyoto, “Evaluasi Manajemen Proyek. Jurnal CommIT, Vol.3, pp.82- 85, 2009.

[15] Windy, Satya, “Pengukuran Kematangan Pelaksanaan Proyek Teknologi Informasi Menggunakan COBIT 5 dan PMBOK (Studi Kasus ATI Business Group)”, Jakarta: Universitas Bina Nusantara, 2014.