Process Capability Assessment of Information Technology Governance on Information and Communication Technology Provider Company: Case Study on PT XYZ

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Keywords: IT Governance, Process Assessment Model using COBIT 5, Process Capability Level, Information and Communication Technology Provider.

Abstract: Recently information technology (IT) is becoming more important for the organization in controlling and improving their business performance. Considered as important role in the organization, IT frequently represents significance amount of investment. High spending on IT investment raises the necessity of good IT Governance implementation to ensure value realization, risk mitigation and practice of expected behavior. Accordingly, ISACA defined Process Assessment Model (PAM) Using COBIT 5 for being a basis in conducting process capability assessment to measure the IT Governance practice in an organization. In this research, the assessment took place in one of the information and communication provider in Indonesia, PT XYZ. In order to meet the research objective, this research collects data by literature review, observation and interview. Process capability level is determined by judging the process attributes for each of 27 processes selected in the domain of EDM, APO, BAI, DSS, and MEA. Assessment result shows that process capability of PT XYZ has achieved level of 3 (established process). Recommendations for process improvement to level 4 are arranged with focus in defining and implementing analysis technique and control limits.

1 INTRODUCTION

Organizations highly depend on information technology (IT) to support business strategy, operations, business value, and good governance implementation (Satidularn, Wilkin, Tanner, & Linger, 2013). As a technology with the purpose of acquiring, storing, managing, processing, and disseminating the processed data (Rajaraman, 2018), IT is becoming more important for the organization in controlling and improving their business performance (Kerr & Murthy, 2013). Considered as important role in the organization, IT frequently represents significance amount of investment (ISACA, 2012c).

High spending on IT investment raise the necessity of good IT Governance implementation to ensure value realization, risk mitigation and practice of expected behavior (Satidularn, Wilkin, Tanner, & Linger, 2013; IT Governance Institute, 2009). IT Governance is defined as alignment between IT organization with performance goal, strategic objective and assess the result (Barbosa, Rodello, & de Padua, 2014). Inline with developing an interest in IT governance, assessment, and improvement of IT governance are necessary for enabling organizations to monitor the effectivity of IT (Heroux & Fortin, 2017).

One model for conducting process capability assessment to measure the IT governance practice in an organization is defined by ISACA as Process Assessment Model (PAM) using COBIT 5 (ISACA, 2013a). PAM COBIT 5 is a two-dimensional process capability assessment, with COBIT 5 processes in the first dimension and capability dimension in the second dimension (ISACA, 2013a). COBIT 5 is a comprehensive framework that enables organizations to achieve their objective in IT governance and management (Romney & Steinbart, 2017).

In this research, the assessment took place in one of the information and communication provider in Indonesia, PT XYZ. All of the business processes in

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PT XYZ use IT applications as directed by their parent company X. Based on an interview with the ICT Delivery Manager of PT XYZ, the budget for IT expenditure is around IDR 90 Billion annually. These are for fulfilling PT XYZ IT devices and services requirement such as PC, storage, LAN & WLAN, WAN, voices, video, teleconference bridge, the specific application for each department, network management, incident and problem management. Most of IT devices and services are outsourced, so most of the budget is allocated for IT expenses. COBIT is an IT governance framework that can be applied to outsourced IT with an integrated way and providing a tool to assess, monitor, and evaluate performance (Ahmed, 2011).

Regarding the important role and significant expense of IT, there is a need to evaluate the IT governance in PT XYZ. The evaluation use methodology of PAM COBIT 5. The objective of the research is to measure the capability process level of IT governance in PT XYZ, prioritize COBIT 5 processes for improvement plan, and identify practical improvement plan.

2 LITERATURE REVIEW

2.1 IT Governance

IT governance is the responsibility of the board of directors and the top management of the organization (Turel, Peng, & Bart, 2017; IT Governance Institute, 2003). IT governance consists of policies, structures, and processes of management that involve IT function (Barbosa, Rodello, & de Padua, 2014). Just as corporate governance has been driven by the imperative to manage firms' operations to more effectively meet shareholder expectations, so have firms focused on IT governance to achieve similar IT accountabilities (Heroux & Fortin, 2017; Wilkin & Chenhall, 2010).

IT governance is an integral part of corporate governance (Juiz, Guerrero, & Lera, 2014). The key concept of IT governance and corporate governance are similar in definition, principles, the subject, function, performance measurement management, and goals (Satidularn, Wilkin, Tanner, & Linger, 2013). The distinction is one, IT governance tends to more focus on IT related issues, while corporate governance emphasis on enterprise-wide issues (Satidularn, Wilkin, Tanner, & Linger, 2013). The main focus area of IT governance can be divided into five parts: strategic alignment, value delivery, risk management, resource management, and performance measurement (Heindrickson & Santos Jr, 2014).

2.2 COBIT 5 Framework

Information Systems Audit and Control Association (ISACA) have introduced Control Objective for Information and Related Technology (COBIT) 5 as the latest generation of IT governance and IT management guidelines (ISACA, 2012). The COBIT 5 framework describes best practices for the effective governance and management of IT (Romney & Steinbart, 2017). Recently expert IT professionals judge the COBIT processes in terms of their importance for maintaining effective internal control over the reliability of financial reporting (Kerr & Murthy, 2013).

2.2.1 COBIT 5 Principles

COBIT 5 is a comprehensive framework that helps enterprises achieve their IT governance and management objectives (Romney & Steinbart, 2017). COBIT 5 is generic and useful for enterprises of all sizes, whether commercial, not-for-profit or in the public sector (ISACA, 2012). COBIT 5 is based on five key principles for governance and management of enterprise IT (ISACA, 2012), as in Figure 1. The principles are (1) meeting stakeholder needs, (2) covering the enterprise end-to-end, (3) applying a single integrated framework, (4) enabling a holistic approach, separating governance from management.

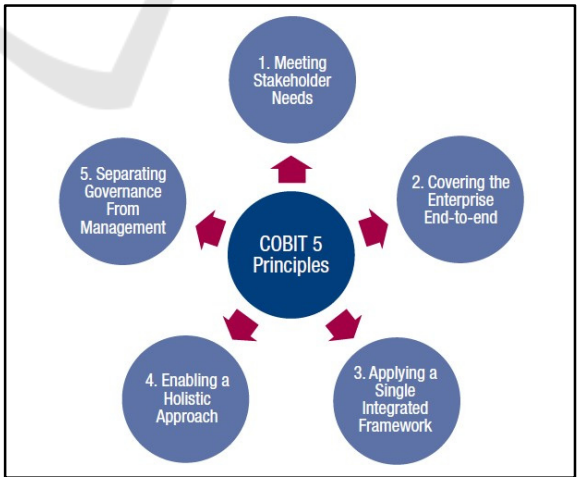

Figure 1: COBIT 5 Principles. (Source: ISACA (2012))

2.2.2 COBIT 5 Process Reference Model

COBIT 5 includes a process reference model,

defining and describing in detail several governance and management processes (ISACA, 2012b). The proposed process model is a complete, comprehensive model, but it is not the only possible process model. Each enterprise must define its own process set, taking into account its specific situation (ISACA, 2012). These are 37 COBIT 5 processes grouped into five domains.

A. The domain of Evaluate, Direct and Monitor (EDM) consists of 5 processes.
   1. Ensure governance framework setting and maintenance (EDM01)
   2. Ensure benefit delivery (EDM02)
   3. Ensure risk optimization (EDM03)
   4. Ensure resource optimization (EDM04)
   5. Ensure stakeholder transparency (EDM05)

B. The domain of Align, Plan and Organize (APO) consists of 13 processes.
   6. Manage the IT Management Framework (APO01)
   7. Manage strategy (APO02)
   8. Manage enterprise architecture (APO03)
   9. Manage innovation (APO04)
   10. Manage portfolio (APO05)
   11. Manage budget and costs (APO06)
   12. Manage human resources (APO07)
   13. Manage relationships (APO08)
   14. Manage service agreements (APO09)
   15. Manage suppliers (APO10)
   16. Manage quality (APO11)
   17. Manage risk (APO12)
   18. Manage security (APO13)

C. The domain of Build, Acquire and Implement (BAI) consists of 10 processes.
   19. Manage programs and projects (BAI01)
   20. Manage requirements definition (BAI02)
   21. Manage solutions identification and build (BAI03)
   22. Manage availability and capacity (BAI04)
   23. Manage organizational change enablement (BAI05)
   24. Manage changes (BAI06)
   25. Manage change acceptance and transitioning (BAI07)
   26. Manage knowledge (BAI08)
   27. Manage assets (BAI09)
   28. Manage configuration (BAI10)

D. The domain of Deliver, Service and Support (DSS) consists of 6 processes.
   29. Manage operations (DSS01)
   30. Manage service requests and incidents (DSS02)
   31. Manage problems (DSS03)
   32. Manage continuity (DSS04)
   33. Manage security services (DSS05)
   34. Manage business process controls (DSS06)

E. The domain of Monitor, Evaluate and Assess (MEA) consists of 3 processes.
   35. Monitor, evaluate, assess performance and conformance (MEA01)
   36. Monitor, evaluate, assess the systems of internal controls (MEA02)
   37. Monitor, evaluate, assess compliance with external requirements (MEA03)

2.3 Process Assessment Model (PAM)

The process assessment model is a two-dimensional model of process capability (ISACA, 2013a). In one dimension, the process dimension is defined and classified into process categories as process reference model COBIT 5. In the other dimension, the capability dimension, a set of process attributes grouped into capability levels is defined (ISACA, 2013a). Overview of PAM is shown in Figure 2.

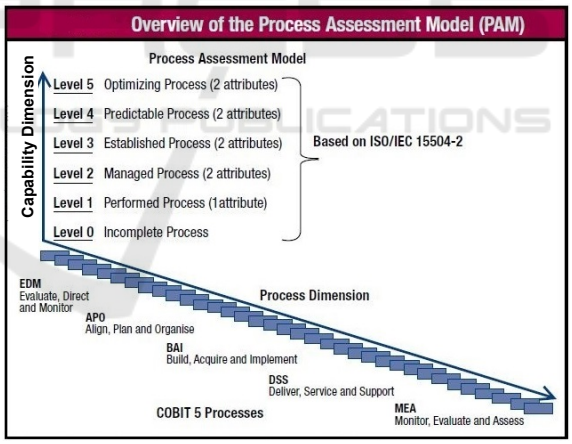

Figure 2: Overview of the Process Assessment Model (PAM). (Source: ISACA (2013a))

Process Capability Model itself is defined by ISACA as a Process Assessment Standard based on internationally recognized ISO/IEC 15504 Software Engineering (ISACA, 2012). The model provides a method to measure the performance of IT governance processes or management processes and identify process improvement (ISACA, 2012). Process capability is a characterization of the ability of a process to meet current or projected business goals (ISACA, 2013a). PAM COBIT 5 classify the

assessment result of process attributes into six process capability levels as follows (ISACA, 2013a).

- Level 0 Incomplete process. The process is not implemented or fails to achieve its process purpose.
- Level 1 Performed process. The implemented process achieves its process purpose.
- Level 2 Managed process. The process is now implemented in a managed fashion, and its work products are appropriately established, controlled and maintained.
- Level 3 Established process. The process is now implemented using a defined process that is capable of achieving its process outcomes.
- Level 4 Predictable process. The process now operates within defined limits to achieve its process outcomes.
- Level 5 Optimizing process. The process is continuously improved to meet relevant current and projected business goals.

The capability level of a process is determined on the basis of specific process attributes according to ISO/IEC 15504-2:2003 (ISACA, 2013a). Table 1 shows process attributes for every capability levels.

Table 1: Capability Levels and Process Attributes. (Source: ISACA (2013a))

Process Attribute ID	Capability Levels and Process Attributes
	Level 0: Incomplete process
	Level 1: Performed process
PA 1.1	Process Performance
	Level 2: Managed Process
PA 2.1	Performance management
PA 2.2	Work product management
	Level 3: Established process
PA 3.1	Process definition
PA 3.2	Process deployment
	Level 4: Predictable process
PA 4.1	Process measurement
PA 4.2	Process control
	Level 5: Optimizing process
PA 5.1	Process innovation
PA 5.2	Process optimization

Each process attribute is rated using a standard rating scale defined in the ISO/IEC 15504 standard (ISACA, 2013a). Table 2 shows the rating scale in terms of percentage achieved (ISACA, 2013a).

Table 2: Rating Levels. (Source: ISACA (2013a))

Rate	Description	% Achieved
N	Not Achieved	0 to 15% achievement
P	Partially Achieved	>15% to 50% achievement
L	Largely Achieved	>50% to 85% achievement
F	Fully Achieved	>85% to 100% achievement

3 RESEARCH OBJECT AND METHODOLOGY

3.1 Research Object

The research took place in one of the information and communication technology provider in Indonesia, PT XYZ. PT XYZ is established and mostly owned by Parent Company X which domicile in Sweden. PT XYZ is the authorized provider for information and communication technology Brand X. Main activities of PT XYZ are to sell and deliver network solution to their customers who are mainly telecommunication provider in Indonesia. The network solution consists of hardware, software, and network services under Brand X.

Parent Company X and its subsidiaries around the world, including PT XYZ, form a Global Group X with one global company approach with Parent Company X as the top management. PT XYZ is in the Market Area of South East Asia, India and Oceania. As one of local entity under Global Group X, PT XYZ must comply with local government law and corporate governance requirement of Global Group X. PT XYZ is also required to set up and implement corporate governance forums.

PT XYZ, as instructed by Global Group X, follows a matrix organization structure. Matrix management is a practice of managing individuals with more than one reporting line (Johson & Geal, 2016). The dual reporting line is to functional organization and to project organization (Min, 2014). In PT XYZ direct reporting line (represented by solid line) under President Director is only from Government Relation & Advisor and three Key Account Manager. While reporting line from other functions like Business Controller, Head of Network Operations, Head of Commercial Management, are indirect reporting that is represented by dotted line. Those other functions directly report to their line manager in Market Area. Figure 3 shows the organization structure of PT XYZ.

As a focal point for IT management responsibility in PT XYZ, ICT Delivery Manager directly report to his manager, Head of Digital Transformation & IT in Market Area. In PT XYZ ICT Delivery Manager indirectly reports to Business Controller. The main responsibilities of ICT Delivery Manager are (1) ensure IT solution implementation complies to Global Group X requirement, (2) implement IT governance and IT solution process framework, and (3) comply to the

directive of security, sustainability, occupational health of Global Group X.

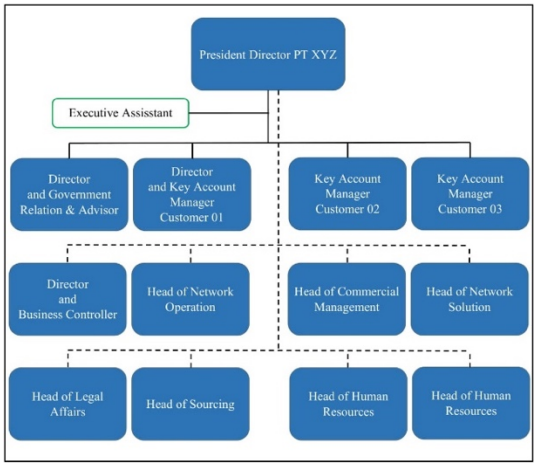

Figure 3: Organization Structure of PT XYZ. (Source: Interview with ICT Delivery Manager of PT XYZ)

IT Governance in PT XYZ is also part of IT governance in Global Group X which is regulated in IT governance directives, instructions, and guidance. Key decisions of IT governance in PT XYZ are taken with blend: 70% decisions made by IT Executives in Parent Company X, 20% decisions made by Executive Management and IT Executives altogether, and 10% decisions made locally by IT Division in PT XYZ. 70% of decisions made by IT Executives in Parent Company X are about IT architecture, infrastructure, investment, and priority. 20% of decisions by Executive Management and IT Executives are IT strategies and principles. 10% of decisions made locally are about IT application requirement based on local business of PT XYZ.

As instructed by Parent Company, all of the business processes in PT XYZ use IT applications and devices. IT devices and services required by PT XYZ are PC, storage, LAN & WLAN, WAN, voices, video, teleconference bridge, the specific application for each department, network management, incident, and problem management. All of these devices are outsourced to IT vendors which are decided by IT Executives in Parent Company X with procurement mechanism provided in Global Group X. ICT Delivery Manager is responsible for local IT readiness, implementation schedule, alignment of IT solution with business, and IT solution change if needed by the business.

Most of IT applications used on PT XYZ business process are mandatory applications from IT Executives in Parent Company X. This secure alignment between IT applications used and business process in PT XYZ which is arranged by Business Executives in Parent Company X. PT XYZ also develop a few applications locally due to a business requirement from a customer that cannot be satisfied by mandatory applications. Local applications use platform and hosting server from local IT vendors. The weakness of local applications is having no escalation mechanism to Market Area or Parent Company X if a problem occurs.

There are three IT governance forums adhered by ICT Delivery Manager PT XYZ regularly. The first one is IT Supplier Governance Meeting which is attended by IT vendors and purposed to review vendor's IT services compliance towards directives from Parent Company X and Market Area. The second forum is IT Governance meeting with stakeholders which is attended by President Director PT XYZ, Business Controller, Head of HR and Head of Security. The meeting's purpose is to coordinate and evaluate the IT implementation, procedure, and project in PT XYZ. The third forum is IT Vertical Meeting Specific Component IT Service which is attended by service owner and IT leader specific per component in Parent Company X and Market Area. The forum's purpose is to review specific component towards its compliance to Global directives and escalate problems happened in Market Area together with solution proposal.

3.2 Research Method

This research uses the qualitative method with a case study approach. Data collected by literature review, observation and interview. Collected data will be analyzed using PAM COBIT 5 with approach self-assessment process.

Self-assessment process is an approach which is able to identify the process capability gap that needs improvement with relatively small investment (ISACA, 2013c). Even though it tends to be more subjective and optimistic, self-assessment can be employed to be a prerequisite assessment to assist management for deciding the target of process capability level (ISACA, 2013c).

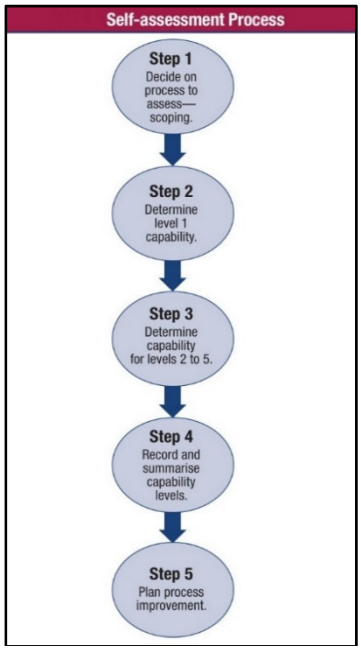

Figure 4: Self-assessment Process. (Source: ISACA (2013c))

Figure 4 shows the steps of the self-assessment process as the following description.

- Step 1: Decide on the process to assess – scoping.
  In the first step, COBIT 5 processes will be sorted for assessment using Scoping Tool in Process Assessment Model (PAM) Tool Kit: Using COBIT 5 (ISACA, 2013b). In scoping, author map enterprise goals of PT XYZ to enterprise goals of COBIT 5. After that, the sorted enterprise goals of COBIT 5 will be mapped to IT-related goals of COBIT 5 based on Scoping Tool. The selected IT-related goals are the ones that have a primary important relation to enterprise goals. Then the selected IT-related goals will be mapped to COBIT 5 Processes using Scoping Tool. The final identified COBIT 5 Processes are the processes with important primary relation to IT-related goals.
- Step 2: Determine level 1 capability.
  After scoping, author and ICT Delivery Manager of PT XYZ determine if the identified COBIT 5 processes are achieving process capability level 1. The author uses Self-assessment Template from ISACA (2013b). Indicators in process attribute (PA) 1.1 are specific for every process. While assessing every indicator in PA 1.1, there is a need for judgment to decide the rating level given to every indicator. Please refer to Table 2 for the rating level of PA 1.1 based on outcome percentage. One process is achieving level 1 capability if only rated “L – largely achieved” or “F – fully achieved" for every indicator in PA 1.1.
- Step 3: Determine the capability for levels 2 to 5.
  For processes achieving capability level 1, an assessment will be continued to determine capability for levels 2 to 5. In assessing capability level 2 and above, indicators of process attributes are generic for every process. The author uses the Self-assessment Template from ISACA (2013b). As assessing capability level 1, there is a need for judgment to decide the rating level given to every indicator on capability level 2 to 5, and please see Table 2 for the rating levels based on outcome percentage.
- Step 4: Record and summarise capability levels.
  The capability level of a process is determined by whether the process attributes at that level have been largely or fully achieved and whether the process attributes for the lower levels have been fully achieved (ISACA, 2013c). Table 3 shows the necessary rating for achieving each level. The summary of capability levels for each process will be recorded in-process assessment result table from ISACA (2013b).

Table 3: Levels and Necessary Ratings. (Source: ISACA (2013c))

Scale	PA ID	Process Attribute	Rating
Level 1	1.1	Process Performance	L or F
Level 2	1.1	Process Performance	F
	2.1	Performance Management	L or F
	2.2	Work Product Management	L or F
Level 3	1.1	Process Performance	F
	2.1	Performance Management	F
	2.2	Work Product Management	F
	3.1	Process Definition	L or F
	3.2	Process Deployment	L or F
Level 4	1.1	Process Performance	F
	2.1	Performance Management	F
	2.2	Work Product Management	F
	3.1	Process Definition	F
	3.2	Process Deployment	F
	4.1	Process Measurement	L or F
	4.2	Process Control	L or F
Level 5	1.1	Process Performance	F
	2.1	Performance Management	F
	2.2	Work Product Management	F
	3.1	Process Definition	F
	3.2	Process Deployment	F
	4.1	Process Measurement	F
	4.2	Process Control	F
	5.1	Process Innovation	L or F
	5.2	Process Optimization	L or F

- Step 5: Plan process improvement.
  Author together with ICT Delivery Manager evaluates the gap between the target of capability levels and current achievement. The improvement plan will be arranged based on gap evaluation with a focus on prioritized processes to be improved, a target of capability levels, a time required, resources needed, and estimated budget for achieving the target.

4 CASE STUDY

4.1 Decide on Process to Assess

For scoping purpose, the author uses the enterprise goal of PT XYZ stated in the Growth Plan document as a base to decide. The goal is "To be the number 1 business partner to our customers by delivering the best ICT transformation with superior customer experience through our best in class end-to-end capabilities". Based on author's assumption and confirmation to ICT Delivery manager, the enterprise goal of PT XYZ is mapped to three COBIT 5 Enterprise Goals: (1) Customer-oriented service culture, (2) Operational and staff productivity, (3) Skilled and motivated people.

Next, identified COBIT 5 enterprise goals are mapped to COBIT 5 IT-related goals (ITRG) using Scoping Tool. The author only selects IT-related goals that having a primary important relation to enterprise goals. The mapping obtains four ITRG: (1) Alignment of IT and business strategy, (2) Delivery of IT services in line with business requirements, (3) Adequate use of applications, information and technology solutions, (4) Competent and motivated business and IT personnel.

Then four identified ITRG are mapped to COBIT 5 processes based on Scoping Tool. The mapping only selects COBIT 5 Processes with important primary relation to identified ITRG. This step results 27 COBIT 5 processes, i.e. EDM01, EDM02, EDM04, EDM05, APO01, APO02, APO03, APO04, APO05, APO07, APO08, APO09, APO10, APO11, BAI01, BAI02, BAI03, BAI04, BAI05, BAI06, BAI07, DSS01, DSS02, DSS03, DSS04, DSS06, MEA01.

4.2 Determine Capability Process Levels

After scoping done, next step is to determine the capability process level for every 27 identified COBIT 5 processes. Each of process' assessment is started with capability level 1 determination by rating every indicator in Process Attribute (PA) 1.1. If all indicators in PA 1.1 are passed with rating F (fully achieved), then the process' assessment continues with the determination of capability level 2 to 5. In assessing capability level 2 to 5 for each process, process attributes must be rated consecutively, i.e., PA 2.1, 2.2, 3.1, 3.2, 4.1, 4.2, 5.1 and 5.2. A process would be assessed to next level if it has fulfilled all process attributes in the lower level with rating F (fully achieved), e.g., a process can achieve capability level 3 if only all process attributes in capability level 1 and 2 have covered >85% to 100% of achievement or rated F.

For assessing the capability levels, the author has interviewed ICT Delivery Manager PT XYZ about 27 identified processes. The author fills in the Self-assessment Template based on the interview transcript. After filling in Self-assessment Template, then author record each process' achievement in Detailed Assessment Schedule. Example of the schedule for process EDM01 is shown in Table 4.

Table 4: Detailed Assessment Schedule of Process EDM01.

Process Name	LEVEL									
	0	1	2		3		4		5	
EDM01		PA 1.1	PA 2.1	PA 2.2	PA 3.1	PA 3.2	PA 4.1	PA 4.2	PA 5.1	PA 5.2
Rating by Criteria	F	F	F	F	F	F	F	P	N	N
Capability Level Achieved						3				

Based on Table 4, process EDM01 achieves capability level 3 with rating F (fully achieved). On PA 4.1 this process is also rated F, but rated P (partially achieved) in PA 4.2. It means that process EDM01 does not meet the necessary rating for achieving capability level 4.

Similar detailed assessment schedules are created for each 26 other identified processes based on Self-assessment Template of each process.

4.3 Summarize Capability Levels

Assessment result of 27 identified processes shows all processes achieves rating F (achievement of >85% to 100%) on process attribute PA 1.1 to 4.1 but achieves rating P (achievement of >15% to 50%) on PA 4.2. Therefore every process are scored 3.5.

Figure 5 shows the current condition of process capability in PT XYZ towards its target.

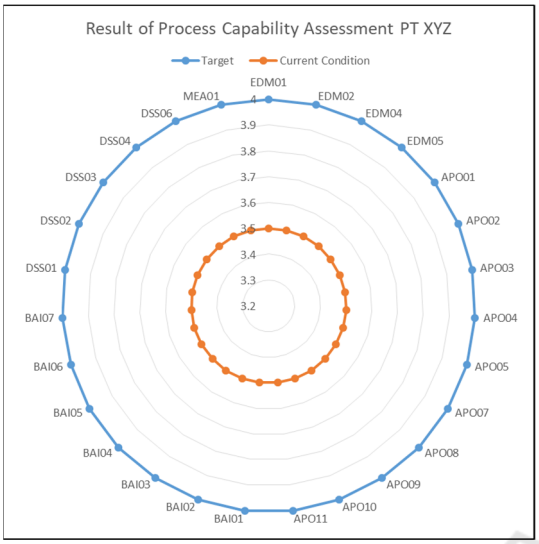

Figure 5: Result Diagram of Process Capability Assessment PT XYZ.

Based on the necessary rating of capability level from ISACA (2013c), every process achieves capability level 3 or established process. It shows that PT XYZ has implemented the defined IT processes for achieving process' outcomes. Every process achieves rating F for PA 4.1, and it means that processes have been measured using a defined process and the measurement results have been analyzed and reported. Meanwhile, PA 4.2 is rated P, it means PT XYZ has not defined analysis technique and control for measurement result data. Besides, control limits have not been implemented for variance of process performance. Table 5 shows every process' target of capability level, current condition, and gaps between them.

Table 5: Capability Level Target, Current Condition, and Gaps in PT XYZ.

NO	Identified Process	Capability Level		
		Target	Current Condition	Gap
1	EDM01	4	3.5	0.5
2	EDM02	4	3.5	0.5
3	EDM04	4	3.5	0.5
4	EDM05	4	3.5	0.5
5	APO01	4	3.5	0.5
6	APO02	4	3.5	0.5
7	APO03	4	3.5	0.5
8	APO04	4	3.5	0.5
9	APO05	4	3.5	0.5
10	APO07	4	3.5	0.5
11	APO08	4	3.5	0.5
12	APO09	4	3.5	0.5
13	APO10	4	3.5	0.5
14	APO11	4	3.5	0.5
15	BAI01	4	3.5	0.5
16	BAI02	4	3.5	0.5
17	BAI03	4	3.5	0.5
18	BAI04	4	3.5	0.5
19	BAI05	4	3.5	0.5
20	BAI06	4	3.5	0.5
21	BAI07	4	3.5	0.5
22	DSS01	4	3.5	0.5
23	DSS02	4	3.5	0.5
24	DSS03	4	3.5	0.5
25	DSS04	4	3.5	0.5
26	DSS06	4	3.5	0.5
27	MEA01	4	3.5	0.5

4.4 Plan Process Improvements

In arranging plan for process improvement, author explains the gap between assessment result and target as Table 5 to ICT Delivery Manager. Because of every process poses gap of 0.5, author suggests to plan improvement for every identified process. Improvement plan encompass activities to define and implement analysis technique for every process performance data, to define and implement every process performance control, and to define control limits for every process performance variance.

Discussion between author and ICT Delivery Manager leads to prioritize two processes in planning the process improvement due to resource limitations. Those are processed Manage suppliers (APO10), and process Manage solutions identification and build (BAI03). Both are prioritized because of its importance in affecting the performance of IT Division generally. Process Manage suppliers (APO10) is considered important because most of IT expense are allocated to pay suppliers in providing IT devices and services requirement in the scheme of operational lease expense. Process Manage solutions identification and build (BAI03) is important because besides employing solution defined by IT Executives in Parent Company X, PT XYZ also identifies and build its own IT solution based on business requirement and customer request.

Discussion results of an improvement plan for process Manage suppliers (APO10) are as follows.

- Activities: (1) Escalate to IT Executives, (2) Define analysis technique, control technique, and control limit of suppliers' performance, (3) Set up project and prepare infrastructure that focuses on process improvement, (4) Analyze the

possibility of change for service level agreement (SLA), (5) Insert the defined analysis technique, control technique, and control limit of suppliers' performance in SLA, (6) Request for additional services to meet newly improved SLA.
- Time Plan: two years.
- Required Resource: Sourcing Specialist Expert and Sourcing Team.
- Estimated Budget: SEK 200,000 or IDR 316,745,790.

Plan for process improvement regard to BAI03 or Manage solutions identification and build are as follows.

- Activities: (1) Escalate to IT Executives, (2) Identify the control of solution performance required by business, (3) Define analysis technique, control technique, and control limit for solution performance variance, (4) Set up project and prepare infrastructure for focus on process improvement, (5) Implement analysis technique and control limit of solution performance, (6) Insert technique analysis, control technique, and control limit of solution performance variance in Solution Definition.
- Time Plan: two years.
- Required Resource: Solution Expert, Business Analyst, Market Area IT Team.
- Estimated Budget: SEK 100,000 or IDR 158,372,895.

5 CONCLUSIONS

Based on a case study of process capability assessment on PT XYZ as one of ICT provider in Indonesia, the author concludes as follows. First, a result of process capability assessment PT XYZ with a method of PAM COBIT 5 shows score 3.5. This score categorizes PT XYZ achieve capability level 3 or established process. It means that PT XYZ has implemented the defined IT processes for achieving process outcome.

The second conclusion is two processes being prioritized for process improvement plan, i.e., the process of Manage suppliers (APO10) and a process of Manage solutions identification and build (BAI03). Both are prioritized because of its importance in affecting the performance of IT Division generally. APO10 is prioritized because most of IT expense are allocated to pay suppliers in providing IT devices and services requirement in a scheme of operational lease expense. BAI03 is considered important because PT XYZ needs to identify and build its own IT solution based on business requirement and customer request, besides using a mandatory solution from Parent Company X.

The third, the process of APO10 can be improved by activities mainly in definition and implementation of analysis techniques, control technique, control limit of supplier's performance variance, and insert it all in improved SLA. Process improvement of APO10 requires time plan of two years and estimated budget IDR 316,745,790 with resource support from Sourcing Specialist Expert and Sourcing Team. The process of BAI03 can be improved by activities mainly in the identification of control for solution performance as required by business, the definition of analysis technique, control technique, control limit of solution performance variance, and insert it all to Solution Definition. Process improvement of BAI03 requires time plan of two years and estimated budget IDR 158,372,895 with resource support from Solution Expert, Business Analyst, and Market Area IT Team.

Several limitations are noted by the author. First, the assessment tends to be subjective only from the IT Division in PT XYZ. The chairman of the IT Steering Committee in PT XYZ, the Business Controller, is not involved in the assessment due to access limitation. Second, the author's subjectivity also affects the assessment result. Because the author is the one who identifies COBIT 5 process to be assessed and works on capability level decision based on an interview with ICT Delivery Manager. Third, the limitation of research time duration probably affects the collection of data and information.

Suggestions are also arranged by the author as follows. For PT XYZ, a process improvement plan for two prioritized processes is highly recommended to be implemented for better IT governance implementation. For Parent Company X, they must support and monitor the process improvement plan in PT XYZ due to the important role of Parent Company X in taking decisions related to IT. For future research, it is recommended to involve the chairman of IT Steering Committee of PT XYZ, who is the Business Controller so that the assessment will be more objective from the perspective of business and IT.

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APPENDIX

In assessing capability level for every identified process, a Self-assessment Template must be filled in. The template is filled in based on interview about process capability with ICT Delivery Manager of PT XYZ. Few part of the interview transcript is shown as follows.

Interview Transcript of Process Capability Assessment with ICT Delivery Manager.

Interview Date: 2018 November 19, 21, 22, 26, 27, and 28
Respondent: ICT Delivery Manager PT XYZ

1. Question: Are there any documents exist to guide IT Governance in PT XYZ, decision making model, and authority level?
   Answer: As I have explained previously, decision making authority related to IT in every entities in Global Group X is divided as: 70% made by IT Executives in Parent Company X, 20% decision made by Senior Management of Parent Company X together with IT Executives, 10% decision made locally in PT XYZ. Documents related to IT Governance, decision making model, and authority level are arranged by Parent Company X. Those are defined in document of IT Governance Model Directive and Global Group X Management System Directive.
2. Question: Are there any reward system implemented to IT Division?
   Answer: Reward system is included in Human Resource Management System implemented by HR Division based on KPI evaluation score from line manager. HRMS system is also defined in Group Directive and Group Instruction.