Analysis of Risk Assessment on Fundraising Services using COBIT 5 Framework

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ABSTRACT

A fundraising service is a public service that can make it easier for the community to channel their funds to an organization andthen the funds will be channeled or utilized for the benefit of the community. In carrying out its business processes, fundraising services have implemented information system technology to support the best service, but in its application, there are still some risks that can interfere with services to donors and can have an impact on the level of service provided by the organization to the community. Researchers conduct further risk assessment analysis to measure the extent to which risk management has been implemented by the institution using the COBIT 5 framework. This study aims to determine the capability level value and the expected value, calculate the gap value and provide recommendations in accordance with domains APO12 (Manage Risk) and EDM03 (Ensure Risk Optimisation). The process of collecting data in this study was in the form of observation, interviews, and questionnaires. Based on the calculations that have been made, the capability level generated in the APO12 domain is 2.31 which is at level 2, and in the EDM03 domain, the capability level value is 2.24 which is at level 2. The result of calculating the Gap value in the APO12 domain is 1 and in the EDM03 domain the calculation result of the Gap value is 1, it is necessary to have recommendations that are tailored to the company's goals to meet the target of achieving the capability expected.

Keywords

Risk management, COBIT 5, APO12, EDM03, Capability Level

1. INTRODUCTION

The rapid development of information technology makes every company or institution continue to follow it, the application of information technology has taken an important role in supporting operational activities and also in maintaining ongoing business processes, but the application of information technology to companies or institutions does not always run as expected so it can pose risks that can be detrimental. The arising risks can have an impact on the company's losses, both financially and non-financially. Therefore, risk management is needed to minimize these risks[1].Fundraising services have implemented the use of information systems in supporting their business processes. but in use, there are still shortcomings, such as there are still errors in the system and also the system has not been automated to send notifications to donors who make bank transfer payment transactions, because the system has not been able to verify incoming funds automatically so admins need to do manual verification and send notifications to donors manually. If this happens it will cause the fundraising

service business process to be not optimal and may result in a decrease in the level of service and the level of satisfaction with the service, then further risk management assessment is needed to avoid existing risks and can be used as evaluation material for institutions in minimizing the emergence of risk threats in the ongoing fundraising service system. In this study, the risk management assessment will use the COBIT 5 framework, COBIT 5 helps companies to create optimal value from IT by maintaining a balance between profit and optimizing the level of risk and use of resources[2]. Risk management activity is a step or process to reduce and identify any risks that have and will occur can be completed properly so that business processes and organizational goals can run and are achieved optimally[3]. There are two domains for conducting a risk assessment in this research, namely using theAPO12 (Manage Risk) aims to identify, assess and reduce risks related to Information Technology (IT) so as not to exceed the tolerance limits set by the organization's executive management, and the EDM03(EnsureRisk Optimisation) domainwhich aims to determine whether the level of risk is and the amount of tolerance that can be accepted by the company has been understood, articulated and communicated properly, and ensured whether the risks related to information technology (IT) have been identified and managed properly.

2. LITERATURE STUDIES 2.1 Definition of Risk

Risk is the possibility of events that deviate from what is expected. However, this deviation will only appear when it is in the form of a loss. Risk can also be interpreted as the possibility of deviations from expectations that can cause losses[4]. According to Hanafi in his book, the risk is an adverse event or can be defined as the possibility that the results obtained deviate from the expected [5].Risk is not enough to be avoided, but must be faced in ways that can minimize the possibility of a loss and risk can come at any time, so the risk must be managed properly.

2.2 Information Technology Risks

Information technology risk is a risk to the organization caused by the use of IT in an organization, consisting of all events related to the use of IT, and hasthe potential to have an impact on the organization [6]. IT risk is closely related to information security, whichbecomes a very important asset for an organization and if disturbed it can have a significant impact on the organization's business processes.These risks can be in the form of information technology threats and information technology vulnerabilities of an organization[7].

2.3 Risk Management

Risk management is a process of carrying out risk

management activities to overcome the emergence of risks faced by the company and the community[8]. Risk management can also be interpreted as an approach taken to risk, namely by understanding, identifying, and evaluating the risks of a project, then considering what will be done about the impacts and the possibility of transferring risks to other parties or reducing the risks that occur[9].

2.4 IT Risk Management

Information technology risk management is a form of acknowledgment of a threat and the consequences for resources, so it is very important to apply modifications to these risk factors to prevent unintended consequences [10]. Information technology risk management is a framework designed to address various risks associated with the use of information technology [11].

2.5 COBIT 5

COBIT 5 (Control Objectives for Information and Related Technology) is a comprehensive framework that can be used to assist companies in achieving their goals for corporate IT governance and management [12]. COBIT 5 is designed based on the experience of using COBIT for more than 15 years by many companies and users from the fields of business, IT communication, insurance, risk, and security [13]. In general, based on the ISACA journal, COBIT 5 has Principles and Enablers that are general and useful for all sizes of companies, both commercial and non-profit or the public sector. ISACA & ITGI through the COBIT 5 Framework have 5 main principles that must be considered in implementing aspects of corporate IT governance and management [14], these 5 principles are shown in Figure 1.



Figure1. Basic Principles of COBIT 5

1. Meeting Stakeholder Needs

There is an attempt by the company to create value for stakeholders by maintaining a balance between benefit realization, risk optimization, and resource use.

- 2. Covering the Enterprise End-to-end COBIT 5 combines IT governance and corporate governance.
- 3. Applying a Single Integrated Framework There are many standards related to IT, each

providing guidance on a subset of IT activities. COBIT 5 serves as an overarching framework for corporate governance and management.

- Enabling a Holistic Approach Effective and efficient corporate governance and management require a holistic approach, taking into account several interacting components.
- Separating Governance from Management COBIT 5 makes a clear distinction between governance and management.

In Figure 2, there are 7 enablers used in COBIT 5, enablers are a set of factors that affect something that an organization will do, along with seven categories of enablers described in the COBIT 5 framework.



Figure 2. COBIT 5 Enterprise Enablers

- a. Principles, policies & frameworks, the driving force for translating the desired behavior into practical guidelines for day-to-day management.
- Process, describes organized practices and activities to achieve specific goals and produces a set of outputs in support of the overall achievement of ITrelated goals.
- c. Organizational Structures, is a key holder in decision-making in an enterprise.
- d. Culture, ethics & behavior, things that are underestimated as a success factor in corporate governance and management activities.
- e. Information, broadly throughout the organization and includes all information generated and used within the company to keep the organization running well and in an orderly manner.
- f. Services, infrastructures & applications, including technology, infrastructure, and applications provided by the company to process and process IT.
- g. People, skills & competencies, relate to people and are needed to successfully complete all activities and make correct decisions and take corrective actions.

COBIT 5 has 7 stages contained in the COBIT 5 implementation life cycle. According to ISACA, the implementation lifecycle provides a way for a company to use COBIT in addressing complexities and challenges[14], the following is an explanation of these stages.

- 1. Phase 1, identifying the drivers of change and creating a desire for change at the executive management level, which is then realized in the form of a business case.
- 2. Phase 2, in order to align IT goals with corporate

strategy and risk, prioritizing corporate goals, corporate goals, IT goals, and IT processes is very important. Management needs to know the current capabilities and where there are deficiencies.

- 3. Phase 3, setting targets for improvement, followed by an analysis of variances to identify potential solutions.
- 4. Phase 4, planning a feasible practical solution by defining a supported project with a justifiable business case, and developing a change plan for implementation.
- Phase 5, turning the suggested solutions into day-today activities, establishing a calculation and monitoring system to ensure conformance to the business is achieved and performance can be measured.
- 6. Phase 6, focus on the continuous transition from improved management and management practices to normal business operations and monitoring the achievements of the improvement using the performance matrix and expected profits.
- 7. Phase 7, evaluates the overall success of the initiative, identifies further governance or management needs, and raises the need for continuous improvement.

2.6 COBIT 5 Framework Domain

In COBIT 5, the process is divided into two areas, namely the governance of Enterprise Information Technology (Governance of Enterprise) and Management of Enterprise IT (Management of Enterprise IT) which consists of a total of five domains and 37 processes [15]. In COBIT 5, governance is carried out to overcome the problems that occur [16]. The five domains in COBIT 5 are.

- a. Evaluate Direct and Monitor (EDM)
- b. Align, Plan, and Organize (APO)
- c. Build, Acquire, and Implement (BAI)
- d. Deliver, Service, and Support (DSS)
- e. Monitor, Evaluate, and Asses (MEA)

In the COBIT 5 framework, there are basic processes in risk management, namely the APO12 (Manage Risk) and EDM03 (Ensure Risk Optimisation) domain processes[17]. The domain of APO12 is the process of identifying, assessing, and mitigating IT-related risks at the tolerance level applied by the company's executive management [18]. This domain includes alignment, planning, and management so that IT can contribute to achieving business goals. There are six sub-processes in the APO12 domain, namely [19].

- 1. APO12.01 (Collect Data), this process includes the identification and collection of relevant data to effectively obtain IT-related risk identification, analysis, and report generation processes.
- APO12.02 (Analyse Risk), this process includes the development of useful information to support risk decision-making into relevant business risk factors.
- 3. APO12.03 (Maintain A Risk Profile), this process includes maintaining a repository of known risks and attributes, such as expected frequency, potential impact, and response from related resources, as well as capabilities and controls being implemented.
- APO12.04 (Articulate Risk), this process provides information on the latest IT-related conditions and opportunities at the right time according to the needs of stakeholders to make the right response.

- 5. APO12.05 (Define a Risk Management Action Portfolio), this process includes managing opportunities in reducing the occurrence of risk to an acceptable level as a portfolio.
- 6. APO12.06 (Respond to Risk), this process includes a periodic response with effective measurement of the limit of losses from events involving IT.

The APO12 domain aims to integrate the management of corporate risk so that risk can be minimized or even eliminated[20]. In the EDM03 (Ensure Risk Optimisation) domain, ensuring the amount of risk and acceptable tolerance for the company is understood, articulated, and communicated, and identification and management of risks related to the value of IT in the company are carried out. There are three sub-processes in the EDM03 domain.

- 1. EDM03.01 (Evaluate Risk Management), this process aims to evaluate and make an assessment of the direct impact and long-term impact of the risk of using IT on the organization.
- 2. EDM03.02 (Direct Risk Management), this process aims to direct the implementation of risk management to ensure that IT risk management must be able to ensure that IT risk does not exceed the growth of organizational risk.
- EDM03.03 (Monitor Risk Management), this process aims to monitor the objectives and matrix of the risk management process and compile how IT risk problems are identified, tracked, and reported.

2.7 Capability Level

Capability is used to determine the extent or position of the organization at this time and to know the expected position of the organization [21]. The level of process capability is determined based on the achievement of certain process attributes in accordance with ISO/IEC 15504-2:2003[22]. There are six levels in the risk management capability process, starting from the lowest level 0 where the organization does not care about and knows the need for information technology risk management, to level 5 where the entire information technology risk management process has been carried out very well by the organization. these levels [23].

- 1. Level 0 (Incomplete Process), the process is not implemented or fails to achieve the objectives, lack of evidence that states the achievement of the objectives of the process.
- 2. Level 1 (Performed Process), the process implemented has met or achieved the objectives which are then implemented.
- 3. Level 2 (Manage Process), a process that has been carried out at the previous level, at this level the implementation of the process has been carried out with planning, supervision, and adjustment, and the work results have been determined, monitored and maintained properly.
- 4. Level 3 (Established Process), at this stage the company has implemented IT processes and is well standardized.
- 5. Level 4 (Predictable Process), thisprocessthe company has carried out the IT implementation process within the specified limits in order to achieve the expected results.
- 6. Level 5 (Optimizing Process), this process is continuously improved to meet current and

projected organizational goals in the future.

Each process attribute is assessed using the standard rating scale specified in the ISO/IEC 15504 standard. The rating scale can be seen in Table 1.

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Code	Description	Range	
N (Not achieved)	There is little or no evidence of attainment of the defined attributes in the process being assessed.	0 - 15%	
P (Partially achieved)	There is some evidence of the approach to, and some attainment of, the attributes defined in the process of being assessed.	>15 - 50%	
L (Largely achieved)	There is evidence of a systematic approach to, and significant achievement of attributes defined in the process of being assessed.	>50 - 85	
F (Fully achieved)	There is evidence of a complete and systematic approach to, and full achievement of attributes defined in the assessed process.	>85 - 100%	

Table1. Process Attribute Rating Scale

In determining the category of each level assessment results, a process is said to have passed the process and achieved the Lagerly achieved (L) category with the provision that the range of values obtained is 50-85%. Meanwhile, if the process has a range ranging from the provisions of the previous process, it must achieve the Full Achieved (F) category if it will continue to the next process.

2.8 RACI Chart

RACI is a form of mapping between resources and activities in every process in the organization [24]. The RACI Chart mapping was conducted to identify the parties who act as responsible, accountable, consulted, and informed in fundraising services. In this study, the determination of the RACI Chart is based on the RACI Chart APO12 and RACI Chart EDMO3. The definitions and uses of the RACI Chart are as follows [25]:

a. Responsible

Roles that are operational in nature and fully carry out activities and create the expected results.This refers to the main or responsible role in operational activities, meeting the needs and creating the desired results of the organization.

- Accountable
 A role that is fully responsible for an activity or process that has been defined. This refers to overall accountability for the tasks that have been performed.
- c. Consulted The role is positioned to provide input on an activity or process, Input must be considered and appropriate action is taken.
- d. Informed Role which is only to know the progress of the

report of an activity or process that is running.

3. METHODOLOGY

3.1 Research Stage

This section will explain the technical stages that will be carried out in research work, this stage is carried out so that the steps in the work process become more effective, systematic, and organized. The research stage can be seen in Figure 3.



Figure3. Risk Assessment Research Stage Fundraising Services

- 1. In the first stage, the researcher conducted an initial survey to get an overview of fundraising services, such as the organizational structure and the company's vision and mission.
- 2. Problem identification serves to obtain problems faced by the company, as well as conduct a literature study by collecting information from various relevant sources. Literature studies are obtained through journals and trusted books that support this research.
- 3. Conducting data collection, researchers collect the required data by conducting observations, interviews, and examination of supporting documents.
- 4. Mapping stage Goal cascade, alignment between

enterprise goals, IT-related goals, and the COBIT 5 process, will then produce priority domains that will be used in this study.

- 5. Mapping stage The RACI Chart is used to map respondents by identifying the duties and responsibilities of each staff in fundraising services.
- 6. The stage of filling out the questionnaire was carried out on respondents who had been determined through the RACI Chart mapping.
- 7. Performing an analysis of the current capability level, this stage is carried out to ensure that IT goals are aligned with the goals of the organization.
- 8. Performing an analysis of the expected capability level, this stage is carried out to determine the target of the selected capability level.
- 9. Performing a gap analysis, this stage is carried out to determine the value of the difference between the current capability level value and the expected capability level value. recommendations or suggestions are made based on the results of the gap calculation.
- 10. The last stage is to conclude the research which contains a summary of the results of the research process that has been carried out and provides suggestions for further research.

3.2 Data Collection

1. Observations

Observations made by the author are to observe and record the use of fundraising services in an organization. Observation aims to obtain the basic information needed, then identification of the problems that will be studied in the study will be carried out.

2. Interviews This interview wa

This interview was conducted to obtain information from trusted sources, interviews were conducted by asking direct questions to informants who have knowledge related to the fundraisingservice system.

3. Questionnaire

The questionnaire was submitted to the relevant parties in the fundraising service by providing a hard copy along with an explanation and will be taken a few days after the respondent filled out the questionnaire that had been given previously.

3.3 Implementation

3.3.1 Questionnaire Preparation

Questionnaires were conducted to determine the level of capability in fundraising services and the results of the questionnaire were used to measure the extent to which risk management had been implemented. Researchers in compiling the questionnaire have been guided by the COBIT 5 standard, namely by looking at each process in the APO12 domain and also the process in the EDM03 domain.A questionnaire was conducted to determine the level of capability in fundraising services and the results of this questionnaire were used to measure the extent to which risk management has been implemented.

3.3.2 Determination of Respondents

In determining prospective respondents, researchers used the RACI Chart method (Responsible, Accountable, Consulted, and Informed). The determination of the RACI Chart is guided by the APO12 RACI Chart and EDMO3 RACI Chart domains. Determination of respondents is needed to obtain the

required data. The respondent determination stage is carried out by identifying the duties and responsibilities of each staff in the fundraising service.

Table2. Results of Determination of Respondents Domain APO12

No	Unit COBIT 5	ID
1.	Chief Executive Officer	R 1
2.	Project Management Office	R3
3.	Chief Risk Officer	R5
4.	Chief Information Security Officer	R5
5.	Chief Information Officer	R 1
6.	Head Architect	R 1
7.	Head Development	R4
8.	Head IT Operations	R5
9.	Head IT Administration	R2
10.	Service Manager	R2
11.	Information Security Manager	R5
12.	Compliance	R1
13.	Privacy Officer	R2

Based on Table 2, the results of the mapping of the RACI Chart domain APO12 (Manage Risk) after adjusting to the work unit in the fundraising service, there are 13 (thirteen) work units that correspond to producing five respondents and several work units are carried out by the same person. Furthermore, the mapping of the RACI Chart on the EDM03 domain, following the results of the mapping on the RACI Chart of the EDM03 domain.

Table3. Results of Determination of Respondents Domain EDM03

No	Unit COBIT 5	ID
1.	Chief Executive Officer	R1
2.	Chief Operation Officer	R3
3.	Strategy Executive Committee	R5
4.	Business Process Owner	R1
5.	Chief Information Officer	R1

Based on Table 3, the results of the mapping of the RACI Chart domain EDM03 (Ensure Risk Optimisation) after adjusting to the work units in the fundraising service, there are 5 (five) appropriate work units and several work units carried out by the same person.

3.3.3 Observation and Interview

At the stage of observation and interviews were conducted to obtain relevant data related to the research conducted. Interviews were conducted with parties who know about fundraising services. The following are the results of the interviews that have been conducted.

- 1. Business processes on fundraising services.
- 2. Problems that exist in fundraising services.
- 3. There are identified business risks but not documented in the form of a database, but only verbally.
- 4. Organizational structure at an organization.

- 5. Staff duties and responsibilities on fundraising services.
- 6. The expected capability level value is at level 3.

3.3.4 Data Analysis

At this stage of data analysis, several steps will be carried out. The data is obtained based on the methods used such as interviews, observations, and distributing questionnaires. It aims to process data so that it can assist in making decisions.

3.3.4.1 Current Capability Level

In calculating research data using the Guttman scale. This scale is used because it provides concise and firm answers to respondents' answers. The following is the result of calculating data on the APO12 and EDM03.

Sub-domain Process		Current Level
APO12.01	Collect data	2,39
APO12.02	Analyse risk	2,25
APO12.03	Maintain a risk profile	2,43
APO12.04	Articulate risk	2,28
APO12.05 Define a risk management action portfolio		2,34
APO12.06	Respond to risk	2,19
, ,	2,31	

Table4. Current Capability APO12

Based on Table 4, the results of the calculation of the APO12(Manage Risk) domain questionnaire using the Guttman scale obtained a value of 2.31 which means it is at level 2 (Manage Process) and this proves that the implementation of business processes in fundraising services has carried out planning, monitoring, and adjustments and their work has been properly defined, supervised and maintained. The following are the results of calculations for the EDM03 (Ensure Risk Optimisation) domain, which can be seen in Table 5.

 Table5. Current Capability EDM03

Sub-domain	Process	Current Level
EDM03.01	Evaluate Risk Management	2,33
EDM03.02	Direct Risk Management	2,14
	2,24	

Based on Table 5, the calculation of the EDM03(Ensure Risk Optimisation)domain questionnaireusing the Guttman scale, the value obtained is 2.24 which means it is at level 2 (Manage Process) and it can be said that the company has standardized IT processes within the company as a whole and has implemented throughout the company.

3.3.4.2 Expected Capability Level

The value expected by the organization on fundraising

services is at level 3. At this level, the company already has IT process standards within the scope of the company as a whole. This means that the company already has process standards that apply throughout the company.

3.3.4.3 GAP Analysis

In the APO12 (Manage Risk) domain, there is a Gap value of 1 which is obtained from the calculation of the current level in the APO12 domain. In the EDM03 domain, there is a Gap of 1 which means that there is a need for risk mitigation measures in accordance with each domain.

3.3.5 Assessment Result

In this subsection, the capability values that have been generated in the APO12 and EDM03 domains are presented in Table 6.

Domain	Process	Expected	Current	GAP
APO12.01	Collect data	3,00	2,39	1
APO12.02	Analyse risk	3,00	2,25	1
APO12.03	Maintain a risk profile	3,00	2,43	1
APO12.04	Articulate risk	3,00	2,28	1
APO12.05	Define a risk management action portfolio	3,00	2,34	1
APO12.06	Respond to risk	3,00	2,19	1
	2,31	1		

Table6. APO12 Level Value Comparison

Based on Table 6, it can be concluded that fundraising services reached level 2 with a gap of 1 level in all domain processes. The value of the known gap will then be used as material for further mitigation so that it can produce IT risk recommendations with the aim that fundraising services can reach the expected level. The following is the result of the level comparison value in the EDM03 domain, which can be seen in Table 7.

Table7. EDM03 Level Value Comparison

Domain	Process	Expecte d	Current	GAP
EDM03. 01	Evaluate Risk Management	3,00	2,33	1
EDM03. 02	Direct Risk Management	3,00	2,14	1
Average			2,24	1

Based on Table 7, it can be concluded that the fundraising service reached level 2 with a gap value of 1 level in all EDM03 domain processes. The value of the known gap will then be used as material for further mitigation so that it can produce IT risk recommendations with the aim that fundraising services can reach the expected level.

Furthermore, an examination of the completeness of the level

of support is carried out as an assessment process that can be said to be valid in every level achievement in each domain used in this study, namely the APO12 (Managed Risk) domain and the EDM03 (Ensure Risk Optimisation) domain. Fundraising services have reached level 1 (Performed Process), and level 2 (Managed Process) so it is necessary to have complete data requirements that are valid at level 1 and level 2. The following are the results of the implementation of the complete level support for each APO12 domain (Managed Risk) and EDM03 (Ensure risk Optimisation). At level 1 there is Process Attribute (PA) 1.1 that must be met.

PA 1.1 (Process Performance)				
Domain	Goals	Information	Proof	
APO12.01	Collecting data for risk analysis	~	Monthly reports and evaluation	
APO12.02	Analyze information or data obtained to support risk decision making	✓	Monthly reports and evaluation	
APO12.03	Maintaining known risks and their attributes	√	Monthly reports and evaluation	
APO12.04	Provide information related to IT and opportunities according to stakeholder needs	√	Monthly reports and evaluation	
APO12.05	Manage opportunities in reducing the occurrence of risk to a higher level.	~	Monthly evaluation	
APO12.06	Respond periodically with effective measurement of IT risks	\checkmark	Monthly reports and evaluation	
EDM03.01	Evaluate and assess IT usage	~	Monthly reports and evaluation	
EDM03.02	Directing the implementation of IT risk management	\checkmark	Monthly reports and evaluation	
	100%			

Based on Table 8, it can be seen that to reach level 1 all have been met, in other words, level 1 can be interpreted as the PA (Process Attribute) scale having an attribute value of >85% - 100% F (Fully Achieved). Next to qualify at level 2.

Organization must meet the completeness of the data in the Performance Management process attributes. Table 9 is the completeness of the data owned by the organization. At level 2 there is a Process Attribute (PA) 2.1 and 2.2 that must be met.

	PA 2.1	Information		-
No	(Performance Management)	Exist	Not	Proof
1	Scope of risk management	~		Incoming fund reports and monthly donor data reports
2	Risk management objectives	✓		Incoming fund reports and monthly donor data reports
3	Organization response if it does not meet the target		~	-
4	RACI Chart Stakeholder management		~	-
5	Employee recruitment criteria	~		Employee training and recruitment guidelines documents
6	Employee training	✓		Employee training and recruitment guidelines documents
	Averag		66,64%	

Table9. Performance Management

Based on Table 9, it is known that 6 criteria must be met by the fundraising service to reach level 2 which aims to measure the extent to which the performance of the risk management process is managed, but the fundraising service still has several supporting documents that are not owned, so that at the level of it has an attribute value of >50%-85% L (Largely Achieved). Next is the complete list of data requirements for level 2 in Work Product Management in fundraising services. The completeness of data requirements owned by institutions is described in Table 10.

Table10. Work Product Management

	PA 2.2 (Work	Information		
No	Product Management)	Exist	Not	Proof
1	A list of jobs that must be done by each staff in the fundraising service.	~		Incoming fund reports and monthly donor data reports

2	Documents or lists of work needs that must be completed by each staff.	~		Employee SOP documents and reports of eachstaff/ employee
3	Documentation of the results of the work that has been completed by each staff in the fundraising service.	~		Monthly report documents of staff on fundraising services.
4	Evaluate the results of the work of each staff inthe fundraising service.	~		Employee SOP documents
	Average			100%

Based on Table 10, it can be seen that the fundraising service needs to meet the existing criteria to reach level 2 after the inspection has fulfilled 4 criteria in the attributes of the process so that in this process the attribute value is > 85%-100% F (FullyAchieved) which means that it has fulfilled all the criteria for completing level 2 data in the Work Product Management. The results of the attribute process recapitulation in the APO12 and EDM03 domains can be seen in Table 11.

Domain	Process Capability Level									
	0	1	2		3		4		5	
APO12	F	F	F							
EDM03	г	г	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2
			L	F						
Description : N (<i>Not Achieved</i> : 0 – 15%), P (<i>Partially Achieved</i> : >15 – 50%), L (<i>Largely Achieved</i> : >50 – 85%), F (<i>Full Achieved</i> : >85 –100%).										

Based on the recapitulation in Table 11, the fundraising service is at level 2, with the completeness of the data that has been fulfilled. The following is a graph to see the comparison of the level values in each process with the gap values in the APO12 and EDM03 domains, the graphs can be seen in Figure 4 and Figure 5.



Figure 4. APO12 Process Comparison Chart

Figure 4 is a comparison graph between the expected value, the value of the questionnaire calculation and the resulting gap value in each APO12 domain process. Furthermore, the comparison graph on the EDM03 domain process can be seen in Figure 5.



Figure 5. EDM03 Process Comparison Chart

Figure 5, is a graph of data comparison between the expected values, the calculation values of the questionnaire and the gap values generated in each EDM03 domain process.

3.3.6 Recommendations

In reporting the recommendations, the researcher presents the results that have been obtained from the analysis of the Gap value obtained and implemented by the fundraising service. The results of the recommendations can be seen in Table 12.

Domain	Recommendations
APO12.01	a. Have a regular monthly or yearly schedule to carry out joint evaluations
	 b. Fundraising services need to have staff who are specifically able to assist in IT management and coordinate with other parties as well as conduct joint evaluations.
	c. Improve the utilization of the results of the documentation of IT risk history.
	d. Record every risk that occurs so that it can be used as evaluation material to avoid the same IT risk from happening again. Documentation can be in the form of soft files or hard files.
	e. Fundraising services need to have staff who specifically handle the data that has
	 been collected in previous investigations. f. Preparing carefully the plan that has been made so that it can run well.
	g. It is necessary to have staff who are experts in analyzing risks so that new investigations that may arise can be identified and resolved properly.
APO12.02	a. Added in-depth material on IT and general risks in employee recruitment
	b. Making improvements to the IT governance sector, including risk
	management related to the use of IT.

		further decisions
	d.	Have mutually agreed on benchmarks in identifying IT risks.
	e.	Have records or databases relating to the costs of various actions taken by the company to deal with risks.
	f.	It is necessary to include efforts to improve risk mitigation controls in the
		MOU document or employee recruitment.
		Fundraising services need to have agreed on standards so that the decisions to be taken can improve the company's business processes.
APO12.03	a.	Continue to maintain the efforts that have been made previously and improve other supporting factors so that business
	b.	processes can run well. Have planning, monitoring, and evaluation guidelines to keep business
	c.	Always supervise the duties of each staff so as not to pose a risk that causes
	d.	business processes to be disrupted. Monitor information from various
	e.	Have a plan to collect risk indicator guidance files so that the identification
	f.	Monitor the input data related to information on IT risk events in the
	g.	company's risk profile. Planning related to the status of the risk plan to be included in the risk profile.
APO12.04	a.	Fundraising services need to have relationships with external parties to become supporting actors in decision
	b.	making. Have Standard operating procedures that
	c.	govern IT-related business processes. Adding staff on a balanced basis to assist
		in running business processes, managing databases, and reporting them to the leadership regularly
	d.	Fundraising services need to have relationships with external parties to
		become supporting actors in decision making.
	e.	need to make SOPs or documents that regulate the company's business processes.
A DO 12.07	f	Fundraising services need to have
AP012.05		relationships with external parties to become supporting actors in decision making.
	a.	Fundraising services need to have
		documents that regulate risk tolerance

	b.	limits. Fundraising services need to have a project plan and monitoring designed to reduce risk.
APO12.06	a. b. c. d.	Have documentation of the steps that must be taken when a risk event occurs. Planning for risk incident categorization and comparison of existing risks with risk tolerance thresholds. Implement planning for appropriate responses to minimize the impact of risk incidents. Conduct joint evaluations to examine losses from the impact of the problems that occur.

Recommendations in the APO12 (Manage Risk) domain are made based on the results of the questionnaire that have been analyzed, then compared based on the results of observations and interviews. The following are recommendations for the EDM03 domain, which can be seen in Table 13.

Table13. EDM03 domain recommendations

Domain	Recommendations
EDM03.01	a. Fundraising services are recommended to make a decision report to handle the IT risk limit that will occur to anticipate future risks.
	b. Fundraising services are recommended to make a risk management evaluation report to anticipate future risks.
EDM03.02	a. Fundraising services are recommended to make reports to assess the performance of risk optimization to anticipate future risks.
	 Fundraisingservices are recommended to monitor by collecting reports in each part of the work unit.

The results of the recommendations on the APO12 domain and the EDM03 domain need to be implemented, and implemented in fundraising services to help minimize the impact of risk and can assist in improving the ongoing business processes at the organization.

4. CONCLUSION

Based on the results of the current level calculation in the APO12 (Manage Risk) and EDM03 (Ensure Risk Optimisation) domains. The capability level value generated in the APO12 domain is 2.31 and in the EDM03 domain, the capability level value is 2.24 with an expected capability value of 3.00. Then the value of the gap (difference) in the APO12 and EDM03 domains has been known by using concrete calculations and getting the gap value in each domain. The APO12 domain produces a gap value of 1 level which is obtained from the calculation of the current level in the APO12 domain. The EDM03 domain produces a gap of 1 level. The results of the recommendations given are to improve risk management on fundraising services at the organizationwhich has not reached the desired level, so it takes a recommendation and mitigation steps that must be carried out, namely by having a routine schedule both daily, monthly and yearly, making SOPs related to risk management. IT is based on evaluation, and documenting risk history, and adding staff who are experts in risk analysis so that new investigations that may arise can be identified and resolved properly.

5. REFERENCES

- F. T. Riadi, A. D. Manuputty, and A. Saputra, "Evaluation of Information Security Risk Management using COBIT 5 Subdomain EDM03 (Ensure Risk Optimisation)," Jutei, vol. 2, no. 1, pp. 1–10, 2018.
- [2] J. K. Sitinjak, A. Fajar, and R. Hanafi, "Assessment of the Implementation of the It Governance Process Using COBIT 5 Version 5 on the BAI Domain for Application Development Ipos Case Study at Pt. Pos Indonesia," eProceedings Eng., vol. 2, no. 2, pp. 1–10, 2015.
- [3] S. T. A. Ramdhani and R. Andriani, "Evaluation of Library Service Risk Management Using the Cobit 5 Framework," J. Tecnoscienza, vol. 5, pp. 186–196, 2021.
- [4] Kasidi, Risk management, Ke-2. Bogor: Ghalia Indonesia, 2014.
- [5] M. M. Hanafi, Risk management, Ke-2. Yogyakarta: UPP STIM YKPN, 2012.
- [6] A. Ichwani and A. D. Farida, "Measuring the Level of Risk Management Capability of Sharia Cooperative Information Systems Using the COBIT 5 Framework," J. Komputasi, vol. 8, no. 1, pp. 1–14, 2020.
- [7] C. U. Putri, "Risk Assessment of Information Technology Processes Based on the Cobit 5 Framework at the Helpdesk of the Sub-Directorate of Technology and Information Systems Services, Directorate of Technology and Information Systems Development (DPTSI) Institut Teknologi Sepuluh Nopember," Sepuluh Nopember Institute of Technology, 2017.
- [8] N. Z. Firdaus and Suprapto, "Evaluation of Information Technology Risk Management Using COBIT 5 IT Risk (Case Study: PT . Petrochemical Gresik)," J. Pengemb. Teknol. Inf. dan Ilmu Komput., vol. 2, no. 1, pp. 1–10, 2018.
- [9] M. Labombang, "Risk Management In Construction Projects," J. SMARTek, vol. 9, pp. 39–46, 2011.
- [10] M. A. G. Wattimena and A. R. Tanaamah, "Information Technology Risk Management Analysis Using COBIT 5 (Case Studies: TSI/UKSW Library Information Technology and Systems)," J. Inf. Syst. Informatics, vol. 3, no. 3, pp. 483–498, 2021, doi: 10.51519/journalisi.v3i3.183.
- [11] Indriyanto and I. Riadi, "Analysis of Risk Assessment on Stock System Services using COBIT 5 Framework," vol. 183, no. 23, pp. 29–37, 2021.
- [12] M. W. Astuti, Suprapto, and A. R. Perdanakusuma, "Information Technology Evaluation using COBIT 5 Process Focus DSS02, DSS03, and DSS04 (Case Study: PT . Salt (Persero))," J. Pengemb. Teknol. Inf. dan Ilmu Komput., vol. 3, no. 9, pp. 8874–8881, 2019: http://j-ptiik.ub.ac.id
- [13] N. E. Sulistyowati and Suharnawi, "Governance

Analysis of Information Technology Attendance of the Transportation Agency of Central Java Province using COBIT Version 5," pp. 1–15, 2015.

- [14] ISACA, A Business Framework for the Governance and Management of Enterprise IT. 2012. http://linkd.in/ISACAOfficial
- [15] B. Gunawan and F. A. Pratama, Designing information technology governance. Yogyakarta, 2018.
- [16] A. F. Tamaraand I. Riadi, "Analysis of Risk Assessment on Student Credit Services using COBIT 5 Framework," vol. 183, no. 42, pp. 50–58, 2021.
- [17] I. Zakkadiaksa, B. T. Hanggara, and B. S. Prakoso, "Evaluation of Information Technology Risk Management Using COBIT 5 with Domains EDM03 and APO12 (Case Study on UPT-ICT Universitas Brawijaya)," J. Pengemb. Teknol. Inf. dan Ilmu Komput., vol. 4, no. 8, pp. 2329–2337, 2020.
- [18] E. Zuraidah and C. Budihartanti, Audit of information systems and management using COBIT 4 and 5. Yogyakarta: Graha Ilmu, 2021.
- [19] P. P. Thenu, A. F. Wijaya, and C. Rudianto, "Information Technology Risk Management Analysis Using Cobit 5 (Case Study: Pt Global Infotech)," J. Bina Komput., vol. 2, no. 1, pp. 1–13, 2020, doi: 10.33557/binakomputer.v2i1.799.
- [20] R. Nurhidayat and S. Handayaningsih, "Risk Management Analysis on Student Resignation Services Using the COBIT 5 Framework Focus on Managing Risk (APO12)," J. Sarj. Tek. Inform., vol. 7, no. 1, pp. 69–76, 2019, doi: 10.12928/jstie.v7i1.15806.
- [21] J. S. A. Rajjani, B. T. Hanggara, and Y. T. Musityo, "Evaluation of Information Technology Risk Management at the Department of ICT of PT Semen Indonesia (Perseo) Tbk using the COBIT 2019 Framework with EDM03 and APO12 Domains," J. Pengemb. Teknol. Inf. dan Ilmu Komput., vol. 5, no. 5, pp. 1734–1744, 2021.
- [22] ISACA, Process Assessment Model (PAM): Using COBIT 5 of Enterprise IT. 2013. http://linkd.in/ISACAOfficial
- [23] ISACA, "Self-assessment Guide: Using COBIT ® 5," pp. 1–24, 2019.
- [24] N. S. F. Messakh and A. R. Tanaamah, "Cobit 5-Based Information System Analysis (Case Study: LTC UKSW)," J. Tek. Inform. dan Sist. Inf., vol. 8, no. 1, pp. 388–400, 2021, doi: https://doi.org/10.35957/jatisi.v8i1.654.
- [25] ISACA, Enabling Processes. 2012. https://community.mis.temple.edu/mis5203sec003spring 2020/files/2019/01/COBIT5-Ver2-enabling.pdf.
- [26] A. A. Indrianto and I. Riadi, "Risk Management Assessment in Case Tracing Information System using COBIT 5 Framework," vol. 184, no. 16, pp. 41–48, 2022.