Analysis of Risk Management Assessment on Customer Services using COBIT 5 Framework

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ABSTRACT
PT. Bukalapak Yogyakarta is a trusted online shopping site company in Indonesia that sells a variety of products that are needed by all Indonesian people. Customer service has implemented an information system to carry out business processes on customer service quite well, but there are still problems such as goods that have not been received at the location or destination address but the status of the transaction has been completed. In customer service, it is necessary to evaluate the evaluation to find out how efficient and effective the impact given by the related information system. There are three stages of analysis in the research, namely determining the current and expected level of capability, conducting an analysis gap, and providing recommendations and suggestions for improvement. The process of collecting data in this study uses a tool in the form of a questionnaire. The results of the study are the current capability level for the APO12 domain with a value of 2.70 which means at level 2 meaning IT processes in customer services has been carried out, achieved, and managed well. While the expected level of capability is at level 3 meaning IT processes in customer services has been well managed, must be standardized for example services, security and sustainability management, service support for users, and operational facilities which are then enforced throughout the company. The calculation results of the value Gap for the APO12 (domain, it is managed risk) obtained a value of 1. While for the EDM03 (domain, ensure risk optimization) the capability value is 2.95 (managed process) and the result of the calculation of the Gap value is 1, this is the making recommendations. This research has been carried out well by the expected research objectives.

Keywords
COBIT 5, Customer Service, Risk Management

1. INTRODUCTION
The development of business carried out online today indicates the increasing use of information technology. The growth of new technology encourages several marketing channels that are carried out online or what is often called e-commerce. This is what business people use to develop their business through e- commerce websites. One of the supporting factors for e- commerce is websites and mobile applications. Consumers in e-commerce interact with companies using websites. One of them is the website Bukalapak.com, Bukalapak is an e- commerce provider of online buying and selling services that provides a 100% money back guarantee to buyers if the goods are not sent by the seller when shopping online, they feel less confident. Bukalapak is an Indonesian technology company whose mission is to create a fair economy for all. Through its online and offline platforms, Bukalapak provides opportunities and choices for everyone to achieve a better life by making purchases online so that Bukalapak makes a breakthrough with its slogan, namely easy and reliable. Information on customer service can only be seen by operators, agent and leaders. The result of the business process at customer service is in the form of a delivery receipt given to the customer as proof of delivery. Problems that occur starting from the receipt not being found or not updating the goods ordered, the goods have not arrived at the recipient's location or address but the delivery status has been completed, the goods are not in accordance with the order such as a defect in the goods during the delivery process or the goods do not match what was stated. Messages and so on that can cause delays in business processes running on customer service.

In this case, there was a problem with the Bukalapak customer service, but there has never been a risk assessment analysis on customer service so an analysis will be carried out in this study. Based on this explanation, the title of this research is Analysis of Customer Service Risk Assessment Using the COBIT 5 Framework.

STUDY LITERATURE

Definition of Risk
Risk can be interpreted as uncertainty with a known level of probability of occurrence. Risk can also be defined as the spread or deviation from targets, goals or expectations [1].

Information Technology Risk Management
Risk Management is a set of procedures and methodologies used to identify, measure, monitor, and control risks arising from bank business activities. This is related to the general definition of risk, namely in every business/activity there is always the possibility of not achieving a goal or there is always uncertainty over any decisions that have been taken. In some situations, these risks can result in the destruction of the organization. Therefore, it is important to manage risk. Risk management aims to manage these risks so that we can obtain the most optimal results. The main purpose of risk management is to ensure that all risk and business policies can be implemented consistently [2].

Risk Assessment
Risk assessment is calculating or assessing the consequences of identified risks, the size of the consequences of the risk will be categorized or classified [3].

COBIT 5

COBIT (Control Objectives for Information and Related Technology) is an IT governance framework and set of supporting tools that enables managers to bridge the gap between control requirements, technical issues and business risks. COBIT enables the development of clear policies and good practices for controlling IT across the organization (ISACA, 2017) [4].

Basic Principles of COBIT 5

Based on the explanation in the 2012 ISACA journal, Control Objectives for Information and Related Technology (COBIT) in general have five basic principles [5]:

a. Principle 1
   COBIT 5 consists of processes and enablers for business value creation through IT implementation. A company can adopt COBIT 5 to the context of the company.
b. Principle 2
   COBIT 5 integrates the company's IT management into corporate governance because COBIT 5 covers all functions and processes that exist in the company. COBIT 5 does not only focus on IT functions but becomes technology and information as assets that are related to other assets that are managed by everyone in a company. COBIT 5 considers all enablers of governance and management related to IT from an enterprise an end- to-end perspective.
c. Principle 3
   COBIT 5 is the same as the related standards that guide some of the IT activities. COBIT 5 is a framework that discusses high-level governance and management of corporate IT. COBIT 5 provides high-level guidance and detailed guidance is provided by other relevant standards.
d. Principle 4
   COBIT 5 defines a set of enablers to support the implementation of comprehensive governance and IT management system for enterprises.
e. Principle 5
   Separation between Governance and Management [6].

Implementation of COBIT 5

According to (ISACA, 2012) there are 7 stages in implementing COBIT 5[7].

a. Stage 1
   What is the driver (Initiative Program)
   The first step is to identify who is in control to support change and create the will to achieve goals at the executive level. Then, when implemented as a new process, controllers can be sourced from internal and external parties and the existence of issues allows them to become supporters of change drivers. Examples of change drivers include events, trends, performance issues, software implementation, and company goals.
b. Stage 2
   Where Are We (Define Problems and Opportunities)
   Ensure that IT goals are matched with company strategy and risk and prioritize company goals, IT goals and most important IT processes.
c. Stage 3
   Where do we want to be (Define Road Map)
   The third step is to determine the goals for making improvements, which is then followed by an analysis gap to identify relevant alternative solutions that are fast and cost-effective.
d. Stage 4
   What to do (Plan Program)
   The fourth step describes how to find a practical solution to use by identifying the supported project in a legitimate business case and creating an implementation change plan.
e. Stage 5
   How to go there (Execute Plan)
   The fifth step is to implement the proposed solution into the practice of daily activities and establish a calculation and monitoring system to ensure business conformity is achieved and performance can be measured.
f. Stage 6
   Do you get there (Release Benefits)
   The sixth step focuses on improving management and transforming the ongoing transition from management practices to business operations, monitoring performance improvements using performance and profit plans, and expected results.
g. Stage 7
   How to maintain momentum (Review Effectiveness) The seventh step assesses the overall success of the business, identifies governance or other management needs, and reinforces ongoing needs.

Capability Level

ISO/IEC 15505 defines the criteria for assessing the process capability of the COBIT framework. Process capability is assigned to 6 point levels from 0 to 5, which represents an increase in the capability of the ongoing process [8].

1. Level 0 – incomplete Process The
   The company at this stage does not carry out the IT processes that should exist or has not succeeded in achieving the objectives of the IT process.
2. Level 1 – Performed Process The
   The company at this stage has successfully implemented IT processes and the objectives of the IT process have been achieved.
3. Level 2 – Managed Process
   At this stage, the company in carrying out IT processes and achieving its goals is carried out in a well-managed manner so that there is more assessment because the implementation and achievements are carried out with good management. Management is a process of planning, evaluating and adjusting for a better direction.
4. Level 3 – Established Process The
   The company at this stage has standardized IT processes within the scope of the company as a whole. This means that they already have process standards that apply throughout the company.
5. Level 4 – Predictable Process
   Companies at this stage have implemented IT processes within definite boundaries, for example, time constraints. These limits are generated from the measurements that have been made at the time the IT process was implemented.
6. Level 5 – Optimizing Process
   At this stage, the company has made innovations and made continuous improvements to improve its capabilities.

Data Processing Respondents

Data processing uses the Guttman calculation method using Microsoft Excel as a calculating tool. The calculation starts based on answers from 1 respondent in each APO12 and EDM03 domain. The calculation of the weight of the questionnaire value, if the value is [Y] then according to the Guttman Scale has a value of 1, whereas if the value [T] has a value of 0. The calculation is managed based on the respondent answers in each domain [26].

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RACI Chart

RACI is a RACI (Responsible, Accountable, Consulted and Informed Chart) whose role is to describe decision making as a supporter in managing management, identifying employee roles and responsibilities. The RACI Chart will make it easier to map and distinguish the main tasks according to each position to help run existing business processes.

The following are the roles of the RACI Chart, among others:

1. A responsible person who acts as the executor of the task.
2. An accountable person acts as the person in charge of a task and has the authority as a decision-maker.
3. Consulted people who play a role in providing direction, advice and contributions when needed.
4. Informed people play a role in knowing the results of a decision taken.

RACI Chart EDM03

RACI chart for the EDM03 domain so that researchers can map prospective respondents to a survey that will be used for data processing. The work unit can be seen in the EDM03 domain. RACI Chart or also known as Responsible, Accountable, Consulted, and Informed. The person in charge is the person who is responsible for driving the business wheel, the responsible actor who makes decisions, the Consultant who is in charge of providing direction and input on the business process and informed is the actor who must know the final information of the chosen alternative. RACI identification is based on people who are directly involved in the business processes of customer services. The RACI chart above is taken based on the tasks of each individual who is at customer services. Processes that exist in the EDM03 domain:

1. EDM03.01 Evaluating 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 Directing 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 risks are not exceeds the growth risk of the organization.
3. EDM03.03 Monitoring Risk Management This process aims to monitor the objectives and matrix of the risk management process and develop how IT risk issues are identified, tracked and reported.

RACI Chart AP012

RACI chart for the APO12 domain so that researchers can map prospective respondents who will fill out questionnaires that will later be used as data processing materials. RACI identification is taken based on the people who are directly involved in the business processes of customer services has individually been involved as an actor from the RACI Chart, both actors implementing tasks, Decision Making, giving directions and roles that must understand the decisions taken, so it can be concluded that the elements in customer services in the RACI Chart actor based on the person who carries out the task of running the business process (responsible) which is used as a reference for selecting respondents.

2. METHODOLOGY

Data Collection Method

1. Observational
   Observation is carried out by observing directly an object in detail and reviewing and understanding a situation or event that aims to as well as seek information and problems to be studied in this study. In this study, observations were made by studying and understanding customer services [27].
2. Interviews
   Interviews are conducted between two or more people by meeting face-to-face between the informant and the interviewer. This interview was conducted to obtain accurate information from the interviewees.
3. Questionnaire.
   Respondents were determined using the RACI chart method, aiming for more precision and more accurate results. Researchers have distributed questionnaires to prospective respondents. Technically, the researcher accumulated data by using the RACI Chart method, which is a method that directly distinguishes work units based on Job descriptions of Stakeholders, so that the questionnaire will be valid

Research Stages

This chapter will explain the methodology in the research to be carried out. The stages of this research are carried out so that the work steps become more systematic and directed. The following are the stages of the research work that will be carried out as shown in Figure 3.

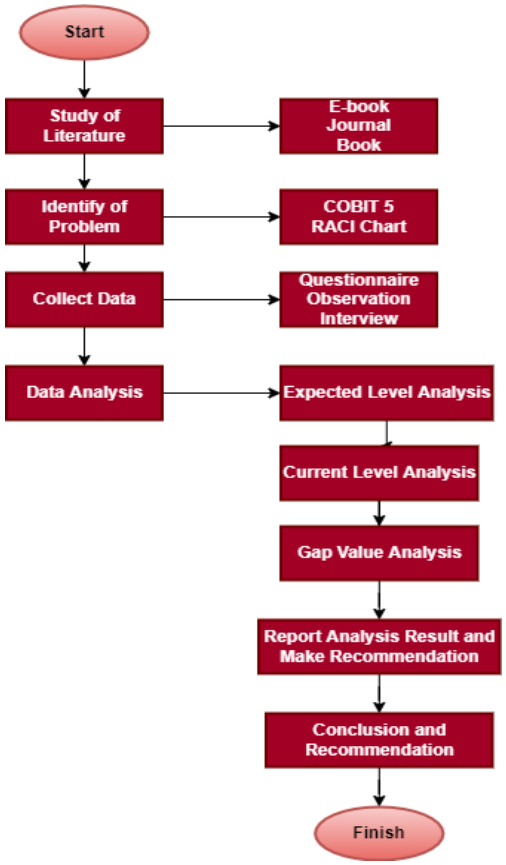

Figure 1. Stages of Research

1. The first stage of research begins with a literature study. Literature study was conducted in order to get an overview of the relevant agencies that became the object of the research and to find the COBIT 5 theory that supports this research. Literature studies are obtained through theses, journals and books that support this research after conducting a literature study and getting the problem to be solved, the researcher will define the problem using the process domain in COBIT 5 and the RACI chart [29].
2. The third stage is collecting data. After the researcher defines the problem, the researcher will collect data to solve the problem by conducting observations, interviews, and also questionnaires which are expected to solve the problem.
3. The fourth stage is analyzing the data. After collecting the required data from observations, interviews, and questionnaires, the researcher analyzed the expected data by analyzing the expected maturity value and also by analyzing the current maturity value. At the stage of analyzing the data, it has entered the stages of COBIT 5 itself, namely at stage 4 what to do and stage 5 how to go there.
4. The fifth stage is the analysis of the GAP value. At this stage, it has entered the stages of COBIT 5, namely at stage 6 (does it get there). The GAP value is the difference value obtained after the researcher calculates the expected maturity value with the current maturity value. After getting the results, the researcher will report the results to the company. If the value of the questionnaire results is greater than the expected capability value, the existing process is maintained and the researcher does not need to provide recommendations, whereas if the respondent's result value is smaller than the expected value, the researcher will provide recommendations aimed at achieving the desired level.

Based on table 1 above, the results of mapping the RACI Chart domain APO12 (*manage risk)* on customer services are 15 work units that have been matched with work units on customer services and resulted in five respondents who will fill out the research questionnaire because several work units are carried out by the same person. The following is a table of the results of mapping respondents from the RACI Chart in the EDM03 domain.

The table of respondent mapping results can be seen in Table 2 below:

Table 2. Results of mapping respondents RACI Chart EDM03

No	Unit COBIT 5	ID
1	Chief Executive Officer	R3
2	Business Executives	R2
3	Strategy Executive Committee	R2
4	Chief Risk Officer	R2
5	Chief Information Officer	R5

Based on table 2 above, the results of mapping the RACI Chart

Implementation

Data Collection

The research method used is the quantitative analysis method by collecting data using questionnaires, interviews and observations [28]

Questioner Analysis

In determining the research respondents using the RACI Chart method which aims to make it easier to map and distinguish the main tasks that are by each work unit or the duties of the existing staff to assist the running of the company's business processes. Researchers have distributed questionnaire sheets to respondents by mapping respondents based on the following RACI Chart.

Table 1. Results of mapping respondents RACI Chart APO12

No	Unit COBIT 5	ID
1	Business Process Owner	**R1**
2	Project Management Office	**R2**
3	Chief Risk Officer	**R2**
4	Chief Information Security Officer	**R5**
5	Head Architect	**R5**
6	Head Development	**R2**
7	Head IT Operations	**R5**
8	Head IT Administration	**R4**
9	Service Manager	**R4**
10	Information Security Manager	**R3**
11	Business Continuity Manager	**R3**
12	Privacy Officer	**R5**
13	Compliance	**R4**
14	Audit	**R5**
15	Chief Information Officer	**R5**

domain EDM03 (ensure risk optimization) on customer services are 5 work units that have been matched with work units on customer services and resulted in five respondents who will fill out the research questionnaire because several work units are carried out by the same person.

Observation and Interview

At the stage of observation and interviews were conducted to obtain relevant data related to the research topic. The interview aims to obtain valid data so that the results of the study can be maintained to completion. The following are the results of interviews conducted by researchers.

1. The Capability Level value of expected the company is 3.
2. An overview of the customer services of Bukalapak
3. A business process on customer services The problems that exist in customer services
4. Find solutions to the problems of customer services together.
5. Duties and responsibilities of staff at customer services
6. The organizational structure of customer services at Bukalapak.
7. Management risks that may occur in customer services are expected to be overcome by risk management assessment using the COBIT 5 framework using the APO12 (process domains manage risk) and EDM03 (ensure risk optimization)

Data Analysis

Current Level Capability

At this stage, the researcher uses Guttman scale calculations to calculate the Current Level Capability value. The calculation results can be seen in Table 3.

Table 3. Current Capability APO12

Domain	Process	Current Level
APO12.01	Collecting Data	2.93
APO12.02	Analyzing risk	2.68
APO12.03	Maintaining risk profile	2.76
APO12.04	Articulation of risk	2.54
APO12.05	Determining risk management portfolio	2.68
APO12.06	Responding to risk	2.63

Based on the calculation of the APO12 domain questionnaire (manage risk) in table 3 above using the Guttman scale calculation, it gets a value of 2.70 (managed process). This value is obtained from the calculation of the average Current Level divided by the number of domain processes. The APO12 score is 2.70, which means that at this level it can be said that the implementation of business processes in customer services has carried out planning, monitoring, and adjustments and the results of its work have been determined, supervised and cared for properly. The following is a table of calculation results using the EDM03 domain (ensure risk optimization). The table of calculation results can be seen in Table 4.

Table 4. Current Capability EDM03

Domain	Process	Current Level
EDM03.01	Evaluating risk management	3.25
EDM03.02	Directing risk management	2.64

Based on table 4 above, the value is 2.95 in the calculation current level. At this level, it can be said that the company already has standardized IT processes within the scope of the company as a whole and has been applied throughout the company.

Expected Level Capability

Value desired by customer services which are at level 3. At this level, the company already has standardized IT processes within the scope of the company as a whole. This means that they already have process standards that apply throughout the company.

Analysis of GAP Value the GAP

The value obtained in the APO12 domain (manage risk) is 1.00 While the EDMO3 domain (ensure risk optimization) is 1.00, which means that customer has reached the desired level and only needs the advice to maintain the level that has been achieved.

Assessment Results

In this subsection, the known values will be presented. The results of the calculation of the capability value can be seen in Table 5.

Table 5. Value of GAP domain APO12

Domain	Process	*Current*	*Expected*	*Max*	*GAP*
APO12.01	Collecting Data	2.93	3.00	5.00	1
APO12.02	Analyzing risk	2.68	3.00	5.00	1
APO12.03	Maintaining risk profile	2.76	3.00	5.00	1
APO12.04	Articulate risk	2.54	3.00	5.00	1
APO12.05	Determine risk management portfolio	2.68	3.00	5.00	1
APO12.06	Respond to risk	2.63	3.00	5.00	1
Average *Current Level*		**2.70**	**Average *Gap***		**1**

Based on table 5 above it can be concluded that the customer service reaches level 2, which means the company in implementing the IT process has achieved its goals and has been managed properly, so there is more assessment because the implementation and achievements are carried out with good management. In the following table, the results of the Capability Level shows domain EDM03 (ensure risk optimization) that have been known. The gap value table can be seen in Table 6.

Table 6. GAP domain value EDM03

Domain	Process	*Current*	*Expected*	*Max*	*GAP*
EDM03.01	Evaluating risk management	2.94	3.00	5.00	1
EDM03.02	Directing risk management	2.80	3.00	5.00	1
Average *Current Level*		**2.87**	**Average *Gap***		1

Based on table 6 above, it can be concluded that customer services have reached the expected level and got a GAP value of 1.00 for all existing domains.

Based on the results of the calculation of the value of the Capability Level domain APO12 and EDM03 have reached the level in each domain of the process. To prove that customer has reached level 1 (performed process), level 2 (manage the process) so it must have complete data requirements that are valid at level 1 (performed process) and level 2 (manage the process). The following is the completeness of the data requirements that are owned by customer service by the APO12 and EDM03 domains. The complete list of needs can be seen in table 7.

Table 7. Complete list of data requirements for level 1

PA 1.1 (*Process Performed)*		
Domain	***Goal***	**Description**
APO12. 01 (Collecting Data)	Collecting data to analyze risk	✔
APO12.02 (Analyzing Risk)	Analyzing risk data.	✔
APO12.03 (Maintaining Risk Profile)	Maintaining risk attributes.	✔
APO12.04 (Articulate Risk)	Provides information on IT risk opportunities.	✔
APO12.05 (Defining a Portfolio of Risk Management Actions)	Managing opportunities to minimize risks	✔
APO12.06 (Responding to Risks)	Responding appropriately to IT risks.	✔
EDM03.01 (Evaluating Risk Management)	Evaluating and assessing the use of IT	✔
EDM03.02 (Directing Risk Management)	Directing the implementation of IT risk management	✔

Based on table 7 above, it can be seen that the completeness of data requirements at level 1 in each process domain has been fulfilled and can be interpreted with PA scale (Process Attribute) with attribute value > 85% - 100% F (Full Achieved). To be able to reach level 2, customer services must meet the requirements at level 2. The following is the completeness of data requirements that are owned by customer services by the APO12 and EDM03 domains. The complete list of data requirements can be seen in Table 8.

Table 8. Completeness of the value requirements

No.	PA 2.1 (Performed Management)	Evidence	Description	
			Yes	No
1	Scope of risk management	Manuscript/or ganizational structure	✔	
2	Objectives of risk management	Manuscripts of duties of each staff	✔	
3	Customer service response if it does not meet the target	-		✔
4	RACI Chart Management Stakeholder	-		✔
5	Criteria recruitment employee	handbook training and recruitment of employees	✔	
6	Employee training	handbooks training and recruitment of employees	✔	

Based on table 8 above it can be seen that the completeness of the data requirements at level 2 domain APO12 and EDM03 some supporting documents are not owned by the customer service to meet the completeness at level 2 (manage the process) thus at this level is calculated using the PA scale it has an attribute value of >50%-85% L (Largely Achieved).

Next is the complete list of level 2 data on Work Product Management domain APO12 (manage risk) and EDM03 on customer services. The complete list of data requirements can be seen in Table 9.

Table 9. Completeness of data requirements

No.	PA 2.2 (Work Product Management)	Evidence	Description	
			Yes	No
1	List of jobs that must be done by each *staff*	Manual of training and *recruitment* employee	✔	
2	Documents or lists of job requirements that must be completed by each *staff.*	Employee SOP document	✔	
3	Documents or work results that have been completed by each *staff*	Employee monthly report document	✔	
4	Evaluation of the work of each *staff*	Employee monthly report document	✔	

Based on table 9 above the complete list of requirements in the APO12 and EDM03 domains to reach level 2 in Work Product Management has been fully achieved. This, if calculated using the PA scale, has an attribute value of >85 – 100% F (Full Achieved).

The following is a graph of the values Gap and Current Level for each APO12 and EDM03 domain. The graph of the value gap and Current Level can be seen in Figure 2.

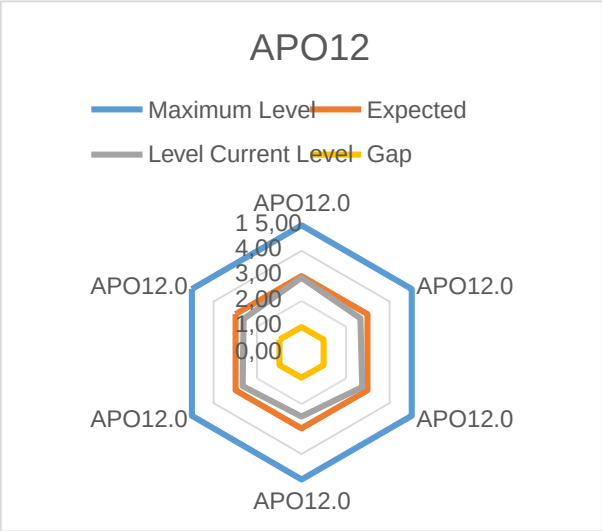

Figure 2. The graph of the value gap APO12

Figure 2 above is a graph of the expected value by customer services of the questionnaire and the value of the Gap in each domain used in the study.

The graph of the value gap and Current Level can be seen in Figure 3.

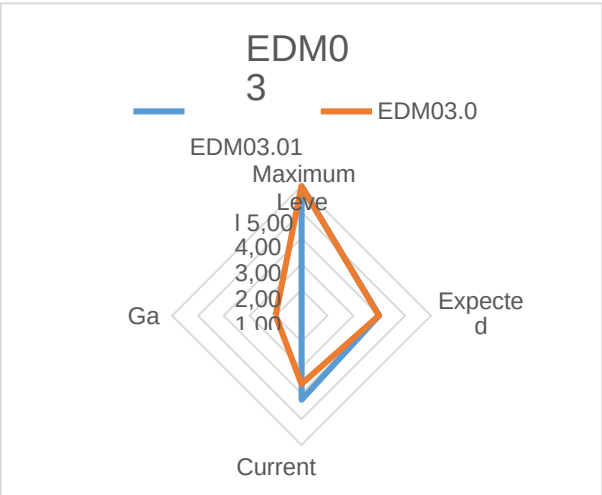

Figure 3. Graph of value gap EDM03

Recommendations and Reporting Result

In this subchapter, the researcher will present recommendations and suggestions that have been obtained from the results of the analysis of the values *gap* obtained and will be implemented by the customer service. The Tables of recommendations and suggestions can be seen in Table 10.

Table 10. Recommended domains APO12 and EDM03

Domains	Recommended
APO12.01 (Gathering Data)	a. Customer services must have a regular schedule, both monthly and yearly related to IT risks that may occur and hold meetings or find solutions or in overcoming these possible risks in the future, and hold meetings or find solutions or in overcoming these possible risks. b. Customer services must have IT staff who are experts in managing data records both in the internal and external environment in IT risk management to assist in carrying out tasks and can increase the utilization of the results of risk history documentation. c. Customer services must have backup data containing the database and MOU process for use in further investigations. d. Customer services must document every risk that has occurred as an evaluation material to avoid IT risks that may occur again and document the results of meetings or deliberations that discuss further investigations related to IT. Documentation can be in the form of soft files or hard files. e. Before starting a new business process, Customer services needs to carry out careful planning including assessing IT risks that occur while ongoing business processes must evaluate so that the plan can run well.

APO12.02 (Analyzing Risk)	a. Customer services in the training materials should include discussions related to both IT and general risks so that in the training process they can understand actions that have the potential to cause asset losses. b. Customer services must make improvements to the IT governance process including the management of risks related to the use of IT. c. Customer services must have agreed standards related to IT risks, and need to carry out risk mapping to assist in making further decisions.
APO12.03 (Maintaining Risk Profile)	a. Customer services must continue to maintain the efforts that have been made previously and improve other supporting factors so that business processes can run well b. Customer services must continue to maintain and improve the company's efforts in determining IT services so that business processes continue to survive during intense global competition and add skilled staff in carrying out company business processes so that business processes can run better.

APO12.04 (Articulate Risk)	a. Customer services must have SOP that regulate the management of IT- related business processes, including determining the analysis of gaps that can cause greater losses.
APO12.05 (Defining a Portfolio of risk Management Actions)	a. Customer services continue to maintain the efforts that have been made and must have a concept that describes how IT risks will arise in the future so that when risks arise, customer services are certainly ready with stakeholders who are responsible for responding to risks and daring to take action decisions b. Customer services must have documents that regulate within reasonable limits the risk that can be tolerated so that the risk does not hinder the running of the company's business processes.

APO12.06 (Responding to Risk)	a. Customer services must check losses from beginning to end in the form of input or output when problems occur and report these losses to the leadership and administration so that solutions are found.

Table 11. APO12 and EDM03 Domain Suggestions

Domain	Recommended
EDM03.01 (Evaluate Risk Management)	a. Customer services continue to make efforts to improve the evaluation of IT risk measures that have been used so that risks do not reappear. b. Customer services continue to make efforts to evaluate and improve other supporting factors and make joint decisions.
EDM03.02 (Direct Risk Management)	a. Customer services must continue to maintain and improve promotions that are currently being carried out and expand promotions to a wider range. b. Customer services must continue to maintain and improve in directing strategies, and hold regular deliberations or meetings to take further strategies

Based on Table 11, the recapitulation of recommendations from the EDM03 domain that has been made must be implemented, supervised Customer services with the aim of minimize the impact of IT risks

3. CONCLUSION

Based on the calculation of the Current Level in the APO12 (manage risk) and EDM03 (ensure risk optimization) domains, the Capability Level value is 2.70 (Managed Process) for the APO12 (manage risk) domain. For the EDM03 (ensure risk optimization) domain, the Capability Level value is 2.95 (managed process). The value of the gap (difference) in the APO12 (manage risk) and EDM03 (ensure risk optimization) domains have been known by using concrete calculations and obtaining the gap value in each domain. For the APO12 (manage risk) domain, the gap value of 1.00 level is obtained from the calculation of the Current Level in the APO12 (manage risk) domain. As for the EDM03 domain (ensure risk optimization) it produces a gap value of 1.00. The results of the recommendations given are to improve risk management in customer services that has not reached the desired level requires a recommendation and mitigation steps that must be carried out, namely by having a routine schedule, making SOPs on IT risk management, backing up data to the company database, adding staff who are experts in analyzing risks so that new investigations can be carried out. That may arise can be identified and resolved properly.

4. REFERENCES

[1] Putri, C. (2017). Risk Assessment of Information Technology Processes Based on the COBIT 5 Framework at the Helpdesk, Sub-directorate of Information Technology and Systems Services, Directorate of Information Technology and Systems Development (DPTSI) Sepuluh Institute of Technology. 241.

[2] Prastiyawan, DA, Ambarwati, A., & Setiawan, E. (2020). Analysis of Risk Management Dealer Management System Services Using COBIT 5. Matrix: Journal of Information Technology and Management, 10(2), 43–49

[3] Astuti, R. (2018). Implementation of Information System Risk Management Using COBIT 5. Media Informatics, 17(1), 18–28.

[4] ISACA 2017. (nd). About COBIT 5.

[5] ISACA. (2012). COBIT 5: A Business Framework for the Governance and Management of Enterprise IT. Rolling Meadows, ISACA.

[6] M.Garsoux. (2013). COBIT 5 ISACA's new framework for IT Governance, Risk, Security and Auditing.

[7] ISACA. (2012). COBIT 5: A Business Framework For The Governance And Management Of Enterprise IT

[8] Jung, Ho-Won, & Hunter, R. (nd). The Relationship Between ISO/IEC 15504 Process Capability Levels, ISO 9001 Certification and Organization Size. An Empirical Study. Elsevier.

[9] Yani, IP, Suprapto, & Admaja, DH (2018). Assessment of the Capabilities of Application of Information Technology Risk Management Using the COBIT 5 Framework (Study on PDAM Malang City, East Java). Development of Information Technology and Computer Science

[10] Jogiyanto Hartono, M. (2005). Analysis and Design of Information Systems Structured Approaches to Business Applications theory and practice. Yogyakarta: Andi.

[11] Fuad, MN (2020). Analysis of Risk Management Assessment in UAD HR Information Technology Services Using the COBIT 5 Method.

[12] Jogiyanto, A. (2011). Information Technology Governance System. Andi. PublisherStewart,

[13] J., Chapple, M., & Gibson, D. (2015). CISSP(ISC) 2 Certified Information Systems Security Professional Official Study Guide. 7th Edition, Wiley

[14] Jarsa and K. Christianto (2018). "IT Governance Audit with COBIT 5 Framework on DSS Domain," Kinet. Game Technol. Inf. Syst. Computer. Network. Computer.

Electron. Control

[15] Setyaningrum Dwi Novia, et al., (2018). "Evaluation of Information Technology Risk Management Using the COBIT 5 Framework (Case Study: PT. Kimia Farma (PERSERO) Tbk – Plant Watudakon." Journal of Information Technology and Computer Science Development, Vol. 2, No.1. Malang Hardinata, RS,

[16] Fitriani, W., & et al. (January 2019). Information Technology Governance Audit Using COBIT 5. Journal of Engineering and Informatics Vol. 6, No. 1, Pg. 42 - 45.

[17] M Hanafi, M. (2009). Risk, Risk Management Process, and Enterprise Risk Management. EKMA4262 Module 1, p. 1- 40.

[18] Mizuno, S. (1994). Overall Company Quality Control, Management Series no 151. Jakarta: Pustaka Binaman Pressindo. Pinontoan, J. (October 2010). IT Risk Management - Concepts. PC Media Magazine.

[19] Rohaini, E., Assegaff, S., & William. (April 2020). Evaluation of Information System Governance Using COBIT 5 at PT. Sinar Sentosa Primatama Jambi. Scientific Journal of Media Sisfo Vol. 14, No.1, p. 45 - 53.

[20] Rahayu, T., Matondang, N., & Hananto, B. (March 2020). Academic Information System Audit Using COBIT Method 5. Journal of Information Technology and Education Vol.13, No.1, them. 117-123.

[21] Sugiyono. (September 2019). Quantitative, Qualitative, and R&D Research Methods. Bandung: ALFABETA.

[22] Triyanto, T., & Gata, W. (February 2018). Maturity Level Information Management

[23] Sekarini, IA, Candiasa, IM, & Aryanto, KY (May 2021). Electronic Medical Records (EMR) System Audit at Kasih Ibu Hospital Using the COBIT Framework 5. Journal of Systems and Information (JSI), p. 134 - 143.

[24] Installment. (nd). Bukalapak.com. Retrieved from https://bukalapak.com/: Accessed on February 17, 2022, 19.45

[25] Andrianti, A., & Assegaff, S. (June 2018). Analysis and Design of IT Governance Using COBIT 5 Framework in Data Management PT. US BPR. Journal of Information Systems Management Vol.3, No.2, p. 98

[26] Tamara, A. F., & Riadi, I. (2021). Analysis of Risk Assessment on Student Credit Services using COBIT 5 Framework. International Journal of Computer Applications, 183(42), 50–58.

[27] Andriani, Y. P., & Riadi, I. (2021). Risk Assessment of Monitoring Services using COBIT 5 Framework. International Journal of Computer Applications, 183(37), 8–16.

[28] Indriyanto., & Riadi, I. (2021). Risk Assessment on Stock System Services using COBIT 5 Framework. International Journal of Computer Applications, 183(23), 29–37.

[29] Saputra, C.D., & Riadi, I. (2021). Risk Assessment on Integrated Information System using COBIT 5 Framework. International Journal of Computer Applications, 183(23), 38–45.