



# Solving IT Governance Problems of Life Insurance Company in Indonesia using COBIT 5 Framework

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**Abstract:** Insurance X is one of the life insurance company in Indonesia, as technology advances the company's business processes are using information technology (IT) and information systems (IS) to make them more effective and efficient. The use of IT and IS in the company have been developed since they started the business, until now they still developing their IT and IS to help their business but they have some problems related to the usage of IT and IS. This indicates that their IT governance is still need some improvement. In this paper, the authors will do some analysis to the company's IT problems and try to solve it based on COBIT 5 framework which is a standart for IT governance. The result of this study shows that the maturity of the company's IT governance is on level 2 (managed) and the target maturity is level 3 (established). This study also gives some improvement recommendations for the IT governance to reach that maturity target.

**Keywords:** Life Insurance Company, IT Governance, COBIT 5 Framework

## 1. INTRODUCTION

At this time, the use of information technology (IT) has become a basic requirement of every organization to support the sustainability of its business. The existence of IT itself can make an organization have effectiveness and work efficiency. IT has various benefits for the organization, here are some of the benefits, improving organizational performance by digitizing business processes, eliminating the meaning of distance in doing business, increasing the quality and accuracy of work assignments, improving the quality of decision making and increasing the competitiveness of organizations or companies [1].

But on the other hand, the unplanned implementation of IT can make IT investment failures and lead to a waste of IT investment for organizations or companies [2]. Not surprisingly, if this happens, the management in the organization or company becomes reluctant to spend a large cost for IT. To avoid this, good information technology governance is needed. The implementation of information technology governance will enable an organization or company to ensure the effectiveness and efficiency of IT use, minimize the risk of failure of implementation IT and ensure that IT investment incurred

is comparable with the benefits of IT to achieve business goals.

In the development of the last few years Insurance X has had very fast growth. This is indicated by the growth of assets, premium income and profits obtained by the company. Since the beginning of its business activities in 1995, the company has been engaged in life insurance financial services and is present to meet the community's need for personal and family economic value protection. The company prioritizes innovation in product benefits and develops integrated technology to provide maximum service for every customer in every region in Indonesia. Since its inception the insurance company has changed its name twice due to the company's acquisition and has been established based on the Minister of Finance Decree No.602 / KMK.017 / 1995 dated December 18, 1995. Today, the company has used the existence of information technology to support its business needs. In addition, to manage all the information technology needs that are used, the company also has an Information Technology (IT) department or department. Within the company, many business processes have used an integrated life insurance information system in the form of web and mobile applications. Therefore, it can be said that information

systems or information technology is very important or vital for this company in running its business.

But on the other hand, so far the use of IT in companies still has shortcomings and problems that interfere with the company's business. The following is a list of IT-related problems still encountered in the company:

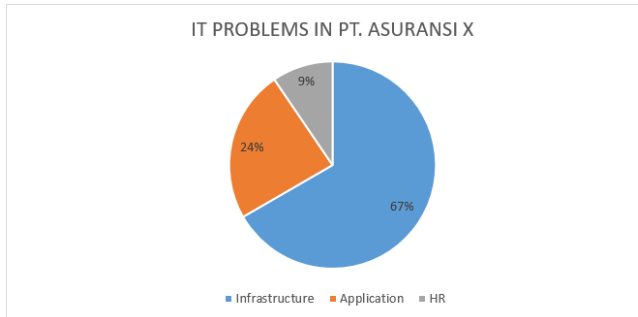


Figure 1. IT Problems in PT. Asuransi X (Insurance X)

Looking at the picture above as many as 67% of IT problems found in companies are IT infrastructure problems such as there is no control of the use of external devices such as USB flash drives and hard drives, there is no SOP for software usage and SOP for maintenance and monitoring of devices regularly, besides that there are problems as much as 24% related to the use and development of applications such as the lack of audit trail procedures on systems used by the company, the absence of data patching SOPs, less organized systems and so forth. The company also has a percentage of 9% for IT issues related to HR owned by the company where sometimes there is still a lack of employee competence and lack of training and introduction of SOPs for employees who have just entered the company.

From the existing problems, we can also see how many problems and how often the problem is experienced by the company, here is an illustration:

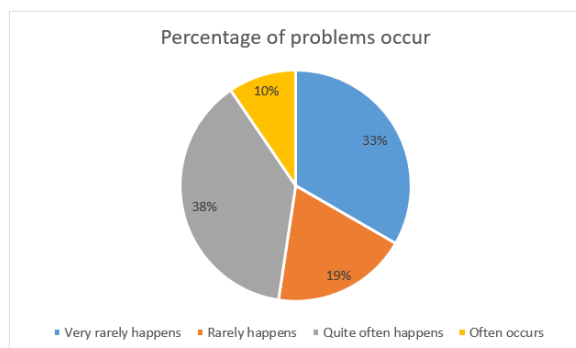


Figure 2. Percentage of problems occur

In the diagram above we can see that 48% of IT problems owned by companies are quite common and occur frequently. That number can be said to be quite large

and certainly the problems that have disrupted the company's business. For this company which has a target of winning the insurance business competition in 2019 and subsequent years, IT problems should be minimized and prevented so that the existence and use of IT in the company is optimal and can support the company in achieving its business goals.

This study aims to analyze IT governance and measure the maturity level of IT governance at Insurance X. By measuring the level of maturity of IT governance owned by the company, the company will be able to ascertain whether the IT owned is in accordance with the needs and has an effective and efficient impact so that information technology management problems can be minimized and prevented where indirectly losses due investment and information technology problems do not occur so that the company's business processes are not interrupted and the business objectives of the company can be achieved with the presence of mature IT governance. In addition, it is hoped that the problems listed above can also be reduced or even prevented.

In ensuring effective and efficient information technology management, it is necessary to evaluate the performance of information technology governance (IT). There are several frameworks that can be used to evaluate the performance of IT governance, namely COBIT, COSO, ITIL, ISO and others. In this study, COBIT 5 was chosen as a reference framework because COBIT 5 is a comprehensive framework and provides guidelines for managing IT holistically that can make IT provide optimal value by taking into account several aspects of IT starting from the people, skills, competencies, services, infrastructure and applications which are components of IT governance.

## 2. LITERATURE REVIEW

### A. IT Governance

Information technology governance according to Khadra H.A., Zuriekat M., Alramhi N., (2009) is the way how organizations believe strategies have been implemented, monitored and accepted results. Meanwhile, according to Weill (2004) information technology governance is a specific framework for decision making rights and accountability to encourage desirable behavior in the use of information technology. Furthermore according to Peterson (2003), information technology governance is broader in scope than information technology management (IT management). The difference is that information technology management is more focused on providing effective information technology services and products in the organization's internal and current information technology management. Meanwhile, information technology governance itself is more focused on displaying and transforming information technology to meet the current business needs of the organization

(internal focus) and the future and to meet customer needs (external focus). According to the Information Technology Governance Institute (ITGI) information technology governance is part of enterprise governance and consists of leadership and organizational structure and processes that ensure that the organization's information technology can sustain and broaden the organization's strategy and objectives [7].

From some of the above understanding, it can be concluded that information technology governance is one of the important aspects of corporate or organizational governance related to information technology management starting from planning, implementation, monitoring and evaluation, which will guarantee the efficiency and achievement of the quality of technology services information to support the organization's business strategy and objectives.

**B. COBIT 5**

COBIT 5 is defined as a framework for IT governance and management in companies. COBIT 5 unites corporate governance with management techniques that have principles, practices, analytical tools and models that are globally standardized to improve the performance of information technology governance of an organization or company. In addition, according to [4] is a framework for IT governance and IT management.

**C. COBIT 5 Principles**

COBIT 5 helps companies or organizations make IT governance and management better, more effective and efficient. IT companies or organizations can be regulated holistically by following the standard COBIT 5 framework, from planning, decision making to achieve goals by the responsible part of the functional IT company or organization to the separation between IT governance and management. We can see this in the principles of COBIT 5, the following is a description and explanation of the principles held by COBIT 5:

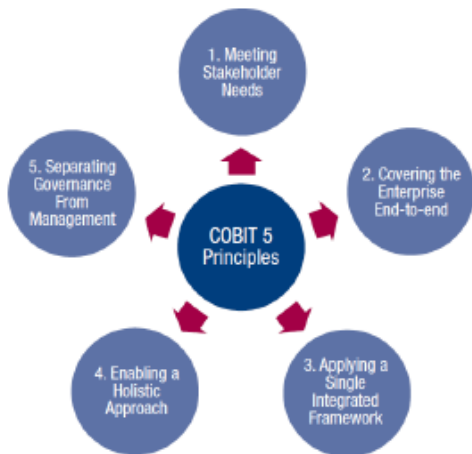


Figure 3. COBIT 5 Principles[8]

- Meeting Stakeholder Needs: COBIT 5 helps companies or organizations to meet the needs of corporate or organizational stakeholders through IT governance and IT management and use.
- Covering to Enterprise End-to-End: COBIT 5 makes IT governance and corporate governance integrated with one another.
- Applying a single Framework: COBIT 5 is a framework or framework on IT governance that is complete and standard and includes several existing IT governance frameworks.
- Enabling a Holistic Approach: COBIT 5 has several enablers that enable IT governance and IT management to be implemented easily and thoroughly.
- Separating Governance from Management: COBIT 5 separates clearly between IT governance and IT management. Both of these are explained that lead to different activities, require different organizational structures and have different functions.

**D. Capability Level Process**

In assessing the maturity or Maturity Model of IT governance, COBIT 5 uses the Capability Model. In this capability model there are 6 levels, the following is an explanation of each level [8]:

- Level 0 Incomplete Process

This means that there is little or no evidence of any process goal achievement, it can be said that the process was not implemented or failed to achieve the process objectives.

- Level 1 Performed Process

The process has been implemented to achieve business objectives.

- Level 2 Managed Process

The process has been implemented and managed in the sense that it has been planned, monitored and adjusted. In addition, the results of the process have been determined and controlled.

- Level 3 Established Process

Means the existing process is documented and communicated for efficiency in the organization or company.

- Level 4 Predictable Process

Means that the process has been monitored, measured and can be predicted to achieve the expected goals or results.

- Level 5 Optimizing Process

The process can be predicted and improved to meet current business objectives and relevant to future business goals.

### E. Related Research

In this study, the author has several related studies that are used as a reference. The following is a summary of several studies related to the use of COBIT 5 to correct and resolve IT governance problems:

In this paper [3], the authors wanted to do an evaluation of Indonesian National Library which is located at Jakarta. It has written in this paper that this library has implemented digitalization for its content and their management with IT so because of that IT is an important thing in their organization. To make their IT implementation be effective and efficient as maximum as they can, they need to make a good IT governance apply in there. This research used COBIT 5 framework to realize the good IT governance. The qualitative methods have been taken such as interview and observation to collect the data as accurate as the actual condition is. In this paper the authors focuss on DSS domain and the result shows the average score of DSS01, DSS02 and DSS03 is 1.2 to 1.6 and the average of DSS04, DSS05 and DSS06 is between 2.3 and 2.3.

The next related research is a maturity evaluation of IT governance [9], in this paper the authors wanted to do an audit of IT governance using COBIT 5 framework focuss on DSS domain and DSS03 is the domain process. According to the result, DSS03 in the company has capability level of 64.66% with status Partially Achieved. Moreover in this research the authors gave recommendations for improving the capability level to its expected level which can be used by PT. DEF to maximize their IT governance.

In this paper [10], we can see the use of COBIT 5 in IT governance assessment in the academic context. This study aims to assess how effective and efficient implementation of IT governance is at Atma Jaya University, Yogyakarta. The method of data collection by the author is to use a questionnaire and direct observation in related places. There are 3 COBIT 5 domains used in this study, DSS, BAI, APO. The results of this study indicate that the maturity level of IT governance at Atma Jaya University in Yogyakarta is level 3 (established).

In this paper [11], COBIT 5 is used in an organization of nuclear strategic area. They have used IT and have a specific field that relates to computer networks and data communication which support the research, development and application of nuclear science and technology scientific information. The problems in this research are mostly connected with the IT governance they have. The focus of this study are in domain process APO13 and DSS05. The result shows that the maturity level is still on 1.96 for APO13 and 1.71 for DSS05 both can be categorized to level 2. The expected level for these domains is level 3 and can be concluded that the gap level is 1.

From several related studies above, it can be concluded that COBIT 5 can be used to evaluate and improve information technology governance in various fields, namely organizations, foundations, academic units, government and telecommunications companies and so forth. According to the authors, COBIT 5 is a comprehensive framework and takes a holistic approach to evaluating information technology governance. Therefore, the authors also use the COBIT 5 framework as a reference in writing research related to the evaluation of information technology governance performance at Insurance X. The authors hope that by doing this research can help companies improve the quality of existing information technology governance to support companies achieve their business goals using IT effectively and efficiently.

### 3. METHODOLOGY

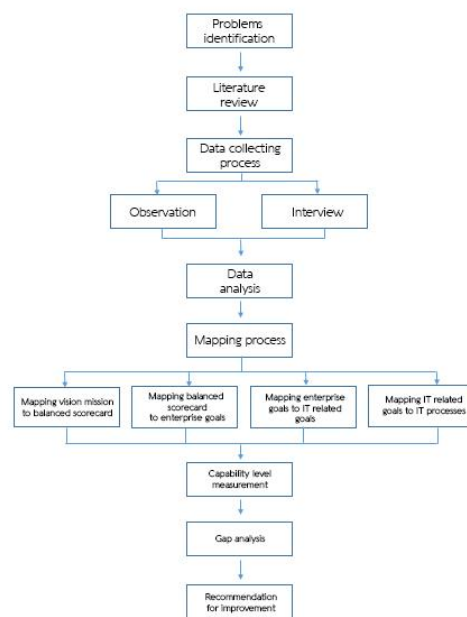


Figure 4. Research Methodology

#### A. Problems Identification

In this stage, the writer will identify problems from the analysis of the conditions of IT governance at Insurance X now. Problem identification is done by conducting interviews with several IT resources from 4 departments namely the infrastructure department, web developers, mobile developers and the project management department of information systems in the company, in addition to the interview the author also made observations to see the condition of information technology governance owned by the company. From the results of the identification of the problems carried out, the following are IT problems faced by the company:

TABLE I. IT GOVERNANCE PROBLEMS IN PT. ASURANSI X (INSURANCE X)

| No | Problems  |
|----|---|
| 1  | Interruption of business operations due to information technology problems that are used.                                     |
| 2  | The possibility of data leakage, data loss and data manipulation  |
| 3  | The possibility of access by unwanted parties occurs.   |
| 4  | There is no mature business continuity plan and disaster recovery plan  |
| 5  | There is a possibility for violations of the Standard Operational Procedure (SOP) for the use of IT that have been determined |

### B. Literature review

The next stage is the literature study, the author will study and collect research related to evaluating the performance of IT governance with COBIT 5. In addition, the author will also study the use of tools such as COBIT 5, balanced scorecard and RACI charts used for the evaluation process of information technology governance.

### C. Data Collection Process

In collecting data, there are 2 ways that the authors do, namely by observation and interview. For observations made by the author as long as this research is made, with this observation it is expected that the writer can identify the conditions and problems experienced by the company every day and find out how the company solves the problems that occur. As for the interview, the author will do with several IT resources found in the company, especially the head of each division starting from the Chief Information Officer (CIO), the head of Infrastructure, the head of web developers, the head of mobile and the head of the project management information system.

### D. Mapping IT processes related to COBIT 5

Furthermore, the writer will map the related IT processes in COBIT 5. Mapping will be based on the vision and mission of the company with a balanced scorecard. After that, the writer will identify Enterprise goals based on COBIT 5 with the company's vision and mission as stated in the balanced scorecard. Furthermore, after obtaining Enterprise goals related to the previous identification process, a mapping was made between Enterprise goals and IT-related goals so that finally COBIT 5 IT processes will be selected that are related to the condition of Insurance X.

### E. Data analysis

After all the necessary data is deemed sufficient, the author will begin data processing. In this stage, the first thing to do is to map the company's vision and mission into the COBIT 5 enterprise goals. The next step after obtaining related enterprise goals, the mapping is done

again, namely between enterprise goals and IT related goals COBIT 5. Then after knowing the IT related goals owned by the company, the mapping is done again between IT related goals to the IT processes owned by COBIT 5. From the mapping stage, after knowing the related IT processes, then the writer will be able to measure the level of IT capabilities at the current and expected conditions by the company. The current capability level is obtained by adding up the processes per level and divided by the number of processes evaluated. After obtaining the value of the capability level per IT process, then the writer will make a gap analysis. The gap value will be seen after the writer makes a comparison with the spider chart between the capability level of the current condition and the expected capability value.

### f. Recommendations for Improvement

In this stage, the authors will provide recommendations for improvement for the processes that are evaluated to support Insurance X. The author will provide recommendations per domain and COBIT 5 process selected. These improvement recommendations will help companies solve existing problems so that corporate IT governance can be effective as expected and according to COBIT 5 standards.

## 4. DISCUSSION

### A. Finding related COBIT 5 processes

In mapping the vision and mission to COBIT 5 enterprise goals, the first thing to do is to find out the company's business goals through the vision and mission of the company. Following are the vision & mission owned by the company:

#### 1) Company Vision & Mission

##### a) Vision

Become a company that is always present in yourself and your family to achieve prosperity and prosperity.

##### b) Mission

- Market superior products with protection benefits and the best investment returns and provide excellent services through the internet-based business distribution network, business partners and service offices spread throughout Indonesia.
- Become the largest life insurance company by fulfilling good corporate governance in accordance with applicable regulations.
- Achieve continuous profit and value growth from year to year for an unlimited period of time.

From the vision and mission described above we can know that the company's business goals are as follows:

a) *Become an insurance company that is the choice for every family.*

b) *Market products on an internet basis and business partners.*

c) Become the largest life insurance company with good governance in accordance with applicable regulations.

d) Increase profits and company value every year for an unlimited period.

Having known the company's business goals, then we can do the enterprise COBIT goals mapping 5. Below are the results of the mapping that has been done:

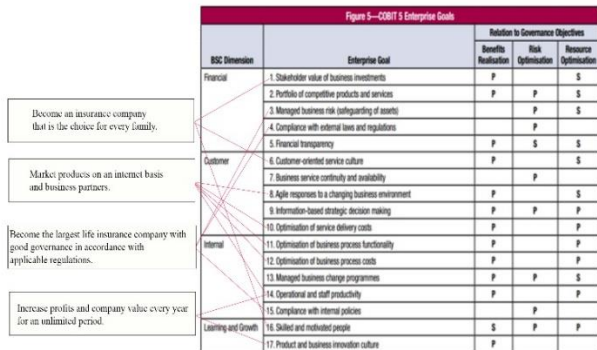


Figure 5. Relation between business goals and enterprise goals

From the mapping results, 37 existing IT processes were selected. But in this study, the author only chose a few processes related to the problems faced by the company that have been described in chapter 3 namely; EDM03 Ensure Risk Optimization where this process is related to risk management in companies that still have risks of technology and information system problems, EDM04 Ensure Resource Optimization where this process will allow the company to maximize its resource management, APO013 Manage Security which will improve security management information technology and corporate information systems, DSS03 Manage Problems namely the process for managing technology and information system problems, DSS04 Manage Continuity that will help companies manage their business sustainability. Below is a picture between the relationship between the selected process and the problems faced by the company:

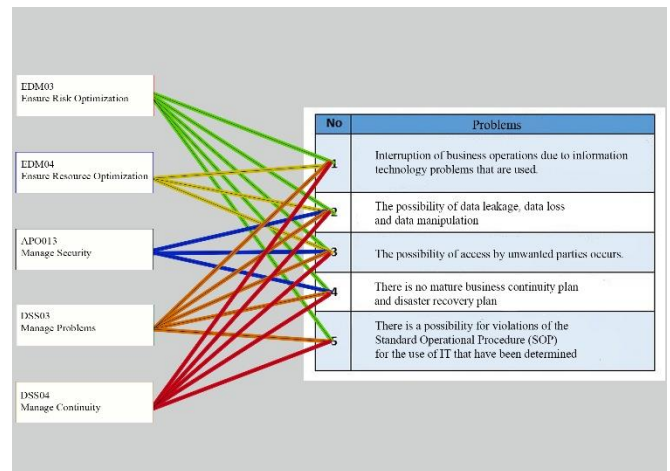


Figure 6. Relation between Selected Process and IT governance problems

B. Assessment of Selected COBIT 5 Processes

1) EDM03 Ensure Risk Optimization

Domain EDM03 talks about optimizing the risk that is owned by an organization or company that is by identifying risks and managing risks to reduce and minimize failures due to existing risks. Based on the assessment, this domain is on level 2 with 80.55% and status largely achieved. Following are the results of the EDM03 assessment of the company:

TABLE II. EDM03 CAPABILITY LEVEL 1 ASSESSMENT

| EDM03 Ensure Risk Optimization    |        |       |      |
|-----------------------------------|--------|-------|------|
| Governance Practices              | Exists | Score |      |
| EDM03.01 Evaluate Risk Management | Yes    | 100%  |      |
| EDM03.02 Direct Risk Management   | Yes    | 100%  |      |
| EDM03.03 Monitor Risk Management  | Yes    | 100%  |      |
| Average Score                     |        |       | 100% |

Detail information from the EDM03 capability Level 1 assessment:

a) Evaluate Risk Management has been carried out on the company, it is carried out by the risk management department in the company regularly every year.

b) Direct Risk Management has been implemented in the company. Through the risk management department that directs each department to carry out risk management in accordance with established standards and approved by the company.

c) Risk Management Monitoring has been carried out in line with the risk management evaluation process. The company looks at the extent of risk management that has been carried out and in the end the company will conduct an evaluation to improve the process and the company's risk management standards.



The assessment process still go on to the next level because it exceeds 85%. The next assessment is level 2 on performance management. Below is the result:

TABLE III. EDM03 PERFORMANCE MANAGEMENT ASSESSMENT

| Performance Management |                                  |       |       |
|------------------------|----------------------------------|-------|-------|
| No                     | Generic Practices                | Exist | Score |
| 1                      | Identify the objective           | Yes   | 100%  |
| 2                      | Plan and monitor the performance | Yes   | 100%  |
| 3                      | Adjust the performance           | Yes   | 100%  |
| 4                      | Define the responsibilities      | Yes   | 100%  |
| 5                      | Identify and make available      | Yes   | 100%  |
| 6                      | Manage the interface             | Yes   | 100%  |
| Average Score          |                                  |       | 100%  |

Description of the EDM03 Capability Level 2 Performance Management assessment:

- a) *For capability level 2 assessment on performance management, identify the objective has been carried out because employees already understand the importance of the objectives of risk management activities.*
- b) *Planning and monitoring of performance has also been achieved and implemented in the company's risk management document, namely the universe universe document.*
- c) *Management of each work performance activity has also been carried out within the company, each activity and activity for filling and producing risk management documents has been monitored and controlled by the risk management department in case the existing activities and activities are not in accordance with established standard procedures.*
- d) *Duties and responsibilities of each activity and process that is already held by each employee in accordance with the directors' orders.*
- e) *For the resources needed to carry out the process has been provided and adjusted to each employee in accordance with their responsibilities. This is done by one of them is the provision of personal computer facilities that are equipped with access to information needed by each employee.*
- f) *Communication has been carried out to ensure that every employee understands their duties and responsibilities in carrying out any existing risk management processes.*

The assessment process still go on to the next level because it exceeds 85%. The next assessment is level 2 on work product outputs. Below is the result:

TABLE IV. EDM03 WORK PRODUCT OUTPUTS ASSESSMENT

| EDM03 Ensure Risk Optimization      |  |       |        |
|-------------------------------------|--|-------|--------|
| Base Practices                      | Work Product Outputs                                   | Exist | Score  |
| EDM03.01 - Evaluate Risk Management | Risk Appetite Guidance                                 | Yes   | 100%   |
|                                     | Approved Risk Tolerance Level                          | Yes   | 100%   |
|                                     | Evaluation of Risk Management Activities               | Yes   | 22%    |
| EDM03.02 - Direct Risk Management   | Risk Management Policies                               | Yes   | 89%    |
|                                     | Key Objectives to be Monitored for Risk Management     | Yes   | 100%   |
|                                     | Approved Process for Measuring Risk Management         | Yes   | 100%   |
| EDM03.03 - Monitor Risk Management  | Remedial Actions to Address Risk Management Deviations | Yes   | 33%    |
|                                     | Risk Management Issues for the Board                   | Yes   | 100%   |
| Average Score                       |  |       | 80.55% |

Information from the EDM03 Capability Level 2 assessment Work Product Outputs:

- a) *The company already has guidelines or risk management standards.*
- b) *The company already has a standard tolerance for risks.*
- c) *The company has not yet carried out an evaluation of the activities carried out in the risk management process.*
- d) *Risk management policies have not been fully regulated and managed by the company's information technology department. At present risk management policies and standard procedures for risk management are still established and managed by the risk management department.*
- e) *For risk management activities, the company has a priority scale in categorizing the risks of the company.*
- f) *The company has a standard for measuring the success of the risk management process.*
- g) *Revamping activities to overcome deficiencies in risk management carried out by the company have been carried out spontaneously by each of the existing departments.*
- h) *The company has also carried out a risk management process for top level management or board management.*

From the results of the above assessment, for the EDM03 process it has a capability level of 2 processes that are managed with a percentage of 80% and status is largely achieved. The assessment process does not continue to the next process because in this process there are still processes that have not been fulfilled or carried out. Below is the process assessment table of EDM03:

TABLE V. EDM03 PROCESS ASSESSMENT RESULT

| EDM03 Ensure Risk Optimization |   |         |        |         |        |         |        |         |        |         |
|--------------------------------|---|---------|--------|---------|--------|---------|--------|---------|--------|---------|
| Goal                           | Ensure that IT-related enterprise risk does not exceed risk appetite and risk tolerance, the impact of IT risk to enterprise value is identified and managed, and the potential for compliance failures is minimised. |         |        |         |        |         |        |         |        |         |
| Level                          | Level 0   | Level 1 |        | Level 2 |        | Level 3 |        | Level 4 |        | Level 5 |
|                                |   | 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 Percentage              | 100%  | 100%    | 100%   | 80.55%  |        |         |        |         |        |         |

2) EDM04 Ensure Resource Optimization

Domain EDM04 talks about optimizing the resources owned by an organization or company by identifying resources and managing resources to support the company optimally to achieve the company's business goals. Based



on the assessment, this domain is on level 2 with 75% and status largely achieved. Following are the results of the EDM04 assessment in the company:

TABLE VI. EDM04 PROCESS ASSESSMENT RESULT

| EDM04 Ensure Resource Optimization |  |         |        |         |        |         |        |         |        |         |  |
|------------------------------------|--|---------|--------|---------|--------|---------|--------|---------|--------|---------|--|
| Goal                               | Ensure that the resource needs of the enterprise are met in the optimal manner, IT costs are optimised, and there is an increased likelihood of benefit realisation and readiness for future change. |         |        |         |        |         |        |         |        |         |  |
| Level                              | Level 0  | Level 1 |        | Level 2 |        | Level 3 |        | Level 4 |        | Level 5 |  |
| Rating Percentage                  | 100%   | 100%    | 100%   | 100%    | 75.00% |         |        |         |        |         |  |
|                                    |  | 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  |  |

The assessment process is not continued to the next stage because in this stage there are still processes that have not yet been fulfilled or carried out. Below is the failed conditions that company's EDM04 have:

a) *At this time, the company does not yet have and implement an enterprise architecture to link the company's goals and needs with the management of technology and information systems.*

b) *For the evaluation of the effectiveness of the management and provision of resources not yet carried out by the company, there is no specific activity for the evaluation of the SOP on resource management.*

### 3) APO013 Manage Security

APO013 domain aims to ensure and maintain that the impact of events due to incidents in information security is still at a level that can be tolerated by the company. This APO013 domain will define, operate and monitor information security management systems. Based on the assessment, this domain is on level 2 with 83.33% and status largely achieved. Here are the results of the APO013 assessment of the company:

TABLE VII. APO013 PROCESS ASSESSMENT RESULT

| APO013 Manage Security |  |         |        |         |        |         |        |         |        |         |  |
|------------------------|--|---------|--------|---------|--------|---------|--------|---------|--------|---------|--|
| Goal                   | Keep the impact and occurrence of information security incidents within the enterprise's risk appetite levels. |         |        |         |        |         |        |         |        |         |  |
| Level                  | Level 0  | Level 1 |        | Level 2 |        | Level 3 |        | Level 4 |        | Level 5 |  |
| Rating Percentage      | 100%   | 100%    | 100%   | 83.33%  |        |         |        |         |        |         |  |
|                        |  | 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  |  |

The assessment process is not continued to the next stage because in this stage there are still processes that have not yet been fulfilled or carried out. Below is the failed condition that company's APO013 have:

a) *Currently, the company has never conducted an audit and does not have an audit report regarding the security of its information.*

### 4) DSS03 Manage Problems

The DSS03 domain addresses the identification and classification of problems and their causes to provide solutions to the recurrence of incidents and provide mitigation plans and improvement recommendations. Based on the assessment this domain is on level 3 with

80% and status largely achieved. Here are the results of the DSS03 assessment of the company:

TABLE VIII. DSS03 PROCESS ASSESSMENT RESULT

| DSS03 Manage Problems |  |         |        |         |        |         |        |         |        |         |  |
|-----------------------|--|---------|--------|---------|--------|---------|--------|---------|--------|---------|--|
| Goal                  | Increase availability, improve service levels, reduce costs, and improve customer convenience and satisfaction by reducing the number of operational problems. |         |        |         |        |         |        |         |        |         |  |
| Level                 | Level 0  | Level 1 |        | Level 2 |        | Level 3 |        | Level 4 |        | Level 5 |  |
| Rating Percentage     | 100%   | 100%    | 100%   | 100%    | 90.91% | 80%     |        |         |        |         |  |
|                       |  | 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  |  |

The assessment process is not continued to the next stage because in this stage there are still processes that have not yet been fulfilled or carried out. Below is the failed conditions that company's DSS03 have:

a) *At this time, the company already has data about problems that have occurred. However, there is no process of sharing knowledge about it.*

b) *At present there is no standard assessment method to assess the effectiveness and suitability of the process of handling problems that exist within the company. The problem management process has never been assessed in detail by its effectiveness.*

### 5) DSS04 Manage Continuity

The DSS04 domain talks about making and planning to maintain the availability of information and business continuity in the event of a disruption or problem. Based on the assessment this domain is on level 1 with 63% and status largely achieved. Here are the results of the DSS04 assessment of the company:

TABLE IX. DSS04 PROCESS ASSESSMENT RESULT

| DSS04 Manage Continuity |  |         |        |         |        |         |        |         |        |         |  |
|-------------------------|--|---------|--------|---------|--------|---------|--------|---------|--------|---------|--|
| Goal                    | Continue critical business operations and maintain availability of information at a level acceptable to the enterprise in the event of a significant disruption. |         |        |         |        |         |        |         |        |         |  |
| Level                   | Level 0  | Level 1 |        | Level 2 |        | Level 3 |        | Level 4 |        | Level 5 |  |
| Rating Percentage       | 100%   | 63%     |        |         |        |         |        |         |        |         |  |
|                         |  | 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  |  |

The assessment process is not continued to the next stage because in this stage there are still processes that have not yet been fulfilled or carried out. Below is the failed conditions that company's DSS04 have:

a) *Because the company has just started making BCP, for practice, tests and reviews are currently not done.*

b) *Currently the company has not conducted training for its employees because the BCP has just been created and developed.*

c) *For now, the procurement of BCP recovery review has not been carried out because the company is still in the BCP development stage.*



C. Gap Analysis

Based on the assessment that have been done, there is 1 process at level 1 named DSS04 Manage Continuity, 3 processes at level 2 which are EDM03 Ensure Risk Optimization, EDM04 Ensure Resource Optimization and APO013 Manage Security while for level 3 there is 1 process named DSS03 Manage Problems. The following table shows the results of the current capability level based on COBIT 5:

TABLE X. CURRENT CAPABILITY LEVEL

| COBIT 5 Process | Capability Level |         |         |         |         |         | Capability Level Name |
|-----------------|------------------|---------|---------|---------|---------|---------|-----------------------|
|                 | Level 0          | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |                       |
| EDM03           |                  |         | V       |         |         |         | Managed               |
| EDM04           |                  |         | V       |         |         |         | Managed               |
| APO013          |                  |         | V       |         |         |         | Managed               |
| DSS03           |                  |         |         | V       |         |         | Established           |
| DSS04           |                  | V       |         |         |         |         | Performed             |

As the result of the assessment, the whole maturity level of IT governance of Insurance X is on level 2 (managed). After knowing the current capability level, the next step is to find out the capability level target that the company wants to achieve. To determine the target level of capability conducted interviews with the company, at this time the company wants all existing processes to be at level 3 (Established) where every process is documented in the form of SOPs and communicated to achieve efficiency within the company. Here is the graphic which will show the gap between the existing level of each process to the target level for each process:



Figure 7. Gap Analysis Chart

Seen in the picture above the gap between the current process level and the targeted process level. The largest gap value is 2 levels for DSS04 (Manage Continuity), the smallest is 1 level for EDM03 (Ensure Risk Optimization), EDM04 (Ensure Resource Optimization) and APO013 (Manage Security) and there is also a process that has reached the expected level namely DSS03 (Manage Problems) but not fully achieved.

D. Improvement Recommendations

In general, after the company makes improvements according to the recommendations of each process, the thing that needs to be the company's focus is to ensure that the recommendations for improvements made can solve the problems they have.

1) Align Plan Organize (APO)

The company is expected to be able to minimize and prevent IT operational disruptions, such as computer damage that can be minimized by implementing device maintenance SOPs, in addition the company is expected to also be able to minimize and prevent data leakage, data loss and data manipulation by increasing the capability level of the APO013 process (Manage Security), one of which is to ensure that SOPs on information systems and information technology have been created and run and periodically evaluated or audited for existing SOPs through data collection on information technology security issues and information systems.

2) Evaluate, Direct, Monitor (EDM)

Indirectly, by improving the management of information technology security and information systems, companies also improve the management of resources or processes EDM04 (Ensure Resource Optimization), in addition to improving the EDM04 process, companies need to have an Enterprise Architecture design that will facilitate companies managing technology and information systems which are owned. Another step that companies need to take to improve the EDM04 process is to conduct an evaluation of the SOP for optimizing the management of company resources. Furthermore, companies also need to improve the EDM03 (Ensure Risk Optimization) process so that any risk of problems that may occur within the company can be minimized and their effects prevented by optimizing this risk management. What the company can do to improve the EDM03 process is by having its own risk management from the IT department so that all IT risks that the company may face will be able to be managed, then after having IT risk management, the company needs to evaluate IT risk management in a way so that if there are deficiencies can be immediately corrected.

3) Deliver, Service and Support (DSS)

For the aspect of managing company problems, it can be said to be quite mature, but it still needs to be improved further so that the DSS03 (Manage Problems) process can achieve the expected capability level targets to the maximum. DSS03 improvement that needs to be done is the holding of communication from the knowledge gained after successfully overcoming the existing problems and also the company needs to find the right method for assessing whether the management of the problem that has been effective and efficient. The company's DSS04 (Manage Continuity) process also needs to be improved in order to achieve the expected maturity target, what the



company needs to do to improve this process include conducting training, testing and evaluation of its BCP (Business Continuity Plan), ensuring each employee understands and knowing about the BCP and evaluating the effectiveness of the BCP especially after the event and the recovery phase.

## 5. CONCLUSION

From the results of the evaluation of IT governance performance at Insurance X can be concluded that:

1. There are 5 selected COBIT 5 processes related to the state of information technology governance in Insurance X, namely EDM03, EDM04, APO013, DSS03 and DSS04. For the value of maturity, there is one process at level 1 (performed), namely DSS04 (Manage Continuity). Furthermore, there are three processes at level 2 (managed) namely EDM03 (Ensure Risk Optimization), EDM04 (Ensure Resource Optimization) and APO013 (Manage Security). Then there is one process that reaches level 3 (established), namely DSS03 (Manage Problems).
2. Maturity level of information technology governance in Insurance X of the whole process and capability level calculation is level 2 (managed).
3. The target value of the process capability expected by the company is level 3 (established), while the gap analysis results show that most of the selected processes have a gap of one level. To achieve the expected target level, companies can follow the recommendations for improvement with the COBIT 5 standard given by the author in the previous chapter.

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The preferred spelling of the word “acknowledgment” in America is without an “e” after the “g”. Avoid the stilted expression, “One of us (R. B. G.) thanks . . .” Instead, try “R. B. G. thanks”. Put sponsor acknowledgments in the unnumbered footnote on the first page.

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