

## Evaluation Human Resources Information System Using COBIT 5 Framework in Technology Insurance Company

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### ABSTRACT

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Perusahaan asuransi teknologi mengalami kendala pada HRIS (*Human Resources Information System*), yang belum adanya SOP dalam penanganan masalah proses dan resiko penanganan masalah server dan operasi data yang menyebabkan kejahatan kebocoran data pada system HRIS di dalam perusahaan. Permasalahan yang terjadi dilakukan evaluasi tata kelola menggunakan COBIT 5 sebagai framework. Terdapat empat domain yang terpilih yaitu EDM04, APO07, APO12, dan DSS03 berdasarkan proses Analisa COBIT 5 yang disesuaikan dengan permasalahan. Data dikumpulkan dengan melakukan wawancara kepada pihak bisnis, TI, manajemen dan direktur perusahaan. Hasil berada pada kapabilitas di level 1. Proses EDM04 mendapatkan rata-rata 73,44%, proses APO07 mendapatkan rata-rata 68,8%, proses APO12 mendapatkan rata-rata 57,36%, dan proses DSS03 mendapatkan 59,7%, dimana target perusahaan adalah level 2. Rekomendasi yang diberikan bertujuan untuk meningkatkan tingkat kapabilitas ke level yang ditargetkan perusahaan.

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### ABSTRACT

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*Technology insurance companies experience problems with HRIS (Human Resources Information System), where there is no SOP in handling process problems and the risk of handling server problems and data operations that cause data leakage crimes in the HRIS system within the company. The problems are evaluated for governance using COBIT 5 as a framework. There are four selected domains, EDM04, APO07, APO12, and DSS03, based on the COBIT 5 Analysis process, which is adjusted to the problem. Data were collected through interviews with business, IT, management, and company directors. The results are at capability level 1. The EDM04 process gets an average of 73.44%, the APO07 process gets an average of 68.8%, the APO12 process gets an average of 57.36%, and the DSS03 process gets 59.7%, where the target company is level 2. The recommendations aim to increase the level of capability to the level targeted by the company.*

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**INTRODUCTION**

Information technology (IT) is used in processing, processing, obtaining, compiling, manipulating, and storing data in various ways to produce higher-quality information (Bagus & Priyono, 2022). Quality information, such as relevant, accurate, and timely is used in the public interest to make good decisions in personal, corporate, and government interests. Information technology significantly influences aspects of people's lives because of the growing development of existing information technology (Darwas et al., 2021).

The current development of IT delivers evolved into an essential requirement for every company as a support in improving the significance and efficiency of its work methods. On the other hand, applying IT can also provide opportunities to increase the productivity of an ongoing business so that companies can develop and face market competition (Desy Ria & Budiman, 2021).

In achieving the implementation of IT within the company, it is necessary to manage information technology properly and correctly so that the company can feel the usefulness of the presence of IT. Not only that, good IT management will produce optimal information within the company so that goals can be achieved (Sihotang & Lumbantoruan, 2018). The application of this information technology has undoubtedly been carried out in many companies, both in assisting business processes and work processes. One company that has implemented information technology in its work process is this company that has become the object of research.

This company is a modern startup company engaged in technology insurance in Indonesia. This company provides a place to operate insurance from other companies and connects them with brokers and employees of the insurance. In carrying out business processes, the company relies heavily on information technology in its daily activities, namely the Human Resource Information System. In carrying out its business processes, the company relies heavily on information technology in its daily activities, namely HRIS applications using servers that assist companies in carrying out company operations, such as Google Cloud and Firebase Server, in accommodating company customer data and are a place to carry out insurance management related to customers. It is a business activity.

Based on company data, several problems have been a factor in the failure of several HRIS implementation projects. These problems include focusing on the company's existing risk management and the need for HRIS applications. This problem is mainly caused by the company's inability to manage servers from Google Cloud and Firebase to accommodate the surge from the company's HRIS users regarding company IT infrastructure resources. This problem is caused by the absence of SOPs and special divisions that handle risk management. In addition, there is no SOP for the management and maintenance of servers owned, which impacts company data security because all company employees are given access to company data in processing company HRIS applications.

**Table 1. The problems that occur**

No.	Problem	Impact	Focus Areas	Frequency
1	There are no SOPs and special divisions in dealing with risk management related to server problems	Takes more time (delay) if server problems occur.	Resources Management	Medium
2	There is no SOP for server management and maintenance	There is potential for criminal acts by company employees such as misuse of user data and information in the company's HRIS application when the server is experiencing problems.	Risk Management	Medium

The problems that occur in Table 1 can be seen that the company needs an audit of the IT governance that exists in the company. The problems that occur impact not only the company's IT performance but also business performance which will continue to decline. Therefore, companies with HRIS applications as systems that are used daily need to evaluate this service.

The selection of governance implementation will be evaluated, the maturity level of governance that has been carried out, and the problems encountered in it. To carry out this evaluation, standards are needed that help validate the activity—one of which is an assessment standard using the COBIT 5 framework (Payong, 2020). COBIT 5 is a framework or guideline for the governance and management of IT and all related to meeting the needs of stakeholders related to information and technology. COBIT 5, in this case, helps companies achieve goals for enterprise IT management. This means creating optimal IT value by maintaining a balance between the benefits of IT and minimizing the risks involved in using resources (Harahap et al., 2020). Companies must evaluate existing IT governance using COBIT 5 as a framework for problems and focus areas within the company. Evaluation of IT governance will later be focused on risk management and management of company-owned resources, which are problems in the company.

## RESEARCH METHOD

### Research Stage

The framework used to research measuring this company's governance capability is in figure 1. The following are the stages in the research framework (Sanjaya & Fianty, 2022):

#### 1. Pre-interview

This stage is the initial stage in conducting research. At this stage, a pre-interview was conducted with the company by providing questions regarding the initial description of the company. The results of this process generate input regarding the problems and background of the company. In the initial stages of this process, it was carried out via Zoom as the medium used.

#### 2. COBIT 5 Analysis Process

COBIT 5 analysis will use the results of the pre-interview, namely company problems and background, by determining Enterprise Goals, Mapping Enterprise Goals to IT-related Goals, Mapping IT-related Goals to the COBIT 5 process and making RACI charts and audit documents following the COBIT 5 process selected (ISACA, 2012).

#### 3. Data collection

The next stage in conducting an audit is data collection. This stage collects valid data or evidence by conducting interviews and literature studies following the audit and company documents so that information related to the company can be researched and studied. Interviews were conducted with the company representing IT, business, and its CEO. After obtaining the data, an evaluation will be carried out according to the standards in COBIT 5.

#### 4. COBIT 5 Process Capability Level Measurement

The level of capability for each process has been determined in a company, and then a gap analysis is carried out to discover conclusions that can be used as a basis for suggestions and improvements for companies at the level of IT process capability if there is a capability level gap that is far from the required expectations, at this stage the research has entered the stage of documenting audit documents and then uniting them into one report, which will then calculate the level of capability along with the results of data inspection carried out in the previous stage. (Pratama Arthananda, 2021). The results of this stage are conclusions, capability level, and gap investigation used as suggestions and advancements for the company (Zainuddin et al., 2020).

5. Audit Result Report

At this stage, it enters the final research stage in evaluating a company's information technology governance. This stage will use the results of the previous stages to make recommendations and improve and raise the level if there is a capability level gap resulting from an audit assessment. The results of this stage will produce recommendations and improve each process for the company and recommendations for level improvement that can be used for the company.

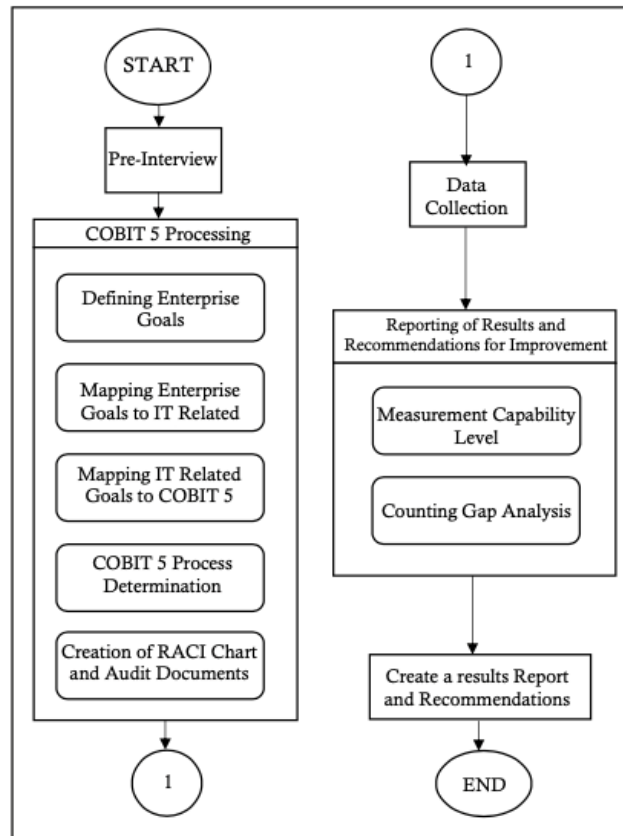


Figure 1. Research Workflow

**COBIT 5 Framework**

ISACA clarifies that the basis for the most recent ISACA guidelines that cover IT governance and management is called COBIT 5. COBIT 5 offers a framework for managing the organization and achieving IT goals. By considering IT business and functional duties and considering IT-related interests, COBIT 5 can help IT structure and manage the entire organization inside the company. Companies of all sizes, from tiny to medium or medium to giant, can adopt COBIT 5 because it is generic (Information Systems Audit and Control Association., 2012).

**System Development or Computing Method**

Sampling was done by purposive sampling. The sampling was carried out by taking one from the business side, one from the information technology side, and one from the directors or CEO side of the company. This company has a total of 22 employees working in the company (Andrade, 2021).

**Data Analysis Technique**

1. Capability Level Measurement

The model determines which processes are already running as expected and which processes are still lacking, so specific recommendations are needed. This measurement also describes the

performance level of each COBIT 5 process based on the company. This measurement will assess each process activity carried out on average to produce a value for each sub-process in the COBIT 5 process. This value will be recalculated on the value of each sub-process which will later become the basis for viewing the rating scale to determine the COBIT process. 5 can continue or not to the next level (Imany et al., 2019)

2. Rating Scale

Knowing the extent to which the company's achievement determines the capability level. Each process will be assessed, which results in 4 levels of assessment (Mufti & Mursityo, 2017).

3. Gap Analysis

Gap analysis determines the steps taken to move from the current condition to the desired condition or achieve the target. Gap analysis can also be interpreted as comparing current performance with the potential performance expected by the company. As a result, gap analysis is expected to become a business evaluation tool that focuses on the company's current performance gap with that which has been previously targeted (Setiawan & Fernandes Andry, 2019).

**RESULTS AND DISCUSSION**

**COBIT 5 Analysis Process**

Table 2 determines the Enterprise Goals process of the company by analyzing the company's vision, mission, and goals adjusted to the existing Enterprise Goals, namely 17 in the COBIT 5 framework.

**Table 2. Analysis Process**

Company Vision, Mission and Goals	Code	COBIT 5 Enterprise Goals	BSC Dimension (Balanced Scorecard)
Make it easier to provide a place for other companies, tiny to medium-sized companies, to facilitate their insurance operations through an application as a product.	7	Business service continuity and availability	customers
	17	Product and business innovation culture	Learning and Growth
The vision of this company is to make a <i>de facto place (platform)</i> for small to medium companies in Indonesia who are searching for appropriate insurance policies for employees in these small to medium companies.	6	Customer-oriented service culture	customers
	14	Operational and staff productivity	Internals
The mission of this company is that wants to provide opportunities to enable workers in Indonesia to have better access to their insurance through information technology.	13	Managed business change programs	Internals

After determining Enterprise Goals, the following process is to map Enterprise Goals into IT-related Goals. This mapping process is carried out so that the selected Enterprise Goals can be seen in the technological goals related to the company. The results of this mapping can be summarized as follows in Table 3 below.

**Table 3. IT-related Goals**

Code	IT-Related Goals
1	Alignment of IT and business strategy
3	Commitment of executive management for making IT-related decisions
4	Managed IT-related business risk
7	Delivery of IT services in line with business requirements
8	Adequate use of applications, information, and technology solutions
9	IT agility
10	Security of information, processing infrastructure and applications
13	Delivery of programs delivering benefits, on time, on budget, and meeting requirements and quality standards
14	Availability of reliable and useful information for decision making
16	Competent and motivated business and IT personnel
17	Knowledge, expertise, and initiatives for business innovation

The next step in determining the selected COBIT 5 process after mapping Enterprise Goals to IT-related Goals is mapping IT-related Goals to Enabler Goals. The following is Table 4 below the results of the mapping obtained.

**Table 4. Enablers Goals**

IT-related Goals	Enabler Goals
1	EDM01, EDM02, APO01, APO02, APO03, APO05, APO07, APO08, BAI01, BAI02
3	EDM01, EDM05
4	EDM03, APO10, APO12, APO13, BAI01, BAI06, DSS01, DSS02, DSS03, DSS04, DSS05, DSS06, MEA01, MEA02, MEA03
7	EDM01, EDM02, EDM05, APO02, APO08, APO09, APO10, APO11, BAI02, BAI03, BAI04, BAI06, DSS01, DSS02, DSS03, DSS04, DSS06, MEA01
8	APO04, BAI05, BAI07
9	EDM04, APO01, APO03, APO04, APO10, BAI08
10	EDM03, APO12, APO13, BAI06, DSS05
13	APO05, APO07, APO11, APO12, BAI01, BAI05
14	APO09, APO13, BAI04, DSS03, DSS04
16	EDM04, APO01, APO07
17	BAI08, EDM2, APO01, APO02, APO04, APO07, APO08, BAI05

In table 6, 34 COBIT 5 processes are selected based on mapping with previously selected IT-related Goals. However, only four processes were selected based on the problems being faced and which have been discussed by the company at this time. The following are the 4 COBIT 5 processes selected to measure and evaluate the information technology governance processes. EDM04 (Ensure Resource Optimization), was taken because it focuses on the absence of a special division that handles risk management related to server problems.

- EDM04 (Ensure Resource Optimization) was taken because it focuses on the absence of a special division that handles risk management related to server problems.
- APO07 (Manage Human Resource) is taken based on the company's wishes to know how far employees are on the values.
- APO12 (Manage Risk) was taken because the management and maintenance of the server do not have an SOP if a problem occurs.
- DSS03 (Manage Problems) was taken because the company wanted to know how far the level of problem management was carried out, especially if there were server problems and others, such as not having an SOP for handling problems.

**Data Collection**

These interviews were conducted with three informants taken based on the COBIT 5 process, namely EDM04 – Ensure Resource Optimization together with the company's business,

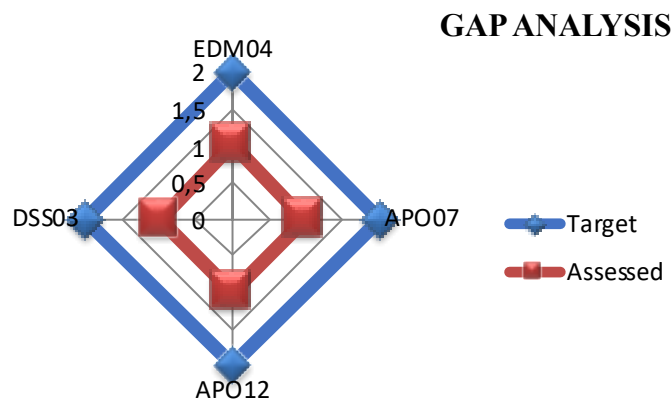
APO07 - Manage Human Resources together with the company's CEO, and APO12 - Manage Risk and DSS03 - Manage Problems together with the company's IT.

**Measurement of COBIT 5 Process Capability Level**

The process will be made into a document in the form of questions taken and summarized from COBIT 5. The average for the separation process is EDM04 at 73.44%, APO07 at 68.80%, APO12 at 57.36%, and DSS03 at 59.70%. After measuring and obtaining the average capability level measurement results in each selected COBIT 5 process for the company, a gap analysis measurement will then be carried out. The level of the current condition of the company was obtained through interviews with company sources, namely from the business, IT, and company CEO. At the same time, the expected conditions were also obtained through interviews with the company's CEO, who is expected to be at level 2. The following Table 5 below is a gap analysis of each process that has been selected and measured.

**Table 5. Gap Analysis Result**

Process	Capability Level		Gap Analysis
	Target	Assessed	
EDM04	2	1	1
APO07	2	1	1
APO12	2	1	1
DSS03	2	1	1



**Figure 2. Gap Analysis Graph**

The graph seen in Figure 2 shows the gap analysis comparison between the current conditions and the conditions expected by the company showing that of the four selected processes, there are still gaps or a need to follow the expectations desired by the company. The expectations or targets of the company are at level 2 while the current condition of the company is at level 1, which means there is a gap of 1 level from each of the selected COBIT 5 processes.

**Reporting**

The audit report contains findings and impacts that can be generated recommendations for improvement. The last stage in reporting the results of the audit carried out is to follow up on the recommendations that have been given before, both recommendations for improvement and recommendations for improvement of each process that has been selected and assessed.

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## CONCLUSION AND RECOMMENDATION

### Conclusion

The conclusions that follow arise on research on how to assess company level of IT governance capability using COBIT 5 that these processes EDM04 - Ensure Resources Optimization, APO07 - Manage Human Resources, APO12 - Manage Risk, and DSS03 - Manage Problems were selected based on the company's present difficulties. The results of measuring the capacity level from these procedures are currently below the level 2 target that the company set as its expectations. The COBIT 5 process capability level chosen by the company is measured, resulting in a gap value of 1 level, although this company expects its level of competence to be at level 2.

After assessing the level of competence in each of the chosen processes, the root causes of the problems are discovered. The discoveries of the underlying causes of these issues are followed by suggestions for change to stop problems from happening again at the company. The same applies to suggestions for enhancing the use of current information technology at the company based on each activity performed to the company's expected target level. The company has agreed to and accepted suggestions for improvement; in this case, the APO12 - Manage Risk and DSS03 - Handle Trouble procedures, which have the lowest values of the selected processes, are the first things the company should implement. The process will be completed by January 2023; in contrast, the processes for EDM04, which ensures resource optimization, and APO07.

### Recommendation

For further research and to obtain more optimal results, the following recommendations can be suggested: conduct an IT resource management audit at a similar company to add the domains selected in this study. The selected domain should not be reduced but can be added according to the conditions of the company to be evaluated.

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