

Measurement of Capability Level Using COBIT 5 Framework (Case Study: PT Permodalan Nasional Madani)

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ABSTRAK

PT Permodalan Nasional Madani (PNM) adalah Badan Usaha Milik Negara (BUMN) Indonesia yang bergerak di bidang jasa keuangan. PT PNM bertujuan untuk membantu pengembangan usaha mikro, kecil, menengah dan koperasi. PT PNM menggunakan sistem aplikasi PNM Digi dalam menjalankan perusahaan. Dengan permasalahan yang ada, PT PNM perlu melakukan evaluasi tata kelola TI dengan melakukan audit teknologi informasi. Dalam melakukan audit diperlukan kerangka kerja yaitu COBIT 5 untuk mengukur tingkat kapabilitas yang dimiliki oleh perusahaan. Hasil pengukuran tingkat kapabilitas ada di level 1, yaitu dengan pencapaian nilai rata-rata proses EDM03 sebesar 59%, proses APO12 sebesar 67%, proses APO13 sebesar 52%, dan proses DSS05 sebesar 53%. Tingkat kesenjangan sebesar 1 level dengan perbandingan kondisi saat ini dengan kondisi yang diharapkan perusahaan, yaitu di level 2. Rekomendasi diberikan untuk memperbaiki tata kelola teknologi informasi perusahaan.

ABSTRACT

PT Permodalan Nasional Madani (PNM) is an Indonesian State-Owned Enterprise (BUMN) engaged in financial services. PT PNM aims to assist the development of micro, small, and medium enterprises and cooperatives. PT PNM uses the PNM Digi application system in running the company. With the existing problems, PT PNM needs to evaluate IT governance by conducting an information technology audit. In conducting an audit, a framework, namely COBIT 5, is needed to measure the level of capability the company possesses. The results of measuring the capability level are at level 1, namely by achieving an average score of 59% for the EDM03 process, 67% for the APO12 process, 52% for the APO13 process, and 53% for the DSS05 process. The level gap is 1 level with a comparison of current conditions with the conditions expected by the company, namely at level 2. Recommendations are given to improve corporate information technology governance.

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INTRODUCTION

Almost all companies, institutions or organizations in this era have used technology to carry out their business processes (Elly and Halim, 2018). Information Technology (IT) has been widely used by various organizations (including government institutions) throughout the world. Utilization of the implementation of communication and information technology in the process of running government (e-government) will increase the efficiency, effectiveness, transparency and accountability of government administration. Implementation of information technology is needed to support the organization in making decisions on the running of the organization. Information Technology can no longer be considered as a support for the running of the organization, but Information Technology has become a major part of an organization in carrying out its business processes (Balqis et al., 2021).

Good use of information technology must of course be supported by information technology governance so that it can align information technology with the vision and mission of the organization (Setiawan and Andry, 2019). The utilization of information technology governance can be said to be good if it goes as expected. Information technology governance has several useful benefits for companies, such as helping companies organize organizational performance and infrastructure, convincing organizations that information technology can support strategic goals, maximize IT investments, and appropriately manage IT-related risks and opportunities (Prawoto, 2019) (Megansyah and Arifnur, 2020). To ensure that information technology governance has been implemented correctly and appropriately, an information technology audit process must be carried out (Setiawan and Andry, 2019). The information technology audit process is carried out by examining all processes, assets, and controls that exist in various layers of the organization so as to ensure the extent to which the organization follows applicable standards or provisions (Irhandayaningsih, 2020). COBIT stands for Control Objective for Information and Related Technology. COBIT is a targeted guide for IT management and governance to assist auditors, management, and use of system governance in connecting gaps with business risks, control requirements, and technical issues (Amalia et al., 2020).

PT Permodalan Nasional Madani (PNM) is an Indonesian State-Owned Enterprise (BUMN) engaged in financial services. PT Permodalan Nasional Madani aims to assist the development of micro, small, and medium enterprises and cooperatives. Based on the results of the pre-interview with the head of the development and supervision division of PT Permodalan Nasional Madani, namely Mr. Indrajaya, several problems were found that hindered the running of this business service, such as problems in handling to anticipate obstacles that may occur and problems in terms of employee capabilities. For the handling part in anticipating obstacles, the company currently does not have proper procedures or SOPs in dealing with obstacles, especially with regard to the PNM Digi application system. For the employee capabilities section, the company currently does not have procedures or SOPs for using the PNM Digi application system. for employees where human errors occur by employees in using application systems such as for attendance processes and applying for permits or leave so that the processes carried out are not inputted into the company's system.

The loss experienced by the company related to the absence of a handling SOP for problems with the system is that the company must review, control, and improve employee attendance data so that there are no problems in reviewing employee performance at the end of the month. The problem does not have a handling SOP for system constraints, so the impact is long resolved by troubleshooting time. The focus area for this problem and impact is risk management. Then the second problem is needing more details on the use of the application system and the need for socialization and training for employees. The impact is a need for more employee capability to run the application system. The area that focuses on this problem and its impact is resource management.

Based on the problems that occur and the resulting impact will be an obstacle for the company to achieve its vision and mission. The implementation of IT that has been carried out is still not running optimally, which requires an evaluation of IT governance using COBIT 5 as an evaluation guide to overcoming existing problems by measuring the information technology governance that has been implemented to produce a level of capability and solutions to problems that have been implemented (Setya and Wella, 2018). COBIT 5 was chosen because the framework has broad coverage in the domain within it by covering the focus on the problems the company is currently facing (Fitriani and Ginardi, 2018) so that the results that will be obtained in the form of recommendations and gaps that occur will be more accurate and can guide the implementation of IT at PT PNM in line with the vision, mission, a corporate strategy that has been expected.

RESEARCH METHODS

The research method that will be used in this study is the COBIT 5 method by applying the stages of an information technology audit. In addition, this study also uses a qualitative approach by collecting data through interviews and analysis of ongoing business processes (observation). The research framework is a process flow in research that is useful as a guide in carrying out each process or stage based on the stages of an information system audit, namely planning, field inspection, reporting, and follow-up (Sanjaya and Fianty, 2022).

Figure 1 explains the research framework. At the planning stage, input is needed which is obtained from conducting pre-interviews with PT Permodalan Nasional Madani (Mr. Indrajaya). After obtaining the required input, the process of determining the selected COBIT 5 process will then be carried out, making RACI charts, and preparing audit documents. The results of this stage are the selected COBIT 5 processes, RACI charts, and audit documents.

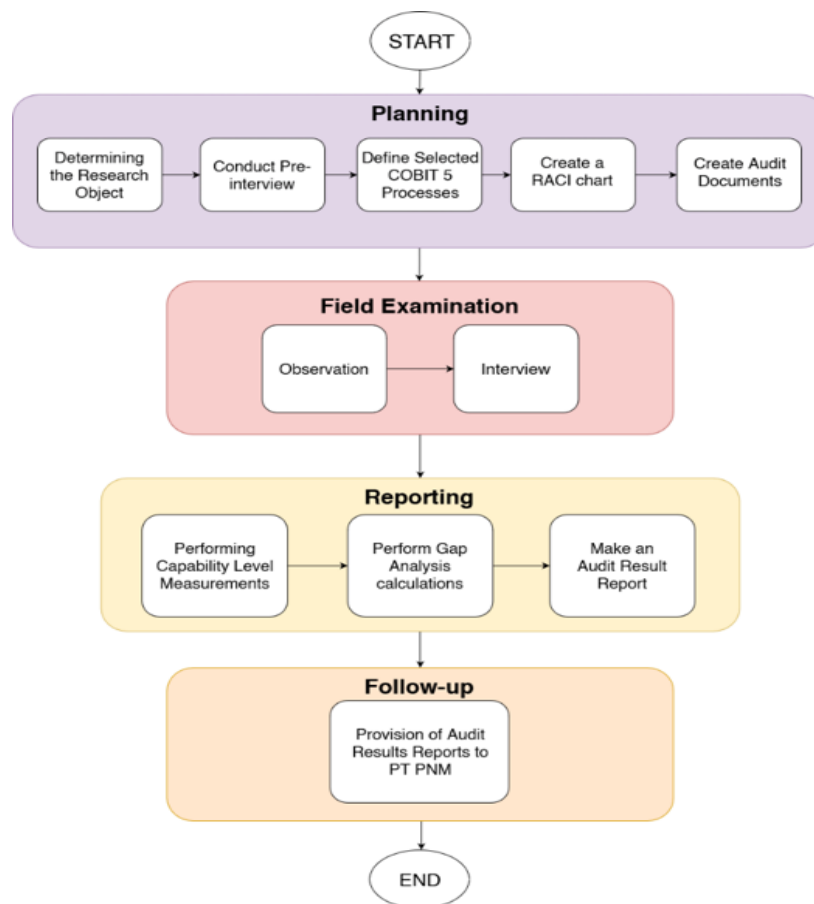


Figure 1. Research Framework

At the field inspection stage, input is needed which is obtained from company documents and also audit documents that have been made at the planning stage. After obtaining the necessary input, the process of analysis and observation of company documents will then be carried out as well as conducting interviews with parties from the company. The results of this stage are in the form of an assessment of the answers to the questions in the audit documents which are supported by the results of analysis and observation of company documents.

At the reporting stage, input is required which is obtained from the results of the assessment contained in the audit documents. After obtaining the necessary input, the capability measurement process, gap analysis, and audit report preparation will be carried out. The results of this stage are in the form of an audit report containing findings, impacts if not implemented, levels of gaps, and recommendations for improvement for the company (PT Permodalan Nasional Madani).

In the last stage, namely follow-up, input is needed which is obtained from the audit report that was made in the previous stage. After obtaining the necessary input, the audit report submission process will then be carried out by the company. The results obtained from this stage are that later the company can improve any deficiencies that exist in the company so that it can achieve the level of expectation desired by the company.

The population used in this study were employees of PT Permodalan Nasional Madani, part of the TIF division, provided that employees who are actively working and registered at PT Permodalan Nasional Madani for the October 2022 period, male and female gender, and age between 30 years to 50 years. The period required for data collection in this study is from January 1, 2022, to October 28, 2022. The data collection techniques that will be used in this study are interviews and observation.

The data analysis technique consists of capability level analysis and gap analysis. Measurement of capability level or level of capability in this study was carried out by looking at the results of the assessment of the answers that were asked during interviews for all activities of the selected COBIT 5 process to the resource persons. This study was carried out by comparing the capability level value expected by PT Permodalan Nasional Madani with the current state capability level value based on capability calculations that have been carried out. The results of this gap analysis will later be used in providing recommendations for increasing the level for the company to achieve the expected level.

RESULTS AND DISCUSSION

The research object to be examined in this study is PT Permodalan Nasional Madani which is specifically focused on several internal parts of the company. In conducting this research, there was once a pre-interview as a method of collecting initial data regarding the object to be studied (PT Permodalan Nasional Madani). The pre-interview itself was conducted directly with the head of the development and supervision division of PT Permodalan Nasional Madani, namely Mr. Indrajaya, and was carried out directly at his house, via WhatsApp and zoom.

Through the results of identifying company goals with enterprise goals through the author's interview with Mr. Indrajaya, the main director, director of operations and information technology division, the goals and objectives of the company were obtained, namely becoming a leading financing institution in increasing added value in a sustainable manner for Micro, Small, Medium Enterprises and Cooperatives (UMKMK), increasing the creativity and productivity of employees to achieve the best performance in the development of the Micro, Small, Medium Enterprises and Cooperatives (UMKMK) sector, and improving business feasibility and entrepreneurial ability of Micro, Small, Medium Enterprises and Cooperative (UMKMK) business actors.

The process of determining the Enterprise Goals of PT Permodalan Nasional Madani is carried out by analyzing the company's supporting aspects such as the company's vision, mission, goals, and business strategies according to the seventeen Enterprise Goals in the COBIT 5 framework. There are 6 identified Enterprise Goals, which can be seen in Table 1 below.

Tabel 1. Identified Enterprise Goals

Code	Enterprise Goals
01	Stakeholder value of business investments
07	Business service continuity and availability
11	Optimisation of business process functionality
14	Operational and staff productivity
16	Skilled and motivated people
17	Product and business innovation culture

The selection of the COBIT 5 process which became the main focus was carried out with Mr. Indrajaya as the head of the development and supervision division of PT Permodalan Nasional Madani through direct discussions. The COBIT 5 process chosen by Mr. Indrajaya can be seen in Table 2 below.

Tabel 2. COBIT 5 Processes Selected by Mr. Indrajaya

COBIT 5 Process	Goal
EDM03 (Ensure Risk Optimization)	Ensuring that IT-related company risks in the PNM Digi application system are within tolerance limits, the impact of IT risks on the company is identified and managed, and minimizes the potential for failure regarding IT compliance.
APO12 (Manage Risk)	Integrating IT risk management in the company's PNM Digi application system with Enterprise Risk Management (ERM) or enterprise risk management, as well as balancing the costs and benefits of risk management corporate IT
APO13 (<i>Manage Security</i>)	Maintain impact and occurrence application system information security incidents within the company's tolerance level.
DSS05 (Manage Security Services)	Minimizing the business impact of application system vulnerabilities and information security incidents on the company's operational processes.

RACI chart available at PT Permodalan Nasional Madani for each selected COBIT 5 process. Detail of IT process, audit location, description of IT process, audit date, auditor's name, audit objectives, interview questions, assessment, recommendations for improvement, and approval sheet on each of the selected COBIT 5 processes (EDM03, APO12, APO13, DSS05).

EDM03 process is 59% which is included in the Largely achieved criteria so the EDM03 process at PT Permodalan Nasional Madani is at level 1. APO12 process is 67% which is included in the Largely achieved criteria so the APO12 process of PT Permodalan Nasional Madani is at level 1. APO13 process is 52% which is included in the Largely achieved criteria so APO13 process at PT Permodalan Nasional Madani is at level 1. DSS05 process is in the percentage of 53% which is included in the Largely achieved criteria so the DSS05 process at PT Permodalan Nasional Madani is level 1. The results of measuring capabilities in the selected COBIT 5 process, the results of measuring capabilities in the COBIT 5 process in Table 3 below. Table 4 is the gap analysis.

Tabel 3. Capability Measurement Results

No	Domain	Level	Scale Rating
1	EDM03	1	PA1.1 -
2	APO12	1	PA1.1 -
3	APO13	1	PA1.1 -
4	DSS05	1	PA1.1 -

Tabel 4. Gap Analysis

No	Process	Level		Gap Analysis
		Assessed	Target	
1	EDM03	1	3	2
2	APO12	1	3	2
3	APO13	1	3	2
4	DSS05	1	3	2

The gap analysis graph can be seen in Figure 2 below. Recommendations for Improvement EDM03 are in Table 5.

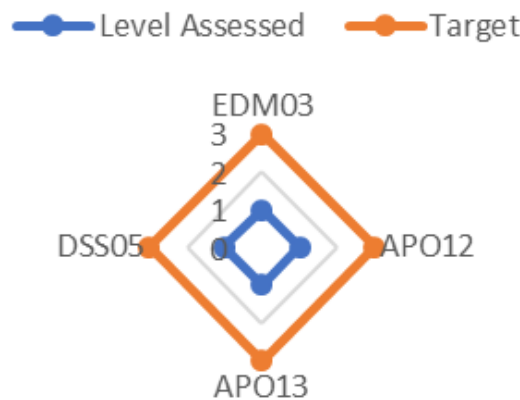


Figure 2. Radar Gap Analysis Graph

Tabel 5. Process findings and impact EDM03

Sub-process	Activity	Recommendation
EDM03.01	1	Evaluating and defining the current risk management guidelines and policies by carrying out methods of collecting, classifying, and analyzing data on IT risks and threats, both internal and external, along with their impacts, opportunities, and mitigation.
EDM03.01	4	Collect and evaluate risk factors for application systems that will be anticipated by the company so that they can make strategic decisions.
EDM03.02	5	Collecting, classifying, and analyzing data on IT risks and threats from both internal and external along with their impacts, opportunities, and mitigation.
EDM03.03	2	Perform regular updates and control of risk management, as well as report the risks that occur to all.

CONCLUSION AND SUGGESTION

Conclusion

The level of capability with COBIT 5 with the EDM03, APO12, APO13, and DSS05 processes found a level gap between the company's current condition and the expected condition. With a sizeable resulting gap of 1 level, the expected capability level condition is at level 2, and the current conditions are at level 1. There are findings and impacts found after measuring the four selected processes. Recommendations for improvements are given to guide the company in improving IT management governance. The result was discussed with relevant sources, accepted, and approved for trials and internal company discussions to carry out the recommendations. In this case, the recommendations should be a priority for the company to make improvements and improvements, namely SOP as a reference in the APO12.03 process. Determination of the latest

risk management guidelines and policies by carrying out methods of collecting, classifying, and analyzing data on IT risks and threats from both internal and external along with impacts, opportunities, and mitigation with the EDM03.01 sub-process.

Suggestion

Companies need to make efforts to increase their level of capability by completing documents and SOPs following the recommendations given. Moreover, for measuring the level of capability related to company problem activities with different domains, it will be better if the company can continue the assessment carried out to assess all processes provided by COBIT 5. Thus the company can improve the quality of corporate governance to be even better.

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