Evaluation of Information Technology Governance Using the Cobit 5 Framework at Putra Abadi University Langkat

Amran Manalu, Zulham Sitorus, Rian Farta Wijaya

Abstract

Information Technology (IT) governance plays an important role because IT is now not only a supporting factor, but also a strategic element in improving efficiency and supporting the achievement of organizational goals. Universitas Putra Abadi Langkat (UNIPAL) has utilized various IT-based systems such as Academic Information Systems and E-Learning to support the institution's main processes. However, the results of interviews indicate challenges in the implementation and oversight of IT, insufficient optimization of resources, and an imbalance between investment costs and the results obtained. This study aims to assess the level of IT governance capability at UNIPAL using the COBIT 5 framework because this framework emphasizes resource optimization, in line with institutional needs. The evaluation was conducted on 16 relevant COBIT 5 domains, including EDM02, EDM04, APO01, APO07, BAI01, DSS01, and MEA01. The analysis results show that all domains are at Level 1 (Partially Achieved), except for APO01, which reaches the Largely Achieved category, although overall it remains at Level 1. The average capability level obtained is 0.30315 (30.315%). Although basic practices (Base Practice) are mostly running well, evidence of documentation (Work Product) is generally not available. The expected target is Level 2, resulting in a gap of 1.69685. Therefore, it is recommended that UNIPAL strengthen documentation, establish formal policies, and improve IT oversight and utilization to achieve a more optimal level of capability.

Keywords: IT Governance, COBIT 5, Evaluation, Capability Level, Putra Abadi University Langkat.

Amran Manalu[1]

[1]Information Technology, University Pengembangan Panca Budi, Indonesia e-mail: amranmanalu@gmail.com

Zulham Sitorus[2], Rian Farta Wijaya[3]

[2,3]Lecturer Information Technology, University Pengembangan Panca Budi, Indonesia e-mail: zulhamsitorus@gmail.com[2], rianfartawijaya@gmail.com[3]

2nd International Conference on Islamic Community Studies (ICICS)
Theme: History of Malay Civilisation and Islamic Human Capacity andHalal Hub in the Globalization Era
https://proceeding.pancabudi.ac.id/index.php/ICIE/index

Introduction

IT Governance is a corporate governance discipline that focuses on IT systems, performance, and risk management (Rado Omesaad, AL Fanah Muna, 2019). Effective governance promotes the achievement of business objectives (Wautelet, 2019), while poor governance can hinder it, even potentially causing failure and increased exposure to IT risks (Bart, 2019). Higher education institutions (HEIs) are among those that greatly need IT and communication support to manage resources effectively and efficiently in order to face competition (Bianchi and Sousa, 2016).

Putra Abadi Langkat University (UNIPAL) has utilized various IT applications, including Academic Information Systems and E-Learning, as core business processes to realize the institution's vision and mission. However, based on preliminary findings and interviews, UNIPAL faces several crucial issues, including suboptimal implementation, utilization, and supervision of IT, high investment costs that are not proportional to the results obtained, and constraints in optimizing resources, particularly in the Academic Information System. In addition, the quality of human resources (HR) in the IT field is still not optimal, and the management of the IT management framework has not been running effectively. To overcome these problems, formal procedures are needed that can be used to analyze resource efficiency and assess overall IT performance characteristics. In this case, this study chose the COBIT 5 framework because it is considered the best practice in IT Governance and Management. In particular, COBIT 5 focuses on the goal of resource optimization governance, which is directly in line with the main problems faced by UNIPAL.

This study aims to design an Information Technology (IT) governance framework at Universitas Putra Abadi Langkat (UNIPAL) using the COBIT 5 framework across 16 relevant process domains, such as EDM02, EDM04, APO01, APO07, BAI01, DSS01, and MEA01. Through the application of this framework, the study is expected to produce a targeted IT governance design and provide suggestions, advice, and recommendations for improvements to enhance the effectiveness, efficiency, and suitability of IT governance with the principles of good IT governance within UNIPAL.

This study is expected to make a real contribution to the organization, particularly in understanding the importance of implementing good and measurable IT governance. The results of this study can be used as a reference for UNIPAL in improving management effectiveness, service quality, and optimization of IT resource utilization. In addition, this study can also provide strategic recommendations to strengthen IT governance supervision, planning, and implementation so that it can support the achievement of the institution's vision and mission in a sustainable manner.

Literature Review

IT governance has been identified as a key paradigm in directing and controlling the use of IT in organizations. IT is no longer seen as a supporting resource, but has become an essential strategic resource for corporate strategic management to achieve its goals. Therefore, effective IT governance is crucial for promoting the achievement of business objectives, while poor governance has the potential to cause failure and increase IT risk exposure. IT Governance is a corporate governance discipline that focuses on IT systems, performance, and risk management.

Higher education institutions, such as Universitas Putra Abadi Langkat (UNIPAL), are also required to manage IT resources effectively and efficiently in order to remain competitive. To achieve good IT governance, various frameworks have been developed, including the International Organization for Standardization (ISO), IT Infrastructure Library (ITIL), Project Management Body of Knowledge (PMBOK), and Control Objectives for Information and Related Technology (COBIT). COBIT 5 is a framework of practices developed by ISACA for Enterprise Governance and IT Management. This framework was chosen because many of its practices are aligned with other frameworks, and because it has a specific Enterprise Goal of

resource optimization. This point is highly relevant and appropriate to the issues faced by UNIPAL.

Research Methodology

COBIT 5 is a framework of good practices for Corporate Governance and IT Management developed by ISACA. COBIT 5 assists organizations in the governance and management of their corporate IT. This framework was chosen because the resource optimization domain in the COBIT 5 Enterprise goal is highly relevant to the issues faced by UNIPAL.

Based on stakeholder needs and resource optimization objectives, mapping was conducted from enterprise goals to IT-related goals and continued to COBIT 5 Process. This process resulted in 16 process domains that were evaluated because they were considered to have a significant impact on IT-related goals with a higher primary level: EDM02, EDM04, APO01, APO03, APO04, APO07, APO08, APO10, APO13, BAI01, BAI02, BAI04, DSS01, DSS03, DSS04, and MEA01.

3.1 Work Stages and Data Collection

The method used for data collection was the Process Assessment Model (PAM) in COBIT 5. Data collection was conducted through observation, interviews, literature studies, and questionnaires. 1) Observation: Conducted directly using a non-participatory method. 2) Interviews: Conducted with the Vice Chancellor, relevant staff, and IT service users to obtain information about the vision, mission, policies, and issues of IT management. 3) Questionnaire: The questionnaire was developed based on the description of the COBIT 5 capability level model, covering 16 selected domains. The questionnaire used a Guttman scale to assess the current (as-is) and desired (to-be) conditions. 4) Sampling: The technique used was purposive sampling based on role mapping using the COBIT 5 RACI Chart, resulting in 17 competent and relevant respondents in the UNIPAL environment.

3.2 Analysis Stages

The analysis in this study was conducted through several structured stages. The first stage was data validation, which involved examining the questionnaire results by compiling all respondents' answers using the Guttman scale to ensure data accuracy and consistency. The next stage, namely the assessment of the process attribute level, was carried out by calculating the Base Practice and Work Product values to determine the current capability level. In the third stage, a quantitative analysis approach was used, utilizing Microsoft Excel as a tool to process the survey results and determine the capability level based on the calculation results. The final stage is Gap Analysis, which aims to identify the differences between the current condition (asis) and the expected condition (to-be), so that priority areas that need improvement can be identified in order to achieve the target capability level.

Results 4.1 Analysis of Current Capability Level (As Is)

Based on the questionnaire recapitulation involving Base Practice (BP) and Work Product (WP), it can be concluded that most of the processes have been implemented (Base Practice is often rated L - Largely Achieved, for example EDM02.01 achieved 93.33% and EDM04 averaged 78.22%). However, the observation results show that UNIPAL does not yet have documents (Work Product) as supporting evidence or formal documentation of the implementation of these processes. As a result, the score for Work Product is almost always 0% (N - Not Achieved).

The assessment of PA 1.1 attributes at Level 1 (measured through the average of BP and WP) shows that almost all domains received a P (Partially Achieved) rating, for example: 1) EDM02 (Ensure Benefits Delivery): 41.11% (P). 2) APO01 (Manage the IT Management Framework): 38.36% (P). 3) BAI01 (Manage Programs and Projects): 27% (P). 4) DSS03 (Manage Problems): 31% (P).

To proceed to the next level of assessment (Level 2), the previous level must achieve a rating of F (Fully Achieved), which is in the range of 85%–100%. Since all domains are below 85% on average (and WP is 0%), the assessment stops at Level 1.

Table 1. Summary of process capability assessment results

ID Domain	Domain Name	Process Capability Level
EDM02	Ensuring benefits	Partially Achieved
EDM04	Ensuring Resource Optimization	Partially Achieved
APO01	Managing the IT Management Framework	Partially Achieved
...	(13 other domains)	Partially Achieved
MEA01	Monitoring, evaluating, and assessing performance	Partially Achieved

Overall, all 16 domains are at Level 1 with a Partially Achieved status. Based on the average capability level calculation at the end of the discussion, the capability level result is at Level 2 (although the individual PA 1.1 calculation results do not support the Level 2 status).

4.2 Gap Analysis

A gap analysis was conducted between the current capability value and the expected target value, which is Level 2.

Table 2. Gap Analysis

ID Domain	Current Capability Score	Capability Level	Gap Value
EDM02	0,4111	2	1,5889
APO01	0,3836	2	1,6164
APO10	0,21	2	1,79
Rata-rata	0,30315	2	1,69685

The average gap obtained is 1.69685. This gap indicates the need for significant improvement, as Level 1 has not yet been fully achieved (average achievement value of 30.315%). To achieve Level 2 (Managed Process), UNIPAL must first achieve an F (Fully Achieved) rating at Level 1 (85%–100% or 0.85–1).

4.3 Recommendations for Improvement

To address these gaps and improve IT governance towards Level 2, structured improvement recommendations are needed, primarily focusing on Work Product (documentation) and process standardization. Some key recommendations include:

1) EDM02 (Ensuring Value): University leaders need to evaluate established policies, and all policies and activities must be well documented as formal evidence for the evaluation and continuous improvement process. 2) APO01 (Managing the IT Framework): It is necessary to define the entire organizational structure and its functions. A committee should be formed as a steering board and documentation of each policy and process should be created for evaluation purposes. 3) APO07 (Managing Human Resources): Competence must be improved and career development must be carried out. It is important to create employment regulations, including consequences for rule violations. 4) BAI01 (Managing Programs & Projects): All stakeholders must be involved in developing and documenting program plans, including appointing dedicated and competent managers. 5) DSS03 (Managing Issues): All issues must be addressed, root causes identified, and all issues and solutions developed must be documented.

Conclusion

The evaluation results for the 16 COBIT 5 process domains at Universitas Putra Abadi Langkat (UNIPAL) show that all domains are at Level 1 (Partially Achieved). This condition is caused by two main factors, namely process implementation (Base Practice) that only partially meets the objectives and the absence of formal documentation (Work Product) for the processes that have been carried out, resulting in a Work Product score of 0%. Overall, the average capability level reached 0.30315, with a target of Level 2, resulting in a gap of 1.69685. Based on these results, it is recommended that future researchers integrate the COBIT 5 framework with other methods such as the IT Balanced Scorecard (ITBSC), IT Infrastructure Library (ITIL), or Project Management Body of Knowledge (PMBOK) for a more comprehensive evaluation. In addition, further evaluation of all COBIT 5 domains needs to be carried out so that its main principles can be implemented thoroughly. For Putra Abadi Langkat University, it is important to immediately develop and establish formal guidelines based on COBIT 5, particularly for the 16 processes that have been evaluated, in order to support continuous improvement and ensure the alignment of IT strategies with the institution's goals and vision.

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