Analysis of Information Technology Governance Capability Using COBIT 2019 at PT Xtend Integrasi Indonesia

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Abstract

Information Technology (IT) governance plays a crucial role in ensuring that organizational IT resources are aligned with business objectives and contribute effectively to operational performance. As organizations increasingly depend on digital technologies, the implementation of effective IT governance frameworks becomes essential to maintain service quality, manage risks, and optimize resource utilization. PT Xtend Integrasi Indonesia, as a company operating in the information technology sector, requires a structured governance approach to support sustainable business growth and improve decision-making processes. This study aims to analyze the capability level of IT governance implementation at PT Xtend Integrasi Indonesia using the COBIT 2019 framework. The research employed a quantitative descriptive approach by collecting data through observations, interviews, questionnaires, and document reviews involving stakeholders responsible for IT management and governance. The assessment focused on selected COBIT 2019 governance and management objectives that are considered relevant to the organization's operational environment. The collected data were analyzed using the COBIT 2019 Process Capability Model to determine the current capability levels and identify areas requiring improvement. The results indicate that the evaluated IT governance processes have generally achieved capability levels between Level 2 (Managed Process) and Level 3 (Established Process), demonstrating that most IT-related activities are formally managed and consistently implemented. However, several processes have not yet reached the targeted capability level due to limitations in performance measurement, documentation, and continuous monitoring practices. Based on the findings, recommendations are proposed to strengthen governance practices through enhanced policy development, regular performance evaluation, and continuous improvement initiatives. The study concludes that COBIT 2019 provides an effective framework for assessing and improving IT governance capability within the organization.

***Keywords**: Information Technology Governance, COBIT 2019, Capability Level, IT Governance Assessment, Information Systems Management.*

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Introduction

Information Technology (IT) has become a fundamental component in supporting organizational operations, strategic decision-making, and business competitiveness in the digital era. Organizations increasingly rely on IT resources to improve efficiency, enhance service quality, and achieve business objectives. As the role of technology continues to expand, organizations are required to establish effective governance mechanisms to ensure that IT investments generate value, minimize risks, and align with organizational goals. Consequently, IT governance has emerged as a critical aspect of organizational management, particularly in companies operating within technology-intensive environments [1] [2] [3].

IT governance refers to the framework of structures, processes, and relational mechanisms that ensure IT supports and extends organizational strategies and objectives. Effective IT governance enables organizations to optimize resource utilization, improve operational performance, and maintain compliance with applicable regulations and standards. However, many organizations still face challenges in implementing governance practices consistently due to inadequate policies, limited performance measurement mechanisms, and insufficient monitoring of IT-related activities. These challenges may reduce the effectiveness of IT services and hinder organizational growth [4][5][6].

To address these issues, organizations require a recognized framework that can systematically assess and improve IT governance practices. COBIT 2019, developed by the ISACA, is one of the most widely adopted frameworks for IT governance and management. The framework provides comprehensive guidance for evaluating governance processes, measuring capability levels, and identifying areas for continuous improvement. Through its governance and management objectives, COBIT 2019 assists organizations in ensuring that IT activities remain aligned with business requirements while effectively managing associated risks and resources [7] [8][9].

PT Xtend Integrasi Indonesia is a company engaged in information technology services and solutions, where the effectiveness of IT governance significantly influences organizational performance and service delivery. As the company continues to expand its technological capabilities and business operations, it becomes increasingly important to evaluate the maturity and capability of existing governance processes. A structured assessment can provide valuable insights into the strengths and weaknesses of current practices and support the development of improvement strategies that align with organizational objectives [10], [11].

Therefore, this study aims to analyze the capability level of Information Technology governance at PT Xtend Integrasi Indonesia using the COBIT 2019 framework. The assessment is expected to identify the current state of governance implementation, determine gaps between existing and desired capability levels, and provide recommendations for enhancing governance effectiveness. The findings of this study are anticipated to contribute to the organization's efforts in improving IT governance performance and achieving sustainable business growth through effective technology management [12].

Literature Review

Information Technology (IT) governance is a set of leadership structures, organizational processes, and control mechanisms designed to ensure that IT resources support business objectives and deliver value to stakeholders. Effective IT governance enables organizations to align IT strategies with business goals, optimize resource utilization, manage risks, and improve organizational performance. According to contemporary IT governance studies, organizations that implement structured governance frameworks tend to achieve greater operational efficiency, enhanced service quality, and improved decision-making capabilities. Therefore,

assessing the effectiveness of IT governance has become an important aspect of organizational management in the digital era [13], [14].

COBIT 2019 is a globally recognized framework developed by the Information Systems Audit and Control Association (ISACA) for governing and managing enterprise information and technology. The framework provides a comprehensive set of governance and management objectives, performance indicators, and capability measurement models that assist organizations in evaluating and improving their IT governance practices. COBIT 2019 introduces a flexible governance system that can be adapted to organizational needs and environmental factors. Furthermore, the framework incorporates capability level assessments to measure the extent to which governance processes are defined, managed, established, predictable, and optimized within an organization[15].

Capability assessment is an essential activity in determining the effectiveness of IT governance implementation. The COBIT 2019 Process Capability Model evaluates organizational processes across multiple capability levels, ranging from incomplete processes to optimized processes. Through capability measurement, organizations can identify strengths, weaknesses, and gaps between current and desired performance levels. Previous studies have demonstrated that capability assessments based on COBIT 2019 provide valuable insights for developing governance improvement strategies, enhancing operational effectiveness, and ensuring continuous alignment between information technology initiatives and business objectives. Consequently, COBIT 2019 has become one of the most widely used frameworks for IT governance evaluation across various industries [15] [16].

Research Methodology

This study employed a quantitative descriptive research approach to analyze the capability level of Information Technology (IT) governance at PT Xtend Integrasi Indonesia using the COBIT 2019 framework. The quantitative approach was selected because it enables the measurement and evaluation of governance processes based on predefined capability criteria. Data were collected through multiple techniques, including observation, interviews, questionnaires, and document analysis, to obtain comprehensive information regarding the organization's governance practices. The collected data were then analyzed using the COBIT 2019 Process Capability Model to determine the current capability level of selected governance and management objectives.

The research focused on assessing IT governance processes that are relevant to the organizational environment and strategic objectives of PT Xtend Integrasi Indonesia. The assessment results were used to identify existing strengths and weaknesses, evaluate the gap between current and expected capability levels, and formulate recommendations for governance improvement. The research methodology consisted of six systematic stages to ensure that the assessment process was conducted comprehensively and produced reliable results.

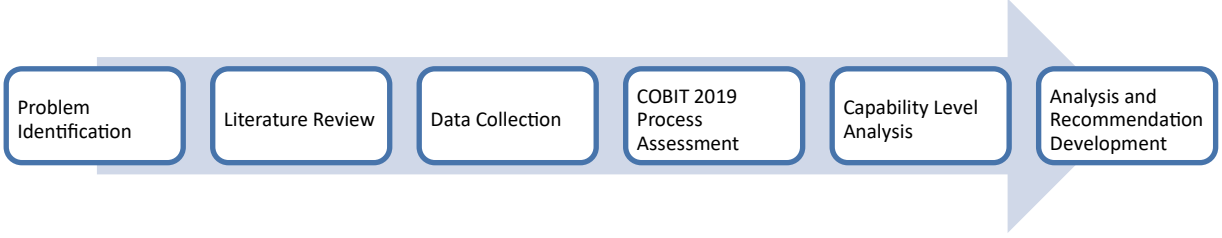


Figure 1. Research Methodology

1. Problem Identification

The first stage involved identifying issues related to the implementation of IT governance within PT Xtend Integrasi Indonesia. This activity was conducted through preliminary

observations and discussions with stakeholders to understand existing governance practices, organizational challenges, and business requirements. Identifying these issues helped define the scope and objectives of the research.

Furthermore, this stage established the foundation for selecting the relevant COBIT 2019 governance and management objectives to be assessed. The information gathered enabled the researchers to focus on governance areas that significantly influence organizational performance and strategic alignment.

2. Literature Review

The second stage consisted of reviewing relevant literature related to IT governance, COBIT 2019, capability assessment, and governance evaluation methodologies. Academic journals, conference proceedings, books, and industry reports were examined to develop a comprehensive theoretical foundation for the study.

In addition, the literature review helped identify best practices and previous research findings associated with COBIT 2019 implementation. The insights obtained from this stage supported the development of assessment instruments and provided guidance for interpreting the research results.

3. Data Collection

Data collection was carried out through observations, interviews, questionnaires, and document analysis involving stakeholders responsible for IT governance and management activities. These methods provided both qualitative and quantitative information regarding the implementation of governance processes within the organization.

The collected data included information related to organizational policies, operational procedures, performance monitoring mechanisms, risk management activities, and resource management practices. This comprehensive dataset ensured that the assessment accurately reflected the organization's governance conditions.

4. COBIT 2019 Process Assessment

At this stage, the collected data were mapped to the selected COBIT 2019 governance and management objectives. Each process was evaluated based on the capability criteria provided by the COBIT 2019 framework to determine the extent of governance implementation.

The assessment examined process performance, documentation, standardization, monitoring mechanisms, and process control activities. The evaluation results provided a structured understanding of how effectively governance processes were implemented across the organization.

5. Capability Level Analysis

The fifth stage involved analyzing the assessment results to determine the capability level achieved by each selected governance process. The analysis was performed using the COBIT 2019 Process Capability Model, which categorizes processes according to their degree of implementation and effectiveness.

This stage also included identifying gaps between the current capability level and the target capability level established by organizational expectations. The gap analysis provided insights into areas requiring improvement and served as the basis for subsequent recommendations..

6. Recommendation Development

The final stage focused on developing recommendations to enhance IT governance capability at PT Xtend Integrasi Indonesia. Recommendations were formulated based on the findings of

the capability assessment and gap analysis to address identified weaknesses and improve governance effectiveness.

These recommendations emphasized improvements in policy development, process documentation, performance measurement, risk management, and continuous monitoring activities. The proposed actions are expected to assist the organization in achieving higher capability levels and strengthening the alignment between IT governance and business objectives.

Results

The assessment of Information Technology (IT) governance capability at PT Xtend Integrasi Indonesia was conducted using the COBIT 2019 framework. The evaluation focused on selected governance and management objectives that are considered essential for supporting organizational operations, strategic alignment, risk management, and service delivery. Data obtained from questionnaires, interviews, observations, and document analysis were processed to determine the current capability level of each process. The assessment results provide a comprehensive overview of the organization's governance performance and identify areas requiring further improvement.

The capability evaluation revealed that most governance processes have been formally implemented and managed within the organization. Several processes achieved capability levels indicating that procedures and responsibilities have been clearly defined and consistently applied. However, some processes still require improvements in documentation, performance monitoring, and continuous evaluation to achieve higher levels of governance maturity. The findings serve as a basis for identifying governance gaps and developing improvement recommendations that align with organizational objectives.

Table 1. Capability Assessment Results of COBIT 2019 Processes

No	COBIT 2019 Objective	Description	Capability Level
1	EDM01	Ensured Governance Framework Setting and Maintenance	3.2
2	EDM02	Ensured Benefits Delivery	3.1
3	EDM03	Ensured Risk Optimization	2.9
4	APO01	Managed I&T Management Framework	3.3
5	APO02	Managed Strategy	3.0
6	APO03	Managed Enterprise Architecture	2.8
7	APO04	Managed Innovation	3.1
8	APO07	Managed Human Resources	3.2
9	APO12	Managed Risk	2.9
10	APO13	Managed Security	3.1
11	BAI01	Managed Programs	3.0
12	BAI03	Managed Solutions Identification and Build	3.2
13	DSS01	Managed Operations	3.6
14	DSS02	Managed Service Requests and Incidents	3.4
15	MEA01	Managed Performance and Conformance Monitoring	2.8

Table 1 presents the capability assessment results of selected COBIT 2019 governance and management objectives at PT Xtend Integrasi Indonesia. The assessment indicates that the capability levels of the evaluated processes range from 2.8 to 3.6, demonstrating that the organization's IT governance practices have generally reached the **Established Process (Level 3)** stage. At this level, processes are formally defined, documented, and implemented consistently across the organization. These results suggest that the company has established a structured governance environment that supports operational efficiency and alignment between information technology and business objectives.

Among the assessed objectives, **DSS01 (Managed Operations)** achieved the highest capability level of 3.6, followed by **DSS02 (Managed Service Requests and Incidents)** with a score of 3.4. These findings indicate that operational management and service support processes are functioning effectively and are supported by standardized procedures. Strong performance in these domains reflects the organization's ability to maintain service continuity, manage incidents efficiently, and ensure the reliability of IT services provided to stakeholders.

On the other hand, **APO03 (Managed Enterprise Architecture)** and **MEA01 (Managed Performance and Conformance Monitoring)** obtained the lowest capability levels, both scoring 2.8. Although these processes are managed and implemented, they still require improvements in process standardization, documentation quality, performance measurement, and continuous monitoring activities. Enhancing these areas would help the organization achieve greater governance effectiveness and move toward higher capability levels in accordance with COBIT 2019 best practices.

Table 2. Gap Analysis between Current and Target Capability Levels

No	COBIT Objective	Current Level	Target Level
1	EDM01	3.2	4.0
2	EDM02	3.1	4.0
3	EDM03	2.9	4.0
4	APO01	3.3	4.0
5	APO02	3.0	4.0
6	APO03	2.8	4.0
7	APO04	3.1	4.0
8	APO07	3.2	4.0
9	APO12	2.9	4.0
10	APO13	3.1	4.0
11	BAI01	3.0	4.0
12	BAI03	3.2	4.0
13	DSS01	3.6	4.0
14	DSS02	3.4	4.0
15	MEA01	2.8	4.0

Table 2 illustrates the gap analysis between the current capability levels and the organization's target level of 4.0. The results indicate that all evaluated processes still have capability gaps that need to be addressed. The largest gaps were observed in APO03 and MEA01, each with a difference of 1.2 points from the target level.

The gap analysis highlights the necessity for continuous governance improvement initiatives. Organizations should prioritize processes with larger gaps because these areas have a greater impact on governance effectiveness and strategic alignment. Improvements in enterprise architecture management and performance monitoring are expected to contribute significantly to achieving the desired governance capability level.

Table 3. Recommended Improvement Priorities

No	COBIT Objective	Priority Area	Recommendation
1	EDM01	Governance Framework	Update governance policies and procedures periodically
2	EDM02	Benefits Delivery	Develop performance measurement indicators
3	EDM03	Risk Optimization	Improve enterprise risk assessment activities
4	APO01	IT Management Framework	Enhance governance documentation practices
5	APO02	Strategic Alignment	Conduct regular strategic review meetings
6	APO03	Enterprise Architecture	Establish standardized architecture guidelines
7	APO04	Innovation Management	Promote technology innovation initiatives
8	APO07	Human Resources	Increase IT governance training programs
9	APO12	Risk Management	Implement continuous risk monitoring systems
10	APO13	Security Management	Strengthen information security controls
11	BAI01	Program Management	Improve project governance and reporting
12	BAI03	Solution Development	Standardize software development procedures
13	DSS01	Operations Management	Maintain operational excellence practices
14	DSS02	Incident Management	Improve incident response and tracking systems
15	MEA01	Performance Monitoring	Implement KPI-based monitoring and evaluation

Table 3 presents improvement recommendations based on the capability assessment results. The recommendations focus on governance processes that require enhancement to achieve the desired capability level. Particular attention should be given to enterprise architecture, risk management, and performance monitoring due to their relatively lower assessment scores.

Implementing these recommendations can improve governance consistency, strengthen organizational control mechanisms, and enhance alignment between IT initiatives and business objectives. Continuous monitoring and periodic assessments are also essential to ensure sustainable governance improvement.

Discussion

The assessment results demonstrate that PT Xtend Integrasi Indonesia has established a relatively mature IT governance environment, with most COBIT 2019 processes achieving capability levels above 3.0. This indicates that governance activities are generally defined, documented, and consistently implemented throughout the organization. Strong performance in DSS01 (Managed Operations) and DSS02 (Managed Service Requests and Incidents) reflects the organization's commitment to maintaining operational effectiveness and service quality. These findings suggest that IT governance practices contribute positively to supporting business operations and organizational objectives.

Despite the positive results, several governance processes remain below the targeted capability level. APO03 (Managed Enterprise Architecture) and MEA01 (Managed Performance and Conformance Monitoring) exhibited the largest capability gaps, indicating the need for enhanced process standardization, performance evaluation mechanisms, and governance monitoring practices. Similar findings have been reported in previous COBITbased studies, where enterprise architecture management and performance measurement often represent critical areas requiring continuous improvement. Addressing these weaknesses would help strengthen governance effectiveness and support strategic decision-making.

Overall, the study confirms that the COBIT 2019 framework provides a structured and effective approach for evaluating IT governance capability within organizations. The capability assessment enables management to identify governance strengths, recognize improvement opportunities, and develop targeted enhancement strategies. By implementing the proposed recommendations, PT Xtend Integrasi Indonesia can progress toward higher capability levels, improve governance performance, and achieve better alignment between information technology and business goals.

Conclusion

This study analyzed the capability of Information Technology (IT) governance at PT Xtend Integrasi Indonesia using the COBIT 2019 framework. The assessment results indicate that the evaluated governance and management processes achieved capability levels ranging from 2.8 to 3.6, with most processes reaching **Level 3 (Established Process)**. These findings demonstrate that IT governance activities within the organization have been formally defined, documented, and consistently implemented. The highest capability level was achieved by DSS01 (Managed Operations), while APO03 (Managed Enterprise Architecture) and MEA01 (Managed Performance and Conformance Monitoring) recorded the lowest scores, indicating areas that require further improvement. The gap analysis revealed that all assessed processes have not yet achieved the organization's target capability level of **Level 4 (Predictable Process)**. The largest capability gaps were identified in enterprise architecture management and performance monitoring processes, highlighting the need for enhanced governance controls, standardized procedures, and continuous evaluation mechanisms. These gaps indicate opportunities for strengthening governance effectiveness and improving alignment between IT initiatives and organizational objectives. Overall, the study confirms that COBIT 2019 is an effective framework for assessing and improving IT governance capability. The findings provide valuable insights for management in identifying governance strengths, addressing weaknesses, and prioritizing improvement initiatives. By implementing the proposed recommendations, PT Xtend Integrasi Indonesia can enhance its governance performance, optimize IT resource utilization, and achieve greater alignment between technology investments and business goals, thereby supporting sustainable organizational growth and competitiveness.

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