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IT Proficiency in A Media and Publishing Company Using the COBIT 2019 Framework

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Abstract

Information technology plays a pivotal role in enhancing company performance by streamlining data management processes. The company, currently transitioning from the SAP ERP system to the Odoo ERP system, faces significant challenges, particularly regarding the readiness of human resources and data migration. This study aims to elevate the IT capability level to identify domain priorities and establish procedures that will bolster IT utilization to meet corporate objectives. Employing the COBIT 2019 framework, this research evaluates the company's IT governance through capability level measurements conducted via interviews. The assessment identified three priority domains: APO12 (Managed Risk) and APO13 (Managed Security), both at level 2 with a 65% rating, and BAI10 (Managed Configuration), also at level 2 but with a slightly higher score of 65.4%. These domains fall short of their targets, with APO12 and APO13 aiming for level 4, and BAI10 targeting level 3, as per company goals. The findings indicate that these domains require significant improvement to meet the desired capability levels. Recommendations include focusing on risk management, enhancing HR training, improving configuration and security of information systems, and customizing ERP modules to address specific company issues. By implementing the suggested recommendations, the company can significantly enhance its IT capabilities, thereby achieving its corporate objectives more efficiently. These improvements will facilitate a smoother transition to the Odoo ERP system, ensuring better risk management, security, and configuration management.

Keywords: Capability Level, COBIT 2019, ERP, Factor Design, GAP Analysis

1. INTRODUCTION

The integration of information technology (IT) has become an essential practice for companies seeking to enhance performance and operational efficiency through advanced data management capabilities. IT plays a pivotal role in transforming the analysis, creation, and handling of large data sets, thereby optimizing processes traditionally managed by human resources. This technological shift is crucial for redefining roles and enhancing the overall efficiency of business processes, as demonstrated in numerous studies [1]. Beyond improving operational efficiency, IT allows companies to craft innovative business strategies by harnessing the power of effective data governance, a concept that lies at the core of technology governance [2].

Technology governance involves a structured set of processes designed to ensure that IT implementation aligns with a company's vision and strategic objectives. To evaluate and improve an organization's IT capabilities, the COBIT 2019 framework is widely used. COBIT, or Control Objectives for Information and Related Technology, offers a comprehensive governance framework that addresses the alignment of IT initiatives with business goals, ensuring that IT investments deliver maximum value while minimizing risks. The framework, which has evolved through various versions—COBIT 4.1, COBIT 5.0, and the latest COBIT 2019—focuses on measuring and enhancing IT performance within the context of overall business processes [3], [4].

A media and publishing company in Indonesia relies heavily on IT to support its diverse business functions, including finance, purchasing, inventory management, and manufacturing. Historically, the company has employed the SAP (System Application and Product) ERP (Enterprise Resource Planning) system, managed by CITIS (Corporate IT/IS), to streamline these operations. Within CITIS, the corporate solutions division plays a critical role in overseeing financial records and data collection through the ERP system, using SAP to integrate various business processes effectively [5], [6], [7], [8]. However, the high costs associated with maintaining the SAP system have led the company to explore Odoo ERP, an open-source alternative known for its cost-effectiveness and modular integration capabilities [7], [9].

While the transition from SAP to Odoo ERP is strategically aimed at reducing costs and enhancing IT governance, it also introduces significant challenges, particularly for the finance and accounting department, which faces difficulties adapting to the new system. This transition presents a crucial opportunity for the company to leverage IT governance frameworks such as COBIT 2019 to manage these challenges and optimize the benefits of the new ERP system. Ensuring a successful transition will require a focused approach on training, support, and governance to maximize the potential benefits of an integrated, open-source system [10].

Despite the growing trend of ERP system transitions, especially from proprietary to open-source platforms, there is a noticeable gap in research specifically examining the impact of such transitions on the performance of key business functions, such as the finance and accounting department, within the media and publishing industry. Additionally, there is limited exploration of how the COBIT 2019 framework can be applied to manage and enhance IT governance during these transitions. Existing literature lacks a comprehensive analysis of the critical factors within the COBIT 2019 framework that influence IT governance and its effectiveness in aligning IT strategies with broader organizational goals during an ERP transition. Moreover, there is a need for research that investigates the

challenges related to human resource readiness and the adaptation processes required for successfully implementing a new ERP system.

The aim of this research is to address these gaps by examining the effects of transitioning from the SAP ERP system to the Odoo ERP system on the performance of the finance and accounting department within a media and publishing company. It seeks to identify and analyze the critical factors within the COBIT 2019 framework that influence IT governance during this transition and to explore how this framework can be utilized to assess and improve IT governance capabilities, particularly within the corporate solutions division. Furthermore, the study aims to investigate the primary challenges associated with human resource readiness for operating the new Odoo ERP system and propose strategies to mitigate these challenges. Lastly, the research will examine the role of technology governance in ensuring that IT implementation aligns with the company's strategic goals throughout the ERP transition, offering insights into optimizing IT governance and proficiency in similar organizational settings.

2. METHODS

This study utilizes the COBIT 2019 framework to evaluate IT governance capabilities at the media and publishing company. Employing a qualitative approach, the research involves conducting interviews with IT representatives from the company. The findings from these interviews are then assessed to determine the value of IT governance capabilities [11]. The research process is outlined in a flowchart shown in Figure 1.

2.1 Problem Identification

The research begins with the identification of the core problems associated with the transition from the SAP ERP system to the Odoo ERP system within the media and publishing company. This stage involves understanding the challenges faced by the organization in terms of IT governance, system performance, and human resource readiness.

2.2 Data Collection

To address these challenges, data collection is carried out using two primary methods:

a) **Literature Study:** A comprehensive review of existing literature is conducted to gather insights into IT governance, ERP systems, and the COBIT 2019 framework. This involves analyzing previous research, case studies, and theoretical frameworks relevant to the study's objectives.
b) **Interviews with Corporate Solution's Manager:** Direct interviews are conducted with the manager of the Corporate Solutions division to

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gather first-hand information on the company's experience during the ERP transition. These interviews aim to capture the challenges faced, the strategies employed, and the perceived effectiveness of the transition process.

2.3 COBIT 2019 Mapping

The data collected is then utilized for mapping against the COBIT 2019 framework to evaluate the IT governance processes within the organization. This phase involves several sub-steps [12]:

a) **Determine the Initial Scope of the Governance System (Design Factors 1-4):** The initial step involves defining the scope of the governance system by identifying the relevant design factors (Factors 1-4) such as enterprise goals, risk profile, IT-related issues, and compliance requirements.
b) **Determine the Scope of the Governance System (Design Factors 5-11):** The scope of the governance system is further refined by considering additional design factors (Factors 5-11), including enterprise size, threat landscape, IT role, and the degree of process maturity.
c) **Factor Design Conclusion:** Based on the analysis of the design factors, a conclusion is drawn regarding the overall scope and approach of the IT governance system required to manage the ERP transition effectively.
d) **GAP Analysis:** A gap analysis is conducted to measure the current level of IT capability against the desired state as defined by the COBIT 2019 framework. This analysis helps to identify deficiencies in the current IT governance practices and areas requiring improvement.
e) **Measuring the Level of IT Capability:** The IT capability levels are assessed using the criteria set forth in the COBIT 2019 framework to determine the organization's current standing in terms of IT governance.
f) **Create Audit Documents:** Audit documents are developed to document the findings of the gap analysis and IT capability measurement. These documents serve as a basis for evaluating the current IT governance practices and proposing enhancements.
g) **Determine Domain Activity Responsibilities with RACI Chart:** Responsibilities for various domain activities are mapped using a RACI (Responsible, Accountable, Consulted, Informed) chart, which helps clarify roles and responsibilities across the organization during the ERP transition.

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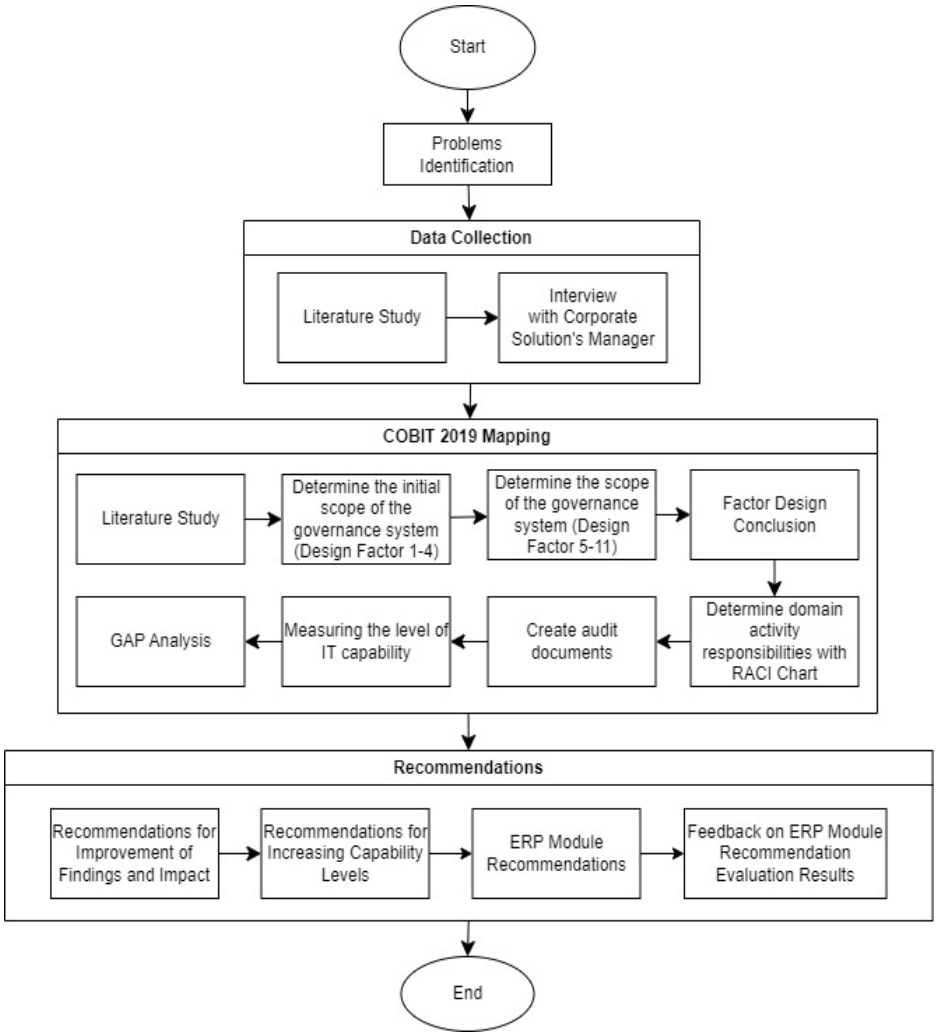

Figure 1. Research Flow [13]

2.4 Recommendations

Based on the findings from the COBIT 2019 mapping and analysis, a series of recommendations are developed to improve IT governance and optimize the ERP transition. These recommendations include [14], [15]:

a) **Recommendations for Improvement of Findings and Impact:** Strategies are proposed to address the gaps identified in the current IT governance practices, with a focus on enhancing overall impact and effectiveness.

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b) **Recommendations for Increasing Capability Levels:** Specific measures are suggested to raise the organization's IT capability levels in line with the desired state as defined by the COBIT 2019 framework.
c) **ERP Module Recommendations:** Recommendations are provided for optimizing the use of ERP modules to better align with the organization's strategic goals and improve system functionality.
d) **Feedback on ERP Module Recommendation Evaluation Results:** The proposed ERP module recommendations are evaluated, and feedback is collected to refine and improve the implementation strategy.

3. RESULTS AND DISCUSSION

This section presents the study's outcomes, along with a comprehensive analysis and interpretation to provide insights and implications.

3.1 Problem Identification

The CITIS division, specifically the Corporate Solutions division, has developed and transitioned from the SAP system to the Odoo system, which has been live for one year and is now utilized by the accounting and finance divisions. Several issues have emerged during this period. Users were not fully prepared to operate the new system, leading to difficulties in system usage. Additionally, unforeseen user requests and fast-paced schedules imposed by users have challenged the developers and the CITIS division. Moreover, the readiness for data migration was insufficient, causing delays in the implementation of new features requested by users.

3.2 Data Collection

Data collection for this research was conducted through interviews with key personnel from the Corporate Solutions division of the media and publishing company. Interviews were systematically carried out to gather accurate data, including identifying primary issues and mapping data relevant to COBIT 2019. The initial interview provided an overview of the key issues with the new system implementation. The subsequent interview focused on gathering data essential for COBIT 2019 mapping, while the final interview involved assessing activities within the priority domains, particularly with Mba Ayesha Mayzuri.

3.3 COBIT 2019 Mapping

The assessment of all design factors, measured objectively based on priority levels and the company's needs, is illustrated in Figure 2. The evaluation ranges from -100 (not important) to 150 (high priority). The priority domains are determined by the highest values nearing 150. Figure 2 identifies two main priority domains, APO12

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(managed risk) and APO13 (managed security), each with a score of 100. Further interviews indicated a preference for prioritizing the BAI10 (managed configuration) domain, which scored 65, due to its role in enhancing system service management.

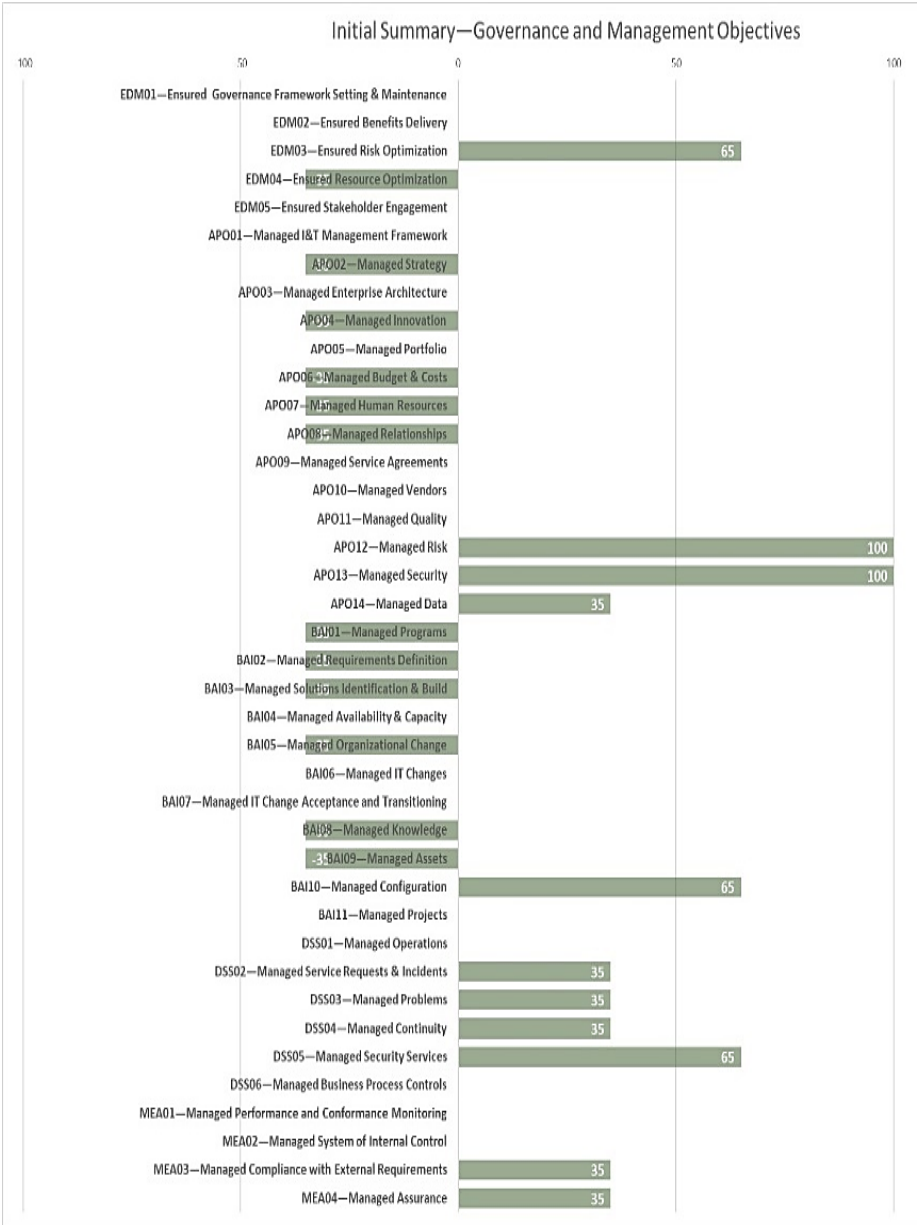

Figure 2. Factor Design Conclusion

The target capability level for each domain is determined by its assessment score. A score of 75 or more sets the target at level 4, 50-75 at level 3, and 25-50 at level 2. For this study, the target capability levels are level 4 for the APO12 and APO13 domains (scores above 75) and level 3 for the BAI10 domain (score of 65).

The IT governance capability level is measured based on assessments from company representatives, rated from 0%-100% according to the objective evaluations. The average rating of various activities in sub-domains with a capability level of 2 within each domain is then calculated. This comprehensive evaluation helps determine the current and target capability levels, guiding future improvements.

3.4 Capability Level Assesment Summary

The company's current capability levels for the APO12 (Managed Risk), APO13 (Managed Security), and BAI10 (Managed Configuration) domains are all positioned at Level 2, with average ratings between 65% and 65.4% as shown in Table 1. These scores indicate that while there are systematic approaches in place, the processes are not yet robust enough to progress beyond a "Largely Achieved" status.

Table 1. APO12 Result

Sub-domain	Rating
APO12.01	60%
APO12.03	65%
APO12.05	70%
Average	65%

Table 2 presents the assessment of APO12 (Managed Risk), where an average score of 65% reflects a structured approach to risk management. Despite this, the domain remains at Level 2, as gaps in areas such as risk identification and scenario planning hinder its progression to Level 3.

Table 2. APO13 Result

Sub-domain	Rating
APO13.01	65%
Average	65%

Similarly, Table 3 shows that APO13 (Managed Security) achieved a score of 65%, indicating foundational efforts in security management. However, the assessment, limited to sub-domain APO13.01, reveals the necessity for a more comprehensive evaluation across additional sub-domains to enhance the company's security framework and advance to a higher capability level.

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Table 3. BAI10 Result

Sub-domain	Rating
BAI10.02	58%
BAI10.03	68,3%
BAI10.04	70%
Average	65,4%

Table 4 highlights the BAI10 (Managed Configuration) domain, with an average score of 65.4%. This score underscores ongoing progress in configuration management, particularly in system service and infrastructure configuration. Yet, the domain remains at Level 2 due to challenges in adapting to changes and ensuring thorough documentation.

To align IT governance with broader strategic goals, the company is focusing on elevating APO12 and APO13 to Level 4 by strengthening its risk and security management frameworks. For BAI10, the objective is to reach Level 3 by improving the integration of configuration management processes and addressing current deficiencies, ensuring that IT infrastructure effectively supports business operations and growth.

3.5 GAP Analysis

Following the assessment of the priority domains APO12, APO13, and BAI10, a GAP analysis was conducted to identify the disparity between the current and desired capability levels, as detailed in Table 5. This analysis helps prioritize processes for improvement.

Table 4. GAP Analysis

Domain	Current Capability Level	Expected Capability Level	Gap Level
APO12 (Managed Risk)	2	4	2
APO13 (Managed Security)	2	4	2
BAI10 (Managed Configuration)	2	3	1

3.6 Discussion

The assessment of the organization's IT governance maturity, based on the COBIT 2019 framework, revealed that the domains APO12 (Manage Risk) and APO13 (Manage Security) are currently at Capability Level 2, with scores of 65%. Both domains target an ambitious Level 4 due to their high factor value scores of 100, indicating their critical importance to the organization. Meanwhile,

the BAI10 (Manage Configuration) domain is also at Level 2 with a score of 65.4% and targets a more attainable Level 3, aligned with its factor value of 65. As a result, the GAP level for APO12 and APO13 is identified as 2, while the GAP level for BAI10 is 1.

The evaluation highlighted one key activity, BAI10.02, with a performance rating close to 50%, which falls into the "Partially Achieved" category and requires immediate attention. Specifically, the assessment identified a significant lack of understanding among system service users regarding business process configuration components, particularly in BAI10.02. This deficiency adversely affects data migration and control processes, causing delays and challenges in system configuration.

Recommendations to Address Identified Issues and Impacts. To mitigate the identified shortcomings and their associated impacts, the following recommendations are proposed:

1. Improvement for Sub-domains Near 50% (BAI10.02 - 58% Rating): Enhance training programs and provide comprehensive information to employees regarding configuration components to address the delays and challenges in the migration and configuration processes. This approach will help to close the knowledge gap among users and improve their understanding of system components.
2. Recommendations for Increasing Capability Levels:
    a) APO12 (Manage Risk) and APO13 (Manage Security): To bridge the GAP from Level 2 to Level 4, the organization should implement standardized frameworks for risk and security management, conduct regular assessments, and continuously refine risk management processes. Enhancing these processes will help in achieving a more robust governance structure that aligns with the organization's strategic objectives.
    b) BAI10 (Manage Configuration): To advance from Level 2 to Level 3, the organization should focus on improving the documentation and integration of configuration management processes. This enhancement will streamline the configuration management activities and ensure better alignment with the desired capability level.

These recommendations are designed to strengthen IT governance practices, thereby supporting the organization's strategic goals and enhancing the overall performance of business processes. Table 5 outlines the recommended actions for activities in the APO12 domain that have not yet achieved Level 3 capability. To elevate this critical domain, the following targeted actions are proposed:

1. Data Collection and Analysis: Expand the scope and depth of data collection efforts and conduct more thorough data analyses to gain

actionable insights. This will provide a stronger foundation for decision-making and risk management.

2. Risk Profile Identification: Develop detailed risk profiles that address the current issue of insufficient human resources for system services. This step will help minimize the risk of errors in system usage and data migration by ensuring that the right competencies are in place to manage system-related risks effectively.

These steps are essential to enhance the reliability and accuracy of system services, thereby elevating the overall capability of the APO12 domain. Implementing these improvements will enable the organization to close existing gaps, improve governance maturity, and better align IT operations with its strategic objectives.

Table 5. Recommendation Domain APO12 Level 3

Subdomain	Recommendations
APO12.01	Collect data related to IT risks by identifying the data sources used and adjusting them to the relevance of IT risks to the company. Increase understanding for employees and divisions who use the system directly regarding the impact of IT risks that may occur on the company.
APO12.03	Identify risk profiles more regularly to ensure risk profile development. Managing risk documentation related to business security risks and IT resources, carried out by evaluating risks that will occur and how to overcome these risks.
APO12.05	Determine actions for risk scenarios that need to be prioritized based on the magnitude of the impact that may occur, the time needed to overcome the risk, the resources available to overcome it, and how likely the risk is to occur in the company. Make plans for action from acceptable risk scenarios in business processes including the resources and time needed to overcome risks.

Table 6 summarizes the recommendations for the APO12 domain which is currently at Level 4. These recommendations focus on improving risk recording and analysis, and comparing potential risk scenarios to enhance the company's risk management framework.

Table 6. Recommendation Domain APO12 Level 4

Sub-domain	Recommendations
APO12.01	Document potential risk scenarios and adjust for possible impacts.
APO12.02	Define risk analysis projections considering various influencing factors.

Sub-domain	Recommendations
	Compare current risks with the company's acceptable risk tolerance.
APO12.03	Monitor current risks and collect IT risk information to address these risks monitoring risks that may occur currently and collecting information on IT risks so that they can overcome these risks.
APO12.04	Review objective assessments to identify gaps related to IT exposure to future risks.
APO12.05	Designate a division to monitor potential risks. Propose detailed project designs aimed at mitigating or preventing risks.
APO12.06	Categorize risks and compare IT risks with tolerance limits, using historical risk factors to identify underlying causes.

Table 7. Recommendation Domain APO13 Level 3

Sub-domain	Recommendations
APO13.02	Ensure all employees understand their roles and responsibilities in managing information security through comprehensive training.

Table 8 provides recommendations for the APO13 domain currently at Level 3. The focus is on training employees to ensure they understand their roles in managing information security effectively.

Table 8. Recommendation Domain APO13 Level 4

Sub-domain	Recommendations
APO13.02	Measure the effectiveness of management practices by comparing expected and actual outcomes.
APO13.03	Regularly review the effectiveness of the ISMS and information security and privacy practices. Conduct audits to identify actions that reduce effectiveness and document these impacts.

Table 9 outlines the recommendations for the APO13 domain currently at Level 4. The focus is on enhancing the effectiveness of information security and privacy practices through regular reviews and audits. Table 10 presents the recommendations for the BAI10 domain currently at Level 3. The emphasis is on providing detailed project configurations, identifying configuration components, and aligning change requests with current system changes.

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Table 9. Recommendation Domain BAI10 Level 3

Sub-domain	Recommendations
BAI10.01	Create detailed projections for configuration management and maintain logical configuration models.
BAI10.02	Identify and classify configuration components by analyzing system services and infrastructure configurations..
BAI10.03	Analyze changes in the initial system service design plan.
BAI10.04	Match approved change requests with actual changes in the system service configuration. Generate reports tailored to stakeholder requirements.

This research offers specific recommendations for ERP modules tailored to address the company's challenges. These recommendations are derived from a thorough analysis of the findings and impacts of the issues faced by the company. The following ERP module is proposed as an effective solution. Table 10 presents the recommended ERP module that addresses the company's specific issues. The Training and Development Management module is designed to streamline the process of providing training and coaching to employees and new system users. This module includes learning sessions that can be accessed and studied by employees, and it allows the system to monitor employee progress. Implementing this module can mitigate the lack of knowledge among human resources about the new ERP system operations, ensuring better data readiness for migration to the new system.

Table 10. Recommendations ERP Modules

Module	Functions and Benefits
Training and Development Management	Provide training programs to employees. Enhance training effectiveness by integrating learning sessions into the system. Facilitate monitoring and evaluation of employee performance regarding training. Provide easy access for employees to learning sessions.

4. CONCLUSION

The transition from SAP to Odoo ERP has significantly impacted the finance and accounting department, primarily due to user unpreparedness and data migration issues, leading to operational inefficiencies. The COBIT 2019 framework identifies APO12 (Managed Risk) and APO13 (Managed Security) as critical areas for improving IT governance during this transition. Currently at Level 2, these domains aim to reach Level 4 to better manage risks and ensure data security. Addressing gaps in risk management, security, and configuration processes through targeted actions will enhance capability levels and align IT governance with business goals. Effective change management, comprehensive training, and adherence to COBIT 2019 guidelines are essential to ensure a

successful ERP transition that supports the company's strategic objectives.

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