Audit Information Technology Using COBIT 5 in the Procurement Service Unit (Case Study: SIM UKPBJ Kabupaten XYZ)

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ABSTRACT

Information Technology (IT) in this all-digital era affects all aspects of human life, including the field of government. Currently, many agencies are utilizing IT Governance for competitive advantage and making it an investment. One of them is in the Goods/Services Procurement Section of XYZ Regency, an example of an agency that has implemented IT Governance using the Goods/Services Procurement Service Unit Management Information System (SIM UKPBJ) to integrate existing operational activities. SIM UKPBJ is a means to achieve organizational goals and simplify every process in procuring goods/services. In the SIM UKPBJ, since its inception in form until now, there has never been an evaluation process regarding IT Governance that has been implemented. COBIT 5 is a framework that has a comprehensive scope starting from management and governance. The COBIT framework is following the current state of SIM UKPBJ, 5 domains have been selected that focus on DSS05 (Manage Security Services), DSS06 (Manage Business Controls), APO11 (Manage Quality), APO12 (Manage Risk), and APO13 (Manage Security). This study used a data collection process through interviews, observations, and questionnaires. Based on the results of the study, the capability level value of each process in the DSS05, DSS06, APO11, APO12, and APO13 domains is at level 4, the predictable process and the maturity level results have an average percentage of 80.5%, namely L (Large achieved). Base on gap analysis, SIM UKPBJ chooses the target level to be performed as 5, it is the Optimizing process. It is necessary to increase the capability level from the current conditions in terms of growing activities with recommendations, namely maximizing policies that are already running well and making innovations in activities to accelerate the achievement of agency goals.

1. Introduction

Information technology (IT) supports an organization's activities and business processes. Some of the important roles of IT in organizations include as a means to assist organizations in realizing efficiency between management and operational perspectives, improving the quality of service to consumers, and can be used as a basis for assisting decision making (Hermanto & Agus Mufihah, 2019; Tangka et al., 2020). IT Governance in government, one of which is the procurement of goods/services electronically. Electronic procurement of goods/services is a way to create transparency and accountability, as well as increasing the level of efficiency in the procurement process and supporting monitoring and auditing processes in meeting the need for access to information to create clean and good governance in government procurement/services (Desmayanti et al., 2022; Suprianto & Agung, 2019).

Apply information and communication technology to provide effective and efficient services to the community. Based on Presidential Instruction NO. 3/2003 on national policies and strategies regarding the development of E-Government, the underlying policy of the XYZ Regency government formed a system for optimization in the process of procurement services by building a Management Information System for the Goods/Services Procurement Activity Unit (SIM UKPBJ). SIM UKPBJ is a website-based online application developed independently by the XYZ Regency procurement service unit to provide information to the public about the regional procurement service process, tender service process and provide procurement services that meet the criteria of transparency, accountability, and integration (Saputro, 2020). SIM UKPBJ began to be operated in 2018 and will continue to be improved by adjusting to the established policy. The change in regulations will affect the procedures, policies, and security of the UKPBJ driver's license. One of the essential things that must be considered is service security, system security, quality, risk management, and business process management(Matondang et al., 2018).

IT Governance helps ensure the conformity of IT implementation with its support to achieve organizational goals, control the use of IT resources, and manage the risks associated with IT (Putra & Priardhi, 2018). These components are essential, such as problems like evaluation of the maturity level of the security system has not been carried out, lack of management records of reports, guidelines in Standard Operating Procedures (SOPs) regarding policies related to information system security have not been implemented regularly, recording of achievements and assessment of the effectiveness of business processes and risk management (Awidiawati et al., 2021; Satrio & Moch, 2018). For this reason, it is necessary to evaluate the maturity of these parts to ensure the continuity and existing business processes.

Control Objectives for Information and Related Technology (COBIT) 5 is a comprehensive standard that assists organizations in achieving their goals and creating value through effective and efficient governance and management of information technology (Wiraniagara et al., 2019). COBIT 5 provides an IT Governance framework with the control objective of providing detailed information to management, business process owners, users and auditors, as they manage IT (Leander Hadisaputro & Elvin, 2019). To realize the best value provided by IT by considering all aspects of IT Governance, starting from users or human resources, skills, capabilities, services, infrastructure, and applications that are part of the enabler of an IT Governance (Khairunnisa, 2019; Maskur et al., 2018). Therefore, COBIT 5 is appropriate and can assist in auditingIT Governance by concentrating on technical issues in technology alone and looking at other resources driving IT Governance towards organizational goals.

COBIT 5 has five domains, namely Evaluate, Direct, and Monitor (EDM); Align, Plan, and Organise (APO); Build, Acquire, and Implement (BAI); Deliver, Service, and, Support (DSS); Monitor, Evaluate, and Assess (MEA) with a total of 37 processes (ISACA., 2012). COBIT brings together all control needs and technical problems and is designed to assist in solving IT Governance issues in managing risks and profits related to information resources (Suryono et al., 2018). The domains DSS05, DSS06, APO11, APO12, and APO13 focus on the maturity faced by SIM UKPBJ.

2. Method

This study uses problem identification and literature studies from previous research to conduct current research. Information is collected using interviews, questionnaires, and observations to find. strategic goals in related agencies. Then several mapping spurs were carried out. Here are some of the stages of mapping that are carried out. The flow of the research process is like in Figure 1.
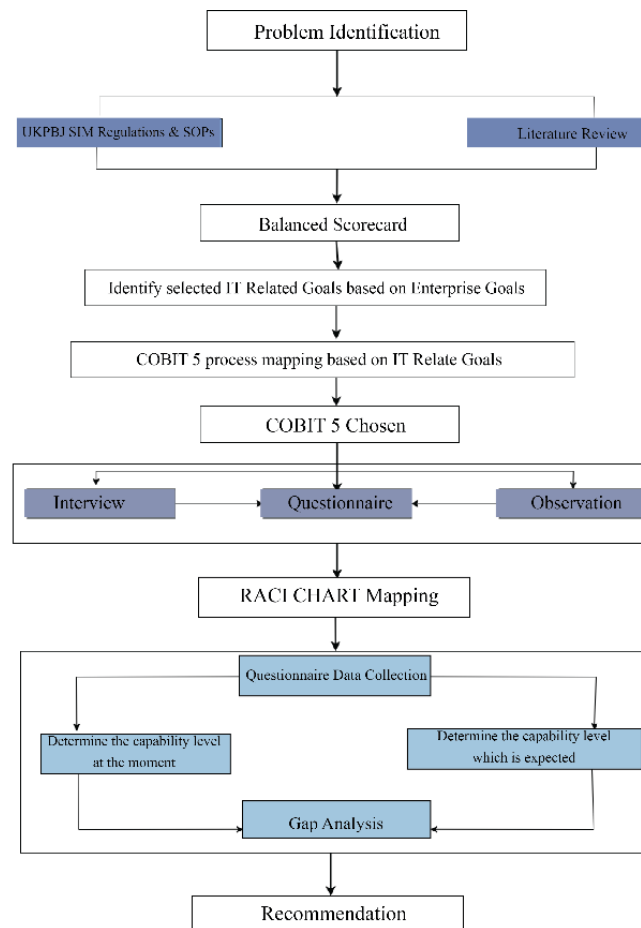
Figure 1. Research Process Flow

2.1   Mapping Enterprise Goals with SIM UKPBJ Strategic Goals

Mapping at this stage is carried out with Enterprise Goals mapping to adjust between strategic goals (Ajismanto, 2018). In this study, a mapping of SIM UKPBJ with Enterprise Goals in COBIT 5. Mapping Enterprise Goals in COBIT 5, there are 17 Enterprise Goals (ISACA, 2012).

2.2   Mapping Selected Enterprise Goals with IT-related Goals

Based on the Enterprise Goals selected in the previous stage, the next step is to determine the IT-related Goals that have been adjusted to the current conditions and the needs of the PBJ Section of XYZ Regency. At this stage, it is carried out using the IT Balance Scorecard (BSC) perspective by representing a relationship between business goals and IT goals in an agency using the sign "P," which means the primary (strong connection) and "S" which means secondary (medium relationship) (Herath et al., 2022). The results of mapping between selected Enterprise Goals and IT-related Goals using the BSC perspective.

2.3   Mapping IT-related Goals with COBIT 5 Process

Based on the IT-related Goals selected in the previous stage, the next step is to determine the domain processes in COBIT 5.0, which have been adjusted to the current conditions and the needs of the PBJ Section of XYZ Regency. At this stage, it is carried out using the IT Balance Scorecard (BSC) perspective. By representing a relationship between business goals and IT goals in an agency using the "P" sign, which means the primary (strong connection) and "S," which means secondary (medium relationship). The results of mapping the selected COBIT 5 domain process with IT-related Goals using the BSC perspective.

2.4   RACI Chart Mapping

RACI diagram mapping is carried out to establish objects or parts involved in audit activities (Messakh et al., 2021). RACI diagram mapping is based on related agencies' structural charts (Firmansyah et al., 2022; Vanesya & Riandani, 2021). In this study, the RACI diagram mapping was based on the structural chart of the PBJ Section of XYZ Regency. In mapping with RACI diagrams using the following conditions.

● Responsible (R) states in that section as the party responsible for carrying out and completing all existing activities.

● Accountable (A) states in that section as a party authorized for direction on implementing activities.

● Consulted (C) said that the section has a duty and responsibility as a consultant in implementing existing activities.

● Informed (I) states that the section has the duty and responsibility to report all available information regarding the implementation of an activity.

2.5   Process Capability Model

The measurement technique applied to this study was carried out using a capability model and a rating point level. Capability models are guided by assessments used to assist a process in achieving the overall objectives of the assessment process. In the capability process, there are several levels, as shown in Table 1.

Table 1. Indicator Capability

Level	Description
Level 0	Not done or failed
Level 1	Done but no management yet
Level 2	There is planning and monitoring, and then the work results are appropriately managed (determined requirements &documented).
Level 3	Activities are written in the SOP/policy/rules or have application standards and there is an appropriate allocation of responsibilities and resources.
Level 4	Carried out, written activities in the SOP/policy/rules run well, and there is an application of measures and produce optimal services/information then monitored and analyzed
Level 5	According to the analysis, there are innovations and activity development strategies; previously standardized activities are measured by their influence on business goals and evaluated.

The next stage is to assess the achievement of the ability or maturity of the process or the level of rating points. Each assessed process will produce 4 rating point levels, as shown in Table 2.

Table 2. Level Rating Point

Level	Prosentase Hasil Penilaian
Not achieved (N)	0% - 15%
Partially achieved (P)	>15% - 50%

| Largely achieved (L) | >50% - 85% |
| Fully achieved (F) | >85% - 100% |

The questionnaire results are analyzed to determine the level conditions in each activity contained in the audit work form. In determining the level of each exercise, it can be done by looking for the mode value or value that appears the most in each existing activity. After selecting the mode of each existing action, the next stage is to do the calculation stage.

3 Results and Discussion

The results and discussions made based on process control mapping are DSS05, DSS06, APO11, APO12, and APO 13 used as the scope of the audit process.

3.1 Capability Value Recapitulation

After data collection through questionnaires filled in by employees in the Goods/Services Procurement Unit (UKPBJ), XYZ gets the results of the activity value in each process from the Deliver, Service, and Support (DSS) domains into the audit work form. The final result of the average level of capability recapitulation value is shown in Table 3.

Table 3. Capability Recapitulation

Process Name	Number of Questions	Level Existing	Rounding level	Target level
DSS-05 Manage Security Services	32	4.11	4.00	5.00
DSS-06 Manage Business Processes	21	4.054	4.00	5.00
APO-11 Manage Quality	22	4.09	4.00	5.00
APO-12 Manage Risk	27	3.879	4.00	5.00
APO-13 Manage Security	12	4.00	4.00	5.00

The table above is the data resulting from the capability value in each selected domain. To facilitate the process of determining the current level, rounding is carried out on each matter. The results of the capability level value on the SIM UKPBJ were met at level 4, namely the Predictable Process. This level means that each process activity has been classified with several determinations and limitations adjusted to the agency's objectives. However, there is still a slight weakness in each applied process activity. These weaknesses can be in the form of sustainability aspects, external documents in a process, or lack of renewal.

3.2 Analysis of Existing Conditions

3.2.1 Existing condition DSS05

Existing DSS05 condition based on an audit conducted at the scope of the DSS domain, the existing condition of the DSS05 is obtained:

- On the PC used, there is already a legal antivirus.

- A firewall is flattened on the system before entering the data center.

- Routine security reviews are conducted every 3 months.

- Firewalls limit connectivity. Only opened specific ports (ordinarily close).

- Every process activity must have a written permission letter or a letter of service given from the authorized person process activity must have a written permission letter or a letter of service provided from the authorized person.

- The software used has an original license. If the software is not in the software catalog, then the program will not run.

- Routinely carried out regarding user access reviews per 3 months.

- Inventory of devices is carried out regularly.

- Access rights have been stated by screening at the beginning of an entry into the service room, namely by using a finger screen for employees and an access card for guests; after entering the system, a username and password are needed to access all forms of services in the procurement system.

- Log as an internal PC already has protection with a legal antivirus assisted by a consultant service to carry out backups if problems occur within 3 months. It has been automatically backed up in the system to back up input data.

- For system security using firewall logs and antivirus logs, the following security will be known, as well as log reviews per 3 months.

- As an internal PC, it already has protection with a legal antivirus assisted by a consultant service to carry out backups if there are problems.

- The server and the security and policies of the SIM UKPBJ joined the KOMINFO of the XYZ Regency government.

3.2.2   Existing condition DSS06

Existing DSS06 condition based on an audit conducted at the DSS domain scope, the existing condition of the DSS06 is obtained:

- We align control activities in business processes by referring to the target business goals.

- Conducted boxing reports and analysis of various sources of causes of problems that arise.

- A report from a review of the effectiveness of business processes is carried out.

- Conduct the results of evaluations and reviews at regular meetings every 3 months.

- Monitoring is carried out on an ongoing basis,

- Documentation of all incidents and error reporting based on records from SIM UKPBJ users.

- Roles, responsibilities, access rights, and levels of authority have been defined in the SOPs document for service management and regent regulations.

- There are recordings in the information system directly in the UKPBJ driver's license can use to find out all the processes of change or record activities carried out to facilitate accountability and audit of document data.

3.2.3   Existing condition APO11

Existing APO11 condition based on an audit conducted in the context of the APO domain, the existing condition of APO11 is obtained:

- An admin and helpdesk role ensures that every service is high quality and follows applicable SOPs and policies. As for the Quality Management System (QMS), QMS roles, responsibilities, and decision rights have been regulated in the organizational structure and work procedures or SOPs for service management.

- SIM UKPBJ has a QMS in the form of operational service standards to assess each project or program. So there has been no review of the QMS effectiveness assessment.

- There is a guideline document for procurement service standards for goods/services as a definition of guidelines in QMS settings.

- The helpdesk helps service users by providing convenience and fast service when there are errors of specific problems.

- To respond to customer satisfaction, SIM UKPBJ conducts acceptance criteria in the form of a record of the services used by service users, includes assessing the service quality with a satisfaction survey after the guest has finished.

- SIM UKPBJ monitors and assesses user satisfaction with the quality provided from the results of the Customer Satisfaction Survey (SKP) based on quality reviews and audits after carrying out service activities.

- There is no measurement based on the quality of service goals process carried out by the Internal Supervision Unit (SPI). The measure is only in the form of a document of internal supervision achievements.

- The agency monitors service quality based on the Customer Satisfaction Survey (SKP) results. Through coordination and leadership meetings, the PBJ Department will find the best solution to meet the satisfaction of procurement system service users with the help of third parties (consultants).

- Suppose there is a failure in the delivery of the services provided. In that case, it can be seen from the documentation of the SKP results and find the root cause of the failure and analyze the error recording documents that the IT Team has carried out.

- SIM UKPBJ continues to make continuous improvements and best practices in meetings held periodically.

3.2.4   Existing condition APO12

Existing APO12 condition based on an audit conducted within the scope of the APO domain, the existing state of APO12 is obtained:

- The management of risks in the UKPBJ driver's license is carried out as a whole, including the grouping of risks, methods of conducting risk assessments, impact assessments, types of threats, identification of vulnerability values, and risk assessments.

- All activities or events that occur in the IT Department are well documented. The risk management documentation process begins with reporting potential risk activities, identifying and initial analysis of the impact and cause of each threat, identification of measurements, coordination of risk management, monitoring of implementation results, and reports of effects.

- There is a SOPs to regulate the course of risk control.

- There is an SOPs document on risk management regarding the importance of potential risk threats.

- There is a record of things that potentially pose a threat to the service.

- Assessment table document regarding the score of each risk.

3.2.5   Existing condition APO13

Existing APO13 condition based on an audit conducted within the scope of the APO domain, the existing condition of APO13 is obtained:
- Have a special team in charge of planning, monitoring, and managing matters related to information security management in this case consisting of a helpdesk, management of LPSE and SIM UKPBJ and an IT Team.

- Have a written document containing the design, implementation, and maintenance of a series of integrated procedures and policies in managing information security, running secure technology and business processes, and aligning with agency management. The document

contains a series of security management SOPs including log management SOPs, remote access SOPs, and server room backup SOPs.

- Have a written document containing a plan for handling information security risks that explains how information security risks are managed and management is in line with the company's strategy. Driving information security risks can reach all aspects of information technology.

- Each security enhancement implementation activity has an approved information security business case document.

- Have an internal security audit program to monitor and assess the effectiveness of information security procedures and policies that are continuously appropriate or not yet.

3.3   Gap Analysis

This gap analysis aims to find the difference between the level of competence obtained and the target level to realize. When determining the target level, it is determined by the target level with the average level received. For example, for DSS01, the average level of DSS01 is 3.029, then DSS01 is at the stage towards level capability 5 and still reaches 0.029 or 2.9% above Level 4 or less than 0.971 or 97% towards level capability 5 so the target level is set to be Level 5.

3.3.1   Gap Analysis DSS05

Based on the results of the analysis and determination of the capability level of DSS04, The level of ability of DSS04 is 4, meaning that DSS04 has reached the predictable process, which means implementing DSS04, in its activities, it has recorded, monitored in policies and made rules and provided the best service/information that has been observed and analyzed. The target level to be achieved is level 5, in the optimizing process, as in Table 4.

Table 4. Gap Analysis DSS05

Process Name	Level Existing	Rounding Level	Target level	Gap
DSS05 Manage Security Services	4.17	4	5	1

In Table 4, the gap analysis results on DSS05 are seen after analysis and obtaining the capability level on the DSS05 at level 5 after being rounded. This means that DSS05 has reached the optimizing process, where activities, policies, and services are optimal and have been monitored and analyzed.

3.3.2   Gap Analysis DSS06

Based on the results of the analysis and determination of the capability level of DSS04, The level of DSS04 capability is 4, meaning that DSS04 has reached the predictable process, which means implementing DSS04, in its activities, it has recorded, monitored in policies and made rules and provided the best service/information that has been observed and analyzed. The target level to be achieved is level 5 in the optimizing process, as in Table 5.

Table 5. Gap Analysis DSS06

Process Name	Level Existing	Rounding Level	Target level	Gap
DSS06 Manage Business Processes	4.054	4	5	1

In Table 5, there is a gap analysis on DSS06, after analysis and obtaining the capability level on DSS06, which is at level 4 after being rounded. This means that DSS06 has reached the predictable process, where activities, policies, and services are optimal and have been monitored and analyzed. However, the target level to be achieved is level 5. Therefore, there is 1 gap that needs innovation

and strategy for the development of activities based on the analysis of activities that have been standardized before and maximize activities are already going well.

3.3.3   Gap Analysis APO11

Based on the results of the analysis and determination of the capability level of APO11 The level of APO11 capability is 4, meaning that APO11 has reached the predictable process, which means implementing APO11, in its activities it has recorded, monitored in policies, and made rules and provided the best service/information that has been observed and analyzed. The target level to be achieved is level 5 in the optimizing process, as in Table 6.

Table 6. Gap Analysis APO11

Process Name	Level Existing	Rounding Level	Target level	Gap
APO11 Manage Quality	4.09	4	5	1

In Table 6, there is a gap analysis in APO11, after investigating and obtaining the capability level on APO11 at level 4 after being rounded up. This means that APO11 has reached the predictable process, where activities, policies, and services are optimal, monitored, and analyzed. However, the target level to be achieved is level 5. Therefore, there is 1 gap that needs innovation and strategy for developing activities based on previous analyses of activities carried out. Moreover, maximize activities that are already going well.

3.3.4   Gap Analysis APO12

Based on the results of the analysis and determination of the APO12 capability level, the APO12 capability level is 4, meaning that APO12 has reached the predictable process, which means implementing APO12 in its activities it has recorded, monitored in policies, and made rules and provided the best service/information that has been observed and analyzed. The target level to be achieved is level 5 in the optimizing process as in Table 7.

Table 8. Gap Analysis APO12

Process Name	Level Existing	Rounding Level	Target level	Gap
APO12 Manage Risk	3.87	4	5	1

In Table 7, there is a gap analysis in APO12, after researching and obtaining the capability level at APO12, which is at level 4 after being rounded. This means that APO12 has reached the predictable process, where activities, policies, and services are optimal, monitored, and analyzed. However, the target level to be achieved is level 5. Therefore, there is 1 gap that needs innovation and strategy for the development of activities based on the analysis of activities that have been standardized before. Moreover, maximize activities that are already going well.

3.3.5   Gap Analysis APO13

Based on the results of the analysis and determination of the capability level of APO13, the level of ability of APO13 is 4, meaning that APO13 has reached the predictable process, which means implementing APO13, in its activities, it has recorded, monitored in policies and made rules and provided the best service/information that has been observed and analyzed. The target level to be achieved is level 5, in the optimizing process, as shown in Table 8.

Table 8. Gap Analysis APO13

Process Name	Level Existing	Rounding Level	Target level	Gap
APO13	4	4	5	1

Manage Security	

In Table 8, there is a gap analysis at APO13. After examination and obtaining capability level at APO13 at level 4 after being rounded. This means that APO13 has reached the predictable process, where activities, policies, and services are optimal, monitored, and analyzed. However, the target level to be achieved is level 5. Therefore, there is 1 gap that needs innovation and strategy for the development of activities based on the analysis of activities that have been standardized before and maximize the activities that are already going well.

### 3.3.6   *Gaps Overall Analysis*

This process results from a recapitulation or calculation of the results of the audit process carried out. The following are the results of the overall capability level of each domain in Table 9.

Table 9. Domain Overall Level Maturity Gap Recapitulation

Process Name	Level Existing	Rounding Level	Target level	Gap
DSS-05 Manage Security Services	4.11	4.00	5.00	1.00
DSS-06 Manage Business Processes	4.054	4.00	5.00	1.00
APO-11 Manage Quality	4.09	4.00	5.00	1.00
APO-12 Manage Risk	3.879	4.00	5.00	1.00
APO-13 Manage Security	4.00	4.00	5.00	1.00

In Table 9, the capability level values in the DSS05, DSS06, APO11, APO12, and APO13 domains have an average value of level 4, namely the Predictable Process. Predictable process means that each process activity has been classified with several assignments, monitoring planning, evaluation, and boundaries adjusted to the agency's objectives.

Figure 2. Domain Overall Level Maturity Gap Recapitulation Diagram
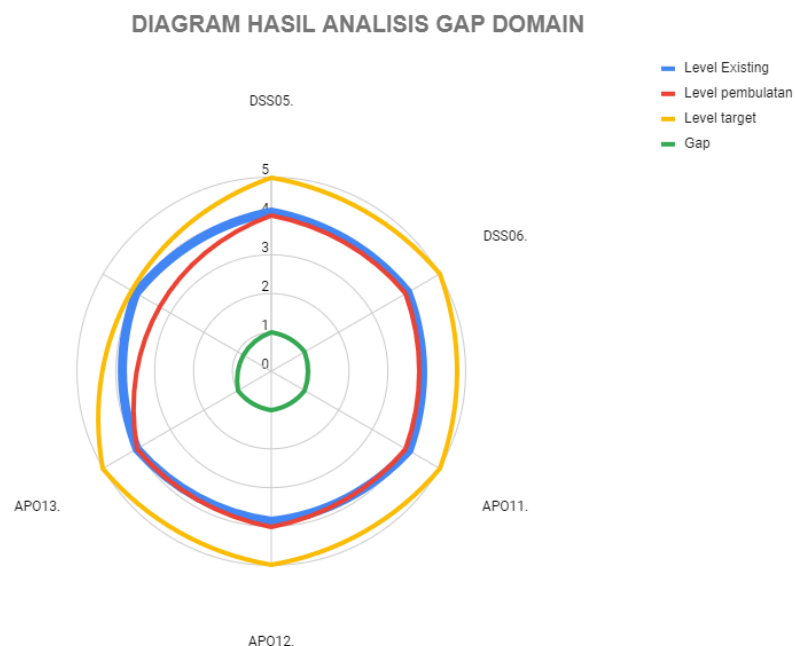
In Figure 2, shows the result of the maturity level value achieved by the DSS05, DSS06, APO11, APO12, and APO13 domains with a result of 80.5% or at the Largely achieved (L) level. At the Largely achieved (L) level, the activity process, policies, and rules are documented, producing services/information that has been monitored and analyzed correctly. However, there are still weaknesses that must be corrected again. To achieve capability process level 5 (optimizing process) and maturity level F (Fully completed), what must be done is to make efforts to make innovations and strategies for development based on the results of analysis of previously standardized activities and maximize activities that have been running quite well.

3.4   Recommendation Analysis Process

3.4.1   DSS05 Recommendation Analysis

Based on the gap analysis obtained based on the target level to be achieved by DSS05, recommendations can be given to improve the quality of the SIM UKPBJ, XYZ Regency as follows.

- Maintain all existing policies and regular monitoring to maintain the level of capability that has been achieved.
- Conduct regular monitoring of existing event security infrastructure.
- Screening devices that can access information.
- We are implementing decryption, encryption of information during the data transmission process to maintain the security of vital information data.

3.4.2   DSS06 Recommendation Analysis

Based on the gap analysis obtained based on the target level to be achieved by DSS05, recommendations can be given to improve the quality of the SIM UKPBJ, XYZ Regency as follows.

- Data archiving information errors on each service process.
- Properly store or archive data such as sources of information to be used as evidence in measuring the sustainability of business processes and services and as recommendations.
- Maintain all existing policies and regular monitoring to maintain the level of capability that has been achieved. Maintain all existing policies and regular monitoring records to maintain the completed capability level.
- Maintain training and activities for all employees to provide and upgrade knowledge and skills regarding IT services and all existing policies.

3.4.3   APO11 Recommendation Analysis

Based on the gap analysis obtained based on the target level to be achieved by APO11, recommendations can be given to improve the quality of the SIM UKPBJ, XYZ Regency as follows.

- Establish assessment guidelines with KPIs to measure the performance of each existing process.
- Maintain all existing policies and regular monitoring to maintain the level of capability that has been achieved.

3.4.4   APO12 Recommendation Analysis

Based on the gap analysis obtained based on the target level to be achieved by APO12, recommendations can be given to improve the quality of the SIM UKPBJ, XYZ Regency as follows.

- Maintain all existing policies and regular monitoring to maintain the level of capability that has been achieved.
- Do a more detailed description of the types of threats that are likely to occur.

- Make periodic records with details of problems and procedures for handling them to make it easier if something similar happens.

3.4.5 *APO13 Recommendation Analysis*

Based on the gap analysis obtained based on the target level to be achieved by APO13, recommendations can be given to improve the quality of the SIM UKPBJ in XYZ Regency as follows.

- Improve and maintain the implementation of existing operational security standards to support sustainable assets and operations.

- Maintain all existing policies and regular monitoring to maintain the level of capability that has been achieved.

4   Conclusion

The following conclusions can be given based on the audit process carried out on the SIM UKPBJ, the Procurement of Goods/Services Section of XYZ Regency using COBIT 5. In the early stages of the audit process, there are several domains selected as a representation of the process that has been adjusted to the conditions of IT Governance of the SIM UKPBJ, the Procurement of Goods/Services Section of XYZ Regency, namely the domains DSS05, DSS06, APO11, APO12 and APO13. Based on the results of the audit process carried out on average from all domains used, it is the DSS05, DSS06, APO11, APO12 and APO13 domains, have reached level 4, it called Largely achieved (L), which means that every process carried out, each activity instrument has been written in the SOPs/policy/rule and produces services/information with the optimizer process then monitored and analyzed. Based on the capability level of each process carried out, the target level of each activity has been determined to be 5. Agencies and stakeholders determine this to achieve exemplary service targets. The capability level value of the entire domain process is obtained rounding results at level 4, which means for every procedure gonna do, each activity instrument has SOPs or regulations as guidelines or implementation standards with the optimizer process of each activity then monitoring and analyzing. In the results of the values obtained, the average domain value is at the existing level of 4, or the current level of conditions is at the predictable process stage or activities are carried out by defining, designing, monitoring, and adjusting the boundaries of determination to achieve the goals of each process. Following the target level to be performed in the IT Governance SIM UKPBJ, the Procurement of Goods/Services Section of XYZ Regency is level 5, namely the optimizing process, so there is a need for innovation and renewal in every existing policy and regulation. Based on the average value of the domain, there are domains with an average value that is still slightly lagging compared to other domains, it is in the APO12 domain process to manage risks with a value of 3,879. It is necessary to classify it in more detail about the grouping of potential risks that will occur and carry out a detailed recording of various threats. The process of handling them and evaluating control is carried out regularly.

References

Ajismanto, F. (2018). Analisis Domain Proses COBIT Framework 5 Pada Sistem Informasi Worksheet (Studi Kasus: Perguruan Tinggi STMIK, Politeknik Palcomtech). CogITo Smart Journal, 3(2), 207-221.

Awidiawati, Ayu, N. P., & Estiyanti, N. M. (2021). Evaluasi Tata Kelola Quickbooks Software Pada CV Seni Echo Menggunakan Cobit 5. Jutisi: Jurnal Ilmiah Teknik Informatika dan Sistem Informasi, 10(2), 217-230.

Desmayanti, Sherly Try Muhammad, A. S., & Setiawan, R. (2022). Implementasi Pengadaan Barang dan Jasa Pemeritah Melalui Layanan Pegadaan Secara Elektronik di Provisi Kepulauan Riau. Student Online Journal UMRAH-Ilmu Sosial dan Ilmu Politik, 3(1), 671-675.

Firmansyah, Moh Fachruddin Ambarwati, A., & Setiawan, E. (2022). Evaluasi Pemanfaatan TI Menggunakan COBIT 5. Infoman's: Jurnal Ilmu-ilmu Manajemen dan Informatika, 16(1), 33-40.

Herath, Tejaswini C Herath, H. S., & Cullum, D. (2022). An Information Security Performance Measurement Tool for Senior Managers: Balanced Scorecard Integration for Security Governance and Control Frameworks. Information Systems Frontiers 1-41.

Hermanto, & Agus Mufihah, Y. (2019). Pemanfaatan Balance Scorecard dan Casading Strategi Organisasi Untuk Perancangan Strategi Layanan Penyedia Layanan Teknologi Informasi Pada ITIL-SERVICE STRATEGY. Proceeding SINTAK 2019.

ISACA. (2012). COBIT 5: A business framework for the Governance and management of enterprise IT. Isaca.

ISACA. (2012). COBIT 5: Enabling processes. ISACA.

Khairunnisa, Y. (2019). Evaluasi tata kelola teknologi informasi menggunakan framework cobit 5 (studi kasus: Universitas Pembangunan Nasional "Veteran") Fakultas Sains dan Teknologi UIN Syarif Hidayatullah Jakarta]. Fakultas Sains dan Teknologi UIN Syarif Hidayatullah Jakarta.

Leander Hadisaputro, & Elvin. (2019). Audit Tata Kelola TI Pada PT. Telekomunikasi Indonesia Regional VI Kalimantan Menggunakan Framework COBIT 5 Domain DSS. 2(1), 13-22.

Maskur, Maskur Adolong, Nixon Mokodongan, & Rusliy. (2018). Implementasi Tata Kelola Teknologi Informasi Menggunakan Framework COBIT 5 di BPMPTSP Bone Bolango. Jurnal Masyarakat Telematika dan Informasi, 8(2), 109-126.

Matondang, Nurhafifah Isnainiyah, I. N., & Muliawatic, A. (2018). Analisis manajemen risiko keamanan data sistem informasi (Studi kasus: RSUD XYZ). Jurnal RESTI, 2(1), 282-287.

Messakh, Novian Steven Farera Tanaamah, & Rocky, A. (2021). Analisis Sistem Informasi Berbasis Cobit 5 (Studi Kasus: LTC UKSW). JATISI, 8(1), 388-400.

Putra, & Priardhi, P. G. A. (2018). Audit Kesesuaian Tata Kelola Teknologi Informasi Perguruan Tinggi Pada Aspek IT Aset, Sumberdaya Dan Kapabilitas Terhadap Prinsip Good University Governance (Studi Pada Politeknik Negeri Bali) Institut Teknologi Sepuluh Nopember]. Institut Teknologi sepuluh Nopember Repository.

Saputro, B. A. (2020). Implementasi Program E-Procurement (Studi Unit Layanan Pengadaan Barang/Jasa Kabupaten Pati) repostory UB.

Satrio, & Moch. (2018). Pengukuran Tingkat Kematangan Tata Kelola Teknologi Informasi Pada Dinas Komunikasi dan Informatika Kabupaten Lamongan Menggunakan Framework COBIT 4.1 Domain Plan and Organise (PO) dan Acquire and Implement (AI) Universitas Brawijaya]. repository.ub.ac.id.

Suprianto, & Agung. (2019). Analisis Efektivitas Sistem E-Procurement dalam Pengadaan Barang/Jasa Pemerintah (Studi pada Fakultas Ilmu Administrasi Universitas Brawijaya). Jurnal Ilmiah Administrasi Publik, 5(2), 251-259.

Suryono, Ryan Randy Darwis, Dedi Gunawan, & Indra, S. (2018). Audit Tata Kelola Teknologi Informasi Menggunakan Framework Cobit 5 (Studi Kasus: Balai Besar Perikanan Budidaya Laut Lampung). Jurnal TEKNOINFO, 12(1), 16-22.

Tangka, George Morris William Liem, Andrew Tanny Mambu, & Yuan, J. (2020). Information Technology Governance Audit Using the COBIT 5 Framework at XYZ University. 2020 2nd International Conference on Cybernetics and Intelligent System (ICORIS),

Vanesya, & Riandani, P. (2021). Analisa Tata Kelola Teknologi Informasi Domain APO 01 berdasarkan Framework Cobit 5. Seminar Nasional Teknologi Informasi Komunikasi dan Industri,

Wiraniagara, Andreas Wijaya, & Andani, A. F. (2019). Analisis Tata Kelola Teknologi Informasi Menggunakan Framework COBIT 5 Domain Deliver Support And Service (Studi Kasus: Yayasan Eka Tjipta). jurnal Sebatik, 23(2), 663-671.