

ANALYSIS OF THE IMPLEMENTATION OF THE APO05 DOMAIN (MANAGED PORTFOLIO) IN THE COBIT 2019 FRAMEWORK : A SYSTEMATIC LITERATURE REVIEW

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Abstract: Information technology governance is becoming increasingly important as organizational needs grow, as it helps ensure that information technology can deliver optimal business value. This study analyzes the implementation of the APO05 domain across various organizational sectors using a Systematic Literature Review (SLR) approach. The SLR method was conducted in accordance with the PRISMA guidelines, which include the identification, screening, eligibility, and inclusion stages. The results of the study, based on 24 articles published between 2022 and 2026, indicate that the implementation of APO05 is widely applied in the private sector and the education sector. The most dominant research method was capability assessment using the COBIT 2019 framework, followed by the COBIT 2019 Design Factors approach. Capability results generally fell at the intermediate levels, namely Level 2 and Level 3. The findings of this study are expected to serve as a reference for academics and practitioners in developing the implementation of information technology governance using the APO05 domain.

Keywords: COBIT 2019; APO05; Managed Portfolio; IT Governance; Systematic Literature Review

1. Introduction

The rapid development of information technology today has driven organizations to enhance the utilization of technology to support business and operational activities effectively and efficiently. The appropriate application of technology can improve business process efficiency, service quality, risk management, and organizational competitiveness. Therefore, the implementation of information technology governance is necessary to ensure that the use of information technology aligns with business objectives and delivers optimal value to stakeholders (Elazhary et al., 2023; Wang et al., 2022).

COBIT 2019 is one of the frameworks frequently used in the implementation of information technology governance, developed by ISACA. COBIT 2019 provides guidelines for information technology governance and management that can help an organization optimize technology utilization, manage, and ensure that information technology resources are used effectively (Antariksa et al., 2025a).

COBIT 2019 comprises five main domains: Evaluate, Direct, and Monitor (EDM); Align, Plan, and Organize (APO); Build, Acquire, and Implement (BAI); Deliver, Service, and Support (DSS); and Monitor, Evaluate, and Assess (MEA) (Antariksa et al., 2025a). The APO domain plays a crucial role in ensuring that technology strategies, planning, and management align with the organization's objectives. One of the processes within this domain is APO05 (Managed Portfolio), which focuses on managing the information technology investment portfolio to maximize benefits and support the organization's business priorities (Elazhary et al., 2023).

In recent years, COBIT 2019 has been widely implemented across various organizational sectors, such as education, government, healthcare, and the private sector. Most studies use COBIT 2019 to measure capability levels, evaluate IT governance processes, and formulate improvement recommendations based on the organization's conditions. The results of a literature review conducted by Ikhsan et al. (2021) indicate that COBIT 2019 research in Indonesia is still dominated by capability assessment case studies focusing on specific domains according to organizational needs (Ikhsan et al., 2021).

Although research on COBIT 2019 implementation continues to increase, studies specifically addressing the implementation of APO05 remain relatively limited compared to other APO domains. The results of a Systematic Literature Review conducted by (Antariksa et al., 2025) indicate that COBIT 2019 research still holds development opportunities in several domains that have not yet been thoroughly explored. Therefore, a systematic literature review is needed to identify and analyze the development of research related to the implementation of APO05 within the COBIT 2019 framework (Antariksa et al., 2025a).

Based on this background, this study employs the Systematic Literature Review (SLR) method to collect, evaluate, and analyze prior research discussing the implementation of APO05 (Managed Portfolio) within the COBIT 2019 framework. This study aims to identify the implementation of APO05, the research methods used, the organizational sectors studied, and the capability levels obtained from various previous studies, thereby providing a more comprehensive overview of the application of APO05 in information technology governance.

2. Literature Review

2.1 Systematic Literature Review (SLR)

A Systematic Literature Review (SLR) is a research method used to systematically and structurally identify, evaluate, and synthesize the results of previous studies. This method helps researchers gain a comprehensive understanding of a research topic through the process of searching for, selecting, and analyzing of relevant literature. In its implementation, SLR generally uses the PRISMA guidelines, which consist of the identification, screening, eligibility, and inclusion stages to ensure that the article selection process is conducted transparently and accountably. SLR is widely used in information systems research to identify research trends, methods used, and research opportunities that can still be developed (Dwinnie et al., 2023).

2.2 Information Technology Governance

According to the ITGI (Information Technology Governance Institute), information technology governance is the responsibility of an organization's board of directors and executive leadership (Akbar & Saputra, 2023). Information technology governance (IT Governance) is a set of processes, organizational structures, and control mechanisms designed to ensure that the use of information technology effectively and efficiently supports the achievement of organizational objectives. The implementation of IT governance helps organizations enhance business value and optimize information technology resources (Yolanda et al., 2023).

2.3. The COBIT 2019 Framework dan Domain APO05

COBIT 2019 is a governance framework that encompasses several domains aimed at managing and governing information technology (Firdaus, 2025). This framework consists of five main domains: Evaluate, Direct, and Monitor (EDM); Align, Plan, and Organize (APO); Build, Acquire, and Implement (BAI); Deliver, Service, and Support (DSS); and Monitor, Evaluate, and Assess (MEA). This framework is widely used in both research and IT governance audit practice because it helps organizations evaluate the level of capability and maturity of their information technology processes (Yolanda et al., 2023). One of the processes within the APO domain is APO05 (Managed Portfolio). APO05 focuses on managing the information technology investment portfolio. Implementing APO05 helps organizations determine investment priorities, allocate resources effectively, and ensure that IT investments align with the organization's business objectives. Therefore, APO05 is a critical process in supporting sound IT investment decision-making (Jaya & Fianty, 2023).

3. Research Methods

This study employs a Systematic Literature Review (SLR) following the PRISMA guidelines (identification, screening, eligibility, inclusion) to review developments in IT Governance during the 2022–2026 period (Antariksa et al., 2025a). The SLR method involves identifying, analyzing, and interpreting previous research related to the research question (Kurniawan & Wella, 2023). The following are the steps of the Systematic Literature Review method established in this study.

3.1. Research Question (RQ)

This study formulates a clear research question to ensure a focused literature review. The question posed is as follows in Table 1.

Table 1 Research Question

ID	Research Question	Objective
RQ1	How is the APO05 domain implemented in COBIT 2019-based information technology governance research?	To determine how the APO05 domain is implemented in COBIT 2019-based information technology governance research.
RQ2	What methods are most frequently used in COBIT 2019-based IT governance research involving the APO domain?	To identify the research methods most frequently used in COBIT 2019-based information technology governance research involving the APO domain.
RQ3	In which organizational sectors is the implementation of the APO domain in COBIT 2019 applied?	To determine the organizational sectors that are the subjects of the application of the APO domain in COBIT 2019 research.
RQ4	What are the capability level results in the APO domain study, and how does the APO05 capability level compare to other APO domains?	To analyze the capability level results in the COBIT 2019-based APO domain study and compare the position of the APO05 capability level with other APO domains.

3.2. Literature Search

In this stage, a search was conducted using several databases, namely Google Scholar, Garuda Kemdikbud, and ScienceDirect. These databases were used to find papers related to the research questions. The search was conducted using the keywords "COBIT 2019," "APO05," "Managed Portfolio," "IT governance," and "Evaluation".

3.3. Literature Selection

The articles that were identified were then progressively screened based on inclusion and exclusion criteria in accordance with the research needs and to ensure quality and relevance aligned with the research objectives. These criteria are presented in Table 2.

Table 2 Literature Selection

Criteria	Description
Inclusion Criteria	Articles focus on the COBIT 2019 framework Discuss the APO05 domain or managed portfolio Published between 2022 and 2026 Aligns with the formulated research questions
Exclusion Criteria	Articles do not discuss the APO05 domain Do not use COBIT 2019 Is not a scientific article Contains discussions irrelevant to the research objectives

3.3. Quality Assessment

The next step is to evaluate the selected articles by establishing quality criteria. In this study, the quality assessment criteria are as follows.

QA1 : Was the article published between 2022 and 2026?

QA2 : Does the article mention the research methods, subjects, and results used?

QA3 : Is the article relevant to the SLR objectives?

Each article will be assessed and scored for each question posed

Yes : For articles that are related and relevant to the proposed criteria.

No : For articles that are not related and not relevant to the proposed criteria.

4. Result

4.1 Literature Selection Results

The article search process using predetermined keywords yielded 35 articles from Google Scholar, Garuda Kemdikbud, and ScienceDirect. These articles were then screened based on inclusion and exclusion criteria, resulting in a total of 24 articles. These articles discuss the

implementation of the APO05 domain either directly or as part of the APO domain evaluation within the COBIT 2019 framework. The selected articles then underwent a quality assessment process to ensure their alignment with the research objectives. All selected articles discuss the implementation of the APO05 domain (Managed Portfolio) within the COBIT 2019 framework, either directly or as part of an information technology governance evaluation.

This study employs four research questions (RQ). The first research question (RQ1) aims to determine how the APO05 domain is implemented in COBIT 2019-based information technology governance research. The second research question (RQ2) aims to identify the most frequently used research methods in COBIT 2019-based information technology governance research involving the APO05 domain. The third research question (RQ3) aims to determine the organizational sectors that are the focus of the implementation of the APO05 domain within the COBIT 2019 framework. The fourth research question (RQ4) aims to analyze the results of the APO05 capability level and compare the position of the APO05 capability level with other APO domains within the COBIT 2019 framework.

4.2 Implementation of the APO05 Domain in the COBIT 2019 Framework (RQ1)

The analysis results indicate that APO05 (Managed Portfolio) is used to ensure that information technology investments align with organizational objectives and deliver optimal business value. In most studies, APO05 is used to support the management of IT project portfolios, investment prioritization, resource allocation, and the measurement of information technology benefits.

The implementation of APO05 is found across various organizational sectors. In the education sector, APO05 is used to support the management of academic systems, student admission processes, and technology-based educational services. In the government sector, APO05 is used to support public service governance and digital transformation. Meanwhile, in the private sector, APO05 is applied to support IT project management, ERP, marketplace services, manufacturing, logistics, and other business operations. Overall, all studies indicate that APO05 plays a crucial role in ensuring that information technology investments are targeted, measurable, and aligned with organizational strategy.

4.3 Research Methods Used (RQ2)

Analysis of 24 articles indicates that research on APO05 implementation employs several research methods in case studies using the COBIT 2019 framework.

Table 3 Results of Method Identification

Method	Frequency
Capability Assessment / COBIT 2019 Audit	9
COBIT 2019 Design Factors / Design Toolkit	8
Governance System Design Workflow	3
Mixed Method	2
Risk Management Approach	1
Conceptual Analysis	1

Based on the results in Table 3 above, the most frequently used method is the COBIT 2019 Capability Assessment/Audit, with 9 articles. This method is used to measure the level of information technology governance capabilities and determine the gap between the actual conditions and the organization's expected targets. Additionally, the COBIT 2019 Design Factors approach is also quite dominant, with 8 articles. This indicates that recent research focuses not only on governance evaluation but also on designing governance that aligns with the organization's characteristics.

4.4 Organizational Sectors Implementing APO05 (RQ3)

Based on the 24 articles analyzed, APO05 implementation was found across various organizational sectors. The results of the analysis for research question RQ3 are presented in Table 4.

Table 4 Results of Implementation Sector Identification

Organizational Structure	Number of Articles
Private Companies	10
Education	6
Government	3
Foundations/Non-profits	2
Hospitals	1
State-Owned Enterprises	1
National Meteorological and Geophysical Agency	1
Sharia Cooperative	1

The RQ3 results in Table 4 show that the private sector is the most frequently studied sector, with 10 articles. APO implementation in this sector is used to support the management of IT projects, ERP, logistics, manufacturing, real estate, and digital services. The education sector ranks second with 6 articles, covering vocational high schools, polytechnics, and universities. These findings indicate that educational institutions are beginning to pay significant attention to information technology governance to support digital transformation.

4.5 APO05 Capability Level Analysis (RQ4)

Capability level is the primary indicator used to assess the maturity level of APO05 implementation within an organization. Based on the data available in the analyzed articles, the distribution of capability levels is presented in Table 5 below.

Table 5 Results of Capability Level Identification

Capability Level	Number of Articles
Level 1	Processes have been implemented but are not yet standardized
Level 2	The process has been managed and monitored
Level 3	The process has been documented and is consistently implemented
Level 4	Processes are measurable and controlled Level
Level 5	Processes have been optimized and are subject to continuous improvement

Several studies report that APO05 is at Levels 2 and 3, indicating that the organization has an operational and documented information technology portfolio management process. Meanwhile, there are organizations that have reached Level 5, indicating that the APO05 process has been optimized and supports the achievement of the organization's strategic objectives.

Compared to other APO domains, APO05 tends to rank in the mid-to-high range. In some studies, the capability level of APO05 is higher than that of APO06 and APO10. However, in other studies, APO05 still ranks below APO12 (Managed Risk) and APO13 (Managed Security), which are generally the top priorities for organizations in managing risk and information security. These findings indicate that APO05 plays a crucial role in information technology governance, particularly in ensuring that IT investments provide added value to the organization.

4.6 Analysis of Research Gap in APO05

Based on a synthesis of 24 articles, several research gaps were identified that remain open for further study.

Table 6 Results of Research Gap Identification

Findings

APO05 is used to support the management of information technology investments and portfolios to align with organizational objectives.

The most dominant research method is the COBIT 2019 Capability Assessment/Audit, accounting for 37.50%.

Implementation of the APO domain was most commonly found in the private sector (41.67%) and the education sector (25.00%).

The APO05 capability level ranges from Level 1 to Level 5, with a dominance in the intermediate levels (Levels 2–3).

The position of APO05 is relatively competitive compared to other APO domains, but it still often ranks below APO12 and APO13, which focus on risk and information security.

APO05 is used to support the management of information technology investments and portfolios to align with organizational objectives.

The analysis results in Table 6 show that the APO05 domain plays a crucial role in the management of information technology investments and portfolios across various organizational sectors. The analyzed studies are still dominated by a capability assessment approach, with the most common implementations found in the private sector and education. Additionally, the capability level of APO05 is generally at an intermediate level, so efforts to enhance capabilities and develop research that integrates APO05 with other APO domains within the COBIT 2019 framework are still needed.

5. Discussion

The research findings indicate that APO05 is widely used to support the management of information technology investments and portfolios across various organizational sectors. The dominance of the Capability Assessment method suggests that APO05 research remains focused on measuring the level of IT governance capabilities. Furthermore, the fact that the APO05 capability level generally falls at Levels 2–3 indicates that most organizations have established processes in place, but they are not yet fully optimized. These findings suggest that improving IT portfolio management remains a need across various organizations.

6. Conclusion

The research results show that 24 articles were successfully selected through a screening process based on the established criteria. Based on RQ1, the implementation of the APO05 domain (Managed Portfolio) within the COBIT 2019 framework is used to support the management of information technology investments and portfolios to align with organizational objectives. Based on RQ2, the most commonly used research method was the COBIT 2019 Capability Assessment/Audit, with 9 articles, followed by COBIT 2019 Design Factors with 8 articles. Based on RQ3, the implementation of APO05 was most frequently found in the private sector (10 articles) and the education sector (6 articles). Based on RQ4, the APO05 capability level ranged from Level 1 to Level 5, with a dominance at Levels 2 and 3, indicating that most organizations have established and documented information technology portfolio management processes, though these are not yet fully optimized.

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Conflict of Interest

The author declares that there are no conflicts of interest.

Data Availability

The data used in this study were obtained from scientific articles found via Google Scholar, Garuda Kemdikbud, and ScienceDirect in accordance with the established inclusion and exclusion criteria. All data supporting the study's findings are available in this article and can be accessed through the public sources used in the Systematic Literature Review process.

References

- Akbar, H., & Saputra, R. (2023). EVALUASI KINERJA TATA KELOLA TEKNOLOGI INFORMASI TERHADAP TOOLS INTERNAL FRAMEWORK COBIT 2019. *Sebatik*, 27(2). <https://doi.org/10.46984/sebatik.v27i2.2336>
- Amali, L. N., Katili, M. R., & Suhada, S. (2023). Core model of information technology governance system design in local government. *TELKOMNIKA (Telecommunication Computing Electronics and Control)*, 21(4), 750–761.
- Ananda, V., Yasa, G. I., & Dwitawati, I. (2025). Identifying It Governance and Management Objectives (GMO) With COBIT 2019: Case Study Islamic State University Ar-Raniry. *Elkawanie*, 11(1), 57–79. <https://doi.org/10.22373/ekw.v11i1.26329>
- Antariksa, M. D. S., Angin, M. P., & Widodo, A. P. (2025a). COBIT 2019 Framework in IT Governance: A Systematic Literature Review of Implementation Challenges and Benefits Across Various Industry Sectors. *Journal of Renewable Energy, Electrical, and Computer Engineering*, 5(1), 99–105. <https://doi.org/10.29103/jreece.v5i1.19501>
- Antariksa, M. D. S., Angin, M. P., & Widodo, A. P. (2025b). COBIT 2019 Framework in IT Governance: A Systematic Literature Review of Implementation Challenges and Benefits Across Various Industry Sectors. *Journal of Renewable Energy, Electrical, and Computer Engineering*, 5(1), 99–105. <https://doi.org/10.29103/jreece.v5i1.19501>
- Baihaqi, M. B., & Prastio, W. T. (2023). Audit Sistem Informasi Manajemen Inventory PT.ABC Menggunakan Framework COBIT 2019. *The Indonesian Journal of Computer Science*, 12(4). <https://doi.org/10.33022/ijcs.v12i4.3218>
- Cahyono, Y. D., & Widiyanti, L. W. (2025). IMPLEMENTASI TATA KELOLA DAN MANAJEMEN RISIKO TEKNOLOGI INFORMASI MENGGUNAKAN FRAMEWORK COBIT 2019 : *JATI (Jurnal Mahasiswa Teknik Informatika)*, 9(1), 250–256. <https://doi.org/10.36040/jati.v9i1.12277>
- Dwinnie, Z. C., Dwyne, Z. C., & Pramana, J. H. (2023). *Tata Kelola Audit Sistem Informasi Akademik Pada Layanan Akademik Fakultas Sains dan Teknologi Menggunakan COBIT 2019*. 9.
- Elazhary, M., Popović, A., Henrique De Souza Bermejo, P., & Oliveira, T. (2023). How Information Technology Governance Influences Organizational Agility: The Role of Market Turbulence. *Information Systems Management*, 40(2), 148–168. <https://doi.org/10.1080/10580530.2022.2055813>
- Faradina, S. A., Rachmadi, A., & Suprpto. (2026). Evaluasi Tata Kelola dan Manajemen Teknologi Informasi pada Dinas Komunikasi dan Informatika Kabupaten Malang Menggunakan Kerangka Kerja COBIT 2019 Proses EDM03 dan APO13. *Jurnal Pengembangan Teknologi Informasi Dan Ilmu Komputer*, 10(3). <https://j-ptiik.ub.ac.id/index.php/j-ptiik/article/view/16057>
- Firdaus, D. A. (2025). *ANALISIS KEAMANAN INFORMASI RUMAH SAKIT MENGGUNAKAN COBIT 2019 DENGAN FOKUS DOMAIN APO13: SYSTEMATIC LITERATURE REVIEW*. 9(4).
- Hariman, P. A., & Fianty, M. I. (2024). Measuring IT Governance in ERP Systems: A COBIT 2019 Evaluation of SAP Material Management Module. *G-Tech: Jurnal Teknologi Terapan*, 8(4), 2532–2544. <https://doi.org/10.70609/gtech.v8i4.5290>
- Ikhsan, M., Widodo, A. P., & Adi, K. (2021). Systematic Literature Review on Corporate Information Technology Governance in Indonesia using Cobit 2019. *Prisma Sains : Jurnal Pengkajian Ilmu Dan Pembelajaran Matematika Dan IPA IKIP Mataram*, 9(2), 354. <https://doi.org/10.33394/j-ps.v9i2.4370>

- Ikram, M. W., Winarno, W. W., & Arief, M. R. (2019). *PERENCANAAN AUDIT TATA KELOLA TEKNOLOGI INFORMASI MENGGUNAKAN FRAMEWORK COBIT 2019 (STUDI KASUS: PT. LAZ COAL MANDIRI)*. 4.
- Jaya, R. K., & Fianty, M. I. (2023). IT Project Management Control and The Control Objectives for IT and Related Technology COBIT 2019 Framework. *The Indonesian Journal of Computer Science*, 12(5). <https://doi.org/10.33022/ijcs.v12i5.3397>
- Lestari, M., Iriani, A., & Hendry, H. (2022). Information Technology Governance Design in DevOps-Based E-Marketplace Companies Using COBIT 2019 Framework. *INTENSIF: Jurnal Ilmiah Penelitian Dan Penerapan Teknologi Sistem Informasi*, 6(2), 233–252. <https://doi.org/10.29407/intensif.v6i2.18104>
- Lumingkewas, C., Phytagoras, M., Fanesa, V., Walangitan, M., Mambu, J. Y. Y., & Lompoliu, E. (2022). IDENTIFIKASI LEVEL KAPABILITAS IT GOVERNANCE MENGGUNAKAN FRAMEWORK COBIT 2019 PADA PT XYZ. *Tekinkom*, 5(1), 85. <https://doi.org/10.37600/tekinkom.v5i1.465>
- Malik, A. M., & Siregar, J. (n.d.). *AUDIT SISTEM INFORMASI PPDB SMK SANDIKTA BEKASI MENGGUNAKAN COBIT 2019*.
- Mariatama, A. A., Atrinawati, L. H., & Putra, M. G. L. (2022). PERANCANGAN TATA KELOLA TEKNOLOGI INFORMASI DENGAN MENGGUNAKAN FRAMEWORK COBIT 2019 PADA PT JWT GLOBAL LOGISTICS INDONESIA. *Jurnal Sistem Informasi Dan Informatika (Simika)*, 5(1), 19–29. <https://doi.org/10.47080/simika.v5i1.1423>
- Moryanda, R., Pujani, V., & Marpaung, Y. (2024). Evaluasi Sistem Informasi Manajemen Rumah Sakit Menggunakan Framework COBIT 2019 (Studi Kasus: Semen Padang Hospital). *TEKNOSI*, 9(3), 299–306. <https://doi.org/10.25077/TEKNOSI.v9i3.2023.299-306>
- Mubarak, R. F., & Fianty, M. I. (2023). Leveraging COBIT 2019 to Implement IT Governance in Mineral Mining Company. *J. Inf. Syst. Informatics*, 5(3), 1058–1071. <https://doi.org/10.51519/journalisi.v5i3.545>
- Neman, P. Y., & Fibriani, C. (2023). Perancangan Audit Teknologi Informasi Menggunakan COBIT 2019 Pada Perusahaan Percetakan. *Progresif: Jurnal Ilmiah Komputer*, 19(2), 659–670. <https://doi.org/10.35889/progresif.v19i2.1305>
- Priyatman, H., Saleh, M., Sujaini, H., Yusuf, I., Aryanto, B., Anshari, M. R., Darmawan, H., & Ulfa, U. (2022). Audit Teknologi Informasi di Yayasan Baitul Maal PLN Unit Induk Pembangunan Kalimantan Bagian Barat. *JEPIN*, 8(2), 317. <https://doi.org/10.26418/jp.v8i2.54093>
- Ramanda, N., Avrilla, R. D., Nabila, N. M., & Sularno. (2024). Designing Information Technology Governance In XYZ Padang Company Using Cobit 2019. *Journal on Advanced Science, Engineering and Information Technology (JASEIT)* \textbar E-ISSN : 3089-5944, 1(1), 28–37.
- Sahara, E., Fachruddin, & Devitra, J. (2025). Audit Tata Kelola Teknologi Informasi Universitas Nurdin Hamzah Menggunakan Framework COBIT 2019. *Jurnal Ilmiah Media Sisfo*, 19(2), 279–290. <https://doi.org/10.33998/mediasisfo.2025.19.2.2489>
- Saputra, I. N. S. (2025). Assessment of Information Technology Governance Capability Level Based on the COBIT 2019 Framework Using the Goals Cascade and Design Factors Scoping Method: A Case Study of PT XYZ. *INSERT : Information System and Emerging Technology Journal*, 6(2), 266–280. <https://doi.org/10.23887/insert.v6i2.104636>
- Shobirin, I., & Muhammad, A. H. (2024). Model Tata Kelola TI Berbasis COBIT 2019 untuk Mendukung Transformasi Digital Koperasi (Studi kasus: KSPPS TAMZIS BINA UTAMA). *G-Tech: Jurnal Teknologi Terapan*, 8(4), 2474–2484. <https://doi.org/10.70609/g-tech.v8i4.5169>
- Sopacua, F. J., & Haryani, E. (2024). Penerapan Framework COBIT 2019 pada Evaluasi Tata Kelola Teknologi Informasi di Yayasan Pendidikan. *JEPIN*, 10(2), 323. <https://doi.org/10.26418/jp.v10i2.79297>

- Suroto, S., & Friadi, J. (2022). *Pengukuran Tingkat Capability IT Governance pada PT. Sarana Citranusa Kabil Menggunakan Framework Cobit 2019 (Measurement of IT Governance Capability Level at PT. Sarana Citranusa Kabil Uses the 2019 Cobit Framework)*. 1(2).
- Suryanta, A., & Widiati, L. W. (2025). IMPLEMENTASI FRAMEWORK COBIT 2019 PADA TATA KELOLA TEKNOLOGI INFORMASI DI POLITEKNIK ANGKATAN DARAT UNTUK MENDUKUNG MODERNISASI TEKNOLOGI MILITER. *JATI (Jurnal Mahasiswa Teknik Informatika)*, 9(1), 270–274. <https://doi.org/10.36040/jati.v9i1.12278>
- Taliwongso, I., Mambu, J. Y., Putra, E. Y., & Waworundeng, J. (2023). DESIGNING IT GOVERNANCE USING COBIT 2019 AT PT UNICHARM INDONESIA. *Jurnal Indonesia : Manajemen Informatika Dan Komunikasi*, 4(2), 515–528. <https://doi.org/10.35870/jimik.v4i2.274>
- Wang, F., Lv, J., & Zhao, X. (2022). How do information strategy and information technology governance influence firm performance? *Frontiers in Psychology*, 13, 1023697. <https://doi.org/10.3389/fpsyg.2022.1023697>
- Wowor, H. (n.d.). Christanty Wenas¹, Yaulie D.Y. Rindengan², Hans F. Wowor³ Dept. Of Electrical Engineering, Sam Ratulangi University Manado, Kampus Bahu St., 95115, Indonesia e-mails: 14021104088@student.unsrat.ac.id¹, rindengan@unsrat.ac.id²,.
- Yolanda, S., Hendra, H., Hita, H., & Ginting, T. W. (2023). Analisis Tata Kelola Teknologi Informasi Menggunakan Kerangka Kerja COBIT 2019 Domain BAI03 (Studi Kasus: PT. Berlian Tangguh Sejahtera). *Jurnal SIFO Mikroskil*, 24(2), 173–186. <https://doi.org/10.55601/jsm.v24i2.1035>