# LOGISTICS SERVICE INFORMATION SYSTEM AUDIT USING COBIT 5 FRAMEWORK

Husnul Hayat<sup>1\*</sup>; Samudi<sup>2\*</sup>

Information Systems<sup>1,2</sup> Universitas Nusa Mandiri, Indonesia<sup>1,2</sup> https://www.nusamandiri.ac.id<sup>1,2</sup> 11220762@nusamandiri.ac.id<sup>1\*</sup>; samudi.smx@nusamandiri.ac.id<sup>2\*</sup> (\*) Corresponding Author



The creation is distributed under the Creative Commons Attribution-NonCommercial 4.0 International License.

Abstract — PT. KBN Prima Logistik is a subsidiary affiliated with PT. Kawasan Berikat Nusantara which operates in the field of logistics services. In carrying out its business processes, it has implemented an Information System in the form of using desktopbased supporting business applications (Client Server). Some of the current problems are that the applications used are not functioning optimally, IT Governance procedures are not well defined by standards, there is no IT Division in the Organizational Structure that is responsible for IT management and there is a shortage of competent human resources in the IT field. Therefore, it is necessary to measure the Maturity Level and Capability Level of IT governance. So, research was carried out using the COBIT 5 framework as an Information System Audit model. The research method goes through the stages of problem identification, literature study, and domain determination which focuses on the DSS and MEA domains. The data collection method was through interviews and distributing questionnaires filled in by 20 respondents. The research results show that the Maturity Level value in the DSS and MEA domains shows an average value of 1.94 or 194%. Capability Level is still at Level 2 (Managed Process) from the expected Target Level 3 (Established Process). This indicates that although the IT processes has been run and implemented regularly with planning and monitoring according to business process objectives, but the management is not yet optimal and not well standardized. The results of the gap assessment show that the average gap value is 1.06.

*Keywords:* information system audit, cobit 5, dss, mea

Intisari— PT. KBN Prima Logistik merupakan anak perusahaan yang berafiliasi dengan PT. Kawasan Berikat Nusantara yang bergerak di bidang jasa layanan logistik. Dalam menjalankan proses bisnisnya telah menerapkan Sistem Informasi berupa penggunaan aplikasi bisnis pendukung berbasis desktop (Client Server). Beberapa permasalahannya saat ini adalah aplikasi yang digunakan belum berfungsi secara optimal, prosedur Tata Kelola TI belum terdefinisi dengan baik sesuai dengan standar, belum ada Divisi TI dalam Struktur Organisasi yang bertanggung jawab terhadap pengelolaan TI serta terdapat kekurangan SDM yang berkompeten di bidang TI. Oleh karena itu diperlukan pengukuran tingkat Maturity Level dan Capability Level tata kelola TI. Sehingga dilakukan Penelitian dengan menggunakan framework COBIT 5 sebagai model Audit Sistem Informasi. Metode Penelitian melalui tahapan identifikasi masalah, studi literatur dan penentuan domain yang fokus pada domain DSS dan MEA. Metode pengumpulan data melalui wawancara serta menyebarkan kuesioner yang diisi oleh 20 responden. Hasil penelitian menunjukkan bahwa nilai Maturity Level pada domain DSS dan MEA menunjukkan rata-rata nilai sebesar 1,94 atau sebesar 194%. Capability Level masih berada pada Level 2 (Managed Process) dari Target Level yang diharapkan vaitu Level 3 (Established Process). Ini mengindikasikan bahwa meskipun proses-proses Teknologi Informasi pada PT. KBN Prima Logistik telah dijalankan dan diimplementasikan secara teratur dengan perencanaan dan pemantauan sesuai tujuan proses bisnis, namun manajemennya belum optimal dan belum terstandarisasi dengan baik. Hasil penilaian gap dari seluruh sub domain menunjukkan bahwa rata-rata nilai gap sebesar 1,06.

Kata Kunci: audit sistem informasi, cobit 5, dss, mea

# **INTRODUCTION**

In the digital era, valued by progress in technology information, and communication possible to access fast to information, services, and communications through digital platforms. This matter makes lots of aspects of life faster and more easily accessible including influence on business in the field of logistics that includes management movement of goods, inventory, and information, visible impact significant positive from technology information in various aspects of its operations. Technology Information has opened opportunities new and is sustainable for company logistics.

For push development technology information in an organization or company, implementation of governance requires technology good and structured information. Governance technology good information has a very significant role in managing and optimizing asset technology information used by the company. The important thing to know is that IT governance is an inseparable part of successful implementation corporate governance by ensuring improvement which is measurable by the efficiency and effectiveness of the business within company (Kusbandono et al., 2019).

Information Technology Governance must becomes an integral part of corporate governance and is a concern from the board of directors and executive management who are responsible for organize and manage the company (Solechan, 2021)

IT Governance aims to direct IT and ensure achieving performance in accordance with the desired goals (Muliani, 2023).

PT. KBN Prima Logistik is child affiliated company with PT. Kawasan Berikat Nusantara in Danareksa Holding Industrial Estate cluster operates in the field service logistics that integrates forwarding and warehousing, well warehouse bonded, warehouse general, PDPLB warehouse and warehouse consolidation export as well as container depot into the supply chain system logistics national.

To make it happen vision the as well as achieved status as an independent company, however still integrated with the company data parent, has applied the use of System Information form application business supporter-based desktop (Client Server) like application FFSys (Freight Forwarding System) in the Operations Division And application CashSys (Cash System), GLProg (General Ledger Program), NDSys (Nota Debit System), TaxSys (Tax System) in the Accounting & Finance Division.

The problem moment this is at PT. KBN Prima Logistik is that several applications used do not yet work optimally to support operational logistics according with business processes. Some work data processing is still done manually. IT Governance guidelines and procedures are not yet defined with good and appropriate standards. Apart from that, not yet there is an IT Division within the Structure Organization to responsible the management system information is there, and there is available lack of competent human resources in the IT field.

Therefore that, for evaluating the extent of the System Information and IT Governance is running with both at PT. KBN Prima Logistik required measurement level maturity level and capability level of IT governance. This is purposeful for measuring and assessing how far IT management has gone implemented in the company.

Therefore, the Author chose the COBIT 5 Framework as the System Audit model Information in the study.

Based on several studies that have been conducted by previous researchers, research by Tri Rahayu et al. entitled "Audit of Academic Information Systems Using the Cobit 5 Method (Case Study of UPN Veteran Jakarta)" this research focuses on 5 domains, namely the Deliver, Service and Support process in UPNVJ IT is at level 3 with a value of 2.80 and has a gap of 1.20. The results in the domains Evaluate, Direct and Monitor, Align, plan and organize, Build, Aquire and implement, BAI04 and Monitor, Evaluate and Assess in UPNVJ IT have a level 2 with a value of 2.00 and have a gap of 2.00 and the results of the Capability Level based on all 5 process domains have a value of 2.20 and a gap of 1.80, based on the target level set, namely capability level 4.00 (Rahayu et al., 2020).

Research by Akmal Panji Rabhani et al. entitled "Audit of the Attendance Information System at the Bandung City District Attorney's Office Using the Cobit 5 Framework". This research focuses on the MEA (Monitor, Evaluate, and Assess) domain as a reference. The number of respondents involved in filling out the questionnaire was only taken as many as 5 people, namely the Heads of the Bandung City District Attorney's Section who daily carry out SIMPEG operations. Based on the recapitulation of the answers from the respondents, the current capability level score was obtained at 2.4 in the range of 1-4 (Rabhani et al., 2020)

Research by Maya Nur Amalia et al. entitled "Audit of Information Systems in the ARS University Library Using the Cobit 5 Framework". This research focuses on the Decision, Support and service (DSS) domains, namely DSS1 (Manage Operations), DSS5 (Manage Security), DSS10 (Manage Problems) and DSS11 (Manage Data). The maturity level assessment in DSS1, DSS5, DSS10, and DSS 11 was carried out to evaluate the implementation of operational management, security management, problem management, and data management in the library. From the results of the level obtained, the results of the maturity level in the ARS University library information system, especially in the DSS domain, are at level 4 (Amalia et al., 2020).

Research by Putu Aditya Pratama et al. entitled "Audit of Information Systems of Ganesha Education University with Cobit 5 Framework". This research focuses on the domains of Deliver Service and Support (DSS) and Monitor Evaluate and Assess (MEA). From the results of the calculation of existing data, a capability value of 2.7 was obtained with a gap value of 1.3, which is at level 3 Established Process, the expected or targeted level is level 4. To reach level 4 with a gap value of 1.3, several recommendations were made, including in the service and maintenance of the system, managing facilities in accordance with the results or data obtained, and in accordance with the expectations of Ganesha Education University, especially in the implementation or operation of the information system (Pratama et al., 2020).

Research by Rouly Doharma et al. entitled "Audit of Information Systems Using the Cobit 5 Framework (Case Study: PT Media Print)". This research focuses on the delivery, service and support (DSS) domain, based on the research that has been carried out by the company, the IT process value of DSS03 is at 2.8, so it can be concluded that the company has identified, clarified and provided the right resolution even though there are still several things that need to be improved by the company (Doharma et al., 2021).

The research of Amelita Taraudu et al. is entitled "Evaluation of Information Technology Governance Using the Cobit Framework 5 EDM Domain at the Bina Darma Salatiga Foundation". This research focuses on the EDM domain, showing that the results of the current capability level at the Bina Darma Foundation are at level 1 (Performed Process), as can be seen from the IT processes at the foundation have run well and achieved goals. In the future, for the development of the Bina Darma Foundation, it is hoped that there will be an increase from the level that has been obtained now and several recommendations will be given that can be helped and used by the Foundation to reach its target level of level 2 (Managed Process) (Taraudu, 2021).

The research of Sri Kurniasih et al. is entitled "Audit of the Human Resource Information System (HRIS) in the Human Resource (HR) Section Using the Cobit 5 Domain DSS01 Framework". This research focuses on the Deliver, Service and Support (DSS) domain in the DSS01 sub-domain, from the results of the study a capability level assessment process and gap analysis are carried out, before finally the audit results will be verified and pass the improvement strategy stage and the process recommendation stage. Through the results of measuring the level of capability of process 1 (performed process) and level 2 (managed process). So based on the gap analysis in general, it is necessary to increase the target carried out from the current conditions by maximizing processes that are already running well and making innovations to achieve the expected conditions (Kurniasih & Masitoh, 2021).

Research by D.V. Gusman et al. entitled "Audit of IT Security Systems Using DSS05 Domain in the COBIT 5 Framework (Case Study: Diskominfo Karawang Regency)". This research focuses on the DSS05 domain, the results of this research obtained a capability value of 3.4 (as is) and 4.1 (to be) so that the process that has been implemented is broadly achieved. In the DSS05 domain, an achievement of 92% means that in the process attribute 3.1 process definition is fully achieved, so that the assessment can be continued to the next level, namely (PA) 3.2 Process Deployment (Gusman et al., 2021).

The research of Daffa Iqbal Agselmora et al. is entitled "Information Technology Audit Using COBIT 5 DSS Domain at Stikubank Semarang University". This research focuses on the DSS domain, the results of the audit of the Smart Campus Information System of Stikubank University Semarang reached a value of 3.89 in the maturity level process, which means that the process only reaches level 3, while in the capability level process only reaches level 2. There are still processes that need to be improved again to be able to improve to the next level (Iqbal Agselmora & Prasetyo Utomo, 2022).

Adith Aulia Rahman research entitled "Audit of Academic Information Systems of Primagraha University Using Cobit 5 Framework". This research focuses on the domains of DSS (Deliver, Service, and Support) and MEA (Monitor, Evaluate, and Access). The average result of the gap level of the academic information system at Primagraha University is 3. And which means that every process that has been implemented is regulated through a process that has been established (established). To achieve the expected capability level target, it is recommended to improve the system in terms of business processes based on SOPs based on the COBIT 5 Framework (Rahman, 2022).

Research by Endang Pujiastuti et al. entitled "Audit of Attendance Information Systems at the Communication and Informatics Service Using Cobit 5". This research focuses on the domains APO, BAI, DSS, and MEA focusing on the subdomains APO01, BAI01, DSS01, MEA01 and MEA03. For the calculation of the average maturity level of the five sub-domains, which is 3.71 or 371%, when viewed from the rating scale, it is included in the F level which indicates that it has reached the value of Fully achieved where there is a complete and systematic approach and full achievement (Pujiastuti et al., 2023).

Research by Muchlis Imam Santoso et al. "Audit of Attendance Application entitled Information System at Inl International Technology Using the Cobit 5 Framework". This study focuses on the domains EDM1, APO 11, DSS 02, MEA 01, MEA02 and BAI 08, the results obtained are the order of domains with the highest scores, namely the EDM01 domain with a maturity level value of 3.64 and the achievement value of Fully Achieved, getting the Established Process level in IT capabilities, and a gap value of 0.64 from the target level 3. MEA01 has a maturity level value of 3.18, a fully achieved value, received an Established Process level in IT capabilities, and a gap value of 0.18 from the target level 3. BAI08 has a maturity level value of 2.93, a fully achieved value, received a Managed Process level in IT capabilities, and a gap value of 0.07 from the level 3 target. DSS02 has a maturity level value of 1.59, a fully achieved value, received a Performed Process level in IT capabilities, and a gap value of -1.41 from the level 3 target. and APO11 received a maturity level value of 0.95 with a Fully Achieved achievement value, received an Incomplete Process level in IT capabilities, and a gap value of -2.05 from the target level 3 and 2 and the highest value domain sequence questionnaire, namely the EDM01 domain with a maturity level value of 3.64 and a gap value of 0.64. MEA01 maturity level value 3.18 gap value 0.18. BAI08 maturity level value 2.93 gap value 0.07. DSS02 maturity level value 1.59 gap value -1.41. and AP011 maturity level value of 0.95 with a gap value of -2.05. The results of the gap show that the current condition is still not better than expected (Imam Santoso & Zuraidah, 2023).

These studies provide useful insights in assessment of information technology governance using the COBIT 5 framework in various organizations and institutions. These data reference for researchers are а in ongoing research.

While the research currently conducted by the author aims to audit information systems using the COBIT 5 Framework. This audit is focused on DSS (Deliver, Service, and Support) domains with subdomains DSS01, DSS02, DSS03, DSS04, DSS05, and DSS06. The focus of this audit is to evaluate the performance of applications in Information Technology systems so that the processes carried out can run effectively (Zuraidah & Budihartanti, 2021). In addition, this study also involved the MEA (Monitor, Evaluate, and Assess) domain with MEA01, MEA02, and MEA03 subdomains. This domain focuses on aspects of management and supervision, as well as evaluating how information technology is managed within a company or organization. The purpose of this domain is to ensure that design and controls conform to applicable regulations, and also to conduct monitoring relating to independent assessment of IT effectiveness.

So, based on the background of the above problem, the author conducted research entitled "Information System Audit Using the Cobit 5 Framework at PT. KBN Prima Logistik".

Based on the identification problem, therefore the formulation of the problem at PT. KBN Prima Logistik is how effective the information system is in accordance with the company's business processes, how method designing adequate IT guidelines and procedures by IT Governance standards, the extent of effectiveness of the role of the IT Division and how steps develop and improvement HR competencies, especially in the IT field.

In System Audit Research Information Use Frameworks Cobit 5 at PT. KBN Prima Logistik, this room scope discussed focuses on 2 domains with 9 subdomains or processes in the selected domain. Selected Cobit Framework 5 domain and subdomain are as following:

- 1. DSS (Deliver, Service and Support) domain with subdomains or processes as following:
  - a. DSS01 (Manage Operation)
  - b. DSS02 (Manage Service Requests and Incidents)
  - c. DSS03 (Manage Problems)
  - d. DSS04 (Manage Continuity)
  - e. DSS05 (Manage Security Service)
  - f. DSS06 (Manage Business Process Control)
- 2. MEA (Monitoring, Evaluation and Assess) domain with subdomains or processes as following:
  - a. MEA01 (Monitor, Evaluate and Assess Performance and Conformance) / Monitor, Evaluate and Assess Performance and Conformance.
  - b. MEA02 (Monitor, Evaluate, and Assess the System of Internal Control) / Monitor, Evaluate and Assess System Internal control
  - c. MEA03 (Monitor, Evaluate, and Assess Compliance with External Requirements) / Monitor, Evaluate and Assess Obedience to Condition External

# Techno Nusa Mandiri: Journal of Computing and Information Technology Vol. 21, No. 2 September 2024 | DOI: https://doi.org/10.33480/techno.v21i2.5156

## **MATERIALS AND METHODS**

Auditing is a procedure structured to do with objective collection and assessment of proof-related activities and transactions economy. The purpose of the audit is to verify the level of suitability between activities with standards or criteria that have been set and to communicate audit results to interested parties (Solechan, 2021).

System information is a functioning system for processing information, which includes retrieval, transmission, storage, retrieval, manipulation, and presentation of information. Information This is data that has been organized, processed, or interpreted so that can used in the retrieval process decision (Dachyar, 2022).

Study this aims to investigate the level of maturity and effectiveness of system information on PT. KBN Prima Logistik with use an audit approach using COBIT 5 framework.

The initial step in the study is to understand deep against PT. KBN Prima Logistik, including business processes and infrastructure technology existing information, as a base for the implementation of system audit information.

## **RESEARCH STAGES**

The first step in this research is to conduct an in-depth understanding of PT. KBN Prima Logistik, including existing business processes and information technology infrastructure, as a foundation for the implementation of information system audits.



Source: (Research Results, 2024) Figure 1. Research Stages

Figure 1 explains about the following stages of research as follows:

- 1. Identification Problem In stages, the Author identifies several related problems with condition system information on PT. KBN Prima Logistik.
- 2. Literature Study and Determining Domain In stages, Author searches, collection, and reviews relevant literature with topic research corresponding to Cobit 5 framework focused on Domain DSS (Decision Support System) and Domain MEA (Measure, Evaluate, and Assess).
- 3. Method of collecting data In stages, Author does data collection via method as following:
  - Interview.
  - Questionnaire
  - Documentation
- 4. Audit Process and Results Analysis

In stages, Author carryout data processing using the Cobit 5 framework based on the questionnaire that has been filled in by the respondent, then from results measurement value maturity level, capability level for each sub-domain process is carried out gap analysis.

5. Reporting

In stages furthermore done reporting results from studies about measuring the maturity level and capability level of IT Governance in the DSS (Decision Support System) domain and MEA (Measure, Evaluate, and Assess) domain processes. Reporting This can used as material considerations and recommendations repair on findings evaluation for increase management System Information and IT Governance at PT. KBN Prima Logistik.

# **INFORMATION SYSTEM AUDIT METHODS**

COBIT is a methodology that provides a basic framework for creating information technology that suits organizational needs while still taking into account other influencing factors (Zuraidah & Budihartanti, 2021).

COBIT 5 provides a comprehensive framework that help companies in achieving their goals for governance and enterprise IT management (Muliani, 2023).

## **COBIT 5 ASSESSMENT PROCESS METHOD**

Stages of the assessment process carried out in the research:

- 1. Planning
- 2. Data Collection
- 3. Data Validation
- 4. Evaluation Process Attribute Rating
- 5. Reporting.

# **RESULTS AND DISCUSSION**

The research currently being carried out by the author aims to conduct an information system audit using the COBIT 5 Framework at PT. KBN Prima Logistik, the domains used in this information system audit are 2 domains and 9 process sub-domains with details that can be seen in table 1.

Table 1. Domain and Sub Process Domain will be	
audited	

No	Domain		Sub Process
1	DSS	-	DSS01 Deliver, Service and
	Deliver,		Support
	Service	-	DSS02 Manage Service
	and		Requests and Incidents
	Support	-	DSS03 Manage Problems
		-	DSS04 Manage Continuity
		-	DSS05 Manage Security
			Services
		-	DSS06 Manage Business
			Process Controls
2	MEA	-	MEA01 Monitor, Evaluate and
	Monitor,		Assess Performance and
	Evaluate		Conformance
	and	-	MEA02 Monitor, Evaluate and
	Assess		Assess the System of Internal
			Control
		-	MEA03 Monitor, Evaluate and
			Assess Compliance with
			External Requirements

Source: (Zuraidah & Budihartanti, 2021)

Calculation of each process in the domain is based on the data obtained from the results mandatory questionnaire filled in by 20 respondents with the positions of General Manager, Manager, and Staff Officer at environment management at PT. KBN Prima Logistik, questionnaire consists of 54 statements, 35 statements are process indicators from the DSS domain (Deliver, Service, and Support), and the remaining 19 statements are process indicators from the MEA domain (Monitor, Evaluate, and Assess).

After all questionnaires have already been filled, next done calculations for each domain.

Furthermore, done evaluation of maturity level and capability level based on scale evaluation as follows:

a. Maturity Level

Table 2. Maturity Level Scale			
Notat ion	Descri ption	% Achiev ement	Information_
N	Not Achieve d	0 - 15 %	There are few or no there is proof of achievement specified

Notat ion	Descri ption	% Achiev ement	Information _
Р	Partiall y achieve d	> 15 to 50%	attributesintheprocessbeingassessed.There are some proofapproaches, and someachievement-specificattributesintheprocessbeing
L	Largely achieve d	> 50 to 85%	assessed. Several aspect achievement attributes Possible No can predict. There is evidence approach systematic, and achievement significance of, the attributes specified in the process being
F	Fully achieve d	> 85 to 100%	assessed. Several associated weaknesses with attribute This Possible There is in the process being assessed. There is evidence of a complete and systematic approach to, achievement full of, which is defined attribute in the process being assessed. There isn't any weakness- related significance with attribute This in the assessment process

Source:(Zuraidah & Budihartanti, 2021)

#### b. Capability Level

	Table 3. Capabi	lity Level Scale
Scale	Capabilities Model Levels	Information
0 - 0.5	0 - Incomplete	At this level the process is
	Process	not implemented or fails
		to achieve its objectives.
0.51 -	1 - Performed	At this level the
1.5	Process	implemented process
		successfully achieves the
		goal.
1.51 -	2 - Managed	At this level the process
2.5	Process	has been carried out and
		implemented regularly
		(planned and monitored).
2.51 -	3 - Established	At this level the
3.5	Process	organization has
		implemented
		standardized and IT
		processes.

## P-ISSN: 1978-2136 | E-ISSN: 2527-676X

Scale	Capabilities Model Levels	Information
3.51 -	4 - Predictable	At this level the process is
4.5	Process	carried out within specified limits to achieve the expected final results.
4.51 - 5	5 - Optimizing Process	At this level the process has been implemented and continues to be improved on an ongoing basis.

Source:(Zuraidah & Budihartanti, 2021)

Rating result Maturity Level for all Sub Processes can be seen in the table below:

Table 4. Assessment Results Maturity Level for all Sub Processes

No	Sub Domains	Maturity Index	Maturity Level
1	DSS01	6,72	2,24
2	DSS02	4,54	1,51
3	DSS03	6,07	2,02
4	DSS04	3,55	1,18
5	DSS05	4,82	1,61
6	DSS06	5,71	1,90
7	MEA01	8,49	2,83
8	MEA02	4,64	1,55
9	MEA03	7,89	2,63
Amou	ınt	52,44	17,48
Average Value Of Maturity Index 5,83			5,83
Average Value Of Capability Level / 1,94			1,94
Maturity Level			

Source: (Author's Research, 2023)

Rating result Achievement and Capability in all sub processes can see in the table below:

Table 5. Assessment Results Achievement ar	ıd
Canability in all Sub Processes	

Ν	Sub	Maturit	Achieveme	IT
0	Domai	y Level	nt Value	capabilitie
	ns			S
1	05501	224	Fully	Managed
T	D3301	224	achieved	Process
2	05502	151	Fully	Managed
2	D3302	151	achieved	Process
2	DSS03	202	Fully	Managed
5	D3303	202	achieved	Process
1.	05504	118	Fully	Performed
т	D3304	110	achieved	Process
5	DSS05	161	Fully	Managed
5	D3303	101	achieved	Process
6	DSS06	100	Fully	Managed
0	D3300	190	achieved	Process
7	MEA01	202	Fully	Established
'	MLAUI	205	achieved	Process
Q	MEA02	155	Fully	Managed
0	MEAUZ	133	achieved	Process
0	MEV03	262	Fully	Established
9	MEA05	205	achieved	Process

Source: (Research Results, 2024)

Gap Assessment results based on Target Level and Maturity Level moment this applies to all sub processes seen in the table below:

Table 6. Gap	Assessment	Results	for	all	Sub
--------------	------------	---------	-----	-----	-----

		Processes		
No	Sub Domains	Target Levels	Maturity Level	Gap
1	DSS01	3	2,24	0,76
2	DSS02	3	1,51	1,49
3	DSS03	3	2,02	0,98
4	DSS04	3	1,18	1,82
5	DSS05	3	1,61	1,39
6	DSS06	3	1,90	1,10
7	MEA01	3	2,83	0,17
8	MEA02	3	1,55	1,45
9	MEA03	3	2,63	0,37
Avei	rage value	3	1,94	1,06

Source: (Research Results, 2024)

Gap Analysis Radar Chart based on Target Level and current Maturity Level this applies to all sub processes seen in the figure below:

# **GAP Analysis Chart**



Source: (Research Results, 2024) Figure 2. Gap Maturity Level Analysis Radar Chart

Figure 2 explains about Gap Maturity Level Analysis Radar Chart at PT. KBN Prima Logistik achieved an average gap value of 1.06 based on the current Maturity Level, namely Level 2 (Managed Process), indicating that IT processes have been carried out and implemented regularly with planning and monitoring. This is done to achieve the expected Target Level, namely Level 3 (Established Process) where PT. KBN Prima Logistik wants to meet standards in the IT processes that have been implemented.

Misalignment or gaps in each process domain can be identified through score Maturity Level, so need to be repaired to ensure optimal maintenance in matter availability, integrity, and security system information.

Based on results calculations on all subdomains are obtained results recapitulation value doneness on the table below:

Sub Matu IT			
entire Sub Domain			
Table 7. Recapitulation value maturity in the			

Description

this

implemented

implemented

and monitored).

level

has

out

level

has

out

At

process

carried

regularly

At this

process

carried

regularly

Capabil

Manage

Process

Manage

Process

ities

d

d

N O	Sub Doma ins	Matu rity Level	IT Capabil ities	Description
Val Ave	ue erage	1,94	Manage d Process	applied can until the objective. At this level the process has been carried out and implemented regularly (planned and monitored).
Cours	Deal	angle Da	aulta 202	1)

the Source: (Research Results, 2024) been From the results of the average Maturity Level and value for each sub domain of 1.94 or 194%, it can be (planned concluded that the resulting Capability Level is still at Level 2 or called Managed Process, which means the that at this level the Information Technology been processes at PT. KBN Prima Logistik has been run and and implemented regularly with planning and monitoring but has not been properly standardized. (planned For results analysis findings and

				and monitored).	For results	s analysis findings and
3	DSS03	2,02	Manage	At this level the	recommendations	described in the table below:
			d	process has been		
			Process	carried out and	Table 8 Ana	alysis Results Findings and
				implemented	R	acommendations
				regularly (planned	Number	1
				and monitored).	Findings	The use of information anatoms and
4	DSS04	1,18	Perfor	At this level the	Findings	applications is loss offective because
			med	implemented process		applications is less effective because
			Process	successfully achieves		some applications are suit separate
				the goal.		and some are not yet integrated so
5	DSS05	1,61	Manage	At this level the		some work becomes less ellective
			d	process has been	Decommondation	and enformer.
			Process	carried out and	Recommendation	2 Review of Used Applications
				implemented		2. Review of Oseu Applications 2. Use of Integrated Platform
				regularly (planned		4 Use of ADI (Application
				and monitored).		Programming Interface)
6	DSS06	1,90	Manage	At this level the		5 IT Strategic Planning
			d	process has been		6 User Training
			Process	carried out and		7 Continuous Monitoring and
				implemented		Evaluation
				regularly (planned		8 User Participation
				and monitored).		9. Change management
7	MEA0	2,83	Establis	At this level the		10. Information Security
	1		hed	organization has	Number	2
			Process	implemented	Findings	- IT guidelines and procedures have
				standardized and IT	8-	not been well defined by IT
~				processes.		Governance standards, which
8	MEAU	1,55	Manage	At this level the		hampers the IT implementation
	2		d	process has been		process at PT. KBN Prima Logistik.
			Process	carried out and	Recommendation	1. Drafting Guidelines and
				implemented		Procedures
				regularly (planned		2. Adjustment with Standard
0	MEAO	2 ( 2	Fatablia	and monitored).		Industry
9	MEAU	2,63	Establis	At this level the		3. Consultation with IT Experts
	3		Drogogo	implemented		4. Participation User
			Process	standardized and IT		5. Training For User
				nrocossos n this		6. Socialization Guidelines and
				processes.ii ulls		Procedures
				process, a process is		7. Continuous Monitoring and
						Evaluation

#### P-ISSN: 1978-2136 | E-ISSN: 2527-676X Techno Nusa Mandiri : Journal of Computing and Information Technology

As an Accredited Journal Rank 4 based on Surat Keputusan Dirjen Risbang SK Nomor 85/M/KPT/2020

Ν

0

1

2

Doma

DSS01

DSS02

ins

rity

Level

2,24

1,51

# Techno Nusa Mandiri: Journal of Computing and Information Technology Vol. 21, No. 2 September 2024 | DOI: https://doi.org/10.33480/techno.v21i2.5156

	8. 0	Internal Audit Routine
	9. 10	Commitment
	10.	Commitment Leader
Numbon	2	Organization
Nullibel Findings	ა უს.	
Findings	Ine	company does not yet have a
	ciea	ir organizational structure or
	frai	nework for managing 11, which
	can	result in a lack of clarity in IT-
	rela	ited responsibilities, procedures,
<b>D</b>	and	policies.
Recommendation	1.	Formation of an IT Management
		Team
	2.	Appointment Leader IT
		Department
	3.	Formation IT Committee
	4.	Drafting IT Policy
	5.	Determination Framework
		Work COBIT or ITIL
	6.	IT HR Training and
		Development
	7.	Clear Internal Communication
	8.	Determination Plan IT Strategic
	9.	IT Internal Audit
	10.	Evaluation and Adjustment
		Sustainable
Number	4	
Findings	The	e lack of competent human
Ū	rese	ources in the IT field has resulted
	in	the handling of Information
	Sys	tems and IT Governance at PT.
	KBI	N Prima Logistik becomes less
	effe	ective and efficient.
Recommendation	1.	Analysis IT HR needs
	2.	Plan Development Skills
	3.	Recruitment and Hiring
		Strategic
	4.	Collaboration with Educational
		Institutions
	5.	Institutions Internal Employee Program
	5. 6	Institutions Internal Employee Program Outsourcing IT Services
	5. 6. 7	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT
	5. 6. 7.	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community
	5. 6. 7. 8	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention
	5. 6. 7. 8.	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention Employee
	5. 6. 7. 8.	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention Employee Measurement and Rewards
	5. 6. 7. 8. 9.	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention Employee Measurement and Rewards Skills and Neede Audit Pariedia
	5. 6. 7. 8. 9. 10.	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention Employee Measurement and Rewards Skills and Needs Audit Periodic
Source: (Research	5. 6. 7. 8. 9. 10. Resu	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention Employee Measurement and Rewards Skills and Needs Audit Periodic Ilts, 2024)
Source: (Research	5. 6. 7. 8. <u>9.</u> 10. Resu	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention Employee Measurement and Rewards Skills and Needs Audit Periodic Ilts, 2024)
Source: (Research With the ir	5. 6. 7. 8. <u>9.</u> <u>10.</u> Resu	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention Employee Measurement and Rewards Skills and Needs Audit Periodic Ilts, 2024) nentation recommendation,
Source: (Research With the ir PT. KBN Prima	5. 6. 7. 8. <u>9.</u> 10. Resu nplei	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention Employee Measurement and Rewards Skills and Needs Audit Periodic Ilts, 2024) mentation recommendation, istik expected can repair
Source: (Research With the ir PT. KBN Prima deficiencies in IT.	5. 6. 7. 8. <u>9.</u> 10. Resu nplei Log	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention Employee Measurement and Rewards Skills and Needs Audit Periodic Ilts, 2024) mentation recommendation, istik expected can repair roye effectiveness as well as
Source: (Research With the ir PT. KBN Prima deficiencies in IT, efficiency bandling	5. 6. 7. 8. 9. 10. Resu nplen Log impl	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention Employee Measurement and Rewards Skills and Needs Audit Periodic Ilts, 2024) mentation recommendation, istik expected can repair rove effectiveness as well as re System Information and IT
Source: (Research With the ir PT. KBN Prima deficiencies in IT, efficiency handling	5. 6. 7. 8. 9. 10. Resu npler Log impl	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention Employee Measurement and Rewards Skills and Needs Audit Periodic Ilts, 2024) mentation recommendation, istik expected can repair rove effectiveness as well as re System Information and IT
Source: (Research With the ir PT. KBN Prima deficiencies in IT, efficiency handling Good Governand	5. 6. 7. 8. 9. 10. Resu nplei Log impl g mon ce	Institutions Internal Employee Program Outsourcing IT Services Participation in the IT Community Enhancement Retention Employee Measurement and Rewards Skills and Needs Audit Periodic Ilts, 2024) mentation recommendation, istik expected can repair rove effectiveness as well as re System Information and IT to use support growth

# CONCLUSION

Based on results Information System Audit using Cobit 5 Frameworks at PT. KBN Prima Logistik, the results of the achievement and capability assessment in the DSS (Deliver, Service and Support) and MEA (Monitor, Evaluate and Assess) domains show that the average Maturity Level value for all sub domains is 1.94 or 194%, it can be concluded that the Capability Level The results produced are still at Level 2 (Managed Process) from the expected Target Level, namely Level 3 (Established Process). This indicates that although the Information Technology processes at PT. KBN Prima Logistik has been run and implemented regularly with planning and monitoring according to business process objectives, but its management is not yet optimal and not well standardized.

The results of the gap assessment show that the average gap value is 1.06 and several subprocesses in the domain have significant differences in values (gaps) and are priorities for improvement.

Based on the problem findings, to achieve the xpected Target Level, namely Level 3 (Established Process), PT. KBN Prima Logistik is advised to mplement improvement recommendations, ncluding integrate between applications used in he company, use a unified platform or suite of pplications that can cover a wide range of business eeds, such as Enterprise Resource Planning (ERP), levelop Guidelines and Procedures for all aspects of T operations and management in accordance with pplicable IT governance standards, implement ontinuous improvements to IT guidelines and procedures to continuously improve and improve processes, establish an IT management team that as clear responsibilities related to planning, mplementation, and maintenance of information echnology, implementation of the COBIT ramework to help structure processes and best practices in IT management and conduct adequate T HR Training and Development to carry out their luties and responsibilities.

The implementation of these recommendations is expected to have a positive impact to support sustainable business growth. For further research, it is recommended to focus on a different domain from the research carried out by the author. This is expected to produce deeper holistic insight into the Company's readiness and ability to manage critical aspects of Information Systems and IT Governance.

#### REFERENCE

- Amalia, M. N., Akbar, F., Risdiani, I., Islaha, A., & Srilena, N. (2020). Audit sistem informasi pada perpustakaan ARS University menggunakan framework COBIT 5. Jurnal Sains dan Informatika, 6(2), 139-147..
- Dachyar, M. (2022). *Sistem Informasi Manajemen*. UI Publishing.
- Doharma, R., Prawoto, A. A., & Andry, J. F. (2021). Audit Sistem Informasi Menggunakan

P-ISSN: 1978-2136 | E-ISSN: 2527-676X Techno Nusa Mandiri : Journal of Computing and Information Technology As an Accredited Journal Rank 4 based on **Surat Keputusan Dirjen Risbang SK Nomor 85/M/KPT/2020** 

# Techno Nusa Mandiri: Journal of Computing and Information Technology Vol. 21, No. 2 September 2024 | DOI https://doi.org/10.33480/techno.v21i2.5156

Framework Cobit 5 (Studi Kasus: PT Media Cetak). *Journal of Business and Audit Information Systems*, 4, 22–28.

- Gusman, D. V., Prasetyo, F. H., & Adi, K. (2021). Audit Sistem Keamanan TI Menggunakan Domain DSS05 Pada Framework COBIT 5 (Studi Kasus Diskominfo Kabupaten Karawang). Jurnal Informatika Upgris, 7, 2460–4801.
- Imam Santoso, M., & Zuraidah, E. (2023). Audit Sistem Informasi Aplikasi Absensi Pada Inl International Technology Menggunakan Framework Cobit 5. *JURIKOM (Jurnal Riset Komputer)*, 10, 2407–389.
- Iqbal Agselmora, D., & Prasetyo Utomo, A. (2022). Audit Teknologi Informasi Menggunakan COBIT 5 Domain DSS Pada Universitas Stikubank Semarang. Jurnal Teknik Informatika Dan Sistem Informasi, 9, 2407– 4322.
- Kurniasih, S., & Masitoh, S. (2021). Audit Sistem Informasi Human Resource Information System (HRIS) Pada Bagian Human Resource (HR) Menggunakan Framework Cobit 5 Domain DSS01. Jurnal Nuansa Informatika, 15, 1858–3911.
- Kusbandono, H., Ariyadi, D., & Lestariningsih, T. (2019). *Tata Kelola Teknologi Informasi*. CV. Nata Karya.
- Muliani, A. (2023). *Tata Kelola Teknologi Informasi*. PT. Cahaya Rahmat Rahmani.
- Pratama, P. A., Dantes, G. R., & Indrawan, G. (2020). Audit Sistem Informasi Universitas Pendidikan Ganesha Dengan Framework Cobit 5. Jurnal Sains & Teknologi, 9.
- Pujiastuti, E., Puspita, A., Dari, W., & Informasi, F. T. (2023). Audit Sistem Informasi Presensi Pada Dinas Komunikasi Dan Informatika Menggunakan Cobit 5. *IJIS Indonesian Journal* on Information System, 8(1), 2614–7173.

- Rabhani, A. P., Maharani, A., Putrie, A. A., Anggraeni,
  D., Azisabil, H. F., Cantika, I., Cahyani, I.,
  Destianti, L. L., Mahmud, P. T., & Firmansyah,
  R. (2020). Audit Sistem Informasi Absensi
  Pada Kejaksaan Negeri Kota Bandung
  Menggunakan Framework Cobit 5. Jurnal
  Sisfokom (Sistem Informasi Dan Komputer), 9,
  275–280.
- Rahayu, T., Matondang, N., & Hananto, B. (2020). Audit Sistem Informasi Akademik Menggunakan Metode Cobit 5 (Studi Kasus UPN Veteran Jakarta). Jurnal Teknologi Informasi Dan Pendidikan, 13, 117–123.
- Rahman, A. A. (2022). Audit Sistem Informasi Akademik Universitas Primagraha Menggunakan Cobit 5 Framework. *Prosiding Seminar Nasional 1 Amal Insani Foundation*.
- Solechan, A. (2021). *Audit Sistem Informasi.* Yayasan Prima Agus Teknik.
- Taraudu, C. A. (2021). Evaluasi Tata Kelola Teknologi Informasi Menggunakan Framework COBIT 5 Domain EDM Pada Yayasan Bina Darma Salatiga. *Indonesian Journal of Business Intelligence (IJUBI)*, 4, 73– 79.
- Zuraidah, E., & Budihartanti, C. (2021). Audit Sistem Informasi dan Manajemen Menggunakan Cobit 4 dan 5. Graha Ilmu.