

Academic Information System Audit (SIA) Using the COBIT 5 Framework at Mercu Buana University

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Abstract— The University of Mercu Buana is a college that has implemented information technology in its operational process. Unmanaged management of an unmanaged academic information system (SIA) impacts the lack of student satisfaction. Periodic evaluation of the use of SIA is expected to know, assess and advise on the conditions of the performance of IT governance as a basis for the improvement and development of IT governance on SIA based on the DSS domain COBIT 5, but not until documentation and implementation of the new application. The focus of the Deliver, Service, and Support (DSS) Domain is chosen because it complies with the conditions of the IT-governance. The process of collecting data in this study is derived based on literature, observation, interview and questionnaire methods. After the data collection is done identification of IT Processes which is the evaluation point with the DSS domain to create a mapping between the company's objectives into the order objective rule COBIT 5 and the description of the metric component of the company objectives, then RACI mapping is used to determine the objects that will be involved in the audit activities. From the research, it can be concluded that the DSS domain managed to reach Level 4 (Predictable). There is a gap between the level of capability and expected in the year 2019, where from the domain and the DSS process analyzed there are 4 DSS domains that have a gap of 1 i.e. domain DSS01, DSS03, DSS05 and DSS06.

Keywords— Audit, COBIT 5, Domain DSS, Capability Level, academic.

I. INTRODUCTION

The University of Mercu Buana is a private college that organizes education using information technology in its operational processes, such as academic information systems, library information systems, and so on, so it takes the use of IT that supports to achieve the business plans and strategies of Mercu Buana University. IT can help increase the efficiency and effectiveness of the Organization's business processes in achieving its objectives.

The academic information system is an information system used for academic needs in the university environment of Mercu Buana which can be accessed by students, employees and non lecturers. As a college that provides educational services, the information System (SIA) of the Academic Administration Bureau has quite important functions and is one of the supporters of achieving the target. Academic Information System (SIA) Unit of Academic Administration Bureau is a web-based application developed to support the management of the course of administrative and operational processes. The main function of the academic Information System (SIA) of the Academic Administration Bureau is to manage the registration data for old and new students, the

scheduling, the filling of the card study plan students, managing data related to academic activities such as lecture administration, processing student value data, student's presence and teaching lecturers, processing college payment data and arrears and tuition fees as well

Management of the Academic Information System (SIA) unit of the well-managed Academic Administration Bureau will have an impact on the low level of customer satisfaction / student, so as to influence the level of the Stakeholder trust in the institution. The above can be solved by periodic monitoring/evaluation of the use of the Academic Information System (SIA) of the Bureau of Academic Administration. One of the tools that can be used is the COBIT 5 framework.

With the monitoring of the process of using the Academic Information System (SIA) of the Academic Administration Bureau Unit is expected to improve all the shortcomings and weaknesses of the system that are running better and in accordance with institutional business objectives.

The *Deliver, Service, and Support* (DSS) Domain is selected because it complies with the conditions OF the IT governance at the University of Mercu Buana applied to the product of the current academic information system (SIA) of the Bureau of Academic Administration. With the condition of IT governance at the University of Mercu Buana now in the run area is running with the implementation of the Academic Information System (SIA) Unit of Academic Administration Bureau and The needs of the University of Mercu Buana to deliver services, serve the demand, and support the sustainability of IT governance.

II. REALETED WORK

Past Research became one of the references in a study that could enrich the theories used in research to be conducted. From previous research, no research was found with the same title as the research title to be created. But in raising some of the previous research as a reference to the study materials in the current research, from previous research was obtained summary results, either about deficiencies or excess existing. In the Journal erdis Ekowansyah, Yulisoh H Chrisnanto, Puspita Nurul Sabrina [1] in his journal expressed the level of maturity of the technology that has been applied, overall visit is at level 3 or established process of scale 5 Neburut cobit. The process of IT processing has been known by the organization and has been formally documented, the organization still needs to make improvements on several processes especially in the EDM domain because the overall

domain has a value of maturity below the average calculation of the overall maturity value.

Further research was conducted by Tedi S. Agoan, Hans F. Wowor, Stanley Karouw [2] with his journal of Information Technology maturity analysis at Manado City Communication and Informatics Office using COBIT Framework 5 Domain Evaluate, Direct, Monitor (EDM) and Deliver, Service, and Support (DSS) State SUDAH There is a standard IT process that applies to every scope of the organization means that the service department in terms of strategic order is already at a stable stage or *established process*. While the DSS domain (Management), the new average maturity level reaches the level (2-*managed process*) which means it is still in regular process meaning that the agency is already running the IT process task and has achieved its objectives managed properly through planning stages, evaluation and better direction adjustment.

In the Journal of Ryan Randy suryono, Dedi Darwis, Surya Indra Gunawan [3] in his journal states the e-KTP application needs to be improved in security, throughput and performance so that the application can run maximally, securely and efficiently.

In Rio Kurnia Candra, Imelda Atastina, Yanuar Firdaus [4] stated that the big part of activity on the DSS domain for the Directorate of SISFO Telkom University has been conducted, there is a standard of implementation in doing such process, documented and communication goes well.

Further research was conducted by Achyar Al-Rashid [5] under the heading analysis of the information systems based system COBIT 5, at the Domain Deliver, Service, and Support (DSS) (case study: SIM-BL in CDC Unit of PT Telkom Central. Tbk.) stating PThere is a pre-audit phase has been processed domain DSS cobit 5 which is the whole process of the DSS domain that corresponds to the environmental governance conditions SGM CDC PT. Telkom and used as the scope of audit standards namely DSS01, DSS02, DSS03, DSS05 and DSS06.

III. METHOD

A. Research Methods

The stages carried out in implementing the academic information System Audit using the COBIT Framework 5 are described in the diagram and explanation below:

B. Data Types and Sources

The data used is primary and secondary data. Primary data is obtained through the results of discussions with the Supervisor lecturer and the party of the Academic Administration Bureau of Mercu Buana University while secondary data obtained from literature studies such as books, journals and the Internet.

The data source used comes from the literature. The literature obtained is further processed so that it can be used as a reference for making the final task preparation. The Data used for research and testing was obtained from the Bureau of Academic Administration University in Mercu Buana.

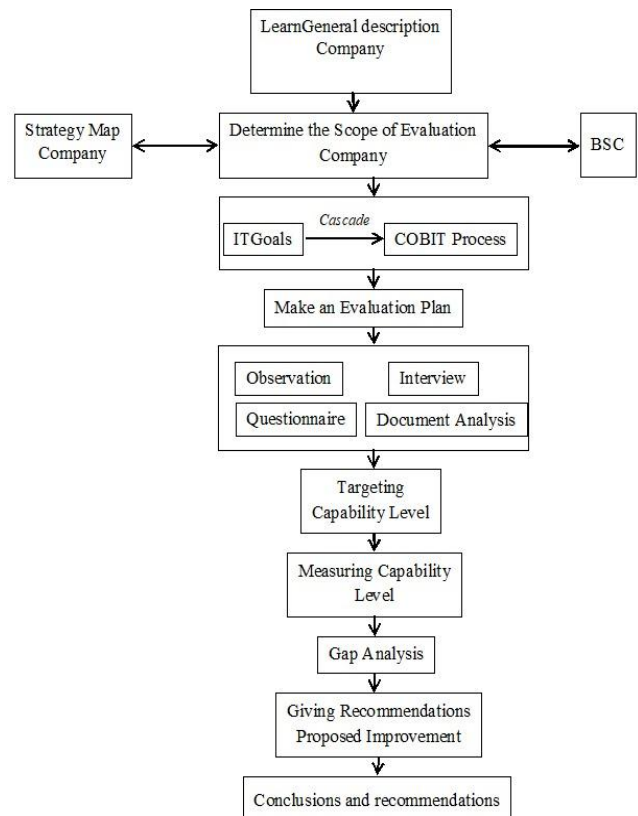


Fig. 1. Audit Framework for Thinking Process in COBIT 5

C. Data Collection Methods

The process of collecting data in this study is derived based on literature, observation, interview and Questionnaire methods.

TABLE 1. List of Respondents

No	Division	Number Of Respondent
1	Administration	6
2	POP	6
3	IT	6
4	BAP	7
5	BAU	7
Total		32

D. Identify IT Processes

COBIT 5 is common and useful for any size of the company, whether it be the commercial sector, the non-profit sector or the government or public sector. Here below is a mapping process in COBIT 5 that can be seen through the description in the table.

E. COBIT Process 5 being the evaluation point

1. Process DSS01- Managing operations
2. Process DSS02 - Managing service requests / services and incidents
3. Process DSS03 - Managing problems
4. Process DSS04 - Managing continuity
5. Process DSS05 - Managing security services
6. Process DSS06 - Managing business process control.

TABLE 2. Mapping Process in COBIT 5

Figure 18—Mapping COBIT 5 IT-related Goals to Processes (cont.)

COBIT 5 Process	IT-related Goal																
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
BAI01	P		S	P	P	S	S	S		S		P			S	S	
BAI02	P	S	S	S	S		P	S	S	S	S	P	S	S			S
BAI03	S			S	S		P	S		S	S	S	S	S			S
BAI04				S	S		P	S	S		P		S	P			S
BAI05	S		S	S	S		S	P	S		S	S	S	P			P
BAI06			S	P	S		P	S	S	P	S	S	S	S	S	S	S
BAI07				S	S		S	P	S			P	S	S	S	S	S
BAI08	S			S			S	S	P	S	S				S	S	P
BAI09		S		S			P	S		S	S	P			S	S	
BAI10		P		S			S	S	S	P					P	S	
DSS01		S		P	S		P	S	S	S	P				S	S	S
DSS02				P			P	S	S	S					S	S	S
DSS03		S		P	S		P	S	S		P	S			P	S	S
DSS04		S	S		P	S	P	S	S	S	S	S			P	S	S
DSS05		S	P		P		S	S		S	S	S			S	S	S
DSS06		S		P			P	S		S	S	S			S	S	S
MEA01		S	S	S	P	S	S	P	S	S	P				S	S	S
MEA02		P		P			S	S	S		S				S	P	S
MEA03		P		P	S		S			S					S		S

Description:
P = Primary
S = Secondary

F. Audit process with COBIT 5

Based on mapping COBIT process with IT goals and company demand there are 29 COBIT processes that measured capability level. In the process of judging capability the COBIT process level, each process is examined gradually whether the process meets the requirements that must be met at each level, from level 1 to Level 5. There is a category condition of assessment results at each level, which is a process of achieving the Largely achieved (L) category with a range of values ranging from 50 to 85% or Fully achieved (F) with a range of values ranging from 85% up to 100% to be declared that the process has achieved A level of that capability, but the process must reach the Fully achieved (F) category to continue the assessment to the next level of capability. In the calculations are carried out several phases that use a mathematic calculation with the formula:

$$Capability\ level = \frac{(0 * y_0) + (1 * y_1) + (2 * y_2) + \dots (5 * y_5)}{z}$$

Description:

Yn = number of processes present in level n

z = number of processes evaluated

G. IT Business Bureau Academic Administration of University of Mercu Buana Jatisampurna

Below is THE IT business of the Bureau of Academic Administration University of Mercu Buana which is the basis in implementing the audit process by researchers. IT is a

standard of performance that is owned and implemented in its daily life at the bureau.

TABLE 3. IT Business Academic Administration Bureau at Mercu Buana University

No	Target
1	Promotion to increase investment
2	Professional financial management and accountability
3	Improvements in governance and IT for the sake of acceleration and efficiency
4	Improved service quality and professionalism
5	Increasing human resources by means of additional training and education

Following below is the IT Goals version of COBIT 5 of the Bureau of Academic Administration of University of Mercu Buana

TABLE 4. COBIT 5 version of IT Target from Mercu Buana University Academic Administration Bureau

No	Mapping Results
1	There is a link between the addition of investment value to achieve the business goals of Mercu Buana University
2	There is a link between investment value addition and quality improvement through more competitive services
3	There is a connection, by maintaining and improving the quality of services at Mercu Buana University
4	There is no connection with the strategic goals of Mercu Buana University
5	There is a link between Financial transparency with the objectives of financial management and accountability
6	There is a link between the objectives of improving the quality of service to patients
7	There is a link between the purpose of improving the quality of service to Mercu Buana University Students / Students
8	There is no connection with the strategic goals of Mercu Buana University
9	There is a link with the plan to develop a management information system at Mercu Buana University
10	There is no connection with the strategic goals of Mercu Buana University
11	There is no connection with the strategic goals of Mercu Buana University
12	There is no connection with the strategic goals of Mercu Buana University
13	There is no connection with the strategic goals of Mercu Buana University
14	There is a connection with the development of skills for lecturers and non-lecturers at Mercu Buana University
15	There is no connection with the strategic goals of Mercu Buana University
16	There is no connection with the strategic goals of Mercu Buana University
17	There is a connection with the development of Mercu Buana University's promotion of services internally and externally

H. Mapping COBIT 5 IT-Related Goals to COBIT 5 Processes

The explanation below explains the details of the mapping between the company's objectives into the IT goal rule of COBIT 5 (ISACA, 2011, COBIT 5 Process Reference Guide).

1. On the line, there are a total of seventeen (17) IT Objectives, also grouped into the dimensions of the Balanced Scorecard IT.
2. Mapping on how the objectives of each company is also supported by IT objectives. This mapping is indicated by using the following scale:
 - a. P = The length of primary or primary. When there is an important relationship. Examples of IT objectives are the primary support of corporate objectives.
 - b. S = length of secondary or secondary when there is strong relationship but less important. Examples of IT objectives are secondary supporters of the company's objectives.

I. RACI Mapping

RACI mapping is used to determine which objects will engage in audit activities.

TABLE 5. RACI Mapping at the Mercu Buana University Academic Administration Bureau

Key Management Practices	Dir. Operasional Universitas Mercu Buana Jatisampurna	PIC SIA-Unit Tata Usaha	PIC SIA-Unit Pusat Operasional Perkuliahan	Ka. Biro Administrasi Akademik	Officer Biro Administrasi Akademik Ka. Bagian	Administrasi Akademik Officer Ka. Bagian Administrasi Akademik	Ka. IT	Officer IT
DSS01 - 01. About Operational Procedures							CI	RA CI
DSS01 - 02. Manage IT Outsource Services							CI	RA CI
DSS01 - 03. Managing Infrastructure							CI	RA CI
DSS01 - 04. Managing the Work Environment							CI	RA CI
DSS01 - 05. Manage Facilities							CI	RA CI

TABLE 5. Continued. RACI Mapping at the Mercu Buana University Academic Administration Bureau

Key Management Practices	Dir. Operasional Universitas Mercu Buana Jatisampurna	PIC SIA-Unit Tata Usaha	PIC SIA-Unit Pusat Operasional Perkuliahan	Ka. Biro Administrasi Akademik	Officer Biro Administrasi Akademik Ka. Bagian	Administrasi Akademik Officer Ka. Bagian Administrasi Akademik	Ka. IT	Officer IT
DSS02 - 01. Define Incident Classification Schemes and Service Requests						CI		RA CI R
DSS02 - 02. Clarifying & Prioritizing Requests & Incidents						CI		RA CI R
DSS02 - 03. Verifying, Approve and Meet Service Requests						CI		RA CI R
DSS02 - 04. Diagnose and Allocate Incidents						CI		RA CI R
DSS02-05. Resolve and Meet the Incident						CI		RA CI R
DSS03 - 01. Identify and classify problems						CI		RA CI R
DSS03 - 02. Investigate & diagnose problems						CI		RA CI R
DSS03 - 03. Known Errors						CI		RA CI R
DSS03 - 04. Resolve and close problems						CI		RA CI R
DSS03 - 05. Proactively carry out problem management						CI		RA CI R
DSS04 - 01. Define policies, objectives, and scope of business continuity	A	R	RCI	RCI	RCI	RCI	RCI	
DSS04-02. Maintain a sustainability strategy	A	R	RCI	RCI	RCI	RCI	RCI	
DSS04 - 03. Develop & implement responses to business continuity	A	R	RCI	RCI	RCI	RCI	RCI	

TABLE 5. Continued. RACI Mapping at the Mercu Buana University Academic Administration Bureau

Key Management Practices	Dir. Operasional Universitas Mercu Buana Jatisampurna	PIC SIA-Unit Tata Usaha	PIC SIA-Unit Pusat Operasional Perkuliahan	Ka. Biro Administrasi Akademik	Officer Biro Administrasi Akademik Ka. Bagian Administrasi Akademik	Officer Ka. Bagian Administrasi Akademik	Ka. IT	Officer IT
DSS04-05. Review, maintain and develop a continuity plan	A	R	RCI	RCI	RCI	RCI		
DSS05 - 01. Protection from Maleware							CI	RA CI
DSS05-02. Manage network and connectivity security							CI	RA CI
DSS05-03. Manage endpoint security						I	CI	RA CI
DSS05-04. Manage user identity & logical access							CI	RA CI
DSS05-05. Manage physical access to IT assets							CI	RA CI
DSS06 - 01. Aligning control activities in the business process with institutional goals	A	R	RCI	RCI	RCI	RCI		
DSS06 - 02. Control information processing	A	R	RCI	RCI	RCI	RCI		
DSS06-03. Set roles, responsibilities, access rights and authority levels	A	R	RCI	RCI	RCI	RCI		
DSS06-04. Manage errors and exceptions	A	R	RCI	RCI	RCI	RCI		
DSS06 - 05. Ensuring information from events can be explored and accounted for	A	R	RCI	RCI	RCI	RCI		

Description:

R: The responsible party performs and completes activities of the responsibility.

A: Parties directing the course of activity execution

C: Party to be a consulting site

I: Party as informant

IV. RESULT

A. Grading Process Capability COBIT Process Level

In this study used the capability model as a measuring instrument against the respondent's response from a questionnaire created based on the COBIT 5 framework that contained questions from the DSS domain.

TABLE 6. Recapitulation of COBIT Capability Questionnaire Answer 5

Domain	Proses	Range					Jumlah Skor	Rata-rata Responden	Rata-rata Proses
		1	2	3	4	5			
DSS01	DSS01.01	9	10	4	2	7	84	4,2	3,72
	DSS01.02	11	8	5	4	4	78	3,9	
	DSS01.03	18	5	4	2	3	63	3,15	
	DSS01.04	14	7	3	2	6	75	3,75	
	DSS01.05	15	6	4	2	5	72	3,6	
DSS02	DSS02.01	11	8	5	4	4	78	3,9	4,06
	DSS02.02	9	10	9	2	2	74	3,7	
	DSS02.03	8	6	9	6	3	86	4,3	
	DSS02.04	9	10	4	2	7	84	4,2	
DSS03	DSS03.01	12	7	4	2	7	81	4,05	3,84
	DSS03.02	13	6	4	6	3	76	3,8	
	DSS03.03	13	6	4	5	4	77	3,85	
	DSS03.04	16	3	4	5	4	74	3,7	
	DSS03.05	12	7	4	7	2	76	3,8	
DSS04	DSS04.01	11	8	5	4	4	78	3,9	4,1
	DSS04.02	11	8	5	4	4	78	3,9	
	DSS04.03	8	6	9	6	3	86	4,3	
	DSS04.04	9	10	4	2	7	84	4,2	
	DSS04.05	9	10	4	2	7	84	4,2	
DSS05	DSS05.01	12	7	3	7	3	78	3,9	3,9
	DSS05.02	13	6	2	7	4	79	3,95	
	DSS05.03	12	7	3	7	3	78	3,9	
	DSS05.04	12	7	4	7	2	76	3,8	
	DSS05.05	14	5	4	2	7	79	3,95	
DSS06	DSS06.01	10	7	7	5	3	80	4	3,8
	DSS06.02	8	8	11	4	1	78	3,9	
	DSS06.03	6	11	13	1	1	76	3,8	
	DSS06.04	8	11	11	1	1	72	3,6	
	DSS06.05	9	10	9	2	2	74	3,7	

Based on the recapitulation of 32 respondents, the current capability rate of 4 in the range of 0-5 is obtained. The highest capability value found in DSS04 is 4.1, while the lowest value is at DSS01 of 3.72. As mentioned earlier that the table above is the result of the audit by using the framework of COBIT 5 in the Unit Bureau of Academic Administration of the University of Mercu Buana Jatisampurna in 2019. Table above is divided into seven (7) columns. IT consists of a domain name, IT process, respondent, number of respondents, average respondent, sub process average, and process average. Domains in COBIT 5 are divided into one (1) domain. The DSS domain. The Domain was thoroughly conducted during

the audit process at the Unit of Academic Administration Bureau of the University of Mercu Buana Jatisampurna.

TABLE 7. Critical Point Domain DSS01

Domain	Proses	Range					Jumlah Skor	Rata-rata Responden	Rata-rata Proses
		1	2	3	4	5			
DSS01	DSS01.01	9	10	4	2	7	84	4,2	3,72
	DSS01.02	11	8	5	4	4	78	3,9	
	DSS01.03	18	5	4	2	3	63	3,15	
	DSS01.04	14	7	3	2	6	75	3,75	
	DSS01.05	15	6	4	2	5	72	3,6	

In the table above it is clearly visible subprocess Division of the IT process domain DSS01 which is outlined into five (5) levels from level one (1) to level Five (5).

B. Maturity calculation (Capability)

In this description described the calculation of maturity level according to the rules and will be given an example calculation with the following formula:

TABLE 8. COBIT Version Capability Model 5

0,00-0,5	0,51-1,50	1,51 – 2,50	2,51–3,50	3,51–4,50	4,51-5,00
Level 0	Level 1	Level 2	Level 3	Level 4	Level 5
Very very good	Very not good	Not good	Neutral	Excellent	Very very good

To support the governance audit This information technology obtained from the questionnaire will be processed and conducted:

1. Average calculation of each respondent's answer attribute.
2. Model level assessment capability The process is obtained by performing an average calculation of all attributes or processes.
3. Representation of existing information technology conditions.

As the calculation example of Domain DSS01. To determine the value of the DSS01 domain index is as follows:

$$\text{index} = \frac{\sum \text{Jawaban Kuesioner}}{\sum \text{Domain Proses}}$$

$$\text{Index} = \frac{\sum \text{DSS01.01} + \sum \text{DSS01.02} + \sum \text{DSS01.03} + \sum \text{DSS01.04} + \sum \text{DSS01.05} + \sum \text{DSS01.06}}{\sum \text{Domain Proses}}$$

In the explanation of the formula above will be described in more detail the calculation process described per step formula that will be processed according to the formula rule COBIT 5. The Index value is the sum of the DSS01 questionnaire value consisting of the amount of DSS 01.01, DSS 01.02, DSS 01.03, DSS 01.04, DSS 01.05, and DSS 01.06 and shared with the process Domain, the number of values of Domain DSS 01.01 Questionnaire, DSS 01.02, DSS 01.03, DSS 01.04, DSS

01.05, and DSS 01.06 are derived from the sum of the values of the questionnaire level 0 to level 5 using the formula as presented below.

$$\text{Formula} = \frac{Y_0 + Y_1 + Y_2 + Y_3 + \dots + Y_5}{X}$$

Description:
Y = respondent at level n
X = Range value

One example that will be taken is the DSS01 domain with the total respondents each level from level 1 to level 5 are 84, 78, 63, 75 and 72 with a rating scale of 0-5. The panelist value is the following:

A. Level 1 Respondent's value:

1. Respondents who answered with a value of 5 is 7
 2. Respondents who answered with a value of 4 is 2
 3. Respondents who answered with a value of 3 is 4
 4. Respondents who answered with a value of 2 is 10
 5. Respondents who answered with a value of 1 is 9
- Number of score = (5x7) + (4x2) + (3x4) + (2x10) + (1x9) = 84
Average respondents = 84/32 = 4.2

B. Level 2 Respondent's value:

1. Respondents who answered with a value of 5 is 4
 2. Respondents who answered with a value of 4 is 4
 3. Respondents who answered with a value of 3 is 5
 4. Respondents who answered with a value of 2 is 8
 5. Respondents who answered with a value of 1 is 11
- Number of score = (5x4) + (4x4) + (3x5) + (2x8) + (1x11) = 78
Average respondents = 78/32 = 3.9

A. Level 3 Respondent Value:

1. Respondents who answered with a value of 5 is 3
 2. Respondents who answered with a value of 4 is 2
 3. Respondents who answered with a value of 3 is 4
 4. Respondents who answered with a value of 2 is 5
 5. Respondents who answered with a value of 1 is 18
- Number of score = (5x3) + (4x2) + (3x4) + (2x5) + (1x18) = 63
Average respondents = 63/32 = 3.15

B. Level 4 Respondent's value:

1. Respondents who answered with a value of 5 is 6
 2. Respondents who answered with a value of 4 is 2
 3. Respondents who answered with a value of 3 is 3
 4. Respondents who answered with a value of 2 is 7
 5. Respondents who answered with a value of 1 is 14
- Number of score = (5x6) + (4x2) + (3x3) + (2x7) + (1x14) = 75
Average respondents = 75/32 = 3.75

C. Level 5 respondent's value:

1. Respondents who answered with a value of 5 is 5
2. Respondents who answered with a value of 4 is 2
3. Respondents who answered with a value of 3 is 4
4. Respondents who answered with a value of 2 is 6

5. Respondents who answered with a value of 1 is 15
 Number of score = (5x5) + (4x2) + (3x4) + (2x6) + (1x15) = 72

Average respondents = 72/32 = 3.6

$$\text{The average process is} = \frac{\sum \text{Average respondents}}{\text{Number Of Processes}}$$

$$\frac{4,2 + 3,9 + 3,15 + 3,75 + 3,6}{5}$$

$$\text{The average process is} = \frac{18,6}{5} = 3,72$$

Based on the calculation above the value obtained is 3.72 of the expected target of 5 and There is a gap of 1.28. From the result above can be known capability level of domain DSS is 3.72 then rounded up to 4. On the index creation scale for model-level mapping capability are in the following table:

TABLE 9. Index Rounding Scale

Tingkat Model Capability
5 – Optimising Process
4 – Predictable Process
3 – Established Process
2 – Managed Process
1 – Performed Process
0 – Incomplete Process

The value of 3.72 above is at level 4 – Predictable Process, which should be the target achievement of the expected institution is 5-Optimising Process and there is still gap to reach the target of 1.28. For more details on the level of capability of the DSS domain can be seen from the table below.

TABLE 10. The Results of Calculation of the Process Capability of IT Version COBIT 5

Control Proses TI	Kondisi TISaat ini		Tingkat Model
	Rata-Rata Per Proses	(Dibulatkan)	Capability
Mengelola Operasi (DSS01)	3,72	4	Predictable Process
Mengelola Layanan Permintaan dan Insiden (DSS02)	4,06	4	Predictable Process
Mengelola Masalah (DSS03)	3,84	4	Predictable Process
Mengelola Keberlangsungan (DSS04)	4,1	4	Predictable Process
Mengelola Layanan Keamanan (DSS05)	3,9	4	Predictable Process
Mengelola Pengendalian Proses Bisnis (DSS06)	3,8	4	Predictable Process
Mean Nilai Tingkat Capability	3,9	4	Predictable Process

C. Domain DSS Level graph Capability COBIT version 5

Below is a chart of model capability version COBIT 5 maturity results of the level of all DSS domains consisting of Domain DSS01, DSS02, DSS03, DSS04, DSS05, and DSS06. Just like the explanation above in the graph of the spider there are three (3) types of color differences are red, blue and gray.

Red color means the target level that the company wants to achieve, blue means that the level of achievement of the current level obtained from the audit and gray results means the gap between the target level and the current level. If the color of the blue coordinates of the line is closer to or even overrunning with red it signifies that the target level of the company with the audit results obtained from the company of good value and not so far gap between the two. For more details can be seen on the chart below.

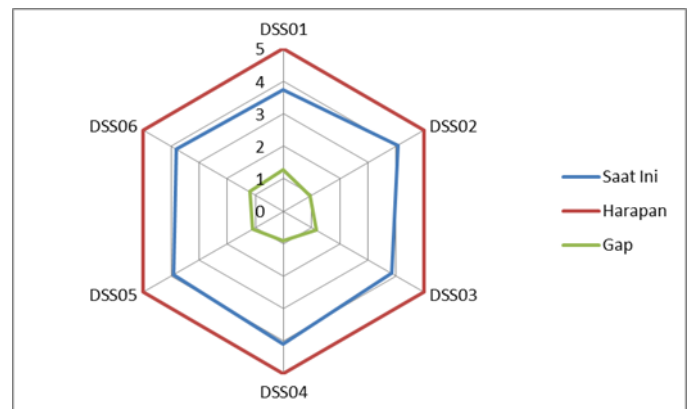


Fig. 2. Graph of DSS Domain Questionnaire Assessment Results

The chart above is a description of each domain that is translated from the audit results and then the entire domain will be processed for later in the merge into a single chart with the entire domain namely DSS01, DSS02, DSS03, DSS04, DSS05, and DSS06 with each value according to the table of audit results are:

1. Domain DSS01 Current level value **3.72** target level **5** Gap **1.28**
2. Domain DSS02 Current level value **4.06** target level **5** Gap **0.94**
3. Domain DSS03 Current level value **3.84** target level **5** Gap **1.16**
4. Domain DSS04 Current level value **4.1** target level **5** Gap **0.9**
5. Domain DSS05 Current level value **3.9** target level **5** Gap **1.1**
6. Domain DSS06 Current level value **3.8** target level **5** Gap **1.2**

The value of maturity at all domains above is **3.9** of the expected target of **5** and there is a gap of **1.1** that value is derived from the sum of all values of the domain divided by the number of domains.

D. Provision of recommendations and repairs of the DSS Domain

At the information system at the University of Mercu Buana Jatisampurna there are 1 (one) important domains that are critical because of the alignment, planning and arrangement in terms of the IT process has not been implemented properly and the most gaps found in the domain are:

TABLE 11. Recommendations for Providing DSS Solutions

No	Domain	Recommendations for Providing Solutions
1.	DSS01	Mercu Buana University Academic Administration Bureau must be able to implement IT operating procedures to support the operational performance of lectures.
2.	DSS02	Academic Administration Bureau of Mercu Buana University must be able to arrange IT services to support lecture operations.
3.	DSS03	Academic Administration Bureau of Mercu Buana University must be able to compile and manage IT problems according to the standards set, on this occasion namely COBIT 5.
4.	DSS04	Mercu Buana University Academic Administration Bureau must be able to further improve the maintenance and service of software and hardware.
5.	DSS05	The Academic Administration Bureau of Mercu Buana University must be able to provide IT service support in relation to lecture operations.
6.	DSS06	The Academic Administration Bureau must be able to determine the procedure for data backup that is in line with the services and support of lectures at Mercubuana University.

V. CONCLUSION

Based on the results of research that has been done at the University of Mercu Buana, the conclusion is produced as follows:

1. Based on the result of the DSS domain analysis which reached level 4 or *Predictable*, it shows that the University of Mercu Buana has implemented the existing IT process and has achieved the objectives of the specified it process and there is evidence of a systematic approach and significant achievement of the attributes defined in this process.
2. There is a gap between the level of the degree and expected in the year 2019, from which the domain and the DSS it process analyzed there are 4 DSS domains that have a gap of 1 i.e. domain DSS01, DSS03, DSS05 and DSS06. This indicates that the management of IT resources conducted during this time by the University of Mercu Buana is still not aligned from the expected for both the short and long term targets.

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