Adaptation of Information Systems Strategic Planning of Universities Using COBIT 2019 in Post Covid-19

Abdurrahman Harits[1*], Rahmat Gernowo[2], Djatmiko Endro Suseno[3] iD

[1] Master's Program in Information Systems, Postgraduate Program, Diponegoro University, Semarang, Jawa Tengah, Indonesia
[2,3] Department of Physics, Diponegoro University, Semarang, Jawa Tengah, Indonesia
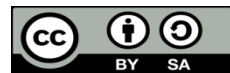
A B S T R A K

COVID-19 telah mengubah universitas dalam mengelola proses dan layanan dengan sistem yang lebih relevan. Hal ini menjadi tantangan bagi perguruan tinggi untuk merancang strategi baik selama maupun setelah pandemi ini berakhir. Kajian ini bertujuan untuk menerapkan metodologi dan prinsip desain COBIT 2019 untuk mengadaptasi model operasional dan perencanaan strategis perguruan tinggi pada periode pasca pandemi. Tantangan COVID-19 telah menunjukkan bahwa sistem informasi digital merupakan faktor penting dalam memastikan proses bisnis yang kuat. Penelitian ini menggunakan studi kasus Universitas Islam Negeri Syarif Hidayatullah Jakarta, hasil perhitungan tingkat kapabilitas institusi saat ini berada pada kisaran level 3 dengan target level kapabilitas yang diinginkan adalah level 4, hal ini berarti tata kelola di instansi tersebut telah dilaksanakan. sesuai rencana tetapi belum siap untuk dilaksanakan sepenuhnya digunakan setelah pandemi. Penelitian ini menghasilkan beberapa yang bermanfaat sebagai adaptasi terbaik di era New Normal.

A B S T R A C T

COVID-19 has changed universities in managing processes and services with more relevant systems. This is a challenge for universities to design strategies both during and after this pandemic ends. This study aims to apply the methodology and design principles of COBIT 2019 to adapt the operational model and strategic planning of higher education institutions in the post-pandemic period. The COVID-19 challenge has shown that digital information systems are a critical factor in ensuring robust business processes. This study uses Syarif Hidayatullah State Islamic University Jakarta as a case study, the results of calculation of institutional capability level are currently in the range of level 3 with desired capability level target being level 4, this means that governance in the agency has been carried out according to plan but is not ready to implement fully used after the pandemic. This research produces several that are useful as the best adaptation in the New Normal era.

1. INTRODUCTION

The COVID-19 pandemic has caused various businesses in various industrial sectors to suffer losses and go bankrupt, this has resulted in an unprecedented disruption of trade flows (Deepa et al., 2022; Donthu & Gustafsson, 2020). In addition, the government's policy of lockdown has caused various operational problems from various business processes. Several countries have closed borders, restricted population movement, and quarantine for months. Education is one area that is directly affected by the organization's business processes caused by COVID-19. These large-scale changes significantly impacted students, academic, mental, and social lives (Odriozola-González et al., 2020; Onyema, 2020). Higher education is one of the educational institutions that are directly affected by changes in organizational processes caused by COVID-19 (Chaturvedi et al., 2021; Malan, 2020).Of course, there will be a time when this pandemic will end. Various health institutions have been working hard to create a vaccine to deal with COVID-19. Universities can certainly prepare strategies to improve business processes that have been affected during the pandemic (Nash & Churchill, 2020; Yin, 2022).

Various policies and systems have been designed and implemented by universities to maintain business processes during the pandemic (Agarwal & Dewan, 2020; Yin, 2022). Of course, these various business processes can be developed and maintained in the New Normal era. After the end of COVID-19 and educational institutions reopen, the relevant authorities must prepare themselves for a transitional period (Deepa et al., 2022; Prasetyanto et al., 2022). Appropriate training for educators on digital skills and

increased educational interaction should be carried out. For students, the availability of ensuring adequate infrastructure to avoid disrupting their learning (Prasetyanto et al., 2022).

The implementation of strategic planning has various things that can affect the success or failure of operations so it needs to be calculated carefully, in detail, and maximally to increase success. Planning can minimize the risk of organizational failure and uncertainty of action by assuming future conditions and analyzing the consequences of each action that will be carried out. Planning that is prepared can help management look to the future and emphasize every action to be in line with organizational goals. Thus, planning contains the steps needed to achieve organizational goals. Management must be able to balance planning and other functions so that organizational goals can be achieved effectively.

Control Objective for Information and Related Technology (COBIT) can be used for the business framework of the strategic design of higher education information systems in facilitating existing and new digital platforms and technologies to adapt and evolve through challenging times (Bernroider & Ivanov, 2011; Ishlahuddin et al., 2020). COBIT has become a widely used framework in the assessment of information technology governance to achieve strategic goals and optimize services. Universities can apply a systematic approach by using the COBIT component as a benchmark and adapt it to build an effective strategy of information systems with a particular focus from a business continuity perspective (Abidin & Samopa, 2016; Harwikarya et al., 2015). Various studies implement COBIT as governance.

However, only a few studies have tried to use the COBIT approach in strategic planning. Universities must focus on how to maintain and utilize the systems they have developed during the pandemic to keep operating and as a competitive advantage in times of dynamic uncertainty in the New Normal era. This can be achieved by implementing a comprehensive strategy and management that builds on a robust information system designed and deployed to meet the stated objectives. Based on the literature review, this research aims to apply the methodology and design principles of COBIT 2019 to produce strategic planning recommendations for information systems that are useful as the best adaptation for universities to maintain the systems they have developed during the pandemic as competitiveness in the New Normal era.

2. METHOD

This research uses a case study at the Syarif Hidayatullah State Islamic University Jakarta or commonly referred to as UIN Syarif Hidayatullah Jakarta which is located in the city of South Tangerang, Banten Province. The flow of the stages of this research begins with data collection using observation of business processes, interviews with IT staff, and literature studies from related journals and also from university documents such as financial reports and annual plans.

The data obtained will be divided into several groups based on the analysis results using several Ward Peppard methods to obtain strategic planning. This data consists of: internal business environment data is a strategic business owned by the organization, the objects involved, resources, processes, and traditions or habits as well as business results. Obtained from two methods, first using SWOT method, a mapping of an organization which will then be used as a basis for designing strategies and work programs. The analysis includes an assessment of the factors of strength (Strength), weakness (Weakness), opportunities (Opportunities), and challenges (Threats). Second, using the value chain method, analysis maps all work processes that occur in the organization into two categories of activities namely main activities and supporting activities.

External business environment data is the condition outside the organization. Obtained through the PEST method, an analysis to map the conditions outside the organization's business that affect the running of the organization. The analysis is carried out on several factors, namely, political, economic, social, and technological. Internal IS/IT environmental data is the condition of the IT perspective in business. Obtained through McFarlan's Strategic Grid method or commonly called McFarlan is used to map IS applications based on their contribution to the success of the organization. External IS/IT environmental data covers the era of technology and the opportunities that exist, as well as technologies that are widely used. Obtained from literature studies on IT trends

These results will then be formulated to obtain strategic planning that is used as design factors at COBIT 2019 to determine the domain to be used. The next activity is the distribution of questionnaires from a predetermined domain to Pustipanda UIN Syarif Hidayatullah Jakarta which is an institution in charge of system management at the university. Questionnaires were used to obtain qualitative data, which were given to the Head IT Operation and three divisions consisting of Operation Data Center, Operation Security, and Operation Development. The results of the questionnaire are used to calculate the level of capability and gap using the COBIT 2019 framework.

3. RESULT AND DISCUSSION

Result

SWOT analysis

SWOT analysis is used to identify four factors, namely strengths, weaknesses, opportunities, and threats experienced by the organization. The results of the SWOT analysis at universities, which are the results of observations and document studies, can be seen in Table 1.

Table 1. SWOT Analysis

	Strength	Weakness
	SO Strategy	**WO Strategy**
Opportunity	• Improve the competitiveness of graduates to face national and international competition. • Strengthen human resources in the integrity of work orientation. • Development of new study programs for S2 and S3. • Cooperation with reputable external academics for collaboration in the field of teaching. • Recruitment of potential students by providing scholarships. • Designing an integrated system to improve academic and non-academic services.	• Provision of budget for scholarships for further study of S3. • Maintain university accreditation and qualifications. • Increasing research partnerships and community service. • Provision of a system for research data collection with easy access. • Implementation of Good University Governance to create an effective and efficient management system. • System design for faculty performance appraisal.
	ST Strategy	**WT Strategy**
Threat	• Encouraging innovation from creativity and entrepreneurship from students and education staff. • Improvement of research culture to increase the amount and quality of research. • Increase income from cooperation with non-education sectors.	• Setting the ratio of lecturers based on quality and expertise. • Integration of the curriculum with the goals of the university. • Increased university promotion. • Improvements in new study programs. • Evaluation and regulation of the new student admission system.

Value Chain Analysis

Value chain analysis is carried out to map all business processes in the organization into two categories, namely main and supporting activities. Based on document studies and interviews conducted on business processes, the resulting mapping of all work processes at the university into two categories of activities, namely five main activities and five supporting activities. The description of the division of activities is as shown in Table 2.

Table 2. Description of the Division of Activities

Activities	Description
Main Activities	a. Teaching and learning activities which are a process of learning to various disciplines. b. Research management is the implementation in the form of managing research and publications c. Management of accreditation to maintain or improve the quality of the university. d. Admission of new students. *e.* Community service as a form of implementing the obligations of the Tridarma of Higher Education
Support Activities	a. Academic administration which aims at the management of administrative needs for both students and education staff. b. Accounting and finance to manage financial expenses and income of university business processes.

Activities	Description
	c. Management of education personnel to manage human resources at the university.
	d. Management of facilities and infrastructure to manage the facilities contained in the university.
	e. Management of student activities.

PEST Analysis

PEST analysis is an analysis of external factors that can affect business processes. These external factors include politics based on government regulations regarding universities and the COVID-19 pandemic. Economic and social factors are generated from the monthly reports of BPS (Badan Pusat Statistik or Central Bureau of Statistics) which is direct data collection from the compilation of government administration products that is compiled and compiled regularly in the form of official statistical publications from various interested parties. Technological factors are based on the development and application of technology during the pandemic. The results of the literature study, the PEST analysis at universities can be described as Table 3.

Table 3. Results of the Literature Study

Factor	Results of Literature Study
Political Factor	a. Law of the Republic of Indonesia no. 12 of 2012 concerning Higher Education. b. Law of the Republic of Indonesia no. 6 of 2018 concerning Health Quarantine. c. Regulation of the Ministry of Education and Culture number 6 of 2020 regarding the implementation of learning.
Economic Factor	a. The occurrence of inflation in the prices of goods and services in several cities in Indonesia. b. The increasing number of poor people in several areas in Indonesia.
Social Factor	a. Policies in the Implementation of PPKM (Pemberlakuan Pembatasan Kegiatan Masyarakat or Enforcement of Community Activity Restrictions). b. The implementation of the PPKM policy is in the form of WFH (Work from Home) activities.
Technological Factor	Application of technology for online learning and administrative services

Mcfarlan Analysis

McFarlan's analysis of the internal IS/IT environment at the university was carried out through observation and document study. This analysis aims to obtain an overview of the current condition of infrastructure, resources, and application portfolio. These systems can then be mapped using the McFarlan Strategic Grid. This mapping is to separate the system qualifications into four parts, namely strategic, high potential, key operational, and support. The results of the mapping can be found in Table 4.

Table 4. Mcfarlan Analysis

Strategic	High Potential
• Website • SPMB (*seleksi penerimaan mahasiswa baru or new student admission selection*) online	• SIQA (system of internal quality assurance) • EMIS (education management information system)
Key Operational	**Support**
• AIS (academic information system) • SIMPEG (*sistem informasi kepegawaian or personnel information system*) • LKP (*laporan kinerja pegawai or employee performance report*) online	• Repository • E-Letter • E-Journal • online attendance system

IT Trend Analysis

Many organizations have taken advantage of the development of information technology. This is because more and more organizations need to rely on information technology in carrying out their business processes. One of them is the use of the e-learning system to become a platform that can facilitate effective and interactive learning anywhere and anytime as long as the user is connected to the system via the internet. Learning through properly designed e-learning can be an efficient and effective alternative for

delivering educational materials. The use of e-learning is increasing during the pandemic and causes great dependence on its users.

Strategic Planning

Based on the results of the analysis of business needs and information that has been done, the next step is to formulate IS/IT strategic planning. This design aims to provide recommendations in the form of policies implementing IS/IT strategies. This is needed as the basis for the university's strategy to be able to utilize technology in achieving its business goals. This policy consists of (1) a system that can act as a medium to carry out learning by government regulations and decisions; (2) system is needed to support and improve the efficiency of teaching and learning activities; (3) a system is needed to ensure the implementation of learning activities that support health protocols; (4) system is needed to increase the use of technology to increase the effectiveness of the business processes in the university; (4) policies to maintain the quality and competitiveness of universities through the development of IS/IT tools; (5) policies for the introduction of IS/IT tools and business processes to students and education staff; (6) development of a system that prioritizes student needs.

In addition to providing policy recommendations, IS/IT management also provides suggestions regarding management systems that can be used by universities. This management system is divided into two types, namely a centralized system and a decentralized system. Based on observations, currently, universities still have systems that have not been integrated, which causes problems in managing these systems. In this case, this study recommends maintaining the system by using the third concept, namely the federal system, which is a combination of a decentralized system with a centralized system. This is to reduce the need for new system development and to be able to integrate existing systems with new systems.

Determination of COBIT 2019 Domain

The design factor of COBIT 2019 aims to determine the domain that will be used to determine the adaptation of the strategic planning for the best recommendations for this system after the pandemic period. The determination of this domain is based on an assessment of the factors of importance in the strategic planning results of the developed system. The important factor is measured using the format of the enterprise goal (EG) factor design in the COBIT 2019 design toolkit with an importance scale from one to five. Table 5 contains the EG factor design assessment Table.

Table 5. EG COBIT 2019

Factor	Importance (1-5)
EG1- Competitive product and service portfolio	3
EG2- Business risk management	4
EG3- Compliance with regulations and external law	5
EG4- Quality of financial information	1
EG5- Customer-oriented on service culture	4
EG6- Availability and continuity of business services	5
EG7- Information management quality	3
EG8- Optimization of the functionality of internal business process	4
EG9- Optimization of business process costs	1
EG10- Staff skills, productivity, and motivation	1
EG11- Compliance with internal policies	4
EG12- Digital program transformation management	4
EG13- Innovation in product and business	2

The results of this interest assessment are then used to determine the domain using the COBIT 2019 design toolkit. The graph in Figure 1 shows the results of the COBIT 2019 domain assessment and recommendations.
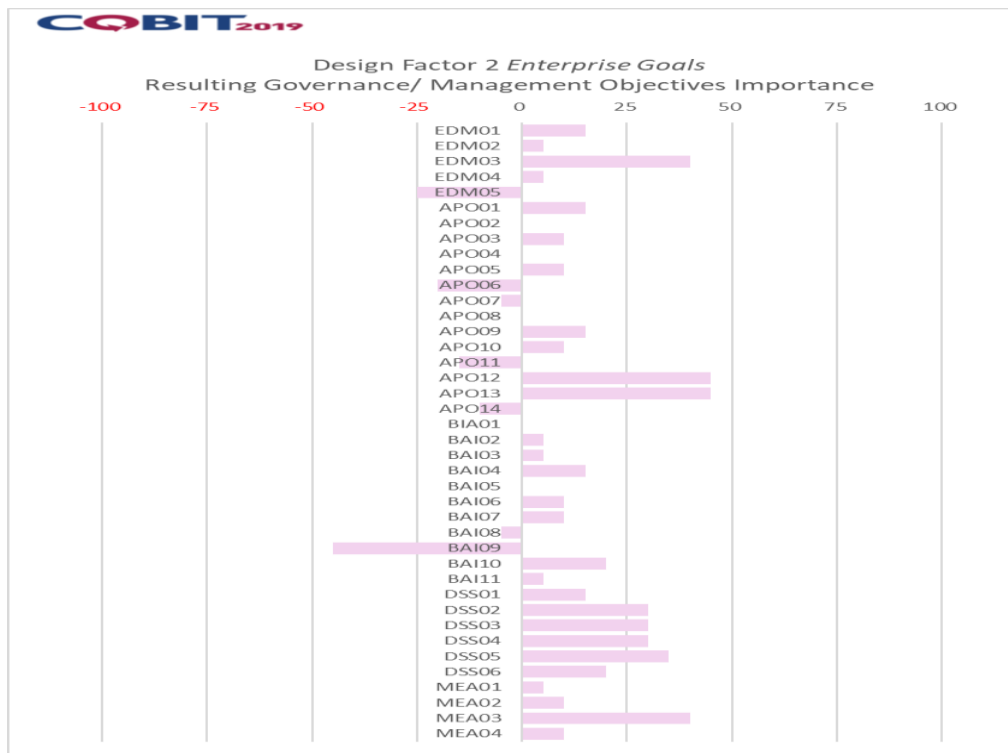
Figure 1. COBIT 2019 domain

COBIT 2019 Capability and Gap Analysis

Capability analysis in COBIT 2019 was conducted to determine the current and expected state of the IT management capability level. The analysis is carried out based on the results of the assessment and conversion of the questionnaire data to the appropriate rating scale. Based on the university's strategic plan and industry-standard best practices, the minimum capability value of IT governance is at level 4. Therefore, management that has reached this level indicates that the existing processes are well managed and stable. The gap analysis is a process that aims to analyze the difference between the current level of IT management capability and the expected one. Based on the results of the analysis of the current capability level that has been carried out and the identification of the expected IT capability level, there are several gaps in each existing process.

Table shows the results of the capability analysis and gap analysis. Figure 2 shows a graph of the results of gap analysis in the form of the difference between the capability value and the expected capability level in the entire domain.

Table 6. Results of Capability and Gap Analysis

Domain	Subdomain	Process	Capability	Expected Capability Level	Gap
		Guaranteed Risk Optimization			
EDM01	EDM01.01	Risk Management Evaluation	3,19	4	0,81
	EDM 01.02	Live Risk Management.	3,25	4	0,75
	EDM 01.03	Monitoring Risk Management	3,12	4	0,88
			3,18	4	0,82
		Managed Risk			
	APO12.01	Collecting Data	3,34	4	0,66
	APO12.02	Risk Analysis	3,28	4	0,72
	APO12.03	Maintaining a Risk Profile	3	4	1
APO12	APO12.04	Articulating Risk	3,2	4	0,8
	APO12.05	Define Risk Management Portfolio	3,16	4	0,84
	APO12.06	Responding to Risk	2,8	4	1,2
			3,13	4	0,87

Domain	Subdomain	Process	Capability	Expected Capability Level	Gap
		Managed Security			
	APO13.01	Building and Maintaining an Information Security Management System	2,68	4	1,32
APO13	APO13.02	Defining and Managing Information Security and Privacy Risks	3,1	4	0,9
	APO13.03	Monitoring and Reviewing Information Security System Management	2,9	4	1,1
			2,89	4	1,11
		Managed Service Requests and Incidents			
	DSS02.01	Defining Classification Schemes for Incidents and Service Requests	2,75	4	1,25
	DSS02.02	Recording, Classifying, and Prioritizing Requests and Incidents	2,92	4	1,08
	DSS02.03	Verifying, Approving, and Fulfilling Service Requests	3	4	1
DSS02	DSS02.04	Investigating, Diagnosing, and Allocating Incidents	2,91	4	1,09
	DSS02.05	Resolving and Recovering from Incidents	2,75	4	1,25
	DSS02.06	Closing Incident Request and Service	2,75	4	1,25
	DSS02.07	Track Status and Generate Report	3,05	4	0,95
			2,88	4	1,12
		Managed Issues			
	DSS03.01	Problem Identification and Classification	3,33	4	0,67
	DSS03.02	Investigating and Diagnosing Problems	3,25	4	0,75
DSS03	DSS03.03	Increase Knowledge Regarding Known Errors	3	4	1
	DSS03.04	Solving and Closing Problems	3	4	1
	DSS03.05	Performing Proactive Problem Management	3,08	4	0,92
			3,13	4	0,87
		Managed Continuity			
	DSS04.01	Determining the Policy, Objectives, and Scope of Business Continuity	2,81	4	1,19
	DSS04.02	Maintaining Business Resilience	3,12	4	0,88
	DSS04.03	Developing and Implementing Business Continuity Response	3,47	4	0,53
DSS04	DSS04.04	Training, Testing, and Reviewing Business Continuity Plans and Disaster Response Plans	2,75	4	1,25
	DSS04.05	Review, Maintain and Improve Sustainability Plans	2,87	4	1,13
	DSS04.06	Conducting Sustainable Planning Training	2,44	4	1,56
	DSS04.07	Managing Backup Settings	2,94	4	1,06

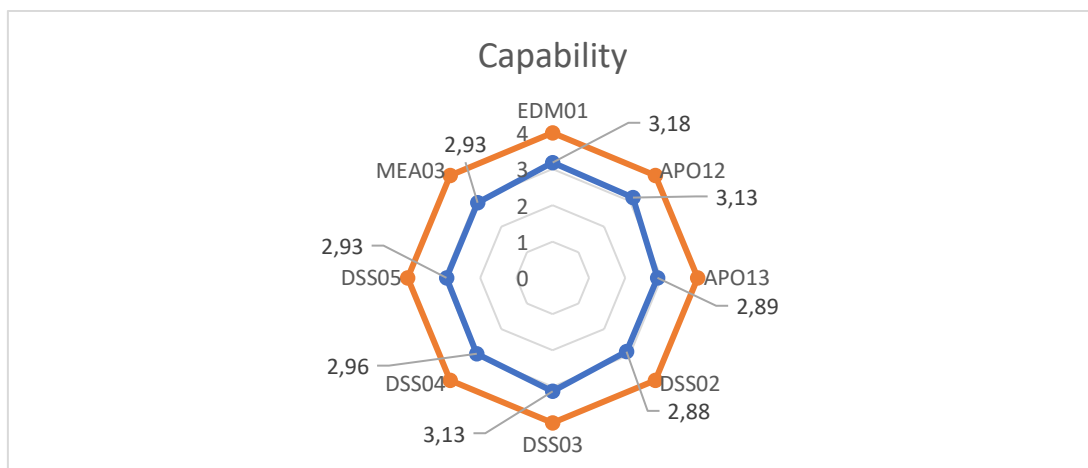| Domain	Subdomain	Process	Capability	Expected Capability Level	Gap
	DSS04.08	Conducting Post Recommencement Review	3,25	4	0,75
			2,96	4	1,04
	Managed Security Service				
	DSS05.01	Protects From Malicious Software	3,55	4	0,45
	DSS05.02	Managing Network Security and Connectivity	2,64	4	1,36
	DSS05.03	Managing Endpoint Security	2,7	4	1,3
DSS05	DSS05.04	Managing User Identity and Access	2,91	4	1,09
	DSS05.05	Managing Physical Access to IT Assets	2,89	4	1,11
	DSS05.06	Manage Sensitive Documents and Output Devices	2,65	4	1,35
	DSS05.07	Managing Vulnerabilities and Monitoring Infrastructure for Security-Related Events	3,15	4	0,85
			2,93	4	1,07
	Managed Compliance with External Requirements				
	MEA03.01	Identifying External Compliance Requirements	3,11	4	0,89
	MEA03.02	Optimizing Responses to External Requirements	3,12	4	0,88
MEA03	MEA03.03	Confirm External Compliance	2,7	4	1,3
	MEA03.04	Getting External Compliance Assurance	2,79	4	1,21
			2,93	4	1,07

Figure 2. Results Graph of Capability Analysis

Based on the gap level analysis conducted, there is a significant gap between the current and expected capability levels. For gaps in domains and processes APO13, DSS02, DSS04, DSS05, and MEA03 with a value below 3 which indicates that the IT management in the domains and processes studied at this time is not good in meeting the target for device usage. However, even though it has not met the set targets, the IT domains and processes have been implemented and have succeeded in achieving the goals of the desired process. In addition, the university also still has enough time to improve IT management in the identified IT processes and domains to achieve what has been set.

Meanwhile, gaps in the domains and processes of EDM01, APO12, and DSS03 with a value above 3 indicate that IT managers in the identified IT domains and processes are declared a system that is not

optimal to meet the university's medium-term targets. This also illustrates, that apart from not being able to achieve the specified target, the university also does not have or implement the identified IT processes and domains or has not been able to achieve the goals of the established process, making it difficult for universities to achieve the set targets. However, to meet the long-term target, at least the gap that occurs in the medium-term target must be minimized, so that in the process the university will be easier to achieve the targeted capability level.

In the information technology audit process, recommendations for improvement are needed so that deficiencies or weaknesses in IT resources can be minimized or even eliminated. To increase the current level of IT management capability so that it is in line with the expected level of IT management capability for the use of university systems, it is necessary to gradually improve existing IT processes according to priorities. The implementation of the recommendations is carried out by the planning of a predetermined process, as shown in Table 7.

Table 7. Recommendation COBIT 2019

No	Recommendation	Fixed Domain
1	Conduct detailed information security management audits using applicable international or national standards.	APO13
2	Add the minimum infrastructure and work environment needed to run the information security management process.	APO13
3	Completing IT governance documents by adding policies for monitoring and reporting related to the information management process.	APO13
4	Increase knowledge related to information security for all university management parties.	APO13
5	Create standard documents to complement the documents needed in governance such as documents regarding updated storage with configuration items, configuration status report documents, and asset monitoring regulatory documents.	DSS02
6	Create more detailed and detailed procedures regarding the process of resolving service requests and incidents.	DSS02
7	Configured documentation of all processes related to service requests and incidents from process inception to completion.	DSS02
8	Conduct regular meetings with user representatives to discuss service requests and incidents that occur.	DSS02
9	Evaluate management options for business continuity and sustainable strategies that are cost-effective and ensure recovery and continuity of university business processes in the face of disasters or incidents.	DSS04
10	Manage backup arrangements that maintain the availability of critical information for business processes.	DSS04
11	Conduct a post-incident review by assessing the adequacy of the Business Continuity Plan (BCP) after successfully handling business processes and services.	DSS04
12	Provide all interested internal and external parties in the form of training on procedures and roles and responsibilities in the event of a disturbance.	DSS04
13	Evaluate skills and competencies based on the training carried out.	DSS04
14	IT services in business processes must be protected for user security.	DSS05
15	Clear and agreed on a determination of access rights based on policies, integrated with business needs.	DSS05
16	Completing Access Rights Operation Procedure Documents with policies for reviewing user access rights to information resources.	DSS02
17	Security procedures are carried out according to and supported by good management.	DSS05
18	Create documents related to the evaluation of information security threats.	DSS05
19	Documenting the classification of data in the form of documents or guidelines to assist business processes.	DSS05
20	Perform penetration tests and vulnerability assessments.	DSS05
21	Manage important documents and output or input devices.	DSS05
22	University leadership institutions should identify and collaborate with stakeholders on an ongoing basis under basic principles.	EDM01

No	Recommendation	Fixed Domain
23	Informing the leadership to create a system or process that communicates appropriate IT oversight at the university in the form of a communication model related to agreed guidelines, structures, processes, and IT governance practices.	EDM01
24	Monitoring the effectiveness and performance of the IT governance system, such as ensuring the implemented mechanisms can be operated effectively and providing appropriate IT oversight.	EDM01
25	Establish special management to manage overall risk management, so that the results can be implemented properly and are easy to control.	APO12
26	Create a written planning document that discusses risk identification and risk management. Where risk management planning still contains the objectives of identifying each risk management process,	APO12
27	Create a document that defines who is responsible and allocates resources and information in carrying out the risk management process.	APO12
28	Define a specific plan to address risk management in line with the agency's strategy.	APO12
29	Identify and initiate sustainable solutions to incidents that are the root cause of problems properly.	DSS03
30	Document the solutions that have been used to systematically handle incidents.	DSS03
31	Ensure IT personnel affected by the disruption know the plans to be developed, to prevent future incidents.	DSS03
32	Generate reports to communicate progress in resolving issues and to monitor the ongoing impact of unresolved issues.	DSS03
33	Making SOPs for system control mechanisms related to changes based on external policies.	MEA03
34	Controlling all documentation results to get data that matches the results or the state of the system and is also always updated.	MEA03
35	System documentation and control must involve every process and change that occurs following established procedures.	MEA03

Discussion

Previous studies mention that the COVID-19 outbreak infection is a reminder that pandemics, like natural disasters, have occurred in the past and can reappear in the future (Donthu & Gustafsson, 2020; Sinha et al., 2020). These studies examine dramatic changes in how businesses adapt and consumers' action. Another research said that lockdown has caused serious implications for students (Aristovnik et al., 2020; Chaturvedi et al., 2021). This article identifies the following as the impact of pandemics on students e they spent in online classes or self-study. The implications of the serious impact of COVID-19 on the closure of education, staff, and training in several countries in Africa (Ceesay, 2021). On the other hand, Covid has caused an acceleration in changes that support the effectiveness of business processes. Covid has become an external factor in changing university governance (Ahrens & Zascerinska, 2021; Panesar et al., 2020). For example, the introduction of the hybrid teaching and learning model planned for 2025 in Germany has already started, and the COVID-19 pandemic only speeded up this process.

Strategic Information System (SIS) has displayed different characteristics regarding the application of information technology (IT) and has different goals (Arvidsson et al., 2014; Peppard & Ward, 2004). While investments in IT continue to be made for efficiency and effectiveness. Ward and Peppard methodological approach was created to be more focused on technology than on business strategy (Prawiyogi & Anwar, 2021). In this literature, several methods or techniques that used in planning IS/IT strategies with this methodology consists of several analyses, namely SWOT analysis, Value Chain analysis, and McFarlan's Strategic Grid. The task of information management in hospitals (Basri & Suryani, 2018). To reduce complexity, this study distinguishes tactical, operational, and strategic information management. this is because each of these levels of management is viewed from a different perspective and therefore uses different tools and methods. Without proper strategic planning, it can become a problem for hospital information systems to meet information strategy objectives.

An assessment of risk on activity is carried out concerning COBIT 5 as guidelines and frameworks (Wulandari et al., 2019). Previous research investigates the relationship between the maturity of IT governance processes and the IT governance approach with companies (Joshi et al., 2018). Next, this study examines whether the strategic role of IT in an industry can led to IT governance improvements. Finally, another studies examines the rise of online learning during the pandemics that have made technology an important part of every educational institution (Ishlahuddin et al., 2020). This research explores the use of

COBIT 2019, an IT governance framework, to evaluate the maturity of selected IT processes in a small higher. COBIT 2019 has been chosen in this research because of its flexibility and openness, which is suitable for small size organizations that lack the resources sufficient to implement good IT governance. And COBIT is a framework that can help the implementation of IT strategy by considering all aspects both in terms of people, skills, competencies, services, infrastructure, and applications.

4. CONCLUSION

This strategic plan aims to measure the adaptability of information systems in the NEW NORMAL era using the Ward & Peppard method approach and recommendations from the COBIT 2019 design principles. The governance information system model in this study uses 8 domains in COBIT 2019 which is used as a governance information system model. manage to measure the level of capability in the agency. In performing calculations using the IT governance information system, the results are in the form of capability levels and gaps. The results of the calculation of the institutional capability level are currently in the range of level 3 with the desired capability level target being 4, this means that IT governance in the agency has been carried out according to plan but is not ready to be used in full after the pandemic period. This research was carried out in two stages, namely strategic planning analysis based on documents and COBIT 2019 analysis which was carried out by discussing and filling out questionnaires directly with the university. For future research, it is expected to use user satisfaction analysis to see the impact of using the system based on user opinions. The domains used can also be added to add indicators that are tailored to the strategic plan of the university.

5. REFERENCES

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