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ABSTRACT

This Study to aimed to review the effectiveness of learning system of University during the Covid-19 Pandemic by using COBIT 5.0 There are four domains become standards in the COBIT 5.0 assessment, namely Website Content Feasibility Standards, Website Language Feasibility Standards, Website Presentation Feasibility Standards, and Website Component Aspects. This research is a descriptive study, this research to describe the effectiveness of using E-Learning by Lancang Kuning University students by COBIT 5.0. This research was conducted at Lancang Kuning University in the odd semester with the characteristics of the respondents for active students at Lancang Kuning University who used E-Learning as a learning medium. The determination of the number of samples is a feasible sample size in the study between 30 to 500. The sample is representative of the population. Data were collected through questionnaires and analyzed using the presentation formula. The finding of this research found that, the acquisition of the E-Learning index value at Lancang Kuning University has four domains, namely standard indicating good results by showing the total index value is above 3.85. This means that the level of maturity of the Lancang Kuning University student learning system during the Covid 19 period, using E-Learning obtained the predicate "Satisfactory" referring to the predetermined value range method.

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1. INTRODUCTION

The Covid-19 pandemic in Indonesia has made the learning system change drastically from face-to-face learning to online learning at home. The coronavirus which is spreading every day makes the government decide some new regulations and policies for the public. That Polices are social distancing, work from home, learning from home, online learning and large scale restriction (PSBB). One of the sectors affected by the Covid-19 pandemic is the education namely fields that cause a lot of physical activity, face-to-face meetings in class, academic guidance, formal meetings in seminar forums and so on to be disrupted.

However, these various routine activities have been hampered to minimize the spread of Covid-19, the government has implemented a physical distancing policy. Based on hese facts, then the application of the online learning method (E-Learning) becomes the best choice for the world of education. Various educational institutions are currently starting to use technology and implement online learning systems to support teaching and learning activities. Lancang Kuning University which is abbreviated as UNILAK is one of the largest private universities in the LLDIKTI X area, which is located in Pekanbaru City, Riau Province also implemented an E-Learning system for the learning process during the Covid-19 pandemic. According to Circular Letter of the Minister of Education and Culture of the Republic of Indonesia Number 03 of 2020 concerning to the prevention of Corona Virus Disease (Covid-19) in Education Units, and the Letter of the Secretary-General of the Minister of Education and Culture of the Republic of Indonesia Number 35492/A.A5/HK/2020 March 12, 2020, the implementation of teach and learning process to be carried out using an online system.

Lancang Kuning University changed the face-to-face learning system to keep the distance by using E-Learning due to the Covid-19 pandemic that hit Indonesia amidst the limitations of existing infrastructure, (Mastuti et al., 2020; Limbong & Simarmata, 2020). Learning procces on university is different from the learning process at school. Hisham (2004) states that in any way, students are considered adults compared to high school students. In general, it can be said that students already have maturity in thinking and making choices in the learning process, students should be treated according to their characteristics, namely adults. Hisham (2002) says that adults are usually able to direct themselves, have diverse experiences, are ready to learn due to their needs. Every student is an individual who has the potential to learn independently, either from written sources, mass media, or the environment. Educators are more facilitating and creating a conducive learning climate so that this potential can develop optimally. Therefore, in the learning process or lectures, it is expected that they should try to create a lecture environment system that allows students to learn from their respective knowledge and experiences, Erman (2004).

E-learning consists of two parts, namely E- which stands for electronics, and Learning which means learning. E-Learning means learning by using the services of electronic devices, especially computers. There is the word "especially computers" at the end of the sentence which gives the understanding that computers are electronic devices in addition to other electronic learning tools (Maryati, 2007). E-Learning is one of the most preferred learning media by learners. Students search the web to gather knowledge on a particular topic from the information in the repository (Saleena 2015). Now E-Learning is also one of the useful applications in the Internet world. E-Learning media has made progress in various fields such as adaptive E-Learning systems (Srivastava and Haider 2020). E-Learning is an interactive system where learning content is available online and provides automatic feedback for student learning activities. E-Learning systems using the internet are also called internet-enabled learning. The presentation of this web-based E-Learning can be more interactive and lecture information can also be real-time. Likewise with the communication, although not directly face to face, lecture-discussion forums can be done online and in real-time.

This E-Learning system has no access restrictions. Studying with E-Learning can be done more time, whenever students can access this system. Submission of material is in the form of text or sound storage results that can be downloaded, besides that there is also a discussion forum, a lecturer can also give grades, assignments, and announcements to students. E-Learning has two types, namely

synchronous and asynchronous. According to Rosen (2009), there are two main types of delivery models in E-Learning, namely synchronous and asynchronous. Delivery teaching materials using synchronous, students and lecturers meet determined by the time to carry out the learning process. While the delivery uses asynchronous, students use materials available through the website which are complete enough to be used at any time. This allows students to access materials as needed. Given that the level of knowledge is one of the most important aspects of the E-Learning platform. The learner interaction track provides very important information that describes their behavior while using the E-Learning platform. Knowledge level assessment can be supplemented with indicators related to the interaction dimension.

Several methods have been developed to assess this attribute. Interaction trace analysis is one of the most widely used assessment tools in E-Learning applications (Brahim and Lotfi 2020). The definition of auditing in terms of the emphasis on audit activities itself reveals: "Auditing is the collection and evaluation of evidence on information to determine and report the level of conformity of the information with the criteria that have been determined set. Auditing must be carried out by someone competent and independent." The definition of an information system audit is a process to collect and evaluate evidence to conclude whether the computerized system can be adequately established and implemented in the internal control system, and ensures data integrity and the effective operation of a computer-based information system (Widayanti and Purnamawati, 2013). Information Technology governance can provide a structure to align Information Technology and business strategies. The general framework of an organization can produce a measurable result to achieve the strategy and goals of the company. The formal program also takes into account the interests of the stakeholders with the needs of the staff and all the processes they must follow. An overview for Information Technology governance is an integral part of corporate governance as well as the organization as a whole. Many frameworks can be used to conduct information technology governance audits including COBIT, COSO, ITIL, COSO, CICA, BCBS, ISO, PRINCE2, PMBOK, and others.

COBIT was first published in 1996, then the second edition of COBIT was published in 1998. In 2000 COBIT 3.0 was released and COBIT 4.0 in 2005. Then COBIT 4.1 was released in 2007 and currently the last COBIT released is COBIT 5.0 which was released in 2012. By the curriculum reference, the courses consist of various types, namely theoretical courses, practical courses, theory and practicum courses, and practical fieldwork courses (Dikti, 2014; Rusdiana & Nasihudin, 2018).

The research conducted by the previously mentioned expert is broadly about the design of e-learning applications using COBIT 5.0. However, this research specifically looks at the effectiveness of using COBIT 5.0 in the learning process during the covid 19 pandemic. After implementing the E-Learning system at Lancang Kuning University, it is necessary to audit academic governance at Lancang Kuning University so that the implementation of existing information technology is in accordance with the academic needs of the academic community. Lancang Kuning University. Evaluation of E-Learning using COBIT 5.0. In general, Cobit is a comprehensive framework designed to help companies create optimal value from Information Technology (IT), by striking a balance between optimizing resources with expected benefits and goals.

2. METHODS

This research is a descriptive study, namely research that does not make comparisons of that variable to other samples and looks for the relationship between that variable and other variables (Sugiyono, 2008:35). This research were to describe the effectiveness of using E-Learning by Lancang Kuning University students. This research was conducted at Lancang Kuning University in the odd semester with the characteristics of the respondents, for active students at Lancang Kuning University who used E-Learning as a learning medium. The research was carried out using an associative strategy. According to Sugiyono (2016: 21), associative strategy is a research strategy that aims to determine the influence between two or more variables. The survey research method includes case studies by using questionnaires with google forms.

This research stages are: (1) Identification of Problems, problem identification is the stage where a more in-depth review will be carried out on the learning system provided by the lecturer to students in the teaching and learning process. (2) Scope, the scope of the research is limited by the research subject, namely in the learning section between lecturers and students. This limitation intends to limit the variables that will be used for testing. (3) Study of literature, literature study is the stage where data collection will be carried out and study materials that will become references to be studied. The references used in writing this report use references from books, journals, scientific works, articles, papers, and internet sites to support this research. (4) distribution of questione(5) Data analysis is how to process the data obtained into information that can be understood by everyone, and is expected to be useful for faculty to improve online learning for the better. (6) Data Processing, the data is processed to get the effectiveness of E-Learning. (7) Conclusion, This section contains conclusions regarding the effectiveness of E-Learning for Lancang Kuning university students during the covid 19 period.

Sugiyono (2016: 80) states that the population is an area of generalization of objects or subjects that have certain qualities and characteristics determined by researchers to be studied and then drawn conclusions. Determination of the population is an important stage in research because the population can provide useful information or data for a study. The population of this study students of Lancang Kuning University.

The sample according to Sugiyono (2016:120) is part of the number and characteristics possessed by the population. The sample was carried out because the researcher had limitations in conducting research both in terms of time, energy, funds, and a very large population. The determination of the number of samples is a feasible sample size in the study between 30 to 500. The sample is representative of the population. The sample is part of the selected population and represents the population. Sampling in this study was carried out using the random sampling technique using the Slovin formula to determine the sample quantity:

$$n = \frac{N}{1 + Ne^2}$$

Description:
n = Sample Size
N = Population Size
e = Standard error (5%)

$$n = \frac{12110}{1 + 12110\ x\ 0.05\ x\ 0.05}$$

Maturity level measurement has been set in COBIT for management level and allows managers to know how IT is managed and processed at the university so that it can be seen at which management level. The maturity model in COBIT is a tool used to measure how well the IT management process is related to IT internal control which is also related to the organization's business goals (B. Supradono, 2011). The level of information technology management capability on the maturity scale is divided into 6 levels, namely Level 0 Non-existent processes are not implemented at all, Level 1 Initial/ad hoc processes are ad hoc and irregular, Level 2 Processes that are repeatable but intuitive follow the same pattern regularly, Level 3 Defined Processes are documented and communicated, Level 4 Managed and measurable processes are monitored and measured and Level 5 Processes are optimized following best practices and are automated (IT Governance Institute, 2007).

Furthermore, the results of the questionnaire processed the data for the data processing stage and the data analysis stage. This data processing is divided into 2 parts, namely the analysis of the current maturity level, the analysis of the expected maturity level, and the gap analysis.

The results of the questionnaire data were then analyzed to assess the current maturity level (as-is) for the DS domain. In the analysis of the current maturity level (as-is), an assessment of each activity is carried out. As for the results of the answers to the maturity level questionnaire, there will be 6 answer choices with a value of 0-5. The attribute maturity level is obtained from the calculation of the total choice of questionnaire answers multiplied by the weight and divided by the number of respondents as in the following formula:

$$\text{Maturity Index} = \frac{\sum \text{Most Question Answers}}{\sum \text{Questionnaire Questions}}$$

The results of the expected maturity level assessment (to-be) aim to provide a reference and standard for the development of IT governance at Lancang Kuning University. The goal is that the maturity level becomes a reference for the future in the service and support process in implementing E-Learning at Lancang Kuning University. The steps that have been taken are to determine the current maturity level (as-is) and the expected maturity level (to-be) with gap analysis. The purpose of this gap analysis is to identify activities and improvements that need to be carried out by Lancang Kuning University for the expected level of maturity. Meanwhile, the gap level is obtained using the following formula, namely the expected maturity level minus the current maturity level:

The Gap Level Formula (GAP) = (A – B)

A = Expected maturity level (to be)

B = Current maturity level (as is)

3. FINDINGS AND DISCUSSION

Results of Data Processing on the Effectiveness of Using E-Learning at Lancang Kuning University

The learning outcomes of Lancang Kuning University students during the covid 19 period who used E-Learning are shown in the following tables.

Table 2. Effective use of E-Learning based on all Indicators

Effective use of UNILAK Student E-Learning			
Category	**Range**	**F**	**%**
Very Effective	117 - 155	220	56.7
Effective Enough	78 - 116	151	38.9
Less Effective	39 - 77	14	3.6
Ineffective	0 - 38	3	0.8
Amount		**388**	**100**

The effectiveness of using E-Learning by Lancang Kuning University students is based on the indicated indicators, only 0.8% of the overall category is not effective in using E-Learning. Then the remaining 56.7% in the very effective category, 38.9% in the moderately effective category, and 3.6% in the less effective category. Figure 2 shows a diagram of the effectiveness of using E-Learning by Lancang Kuning University students.

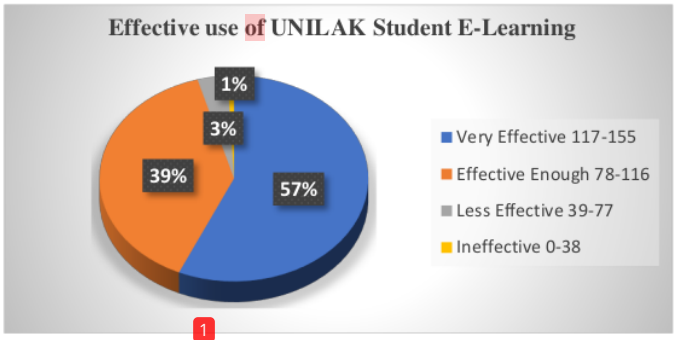

Figure 2. Diagram of the Effectiveness of Using E-Learning UNILAK Students

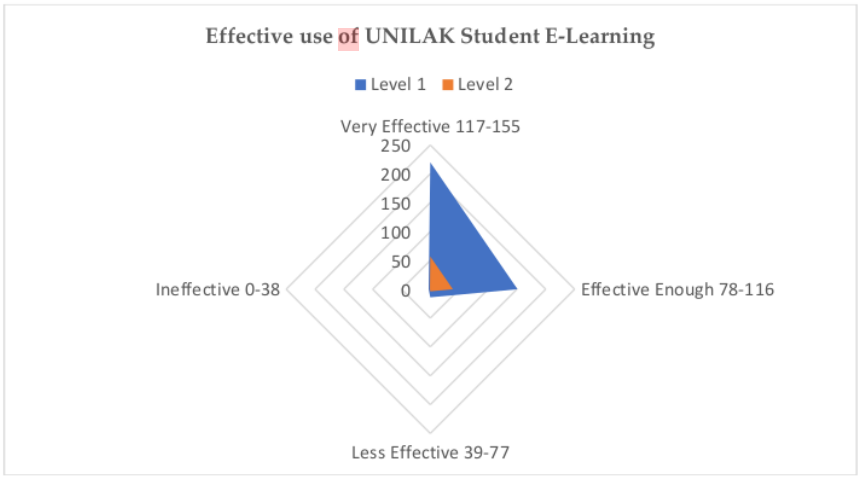

Figure 3. Graph of the Effectiveness Index of Using E-Learning by Lancang Kuning University Students

Based on the graph of the effective index of using E-Learning on Lancang Kuning University students, it can be seen that the value is on level 1 and level 2. Based on picture, very effective at level 1. This means that the use of E-Learning at Lancang Kuning University for students during the COVID-19 pandemic is very effective at level 1

Recapitulation of All Indicators

In Table 3. Recapitulation of all indicators for sub-indicators or components of website content feasibility standards, website language eligibility standards, website presentation eligibility standards, and website component aspects, which are very effective in the category of website presentation eligibility standards of 58.51% on the use of E-Learning University students Lancang Kuning in the time of covid-19. Furthermore, the category of website language eligibility standards is 56.7%, website component aspect category is 51.29% and website content eligibility standards category is 50.5%. While the most ineffective lies in the category of website content eligibility standards of 0.8%.

Table 3. Recapitulation of All Indicators

Sub Indicators Or Components	Category							
	Very Effective		Effective Enough		Less Effective		Ineffective	
	F	%	F	%	F	%	F	%
Website Content Eligibility Standards	196	50.5	165	42.5	24	6.2	3	0.8
Website Language Eligibility Standards	220	56.7	148	38	17	4.381	3	0.773
Website Presentation Eligibility Standards	227	58.51	131	34	25	6.443	5	1.289
Website Component Aspects	199	51.29	166	43	19	4.897	4	1.031
Average	**211**	**54.25**	**153**	**39**	**21**	**5.477**	**3.8**	**0.966**

Maturity Level Analysis

The current condition of IT governance capabilities of Lancang Kuning University's E-Learning can be identified through a maturity level analysis that refers to the COBIT maturity level, especially the delivery and support domain. The analysis of the maturity level of Lancang Kuning University's E-Learning was taken from distributing questionnaires to students. The number of respondents in this study was 388 people. The summary of the results of the questionnaire is shown in Table 4:

Table 4. Recapitulation of Questionnaire Results

Domain	Process	Indicator	Total
DS 1	Website Content Eligibility Standards	7	388
DS 2	Website Language Eligibility Standards	5	388
DS 3	Website Presentation Eligibility Standards	9	388
DS 4	Website Component Aspects	10	388

After calculating the four processes in the delivery and support domain, overall they have a maturity level of 4 (managed and measurable). The suitability of the process for various environments has been tested and the process refined and adapted. Process users have experienced several processes in various and varied conditions and can demonstrate competence. Process maturity allows adaptation to a specific project without measurable loss of quality or deviation from specifications.

Table 5. Current maturity domain DS

Number	Domain	Index	Level
1. Website Content Eligibility Standards			
a	Indicator 1.1	3.87	4.00
b	Indicator 1.2	3.81	4.00
c	Indicator 1.3	3.82	4.00
d	Indicator 1.4	3.81	4.00
e	Indicator 1.5	3.76	4.00
f	Indicator 1.6	3.79	4.00
g	Indicator 1.7	3.90	4.00
1. Website Language Eligibility Standards			
a	Indicator 2.1	3.74	4.00
b	Indicator 2.2	3.80	4.00
c	Indicator 2.3	3.78	4.00

d	Indicator 2.4	3.85	4.00
e	Indicator 2.5	3.74	4.00
3. Website Presentation Eligibility Standards			
a	Indicator 3.1	3.83	4.00
b	Indicator 3.2	4.03	4.00
c	Indicator 3.3	3.86	4.00
d	Indicator 3.4	3.95	4.00
e	Indicator 3.5	3.89	4.00
f	Indicator 3.6	3.87	4.00
g	Indicator 3.7	3.81	4.00
h	Indicator 3.8	3.87	4.00
i	Indicator 3.9	3.89	4.00
4. Website Component Aspects			
a	Indicator 4.1	3.80	4.00
b	Indicator 4.2	3.78	4.00
c	Indicator 4.3	3.79	4.00
d	Indicator 4.4	3.82	4.00
e	Indicator 4.5	3.83	4.00
f	Indicator 4.6	3.88	4.00
g	Indicator 4.7	3.84	4.00
h	Indicator 4.8	4.02	4.00
i	Indicator 4.9	3.97	4.00
j	Indicator 4.10	3.82	4.00

Table 5 shows that in general, the maturity level of Lancang Kuning University's E-Learning implementation, especially in the delivery and support domain, is at level 4 (managed and measurable). This means that activities or standards related to the implementation of E-Learning at Lancang Kuning University have been formally implemented and integrated. In addition, there are indicators as a quantitative measure of performance progress for Lancang Kuning University and constant improvements to existing processes. But the use of automation is still limited to certain processes.

Gap Analysis (GAP) Maturity Level

The target or expectation for the maturity of the information technology governance process is the ideal condition for the expected level of process maturity, which will be a reference in the Lancang Kuning University E-Learning IT governance model to be developed. The maturity of the information technology governance process can be determined by looking at the internal environment of Lancang Kuning University such as the vision and mission, objectives of Lancang Kuning University. To be able to support the achievement of the goals of Lancang Kuning University, the maturity level must be at level 5 (optimized). The value of the GAP maturity level gap can be seen in Table 6.

Table 6. Maturity Level Gap

NUMBER	DOMAIN	AT THE MOMENT	HOPE	GAP
1	Indicator 1.1	3.87	5	1.13
2	Indicator 1.2	3.81	5	1.19
3	Indicator 1.3	3.82	5	1.18
4	Indicator 1.4	3.81	5	1.19
5	Indicator 1.5	3.76	5	1.24
6	Indicator 1.6	3.79	5	1.21
7	Indicator 1.7	3.90	5	1.10
1	Indicator 2.1	3.74	5	1.26
2	Indicator 2.2	3.80	5	1.20
3	Indicator 2.3	3.78	5	1.22

4	Indicator 2.4	3.85	5	1.15
5	Indicator 2.5	3.74	5	1.26
1	Indicator 3.1	3.83	5	1.17
2	Indicator 3.2	4.03	5	0.97
3	Indicator 3.3	3.86	5	1.14
4	Indicator 3.4	3.95	5	1.05
5	Indicator 3.5	3.89	5	1.11
6	Indicator 3.6	3.87	5	1.13
7	Indicator 3.7	3.81	5	1.19
8	Indicator 3.8	3.87	5	1.13
9	Indicator 3.9	3.89	5	1.11
1	Indicator 4.1	3.80	5	1.20
2	Indicator 4.2	3.78	5	1.22
3	Indicator 4.3	3.79	5	1.21
4	Indicator 4.4	3.82	5	1.18
5	Indicator 4.5	3.83	5	1.17
6	Indicator 4.6	3.88	5	1.12
7	Indicator 4.7	3.84	5	1.16
8	Indicator 4.8	4.02	5	0.98
9	Indicator 4.9	3.97	5	1.03
10	Indicator 4.10	3.82	5	1.18
Average Index		**3.85**		

Based on Table 6 of the Maturity Level gap (GAP) above, a recommendation is made in the form of more intensive IT management on the use of E-Learning. In addition, it is necessary to hold socialization and training on the use of E-Learning so that its use can be maximized. The Center for Information and Learning Technology (PTIP) of Lancang Kuning University plays a very important role and is committed to the level of security and management of processes that are already quite good in learning to use E-Learning and continue to be improved. Increasing the level of maturity must also be carried out by COBIT standards so that Lancang Kuning University learning can apply good IT management (Good Governance). Graphically, the acquisition of the Maturity Level index value for each domain can be seen in Figure 4.

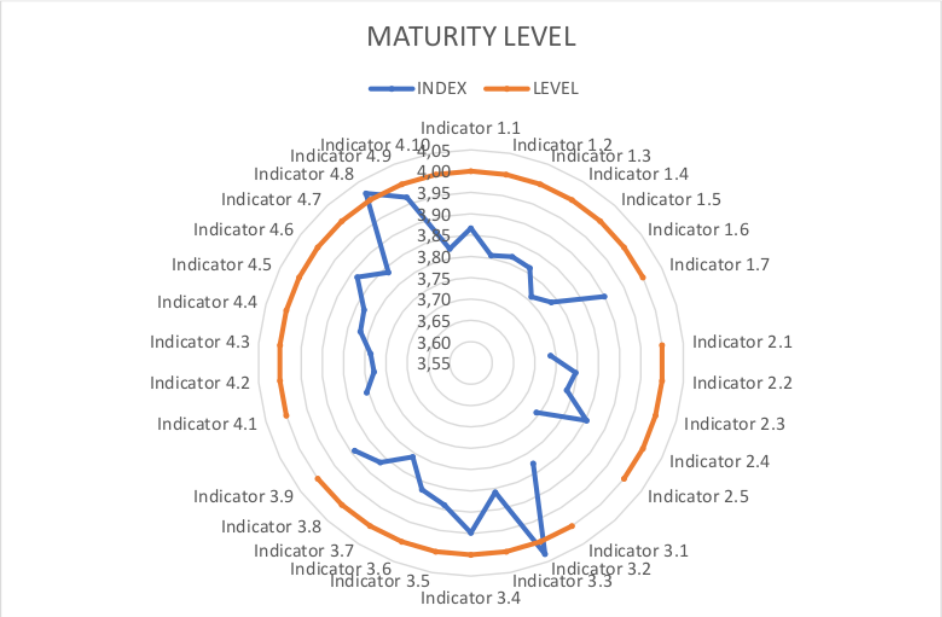

Figure 4. Graph of Maturity Level Index

The Maturity Level index graph above shows that the E-Learning index scores at Lancang Kuning University for 4 Domains namely Website Content Feasibility Standards, Website Language Feasibility Standards, Website Presentation Feasibility Standards, and Website Component Aspects can indicate good results. Table 6 shows that the total index value is above 3.85, which means that the level of maturity of the Lancang Kuning University student learning system during the Covid 19 period, using E-Learning, obtained the predicate "Satisfactory" referring to the value range method in chapter 4 on COBIT.

Repair Recommendations

For this recommendation stage, it is already in the output process. The stage of providing recommendations for Lancang Kuning University students during the Covid 19 period who used E-Learning already referred to the results of the COBIT 5.0 questionnaire analysis. As for the recommendations for improvement, these are suggestions for improvement by the COBIT 5.0 explanation to be given to the Center for Information and Learning Technology (PTIP) Lancang Kuning University.

4. CONCLUSION

The conclusion obtained from the results of this study is that the learning outcomes of Lancang Kuning University students during the covid 19 period who used E-Learning with COBIT 5.0 were very effective. The maturity level of Lancang Kuning University's E-Learning implementation, especially in the delivery and support domains, is at level 4 (managed and measurable). Based on all activity indicators or standards related to the implementation of E-Learning that have been carried out in a formal and integrated manner. Lancang Kuning University's E-Learning index value for 4 Domains namely Website Content Feasibility Standards, Website Language Feasibility Standards, Website Presentation Feasibility Standards, and Website Component Aspects shows a total of above 3.85 which means the maturity level of the Lancang University system Yellow studied during the Covid 19 period with the "Satisfactory" category. The maturity of the information technology governance process can be determined by looking at the internal environment of Lancang Kuning University such as the vision,

mission, and goals of Lancang Kuning University. For further researchers, it is suggested that it can support the achievement of the maturity level that must be at level 5 (optimized). Recommendations in the form of more intensive IT management on the use of E-Learning. It is also necessary to hold socialization and training on the use of E-Learning so that its utilization can be maximized. Increasing the level of maturity must also be carried out with COBIT standards so that Lancang Kuning University learning can apply good IT management (Good Governance).

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