www.bircu-journal.com/index.php/birci
Budapest International Research and Critics Institute-Journal (BIRCI-Journal)
Humanities and Social Sciences
ISSN 2615-3076 Online)
ISSN 2615-1715 (Print)
Budapest Institute

Evaluation of Information Technology Governance Through The Cobit 5 Framework Approach: Case Study at PT Bank ABC Post-Merger

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Abstract

Governance is the result of accountability for actions taken by the executive board and management to ensure that the processes carried out support the organization's strategic steps towards business goals. As a newly merged company, Bank ABC then rearranged its new vision and mission and adapted it to the dynamics of the organization and stakeholders to support the company's achievements. One of its missions is to provide access to Islamic financial solutions in Indonesia. Providing access to Islamic finance is certainly inseparable from the information technology governance function at Bank ABC. Information technology governance is the embodiment of the structure and roles, processes, and related mechanisms that ensure that information technology is aligned with the organization to achieve organizational goals. For this reason, it is necessary to evaluate good information technology governance to be able to support the achievement of Bank ABC's vision. This study evaluates ABC Bank's information technology governance based on the COBIT 5 framework. Data collection methods in this study used questionnaires and interviews with related parties, especially at the company executive level. Meanwhile, the data analysis technique uses descriptive qualitative which emphasizes the data sources and facts obtained from related parties in the field. The results obtained are expected to result in an evaluation of the extent to which the capability level of information technology governance is, and produce recommendations for improvement so that information technology governance can meet management expectations.

Keywords
COBIT5; IT governance; Islamic banking; corporate action; merger

I. Introduction

PT Bank ABC (hereinafter referred to as Bank ABC) officially operates in early 2021 and is a bank resulting from the merger of three banks from the Government Bank Association (Bank BUMN). The government's breakthrough policy to merge three banks is expected to provide a choice of new financial institutions for the community as well as being able to encourage the national economy (Alhusain, 2021).

With the merger, Bank ABC then rearranged its new vision and mission and adapted it to the dynamics of the organization and stakeholders. Bank ABC's vision is to be ranked in the top ten Islamic banks in the world, with one of its missions being to provide access to Islamic financial solutions in Indonesia. Providing access to Islamic finance is certainly inseparable from the Information Technology (IT) governance function at Bank ABC. IT governance is the embodiment of the structure and roles, processes, and related mechanisms that ensure IT is aligned with the organization to achieve organizational goals.

For this reason, good IT governance is needed to be able to support the achievement of Bank ABC's vision.

Some of the problems faced related to IT governance at Bank ABC based on the results of interviews with the IT Strategic and Planning Manager, including sorting what is used and what is not used from applications, policies, procedures, accounting systems, and other matters relating to the merger of the three legacies of the merged participants into one Bank ABC entity. Because the merger does not only discuss the merging of applications, but also policies, procedures, accounting, and so on, the main problem after the merger is carried out is related to harmonization, how to harmonize the management of information technology which consists of policies, procedures, applications, a set of infrastructure, etc.

The evaluation of information technology governance conducted at Bank ABC aims to determine the extent to which information technology governance has been implemented based on the results of the measurement of Bank ABC's information technology governance capability after the merger with the COBIT 5 approach. The results obtained are expected to produce a measurement of the current capability level. and the expected level of capability and gap analysis, so that appropriate recommendation can be given for improving information technology governance to meet management expectations in achieving company goals, especially after the merger.

II. Review of Literature

2.1 COBIT 5

The COBIT standard issued by ISACA (Information Systems Audit and Control Association) is a comprehensive tool for creating IT Governance in an organization. The use of COBIT can meet diverse management needs by bridging the gap between business risk, control requirements, and IT technical issues. COBIT 5 enables information technology to carry out governance and management holistically for the entire company, manage the business from end to end, and be responsible for all areas of the information technology function (ISACA in Sulaeman, 2015). In addition, COBIT 5, provides facilities within the scope of internal and external stakeholders. COBIT 5 is global and useful for all companies of all sizes, whether commercial, non-profit, or the public sector.

The process in COBIT 5 consists of two processes, namely the governance process and the management process. Accordingly, the COBIT 5 process that will be used as the analytical framework in this research is the governance process. According to Andry and Christianto (2018), governance ensures that company goals are achieved by evaluating stakeholder needs, conditions and choices, setting direction through priorities and decision making, and monitoring performance, compliance, and progress towards agreed directions and goals. There is one domain in the governance process, namely Evaluate, Direct, and Monitor (EDM) and this domain has five processes as follows:

1. EDM01: Ensure governance framework, setting, and maintenance.
2. EDM02: Ensure benefits delivery.
3. EDM03: Ensure risk optimization.
4. EDM04: Ensure resource optimization.
5. EDM05: Ensure stakeholder transparency.

According to ISACA, COBIT 5 is an ISACA guide that discusses the governance and management of information technology. COBIT 5 is based on the best practices of users from the information technology, risk, insurance, and security communities. There are 6 levels of capability where the process can be achieved, including incomplete

processes:

1. 0 incomplete process, the process is not implemented or fails to achieve the process objectives. At this level, there is little or no systematic achievement of process objectives.
2. 1 performed process (one attribute), implemented processes to achieve process objectives.
3. 2 managed process (two attributes), the previously described performance is now implemented and managed (planned, monitored, and adjusted) and the work product is built, controlled, and managed.
4. 3 established process (two attributes), the processes that were managed and described earlier, are now implemented using the processes found to be appropriate to achieve the process outcomes.
5. 4 predictable process (two attributes), the process described previously is now operated by achieving the goal of the process output which is still limited.
6. 5 optimizing process (two attributes), processes that have been predicted and described previously, are now continuously improved to meet current conditions and projected to business goals.

Level assessment is carried out starting from level one maturity capability and so on. To reach level 1, it can be done by:

1. Review the process results described in the detailed process description using the ISO/IEC 15504 rating scale to determine the degree to which the objectives were achieved. The scale is based on ratings:
   a. N (Not achieved), there is little or no evidence of attribute achievement found in assessing processes.
   b. P (Partially achieved), there is some evidence of achievement found. Aspects of unpredictable attribute achievement (15%-50% achievement).
   c. L (Largely achieved), there is evidence of a systematic approach, significant achievement, and defined attributes in the assessment process. Some weaknesses still exist in the assessment process (50%-85% achievement).
   d. F (Fully achieved), there is evidence of a complete and systematic approach, full achievement, and defined attributes in the assessment process. No significant weaknesses in process assessment (85%-100% achievement).
2. Process practices (governance and management) can be assessed using the same rating scale, revealing the extent to which basic practices have been applied.
3. To further refine the value, work products can be considered to determine the extent to which certain assessment attributes have been achieved.

According to ISACA (2012), a process is sufficient to achieve the Largely achieved (L) or Fully achieved (F) category to be able to state that the process has achieved a level of capability, but the process must achieve the Fully achieved (F) category to be able to continue the assessment. to the next level of capability. For example, for a process to reach capability level 3, then levels 1 and 2 in the process must reach the Fully achieved (F) category, while the capability level 3 is enough to reach the Largely achieved (L) or Fully achieved (F) category.

2.2 Merger

According to Gaughan (2011), a merger is a combination of two companies into one company that will survive and the other company that was merged will disappear. This is by the meaning of merger from PSAK 22 which states that a business combination or business combination which can be interpreted as a business combination can be carried

out through the purchase of net assets, including goodwill, from another business entity and not the purchase of shares of the other business entity.

According to Gaughan (2011), the motive for the merger that is expected by the company is because the merger will produce synergistic benefits between two or more companies. Therefore, the company's motivation for conducting a merger is to expand. Mergers can make companies enlarge their companies from the results of synergies. Expansion of a company can be in the form of enlarging business lines, business area coverage, and improving company internals. In the case of the ABC Bank merger, it is more about expansion and expanding the business area to produce a dominant market power.

Ross (2015) explained that there are three types of mergers and acquisitions classification, namely horizontal acquisitions, vertical acquisitions, and conglomerate acquisitions. Of the three types of classification, the mergers carried out by Bank ABC tend to be horizontal acquisitions, because Bank A, Bank B, and Bank C, are companies that are in the same industry, namely banking with almost the same banking products.

Then based on the type of acquisition, according to DePhampilis (2008) there are two types of acquisition, namely company acquisition and asset acquisition. From the ABC Bank merger case, the type of acquisition is more of a company acquisition. This is because there is an aspect that of the three merged banks, namely Bank A, Bank B, and Bank C, the three of them later turned into one entity with a new name.

2.3 Previous Research

a. Hariyono (2018)

Information technology governance (IT Governance) in the company has an important role in maximizing information technology that has been implemented at the University. However, IT governance can have some problems because IT is only a concern of the technical team. After all, it does not get the attention of top management. According to the results of this study, without good IT governance, various problems will arise. The results of the assessment using the COBIT 5 capability level approach show that PUKSI Universitas Peradaban has a capability level at Level 1 for the EDM01 process because process performance is not planned and not monitored, as well as the resources and information needed to carry out the process are not identified, provided, allocated, and used. So that IT governance is not maximally used. The difference found in this study is that the object of research is carried out at higher education institutions, not merged companies.

b. Rahayu, Matondang, and Hananto (2020)

The purpose of this study was to measure the level of maturity and application of information technology performance in implementing the Academic Information System (SIAKAD) at the University of National Development Veterans Jakarta (UPNVJ) because the researchers saw that in this case UPNVJ had not been utilized optimally in the utilization of information technology in terms of planning, implementation, and monitoring. The method for measuring the maturity level uses the COBIT 5 method and the results obtained focus on five domains, namely the Deliver, Service, and Support process in UPNVJ information technology, which is at level 3 with a value of 2.80 and has a gap of 1.20. The results on the Domain Evaluate, Direct and Monitor, Align, plan and organize, Build, Acquire and Implement, BAI04 and Monitor, Evaluate and Assess in UPNVJ information technology have level 2 with a value of 2.00 and have a gap of 2.00 and the results of Capability Level based on Overall the five process domains have a value

of 2.20 and a gap of 1.80, based on the set target level, namely capability level 4.00. The difference found in this study is that this study uses the entire COBIT 5 governance and management process, and the object of research is a higher education institution, not a merged company.

c. Riyandi, Sudibyo, Wijonarko, Rinaldi, and Pahlevi (2020)

From the results of this study, it was found that information technology governance is needed to maintain information system services in a library running properly, both support and information technology services for users are carried out on an ongoing basis. This research was conducted at one of the educational institutions at MTSN 1 Tangerang which sustainably applies technology with maximum support and service. The information system audit conducted at MTSN 1 Tangerang aims to check information technology support and services, especially in library information system services. It was concluded that the resulting score was still at level 3 or called the defined level. In this process MTSN 1 Tangerang is under development at the standard level, both in the development of a new product which is documented, the rules set, clarity in responsibilities, integration of the resulting product, cost management, and progress of all processes in accountable supervision. The difference found in this study is that this study uses the COBIT 5 framework in the DSS domain, and the object of research is a secondary education institution, not a merged company.

2.4 Research Framework

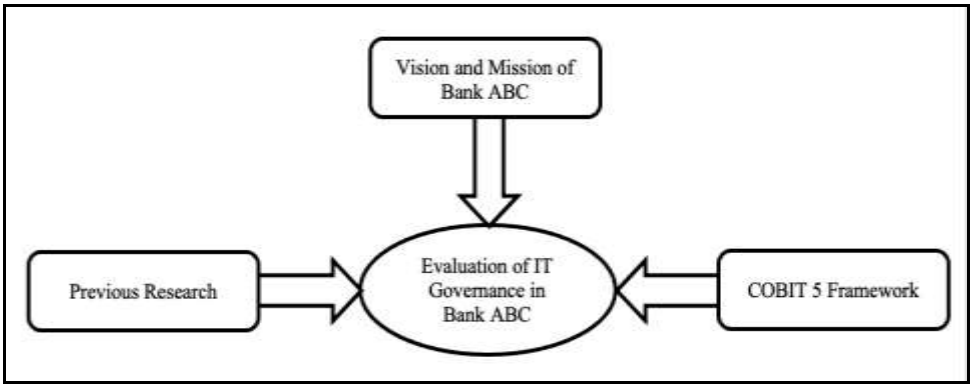

Figure 1. *Research Framework*
Source: Hasan (2016)

Based on the research framework above, it can be explained that the evaluation of Bank ABC's information technology governance was driven by the company's vision and mission after the merger, where one of the missions was to access broad financial and banking solutions in Indonesia, thus directly instructing ABC Bank to have an information technology system. reliable and superior. The Directorate of Information Technology of Bank ABC (IT and Operation Directorate) is in charge of the management of information technology at Bank ABC, so it is necessary to evaluate the right information technology to be able to realize the creation of a reliable and superior information technology system.

III. Research Method

Data collection methods in this study used questionnaires and interviews. The number of respondents to the questionnaire is ten respondents spread across the IT directorate, and interview sources are three sources consisting of the IT Director, IT Strategic and Planning Manager, and Cash and Trade Operations Manager. The questions compiled in the questionnaires and interviews refer to the guide indicators described in the Process Assessment Model (PAM): Using COBIT 5 issued by ISACA (2012). While the data analysis technique uses descriptive qualitative analysis techniques that emphasize data sources and facts obtained from related parties in the field. The results obtained are expected to result in an evaluation of the extent to which the capability level of information technology governance is, and produce an analysis of what factors cause that information technology governance has not been managed properly so that recommendations can be given according to management expectations in achieving company goals, especially after conducting merger.

The flow in this research stage uses qualitative methods with natural research objects. The meaning of the natural research object in this case is an object that does not contain manipulation and is not engineered by the researcher so that the data obtained is following the habits of using information technology at ABC Bank. The object of this research is related to the management of information technology. Other needs outside the object of research, there are also several research subjects from ABC Bank's information technology system who are resource persons or respondents in which the subject understands better or is an expert in assisting this research. The following is the flow of this research as shown in Figure 2 below:

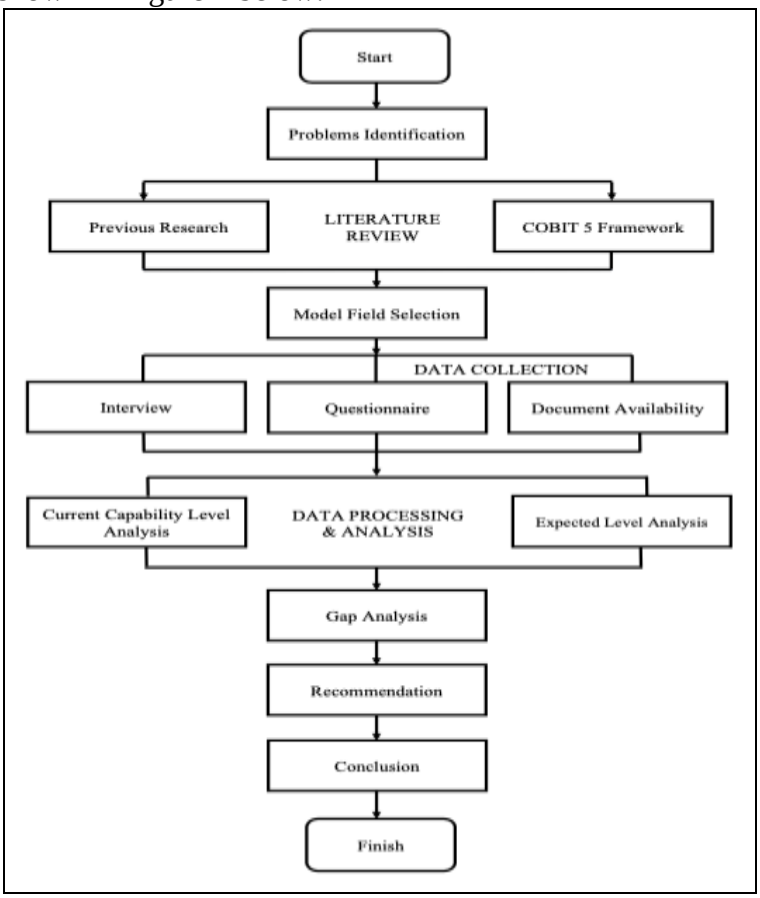

Figure 2. *Research Flow*

Organization Profile

PT Bank ABC (hereinafter referred to as Bank ABC) is the largest Islamic bank in Indonesia and is included in the top ten banks in Indonesia by ranking seventh. Bank ABC is a state-owned bank with a 50.83% ownership structure held by the Parent Bank of Bank A; 24.85% is held by the Parent Bank of Bank B; 17.25% is held by the Parent Bank of Bank C, and 7.08% owned by other parties. This merger is also expected to increase the market share of the Islamic economy in Indonesia, which currently only reaches 9.68% and the contribution of Islamic banking is only around 6.81%.

ABC Bank has a vision, namely, "Top 10 Global Islamic Bank". While the mission of Bank ABC is as follows:

1. Providing access to Islamic financial solutions in Indonesia,
2. To become a large bank that provides the best value for shareholders, and
3. To be the company of choice and the pride of Indonesia's best talents.

IV. Results and Discussion

4.1 Current Capability Level Analysis

In the analysis of the current maturity level, the data used for measurement is data from the results of distributing questionnaires and the availability of complete documents. The following is presented data on the results of these current achievements:

Table 1. Questionnaire Data Processing Results and Document Availability

Procsess Area	Achievement		
	Questionnaire	Documents	Average
EDM01	93%	29%	61%
EDM02	100%	17%	59%
EDM03	97%	56%	76%
EDM04	97%	9%	53%
EDM05	100%	42%	71%

The values in Table 1 above are obtained from the average sum of the scores for processing questionnaire data and documenting achievements for each area. From the data presented above, it can be seen that the achievement of the results of the questionnaire data processing is higher than the achievement of the document, even though the value is significantly adrift. This can illustrate that the achievement of the results of the questionnaire answers is still not fully supported by the availability of work product (WP) documents as additional evidence. By combining the results of questionnaire data processing and document availability results, it is found that the achievement of information technology governance at Bank ABC is in the range of 53%-76%.

Then from the results above, the process carried out is to measure the current capability level. Based on ISO/IEC15504, level 2 achievement can be measured if level 1 has been met and the attributes at level 1 have achieved a fully achieved rating. Achievement of level 3 can be measured if level 2 has been met and attributes at level 1 and 2 have achieved a fully achieved rating. This also applies to later levels. The following table presents the results of measuring the current capability level:

Table 2. Current Capability Level Measurement Results

Process ID	***Process Name***	***To be assessed***	**Level 0**	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Processes for Governance of Enterprise IT - Evaluate, Direct and Monitor								
EDM01	*Ensure Governance Framework Setting and Maintenance*	**Y**	**F**	**L / 1 (61%)**				
EDM02	*Ensure Benefits Delivery*	**Y**	**F**	**L / 1 (59%)**				
EDM03	*Ensure Risk Optimisation*	**Y**	**F**	**L / 1 (76%)**				
EDM04	*Ensure Resource Optimisation*	**Y**	**F**	**L / 1 (53%)**				
EDM05	*Ensure Stakeholder Transparency*	**Y**	**F**	**L / 1 (71%)**				

The values in Table 2 above are obtained from the average sum of the scores for processing questionnaire data and documenting achievements for each area. The results of measuring the capability level for governance processes with domains EDM01 to EDM05 are still at level 1: performed process i.e. processes implemented to achieve process goals, with an average achievement of 64% or largerly achieved. When translated per each domain, the achievements are; EDM01 with 61% achievement; EDM02 with 59% achievement; EDM03 with 76% achievement; EDM04 with 53% achievement; and EDM05 with 71% achievement. Because the value of the measurement results has not yet been fully achieved, then the measurement to the next level cannot be carried out.

4.2 Expected Capability Level Analysis and Gap Analysis

This gap analysis compares the current conditions that have been carried out and previously described, with the expected level of capability. The determination of this gap analysis is carried out to see the extent of the gap. The larger the value of the gap, the more difficult it will be to make process improvements, and vice versa. Based on the results of interviews with the IT Strategic and Planning Manager, information was obtained regarding the target to be achieved, namely the implementation of governance by the company's target, namely achieving the company's vision and mission in the field of information technology management. When adjusted to the level in COBIT 5, Bank ABC targets its capability level at level 3, where at this level the processes that have been built are then implemented using processes that have been defined so that they can achieve the results of the process. From the explanation above, the determination of the calculation of the value of the gap between the current capability level value and the expected capability level value from information technology governance at ABC Bank is presented in Table 3 as follows:

Table 3. Gap Calculation Results

No	Process	Current Capability Level	Percentage of Achievement Indicator (%)	Expected Level	Gap	Gap Value
1	EDM01	1	61%	3	2	2,39
2	EDM02	1	59%	3	2	2,41
3	EDM03	1	76%	3	2	2,24
4	EDM04	1	53%	3	2	2,47
5	EDM05	1	71%	3	2	2,29

V. Conclusion

This research was conducted concerning the evaluation of information technology governance through the COBIT 5 framework approach by taking a case study at PT Bank ABC after the merger. The results of this study are expected to be able to answer the research questions contained in the formulation of research problems as well as formulate recommendations that can be given to improve the information technology governance of Bank ABC after the merger.

From the results of the analysis and discussion regarding the capability of information technology governance at Bank ABC using the COBIT 5 framework in the previous chapter, the conclusion that can be drawn from this research is that the results of measuring the capability of information technology governance at Bank ABC after the merger using the COBIT 5 framework for the governance process. with the EDM01 to EDM05 domains still at level 1: performed process, i.e. the implemented process achieves the process objectives, with an average achievement of 64% or largerly achieved. Because the value of the measurement results has not yet been fully achieved, then the measurement to the next level cannot be carried out.

From the results of the measurement of the capability of Bank ABC's information technology governance, to reach the next level, the current level of capability must be fully achieved. So that in this section, recommendations for improvement that can be used by ABC Bank will be given to be able to meet level 1 in the short and long term. The capability level achieved at level 1 has only been achieved largerly, while to be able to reach level 2 at this level it must be fully achieved. The following recommendations can be given so that the level of information technology governance at Bank ABC is fully achieved:

1. Short Term Recommendations:
   a. Increasing the role of the IT Steering Committee in every meeting at ABC Bank, through streams, RBB (Bank Business Plan) meetings, and other meetings that discuss strategic plans in managing information technology to support the achievement of Bank ABC's vision and mission.
   b. It is necessary to prepare an implementation plan for the improvement recommendations that have been submitted in the form of a plan of action so that the improvement process can be implemented according to the plan and measured and can be monitored.
2. Long-Term Recommendations:
   a. The need for a more detailed and documented formulation of information technology governance to become an integrated information technology management guide that is easily accessible by all parties at ABC Bank to increase understanding and awareness of the importance of information technology governance that supports the

achievement of Bank ABC's vision and mission.

The need to make a plan related to the communication process regarding information technology governance policies, not only through meetings in streams but also through electronic media in the form of digital flyers before access to the ABC Bank information technology system or application, so that it is expected This information can reach all parties and encourage the achievement of Bank ABC's vision and mission..

References

Alhusain, Achmad Sani. (2021). *Bank Syariah Indonesia: Tantangan Dan Strategi Dalam Mendorong Perekonomian Nasional*. Jakarta: Pusat Penelitian Badan Keahlian DPR RI Bidang Ekonomi dan Kebijakan Publik Info Singkat Kajian Singkat Terhadap Isu Aktual dan Strategis Vol. XIII, No.3/I/Puslit/Februari/2021.

COBIT® 5 Framework (2012) ISACA®

COBIT® Process Asessment Model:Using COBIT® 5 (2012) ISACA®

COBIT® Self Asessment Guide:Using COBIT® 5 (2012) ISACA®

Damoiseau, Y., Willian C. Black, & Randle D. Raggio. (2011). Brand creation vs acquisition in portfolio expansion strategy. *Journal of Product & Brand Management*, 20/4, 268–281.

DePhampilis, Edward. (2008). *Mergers, acquisitions, and other restructuring activities*. Amsterdam: Elevier.

Gaughan, P. A. (2011). *Mergers, Acquisitions, and Corporate Restructurings*. New Jersey: John Wiley & Sons, Inc.

Hariyono, Rito Cipta Sigitta. (2018). Analisis Dan Penilaian Teknologi Informasi Pada Proses Tata Kelola Dengan COBIT 5 Pada Domain EDM Studi Kasus Universitas Peradaban. *IJUBI (Indonesian Journal of Business Intelligence)*. Vol. 1 NO. 1 (2018) Halaman 25 – 31.

Rahayu, Tri, Nurhafifah Matondang dan Bayu Hananto. (2020). Audit Sistem Informasi Akademik Menggunakan Metode COBIT 5 (Studi Kasus UPN Veteran Jakarta). *Jurnal Teknologi Informasi dan Pendidikan*. Vol. 13, No. 1, Edisi Maret 2020.

Riyandi, Albert, Aji Sudibyo, Bambang Wijonarko, Muhammad Rinaldi, dan M. Fahreza Fahlevi. (2020). Analisa Audit Sistem Informasi Perpustakaan Menggunakan *COBIT Framework*. *Jurnal Sistem dan Teknologi Informasi*. Vol. 08 No. 3, Juli 2020 Halaman 296 – 302.

Ross, S. A., Westerfield, R. W., Jaffe, J., Lim, J., Tan, R., & Wong, H. (2015). *Corporate Finance (Asia Global Edition ed.)*. New York: McGraw-Hill Education.

Savira, Rusyida Baniya dan Wellia Shinta Sari. (2016). Analisis IT Governance Dengan Domain MEA01 Dalam Pelaksanaan E-Health Menggunakan Kerangka Kerja COBIT 5 Pada Dinas Kesehatan Provinsi Jawa Tengah. *Techno.COM*, Vol. 15, No. 1, Februari 2016 Halaman 48-57.

Sulaeman, Fietri Setiawati. (2015). Audit Sistem Informasi Framework COBIT 5. *Media Jurnal Informatika*. Vol. 7 No. 2, Periode Oktober 2015 Halaman 37 – 42.