COBIT 5 Monitoring and Evaluation on the Electronic Procurement Services in Gorontalo Province

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Abstract. In accordance with Gorontalo Provincial Government Regulation No. 3 of 2016 concerning the Implementation of Information and Communication Technology-Based Deliberations, the Local Government (the provincial, municipality and regency government) is obliged to manage data in information system applications for internal and external interests by paying attention to the security of the application of communication and informatics, Gorontalo's LPSE serves to ensure that IT organizations use resources efficiently, secure organizational assets, maintain organizational data integrity and security, and achieve organizational goals effectively. This corresponds to the Province 's vision of e-Government. One of Gorontalo's e-Government infrastructures is the e-procurement service. To find out whether the LPSE service is effective, evaluation is needed. This paper presents an evaluation of Electronic Procurement Services using COBIT 5 (Target Control for Information and Technology related version 5). By analyzing awareness management on the strategic plan for Electronic Procurement Services (LPSE) that need to be evaluated. Namely in the process (ME1) in terms of information technology performance, after conducting an Awareness Management analysis then measure the level of management ability by using the Maturity model to get maturity values for performance domain information technology (ME1) with a maturity value of 2,56. internal control (ME2) with a maturity value of 1,80. In accordance with external requirements (ME3) with a maturity value of 2,44. and information technology governance (ME4) with maturity values 2,99.

1. Introduction

Governance is a structure of relationships and processes to direct and control the organization to achieve its goals. In this research, an IT Governance recommendation was produced which is the development of IT Governance that has been implemented, but at the moment the IT Governance process has not been carried out thoroughly. Evaluation of information technology governance needs to be done to determine the success rate or progress of IT and measure whether existing IT in Gorontalo Province is used effectively and efficiently (Oktarina, 2017).

The development of information technology (IT) has become a very important requirement for almost all corporate organizations both government and private as a support in improving the effectiveness and efficiency of the performance process, to achieve this requires a good and true IT management, so that

The 1st International Conference on Sustainable Engineering Practices (IConSEP)   Penerbit Fakultas Teknik Universitas Sam Ratulangi

Journal of Sustainable Engineering: Proceedings Series 1(1) 2019   doi:10.35793/joseps.v1i1.12

the existence of IT is felt utilized by Electronic Procurement Services (LPSE) (Judges, Saragih, Suharto, Study & Informatics, 2017).

Academic IT Governance Evaluation is an important factor for local government agencies in utilizing information technology. The existence of IT governance will guarantee that the use of information technology is in line with the government's objectives. In building an IT Governance, several standards can be adopted such as ITIL, COSO, ISO27001, ISO38500 and others. This study uses COBIT 5, with COBIT consideration made by using other IT standards as references, so that the alignment of IT development with the aim of the P2LP Bureau is relatively more secure (Syukron Anas, Wing Wahyu Winarno, 2017).

With the issuance of the Gorontalo Provincial Government Regulation No. 3 of 2016 concerning the Implementation of Government Based on Information and Communication Technology, the Regional Government is obliged to manage data in the application of information systems for internal and external interests by paying attention to the security of the application of communication and informatics in developing Gorontalo Province towards the vision of e-Government (Perda No.3 2016) because information technology is currently not only used as a supporting factor in organizations / institutions, but also as part of organizational / institutional strategies. Information technology services that are timely, accurate and relevant to user needs are very important to be considered in supporting the smooth implementation of activities of an organization including government institutions in this case Electronic Procurement Services (LPSE) because LPSE is a work unit formed throughout the Ministry / Institutions / Work Units of Other Institutions / Institutions (K / L / D / I) to organize an electronic procurement system for goods / services and facilitate ULP / Procurement Officers in carrying out procurement of goods / services electronically. ULP / Procurement Officials at Ministries / Institutions / Universities / BUMN that do not form LPSE can use LPSE facilities closest to their place of residence to carry out electronic procurement. In addition to facilitating ULP / Procurement Officers in carrying out the procurement of goods / services electronically LPSE also serves the registration of providers of goods and services domiciled in the working area of the LPSE concerned.

There is still a lack of supervision from the central government on Information Technology Services, because it is done if there are complaints from other parts of the IT service. Policies from the Government Areas that are very dynamic, when an application has been implemented to be used where the System used already uses Electronic Versioning System Version 4.

Institutional objectives will be achieved if information planning and strategies are implemented in harmony with the organization's business plans and strategies, the application of information technology that is aligned with the institution's objectives can only be produced if it is supported by a good information technology governance system since the planning, implementation and evaluation stages. Therefore it is necessary to evaluate the information technology services in this case Electronic Procurement Services (LPSE) serves to ensure that IT organizations use resources efficiently, secure organizational assets, maintain the integrity and security of the organization's data, and achieve organizational goals effectively. On the other hand, evaluation of the system also needs to be done to find out whether the implementation is in accordance with existing standards and criteria and at the same time fulfilling the organization's strategic plan (Hilmawan, H., Nurhayati, O. D., & Windasari, I. P., 2015).

Evaluation can be done by using several methods in this case the right method in evaluating an institution that uses Information Technology by using COBIT (Control Objective for Inf ormation and related Technology). COBIT is a framework for management and information technology best practices. The COBIT framework used is COBIT 5 which is the newest COBIT framework. COBIT 5's excellence was that they identified several challenges faced by COBIT Maturity Model and offered alternative research models. They have demonstrated that it turns out that an alternative assessment model based on ISO / IEC 15504, COBIT 5 has more accurate, consistent and objective research criteria (Karim, 2017).

2. Literature Review

According to ISACA (2013) COBIT 5 is a business framework for the management and management of IT companies. This evolutionary version combines the latest thinking in corporate governance and management techniques, and provides globally accepted principles, practices, analytical tools and models to help improve the trust, and value of information systems. COBIT 5 builds and extends COBIT 4.1 by integrating other large frameworks, standards and resources, including ISACA Val IT and IT Risk, Technology Infrastructure Library (ITIL®) and related standards from the International Organization for Standardization (ISO).

COBIT 5 helps companies create optimal value from IT by maintaining a balance between realizing the benefits and optimizing the level of risk and the use of resources. This framework addresses business and IT functional areas in a company and considers the interests related to IT internally and externally for stakeholders. Companies of all sizes, whether commercial, non-profit or in the public sector, can benefit from COBIT 5.

COBIT 5 is designed to consist of 34 control objectives reflected in 4 domains (IT Governance Institute, 2007)

Figure 1. COBIT Domains

COBIT has a Maturity Model to control IT processes by using a scoring method so that an organization can assess its IT processes from a scale of 0 to 1. The following is the description of the Maturity Model level (IT Governance Institute, 2007 p. 175):

With the Maturity Model level, the organization can find out its current maturity position, and continuously and continuously strive to increase its level to the highest level.

Figure 2. Scala Maturity Model (IT Governance Institute, 2007 p. 18)

SPSE is an e-Procurement application developed by LKPP for use by LPSE in government agencies throughout Indonesia (including the Ministry of Finance). This application was developed in the spirit of national efficiency because it does not require a license fee. SPSE was developed by LKPP in collaboration with the State Password Institute (Lemsaneg) for the document encryption function; and the Financial and Development Supervisory Agency (BPKP) for the audit subsystem.
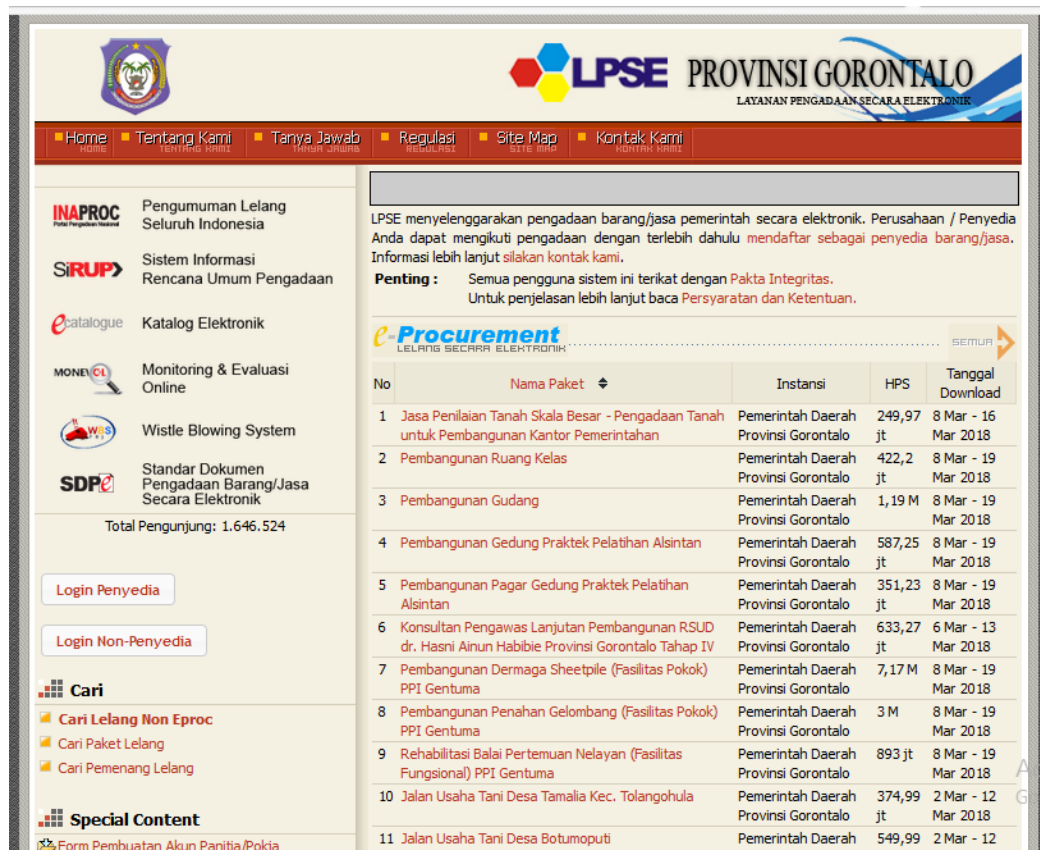

Figure 3. Display of Gorontalo Province SPSE.

3. Results & Discussion

The information technology research process in the Electronic Procurement Service is by collecting data and analyzing the Strategic Plan of the P2E Bureau of Gorontalo Province, the IT operational policy of the Electronic Procurement System Section (SPSE) with the control objectives and processes in COBIT and conducting Management analysis Awareness.

towards the application of Electronic Pengdaan System (SPSE) aims to see how far the expectations (expectations) of SPSE managers are the P2E of Gorontalo Province on the implementation of SPSE in supporting the achievement of the Gorontalo Provincial Government's objectives in implementing IT. The data collection was carried out through interviews with the SPSE sub-section as IT service providers on the IT processes in the COBIT framework for the Monitoring and Evaluation (ME) domain using the Management Awareness questionnaire reference. Based on the results of interviews through a management awareness questionnaire, the level of importance of the management of IT processes is presented in Table 1.

Table 1: Conclusion ME Awareness Management

No	Strategy	Process
	Realizing development control through monitoring and evaluation	
1	Planning procedures for monitoring activities that are right on target	ME1, ME 4
2	Monitoring is carried out when programs and activities are ongoing and have short-term reach	M1, ME2
3	Periodic observation of the development of the implementation of development activities	ME3
4	Supervision of development activities is carried out by determining an informative monitoring format, gathering information, interim interpretations and trends in perceived benefits.	ME1, ME2
5	Online online reporting system (E-report)	ME1,ME2
6	Regular / systematic and tiered reporting during the implementation of activities	ME1

In this stage the author maps the data and compiles a questionnaire from the control objectives and the predetermined process and then makes statements. This statement of statement comes from conditions that indicate the maturity level of each control objective and the process that has been determined based on the COBIT framework. This questionnaire was submitted and filled in by the Electronic Procurement System Section at the Gorontalo Province P2E Bureau.

The use of the application is also applied, namely by typing the values of the statement into the questionnaire that has been implemented in the Gorontalo Province P2E Bureau in this case the Moonitoring and Evaluate (ME) domain.

Table 2. Total maturity value.

PROCESS	MATURITY VALUE	DEATH VALUES
ME 1	2.56	3
ME 2	1.80	2
ME 3	2.44	2
ME 4	2.99	3

Maturity model is a method to measure the level of process management development in the SPSE Section, which means measuring the extent of the management capabilities. How well the development or capability of management depends on achieving COBIT objectives that will be applied to IT governance in an Enterprise environment, depending on achieving three aspects of maturity (capability,

reach and control). Increased maturity will reduce risk and increase efficiency, encourage reduced errors and increase the quantity of processes that can be estimated for quality and encourage cost efficiency associated with the use of IT resources.
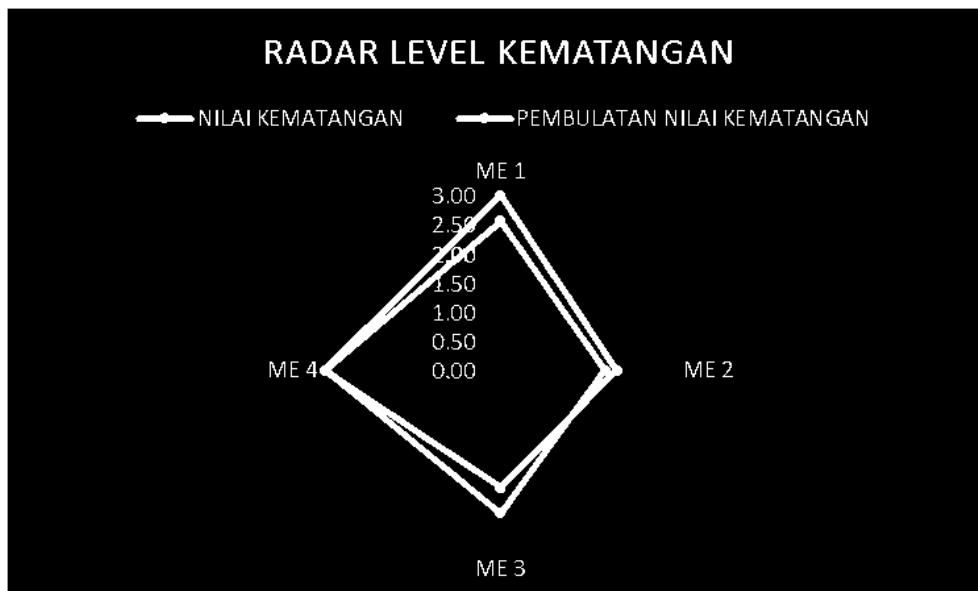

Figure 4. Radar Maturity level

4. Conclusion

1. It is very necessary to monitor and evaluate the performance of information technology and need to monitor and evaluate internal controls, ensure compliance with external needs and provide information technology governance in the Electronic Procurement Service (LPSE) in Gorontalo Province.
2. Implementation in each IT process must be monitored and assessed for periodic feasibility. Focuses on the problems of controls applied in institutions with an average maturity value of 2.56.
3. The control system that is applied to each IT process must be monitored and assessed for its feasibility periodically obtaining an average maturity value of 1.80.
4. The appraisal in each IT process must be monitored and the feasibility assessed periodically obtains a maturity value of 2.44.
5. The implementation of monitoring in each information tenology process must be monitored and assessed for periodic feasibility, obtaining a maturity value of 2.99.

Acknowledgements

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