



AUDIT IT PROCESS PO-01 to ACADEMIC INFORMATION SYSTEM in HIGHER EDUCATION POLYTECHNIC USING THE COBIT FRAMEWORK

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Abstract

The role of information technology in higher education is to realize academic effectiveness. Academic Information System (SIK) which is loaded with the use of Information Technology (IT). The PO1 IT Process Governance audit based on the COBIT standard, namely "Define a Strategic Information Technology Plan" then became a strategic issue for the success of higher education management, especially the SIK Polytechnic campus which uses information technology-based tools in its teaching and learning process. This study aims to measure the level of IT Process PO-01 governance in relation to Academic Information Systems in Vocational Model High Schools (Polytechnics). The sample of this research is nine Vocational High Schools (Polytechnics) in Bandung. From the results of the study, it is known that the IT Process Governance PO-01 at SIK Vocational Colleges is still at Level 2, namely "Repeatable but Intuitive". The effectiveness of governance is still determined by the competence of the individual or part of the personnel who carry out the IT Function (technical) and the assignment is ad-hoc. IT management at SIK has not been internalized and refers to Best Practice. But on the other hand, it has begun to be seen that the Polytechnic management has a fairly good awareness of the importance of IT Governance and wants to make it an enabler for the Academic Information System (SIK). However, there is still a fairly high gap between what is and what should be desired as in COBIT Best Practice.

Keywords: SIK Governance; Best Practices; Maturity Level; Repeatable but Intuitive; IT Process

PRELIMINARY

Today's universities sooner or later must utilize information technology to the enabler level, not only as a mere efficiency tool. Information technology that is increasingly developing and sophisticated, does require greater investment funds, and also increasingly complex operational management capabilities due to the increasing complexity of the various risks that accompany it (IT Risk) (Akbar et al., 2022). Therefore, information technology must be managed based on the principles of IT Governance in order to allow control of various existing and potential IT risks that arise later in the process of adding value to the performance of an organization, including the Polytechnic Vocational College organization, which uses a lot of tools. -Information technology-based practice tools in the teaching-learning process (Belu & Stirbu, 2006).

The paradigm of the traditional management approach to the Academic Information System (SIK) must be changed. What was originally focused on achieving the effectiveness of existing IT technically within the internal scope, became a new paradigm that focused on external, end-user oriented , participatory and strategic. In higher education organizations, the most important use of information technology is to provide services and overcome various problems in the academic area. Academic problems are the Core Business of a Higher Education which is run through the Academic Information System (SIK) (Bergeron & Raymond, 1992). In fact, in many universities, SIK is managed solely on a software-oriented basis . The paradigm that undermines the role of IT, which then causes SIK to be unable to become an enabler as COBIT Best Practice should be, which has now become an international standard in improving the performance of IT Management, which includes the various Information Systems (Chatwarapitak, 2001).

RESEARCH METHODS

This study uses qualitative methods , where the data collected is in the form of opinions / opinions of 47 respondents from various polytechnics, which are converted into quantitative data using the Scoring Method. While the type of research used is descriptive research based on what is currently available, with a Case Study research approach .

As a sample, nine Vocational Universities (Polytechnics) were taken from 12 Polytechnics (populations) in Bandung City, using purposive sampling method based on certain criteria, namely the Polytechnic with the best quality in the eyes of the community, medium and low. The reason for choosing vocational colleges as the sample in this study, is because the curriculum is denser than general universities and has more practical content using Information Technology. The Polytechnic in Bandung was used as a sample, because this city is a metropolitan city and a student city with the fastest level of IT development in Indonesia (Utami, 2015).

The data collection instrument is in the form of a questionnaire, which was compiled and developed based on the Detailed Control Objective (DCO) for IT Process PO1 of the COBIT IT Framework version 4.0, whose question items were made by considering six aspects of IT Management (Kridanto Surendro, 2009), namely:

- The condition of the Polytechnic Leader's Awareness (respondent) of IT Risk from the implementation of the IT Process PO1 that has been carried out so far, and the control communication pattern carried out, starting from the process of preparing, implementing and changing the IT Plan to the SIAk.
- Policies, Procedures and Standards used for IT Process PO1 in the context of SIAk
- effectiveness of the skills and experience of personnel/managers who have been running IT Process PO1 at the Polytechnic so far
- The effectiveness of the tools used to automate various IT Process PO1 SIAk activities (IT Plan)
- Goals and Settings set for the measured IT Process PO1 (IT Pna SIAk)
- Analysis of the collected data is then calculated to produce Maturity Levels using the Two-Level Scoring Method. The data from this calculation is then used to determine the value of IT Maturity Level from IT Process PO1 to SIAk.

From Figure-2, it can be seen that “Polytechnic Leaders Awareness” is very high to make SIAk an enabler. Even the “Stakeholders” also agreed on the need to improve SIAk to be more effective, because SIAk is the most important source of academic information in Higher Education information systems, especially Polytechnics. Only socialization and communication are still low. This is because Stakeholder and University Leaders consider that the management of SIAk is only done technically and internally will produce an effective SIAk (Thompson, 1998).

DCO PO-01 SIAK Polytechnic Achievement Level

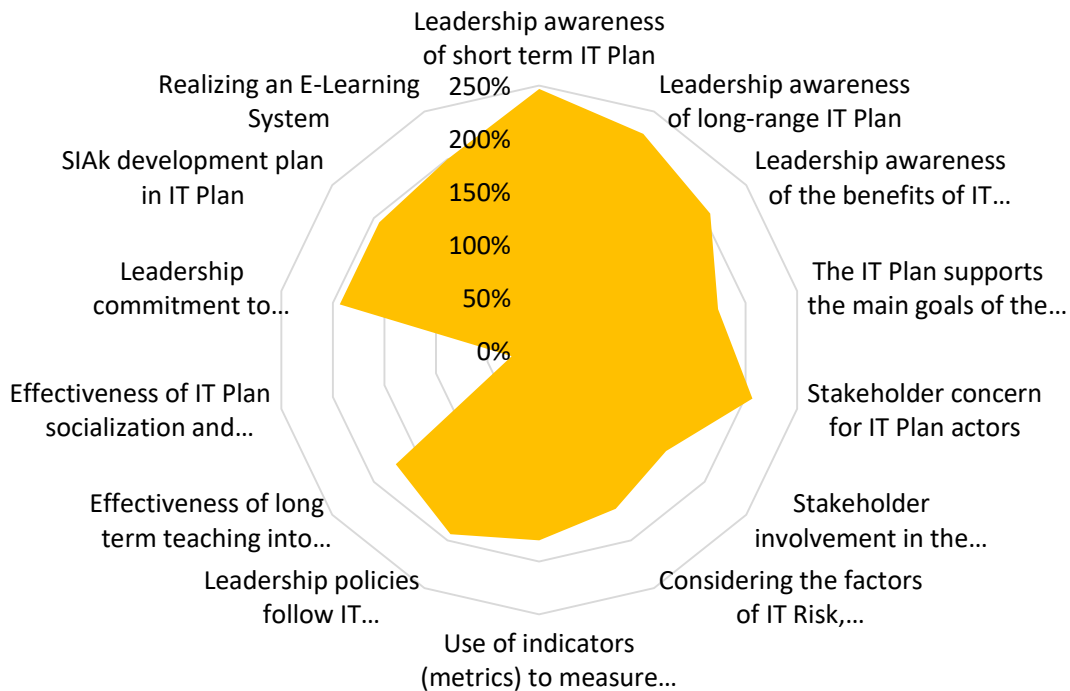


Figure
“Graph of Achievement Level of IT Process PO1 SIAk Polytechnic in Indonesia”

RESULTS AND DISCUSSION

The increasingly strategic role of Information Technology causes POLYTECHNIC Universities that do not utilize this facility optimally, will be left far behind. Even the higher education institutions will be burdened by the existence of various IT risks that are inherent in the process of using IT in their Academic Information System (SIAk) (Fuada, 2019)(Grover et al., n.d.).

The role of Academic Information Systems based on today's IT developments does not only cause various organizational activities and activities to become more efficient, effective and systematic (Nicho, n.d.). However, it can also significantly improve the quality of academic services due to the possibility of SIAk being an enabler for the implementation of the Tri Dharma of Higher Education in Indonesia, especially for the ACADEMIC Function (Kelleher & O'Brien, 2001).

In order for SIAk to have a significant influence on the Academic Function, SIAk must be managed with a maturity level that includes professional internal technical aspects to external non-technical aspects, with reference to the COBIT IT Framework (Grover et al., n.d.)(Rebergen et al., 2010) (Rebergen et al., 2010). The IT Framework, which is one of the Best Practices that is increasingly recognized and popularly used internationally, has a successful methodology in identifying, determining and mapping (control) various IT Processes that are carried out in managing IT , including IT Process PO1 (Kettelhut & Schkade, 1991).

IT Process PO1 states that SIAk must be made based on the Long, Medium and Short term Information Technology Development Strategic Plan (IT Plan). Then set indicators and control objectives, in order to form an "enabler" IT (Roumegas, n.d.). From the results of this study, the Maturity Level of 2, which is repeatable , indicates that Polytechnic Universities in Indonesia generally already have an Academic Information System that is run based on certain Information Technology Management although it is still integrated (become part) of the Polytechnic Development Strategic Plan document. However, the IT Plan is not in accordance with COBIT Best Practices ,

because it has not been fully documented separately based on indicators and DCO so that it is easily adapted to changes (Lennings et al., 2003).

Polytechnic Vocational Colleges in Indonesia, still separate SIAk from the strategic objectives of the organization. Which means that the IT Plan for SIAk is only a complement (supporter). There is a strong desire (Awareness) to make SIAk an enabler, due to the increasing existence of the E-Learning System and anticipating the increasing dependence of Higher Education on IT (Mendes, 2013).

CONCLUSION

Nationally, the results of this study are expected to provide a more detailed and comprehensive picture of how Information Technology Governance, especially the IT Plan for Academic Information Systems in various campuses. However, to obtain more comprehensive results, the sample data needs to be expanded to include clusters of Vocational Higher Education in other cities in Indonesia. Another limitation of this research is that it is recommended to include public universities outside of polytechnics (both public and private), so that the results of this study can describe the condition of IT Governance for the IT Plan for SIAk which more comprehensively describes the situation of academic information systems in Indonesia, not only polytechnics.

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