45. Influence of e-standard operating procedure to auditors' e-satisfaction through it capabailities and e-audit (A case study in Petra Christian University, Surabaya, Indonesia)

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Influence of e-Standard Operating Procedure to Auditors' e-Satisfaction through IT Capabailities and e-Audit (A Case Study in Petra Christian University, Surabaya, Indonesia)

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ABSTRACT

The government of Indonesia requires higher education institutions to implement quality management systems. The approach taken by Petra Christian University (PCU) for the supporting quality management unit is by performing the standardization of services to comply with the ISO 9000. This ISO 9000 is the management system known as Total Quality Management (TQM). To ensure the sustainability of this ISO 9000, the comprehensive audit is required to communicate the quality policy, targets and goals, and predetermined plans to all units within the organization. Questionnaires are distributed to 42 auditors for two years, and analyzed with SEM PLS. The results are obtained as follows: first, e-SOP affects on IT-capabilities; second, e-SOP has a positive impact on e-audit; third, IT-capabilities affects directly on e-audit; fourth, e-audit affects on e-customer satisfaction; and finally, IT capabilities brings a positive impact on e-satisfaction.

CCS Concepts

Applied computing~E-learning ~Collaborative learning.

Keywords

e-SOP; IT-capabilities; e-audit; and e-satisfaction.

1. INTRODUCTION

As the strategic objective priority of the Minister of Research, Technology, and Higher Education in 2010 to 2014, quality improvement was the third priority after the improved access and the increased relevance [1]. In 2015 to 2019, quality improvement becomes the top priority, followed by increasing the relevance and improving access. Recognizing the conditions and challenges for universities in Indonesia, the government requires higher education institutions to implement quality management system. In 2003, the Directorate General of Indonesian Higher Education issued a national policy on Quality Assurance System for Higher Education

(SPMPT) as stipulated in Law no. 20, 2003 about Higher Education System [2]. Next, in 2005 through Regulation no. 19, 2005, the Directorate General of Indonesian Higher Education issued a policy related to the National Education Standard (NES) [3]. Regarding all the regulations above, all higher education institutions must comply to the quality assurance management and accountability set by the Directorate General of Indonesian Higher Education

Although it has been more than ten years, the expected concrete results are very slowly achieved. NES is the guidelines to manage the college quality standard, but not the quality standard for higher education, because it merely contains eight kinds of standards for academic and non-academic fields in a university. Referring to the model of quality assurance published in the Quality Assurance Handbook for High Education [2], quality improvement activities is considered as the second activity in quality control management, that is an activity after self-evaluation activities or internally driven evaluations by a university, to meet or exceed the NES in a sustainable/continuous improvement. The approach used by Petra Christian University (PCU) for the quality assurance for 18 supporting unit is by performing the standardized services using ISO 9000 as the quality management system. PCU gives the responsibility to a supporting unit, in this case is the quality assurance institution (Lembaga Penjaminan Mutu /LPM) as the management representative in maintaining the sustainability of the ISO system. This supporting unit is building an IT system and uploading the expected data from other units into www.sim.petra.ac.id. This unit also provides auditors to audit electronically. The auditors also conducts some auditing to 18 supporting units with the available information technology. This research proposes to examine the satisfaction of the auditors to IT capabilities and e-audit based on e-SOP, which becomes the case study of Petra Christian University, Surabaya, Indonesia.

2. LITERATUR REVIEW
2.1 Literature Review on Total Quality Management Implementation

One of the studies on the implementation of Total Quality Management is conducted by Zehir et al. [4] who examine several manufacturing companies in Turkey and get some factors in implementing TQM, such as the top management leadership, decision-making based on data, employee management,

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management approach system, supplier management, process management, customer focus, and continuous improvement. Zabadi [5] studies several higher education institutions in Jordania and finds some CFS, such as the leadership of each head programs, the patience to achieve quality objectives, the top university management commitment to the managememt and leadership of the subordinates, and the monitor and evaluation of the process performance periodically and consistently.

Hasan and Al-Kassem [6] conduct a study in some higher education institutions in Iran, and find several CFS, which are the dedication from management, the real roles of the quality assurance institutions, the training and education of the quality management, the employee involvement in the implementation stages, and the continuous improvement. Willar [7] examines the effectiveness of the QMS implementation in some construction companies and finds out that the main obstacle is the weak system of rewards for the teamwork who implements the system.

Dragan et al. [8] develop a framework for Total Quality Management in higher education institutions in Germany and find several critical success factors, such as the commitment of the university management, the availability of resources, the faculty development, the learning process system, and the measurement and analysis. Glushak et al. [9] examine the economic aspects of the quality management in some universities in Russia, and get some critical success factors in implementing QMS, such as the educational process, the scientific activities, the innovation activities, the cost of quality, the educational organizations, the estimated efficiency of education, the quality planning, the quality facilities and infrastructure, and the quality control.

Anastasiadou [10] has mapped the determinants of the successfully implemented Total Quality Management within the education system in Greece, and gets some important factors, namely the leadership, partnership and resources, established procedures, implementation policies and strategies, and human resources management. Jackson et al. [11] examine the success factors of innovation quality management in several companies in India, and find some key factors, namely the time spent by employees to implement the quality program, the cooperation built by the company with the suppliers to improve quality, the management responsibility in improving quality, the level of management participation in the implementation of the quality programs, the quality policies and objectives set by the company, the training program to improve the understanding of quality, management commitment to employee training, the employee empowerment in the implementation of QMS, the responsibility of the employees in the process, the corrective actions, and the reward for employees who achieve quality targets.

2.2 Literature Review on Information Technology

The information system is a set of interrelated components that collect, process, store, and provide information in a company to assist the completion of usiness tasks and decision-making. The integrated information system is a concept to make any applications that work across different platforms to be able to work together and to integrate to producing a functional unity so that it is possible to share information internally and externally. This system involves various functional areas within the company, and the company's relationship with external parties [12]. A research by Daugherty et al. [13] Reveals the capabilities which are measured by the ability and willingness of external communication, the integration of returned information into the database as a desposition, and the provision of further information for returned decision-making, the compatible information technology.

2.3 Literature Review on Standard Operating Procedure

Standard Operating Procedure is a set of standardized written instructions which explain various processes in all organizational activities, how and when they should be carried out, and where and who conduct the activities. Rodriguez [14] states that the proper written Standardization of materials and purchasing procedures on Purchasing (SOP on purchasing) will increase the company performance. All standardized procedures must be easily understood and applied by all employees, including newly recruited employees. The standardized procedures should be the most efficient and effective process in doing the tasks and can be easily altered whenever necessary according to the development of the organizational needs by employee [15]. The standardized procedures must also consider the needs of the key users (in this case is customer's needs) so that it can boost the users' satisfaction.

2.4 Literature Review on Auditing

Auditing is a systematic, independent, and documented process to obtain objective evidences and evaluate objectively to determine the extent to which the audit criteria have been fulfilled. Auditing is required to ensure that the quality policies, targets, and objectives are implemented effectively and communicated according to the predetermined plans. Auditing is also needed to identify discrepencies or non-conformities, such as possible activities that may cause some accidents, abuses, and errors as the end results that will affect the performance [16]. Finally, auditing is to provide information in conjunction with the audit results to the management so that it can contribute to the sustainable quality improvement and innovation performance [17]. It will ensure that any deviations are corrected and revised within a certain time frame. This audit is required to make continuous improvements in order to increase the service to customers.

2.5 Literature Review on Satisfaction

Satisfaction is the happy or disappointed feeling that emerges after comparing the perception/impression and the expectation of a product or performance. If the performance is below the expectation, the customer is not satisfied. If the performance meets the expectation, the customer is satisfied. If the performance exceeds the expectation, the customer is very satisfied and pleased, and that customer becomes loyal and will recommend it to others as well as becomes a repeat buyer [18, 19].

3. RESEARCH FRAMEWORK

The satisfaction of the auditors and auditees in maintaining the consistency while implementing ISO 9000 in PCU is measured through an audit. The audit process is using the basic data entry and the uploaded procedure to the IT system through www.sim.petra.ac.id, which has integrated every department in the organization. The framework can be described as follows.

4. RESEARCH METHOD

This research uses all auditors with 42 respondents who work in the quality assurance unit to support the implementation of ISO 9000 in Petra Christian University, Indonesia. Data analysis is using Partial Least Square (PLS). PLS shows the causal

relationship between exogenous and endogenous where there is justification on theories and concepts [20]
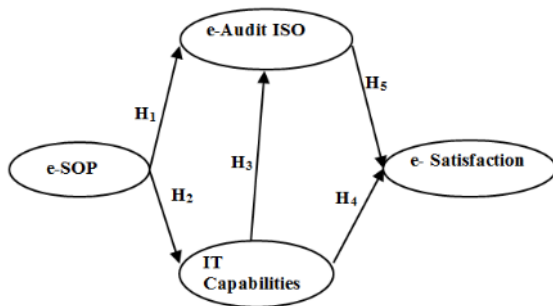

Figure 1. Research Framework

5. FINDING AND DISCUSSION

Based on the test performed on the 42 respondents and the data analysis using PLS, the five hypothesis results are obtained as follows:
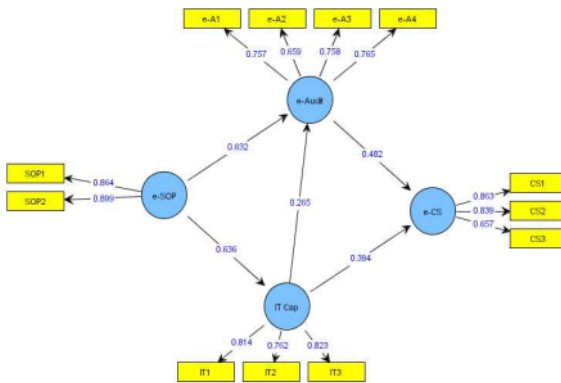

Figure 2. Full Structural Model PLS

Information technology provides efficiency and effectiveness to an organization because it enables to connect all activities and integrate them into the system. Based on the data analysis and results:

Based on the results of data processing by SEM PLS in Figure 1. And Table 1, it shows that the e-SOP is able to increase IT capabilities and e-audit directly with the value of t-statistic > 1.65. The third hyphothesis is accepted so IT capabilities affects e-audit. The fourth hypothesis is accepted so e-audit affects e-customer satisfaction. Finally, the fifth hypothesis is accepted so IT capabilities positively affects e-satisfaction.

Table 1. The result of the inner model and the hypothesis testing

	Original sample estimate	Mean of sub samples	Standard deviation	T-Statistic
e-SOP -> e-Audit	0.632	0.584	0.122	5.189
IT Cap -> e-Audit	0.265	0.328	0.138	1.918
e-SOP -> IT Cap	0.636	0.640	0.098	6.485
e-Audit -> e-CS	0.482	0.516	0.128	3.770
IT Cap -> e-CS	0.394	0.358	0.140	2.820

6. CONCLUSION

1. It is obtained that e-SOP brings impacts on e-audit ISO.
2. It is obtained that e-SOP brings impacts on IT capabilities.
3. IT capabilities gives positive impacts to e-audit with the significant value of 0.1.
4. IT capabilities give positive impacts to e-satisfaction of the ISO auditors in Petra Christian University.
5. E-audit has positive and significant impacts to e-satisfaction of the ISO auditors in Petra Christian University.

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