

Internal Control

(Before and after the implementation of Enterprise Resource Planning (ERP))

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Abstract—The needs of information system become a crucial issue due to its important role in enhancing the effectiveness of internal control and integrate all of resources in the company. The purpose of this research is to determine the effectiveness of internal control before and after the implementation of Enterprise Resources Planning (ERP). Enterprise Resources Planning (ERP) is a system built to have a vision to provide business with an integrated information system. ERP has benefits in increasing the effectiveness and efficiency that is reflected in the improvement of corporate strategic planning. In aiming the objective of this research, comparative and qualitative descriptive approaches are used to create a comparison and analysis about the effectiveness of internal control before and after ERP implementation. The results show that there are differences between the effectiveness of internal control before and after the ERP implementation. The result shows that after implementing the ERP, the effectiveness of internal control is increase. Based on this research, the author then recommends that it is important for the company's employees to have an ability to adapt ERP system and job description since it has a great impact on the company's performance in the future.

Keywords—internal control; ERP; effectiveness

I. INTRODUCTION

Internal control is the key of organizational governance. The effectiveness of internal control implementation can support the organizational performance [1-3]. By integrating its information systems in supporting business processes, the organization or companies can improve their competitiveness then may lead to their success in the future. According to the American Institute of Certified Public Accountants (AICPA) in the Statement on Auditing Standards No. 115, the internal control is “a process - affected by those charged with governance, management, and other personnel - designed to provide reasonable assurance about the achievement of the entity's objectives with regard to the reliability of financial reporting, effectiveness and efficiency of operations, and compliance with applicable laws and regulations” [4]. Based on that definition, there are four keywords should be highlighted about the internal control, which are: safeguarding of assets, checking the accuracy and reliability of its accounting data, promoting operational efficiency and encouraging adherence to prescribed managerial policies. Then, in 1992, the Committee of Sponsoring Organizations of the Tread way Commission (COSO) defined several

components of internal control, namely: Control Environment, Risk Assessment, Control Activities, Information and Communication and Monitoring [5].

Moreover, an organization should effectively implement a minimum information system as the main and important information system. But unfortunately, in reality, there are still many companies that have not integrated their information systems so that the effectiveness of internal control is still not optimal. To streamline the internal control, it is necessary to implement ERP so that the effectiveness of internal controls will be known before and after. Yustiana in the case of PT. Astra International and Widiono in the case of PT. PLN have proved that an integrated information system will construct an internal control system [6,7]. One of the information systems that can integrate all functions in the organization is Enterprise Resources Planning (ERP). ERP is a system that manages company resources by using information technology. ERP technology can integrate marketing functions, production functions, logistics functions, financial functions, resource functions, and even other functions [8].

However, many factors influence the implementation of internal control including information technology and the ERP implementation. ERP implementation is expected to support the effectiveness of company internal control. The effectiveness of internal control is achieved until the company's objectives are achieved. ERP implementation in the company will improve the quality of information by creating effective, efficient, protected/safe, integrated, available, compliant, and right information [9]. The implementation of ERP by the company may provide some advantages in terms of productivity improvement, information flow, and data communications [10].

Based on the explanation above, the problem of this research is how the effectiveness of internal control before and after the implementation of Enterprise Resources Planning (ERP).

II. RESEARCH METHODS

To reach the objective of this research, case study approach is used to get deeper information about the effectiveness of ERP implementation at PT. PLN (Indonesia's Power Company) of West Java and Banten Provinces. PT. PLN is a government company in the field of electricity and

energy/power procurement that has implemented the ERP system. The method used in this research is comparative and qualitative descriptive. Data collecting technique used are questionnaires, interviews and documentation. To make sure the data are valid, validity and reliability test then will be conducted. The number of respondents in this research is 30 respondents consist of employees of PT PLN who are involved in the ERP implementation.

III. RESULT AND DISCUSSION

The description of the internal control implementation can be seen from the internal control component. The dimension of controlling environment viewed from the ability of the top-level management in controlling and providing direction about definite goals, vision and mission of the company to the employees. The dimension of risks assessment viewed from the functional control element to work units and the company risk analysis that have the potential to inhibit the achievement of goals. The Dimension of information and communication will affect the performance of the system itself, and has crucial impact to the success or the improvement of operational quality through information systems and communication patterns. The dimension of monitoring can be viewed from the process of quality performance assessment and internal control systems from time to time, which is performed by monitoring and evaluating activities separately.

The ERP system can improve the effectiveness and efficiency of operating activities. The effectiveness of internal control can be viewed from a better assets security since the information provides complete and comprehensive information from all parts of the company. Meanwhile, the efficiency can be reflected from the efficiency of time and company's operating costs. It is because the ERP system enabling the integration of all activities and minimizing the overlapping activities. Through the integration of information system, the making of financial statement is become easier and timelier. In addition, the financial information is also becoming more reliable and genuine since it is appropriate with the policies and procedures and also has been integrated by all parts of the company.

To give better explanation about the result of this research, table below will explain the score gathered from the respondents on the effectiveness of intern control before and after the ERP implementation.

TABLE I. THE ASSESSMENT OF INTERNAL CONTROL EFFECTIVENESS BEFORE AND AFTER IMPLEMENTING ENTERPRISE RESOURCES PLANNING (ERP)

No	Components	Total Score Before the Implementation	Total Score After the Implementation
<i>Components of Internal Control</i>			
1.	Control Environment	601	639
2.	Risk Assessment	476	514
3.	Control Activities	110	781
4.	Information and Communication	215	222
5.	Monitoring	209	208

Table 1. cont.

<i>B</i>	<i>The Objectives of Internal Control</i>		
6.	The Effectiveness and efficiency of operational activities	756	723
7.	Reliability of Financial Report.	797	786
8.	Obedience to the applicable law and regulations	151	188
	Total	3,315	4,071

Based on the table 1 above, the internal control before and after ERP implementation is quite effective since the total score is around 3,315 – 4,079. However, there is an increase in the effectiveness of internal control before and after the ERP implementation. It can be seen from the increasing number of total scores from 3,315 to 4,071 which is equal to 756.

Before the implementation of ERP, a legacy system is used to manage the company's business, namely E-Proc. E-Proc is an application to conduct electronic and web-based actions and Customer Information System, which is an online prospective customer service system. The internal control before ERP implementation has been quite effective because in terms of information and communication, monitoring, effectiveness and efficiency of operating activities, as well as the reliability of financial reporting appear to be adequate in running the system in the company although still there are some parts are not implemented effectively. In terms of environmental control, risk assessment, control activities, and adherence to applicable laws and regulations, the ERP system can support the company's internal control to be more effective.

To implement the Enterprise Resource Planning (ERP), SAP (Systems, Applications, and Products in Data Processing) software is used. SAP uses a single-entry system where the data entered by a business process owner can be processed by related parties without re-entry. The process of internal control effectiveness after ERP implementation does not need to be intervened by outsiders since all of data needed is complete, so there is no reason to impede the process. Therefore, with ERP implementation, all internal affairs in the company can be controlled and simplify based on the integrated procedures. The important factors of ERP implementation are that all employees are helpful and run all the principles that the company's main objectives can be achieved.

There are two aspects of internal control that experience a decline after the ERP implementation (judging from the score), namely Monitoring and Reliability of financial report. Based on the interview, there are several things that cause this condition, including:

- There are regulations that change frequently.
- Human resource competencies are not supportive.
- Cultural factors that support the ERP implementation.
- Other factors.

A similar research has been conducted by Dyani found out that by implementing the ERP, a company will improve the effectiveness of internal control [11]. Thus, it can be concluded that the effectiveness of internal control is more effective before and after ERP implementation.

IV. CONCLUSIONS AND RECOMMENDATIONS

After making comparison about the effectiveness of internal control before and after ERP implementation, it can be seen that there are significant differences. For example, before the ERP implementation, internal control effectiveness is quite effective and it becomes very effective after the implementation of ERP.

After getting the result, the author makes several recommendations. First, the employees should be able to adapt the ERP system because it will have an impact on the company's performance in the future. Second, after implement the ERP, operations must be carried out according to the job description so that the results of recording can be traced by the audit committee. And the last, the company should have cultural factors for make a better change in the future.

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The author is a lecturer in Accounting Department, Faculty of Economics and Business, Bandung Islamic University, Indonesia. The author has several competences like competence in financial accounting, accounting management and public finance. The professions of the author are lecturer, trainers, researchers, research and journals' reviewer, and consultants. The author also has become an administrator in several professional organizations namely IAI, IAEI, ISEI, BWI of West Java and BAZNAS of West Java. The author has

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