

THE IMPLEMENTATION OF ENTERPRISE RESOURCE PLANNING (ERP) IN FINANCIAL MANAGEMENT AT PT. PLN (PERSERO) MANADO AREA

by:

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ABSTRACT

PT. PLN (Persero) Manado Area currently implements the ERP system in its business process as a strategy to be competitive in global market. This system can make the business activity become more effective and efficient because with ERP, the company is able to work via internet or in other words, every transaction can be done by online so everyone can open or monitor all activities in PLN including financial activities. The research objectives are to analyze the process of ERP system implementation and to know more deeply about the benefits of ERP system according to financial management employee. The theories that are used in this research are Management Information System (MIS), and Enterprise Resource Planning (ERP). The qualitative method is chosen to be used in this research, by taking five samples from financial management employees in PT. PLN (Persero) Manado Area. After doing the research, two conclusion can be formulated. Firstly the result proved that the Implementation of ERP system in PT. PLN (Persero) Manado Area conducted in four phases: plan and analyze, configure and build test and the last one is deploy. Secondly the key benefits of ERP system can be evaluated from two indicators which are operational effectiveness and operational efficiency.

Keywords: *enterprise resource planning, implementation process, key benefits*

INTRODUCTION

Research Background

Technology plays a key role in today's business environment. The companies can run their business processes depends on technology system that they use. In fact, the dependence on technology cannot be denied anymore in current organization activity. Almost all company's activities are require the use of technology, including Information Technology (IT) that has a major effect on all businesses.

There are some benefits of implementing IT system in the company, these are: improving business processes, achieving cost efficiencies, and maintaining a competitive advantage in the marketplace. By seeing the benefits of implementing the IT system, and also considering the pressure for the current organization to compete in global scale, there are more companies which flock to adopt the latest IT systems. One of IT systems that has been a standard for the current large companies is Enterprise Resource Planning (ERP). ERP is not just a usual software or application, but ERP can be best understood by looking from both Information Technology (IT) and Information System (IS). Because it is designed to maximize the function of each division in organization by using internet media that help the business process to be more effective and efficient. Then, it will enable the entire divisions of the company to interact in real-time, access information faster, and easily manage the data.

As a state-owned company which is required to apply the principles of Good Corporate Governance (GCG) both in the business and management aspects of the company at all levels, PT. PLN (Persero) developed the IT in the scope of business and company's management. The support of IT within the business scope and company's management can improve the capability of the company to contribute to the creation of value added, as well as the effectiveness and efficiency. This things can reflect a decision making process also leadership in order to implement IT system. Which can help the company to compete with global companies.

Therefore, ERP system is chosen as the best strategy to achieve the company's goals, especially, since the issuance of *Perpres (Peraturan Presiden) RI (Republik Indonesia) 54/2010* about the procurement of goods and services electronically which required the government agencies to implement e-procurement (electronic-procurement). The goal is to achieve the work processes that are effective, efficient, transparent and accountable. Which means that every state-owned company is required to be able to run its business processes electronically and it makes the internet plays an important role in the business process. As the respond to this regulation, some state-owned companies began to implement e-procurement practices, including PT. PLN (Persero) Manado Area that also implements ERP system which is a part of e-procurement.

By the existence of the ERP system implementation in the company, ERP system can help to integrate the entire business process, and also to help PT. PLN (Persero) Manado Area to be able to achieve the company goal which is to lead the company to enter the era of transparency, and accountable. It can be realized because one of the ERPs program is named Go-live, which enables every transaction is done by online so everyone can open or monitor all activities in PLN including financial activities, via internet.

One of the divisions that plays a very important task in financial activities is financial management. Financial management is fully responsible for financial information report. The timeliness and the accuracy in managing data are needed in order to avoid mistakes in making financial statements. At the same time it become the proof that of PT. PLN (Persero) to be able to run the company's commitment to be clean and free of corruption. Through the implementation of ERP system in PT. PLN (Persero) Manado Area, it is expected financial performance of financial management employees can be improved.

Research Objective

There are several main objectives that will be examined, as follows:

1. To know the process of ERP system implementation in financial management at PT. PLN (Persero) Manado Area.
2. To know the benefits of ERP system implementation for financial management employees.

THEORETICAL FRAMEWORK

Theories

Management Information System (MIS)

The grand theory of this research is Management Information System (MIS). According to Reddy et al. (2009), MIS is a system providing management with accurate and timely information necessary to facilitate the decision-making process and enable the organizations planning, control, and operational functions to be carried out effectively. In addition Laudon and Laudon (2012:77) explained MIS as the study of information system (IS) in business and management. They also explain that the field of MIS tries to achieve the information system literacy, which encompasses an understanding of the management and organizational dimensions of system as well as technical dimensions of system.

Enterprise Resource Planning (ERP)

Mabert et al., (2003) defined ERP as an Enterprise-wide on-line interactive systems that support cross functional processes using a common database. This system is design to provide, at least theory, seamless integration of processes across functional areas with improve workflow, standardization of various business practices and access to real-time up-to-date data. Another definition is given by Brazel and Dang (2008). They explain that ERP is the Information systems packages that integrate information and information-based processes within and across functional areas in an organization.

ERP Implementation Process

Tang (2007) stated that ERP system implementation is a process of great compaxity, with a great many conditions and factors potentially influencing the implementation. In Shanks' study (2005) in Tang, (2007), he developed a four phase ERP implementation process: Planning, Implementation, Stabilization, and Improvement.

a. Stage one: Planning

In this stage, a clear project goal and objectives should be defined by the project management. This including clarifying the scope of implementation, defined an efficient target for schedule, budgeting and implementing sequence.

b. Stage two: Implementation

Improvement stage is where the implementation has met the targeted requirement, Tang (2007) believed that transformation stage arrives when the improvement stage has accomplished.

c. Stage three: Stabilisation

The stabilisation stage occurs when implementation problems are fixed and overall performance improved. Systems upgrade should take into account when ever is applicable. When the business environment changes, technology changes or changes in user community will directly results in adding-on in the ERP systems.

d. Stage four: Improvement

Improvement stage is where the implementation has met the targeted requirement. Tang (2007) believed that transformation stage arrives when the improvement stage has accomplished.

Key Benefits of ERP Implementation

Supramaniam, and Kuppusamy (2010) stated that, the key benefits can be evaluated from three perspectives which are operational efficiency, operational effectiveness and operational flexibility. In the case of operational efficiency, the organization that implement ERP occur lowered cost of operation. This factor is indirectly related to the return on investment (ROI). This is a clear indication that most of the organizations in their survey could achieved their ROI. In the terms of operational effectiveness, Supramaniam and Kuppusamy (2010), explained that ERP has added value towards the operations of the companies. The results of their research clearly indicated that firms that implemented ERP systems are more successfully concentrated on waste and their elimination leads to the distinction between value added operations and non-value added operations.

The third key benefit is operational flexibility. The result of their research summarized that ERP-driven companies are able to adapt towards the changing business environment. The ability of the companies to effectively adapt to the changing business environment through ERP was found to be either as a result of focused business process reengineering or the preferred style or the direction taken by the top management in realizing their goals and objective through information system.

ERP Impact on the Financial/Accounting Profession

The advent of ERP systems has affected the role of accountants and it is a role for which accountants need to be prepared. ERP systems are definitely changing the work environment of accountants today. Implementing an ERP system requires a reengineering of prior business structure and changes in general operating methods which is necessary to understand and communicate the value added by ERP systems, and it requires significant technological knowledge to implement them (Bae and Ascroft, 2004). Doud and Triki (2013) agreed with this, according to them the introduction of ERP technology has fundamentally changed the accounting practices either at the financial reporting and management accounting level or at the auditing techniques and tax level. So, therefore, nowadays accountants must have not only a solid understanding of business, but they also must embrace the available efficient technology from ERP systems. If accountants learn about ERP software and how it works they can greatly assist companies in improving the management of their operations.

Previous Research

Mabert, et al. (2003) investigated and identified key differences in the approaches used by companies that managed their implementations ontime and/or on/under-budget versus the ones that not success to manage their implementation process through a survey of US manufacturing companies that have implemented ERP systems. The results indicate that many different factors ranging from pre-implementation planning to system configuration influence performance, which managers should be sensitive about when implementing major systems like ERP. Bae and Ascroft (2004) discussed more specific research about The Implementation of ERP

Systems: Accounting and Editing Implications. They explained about the applications in financial functions in the ERP system which is SAP R/3. According to them R/3 offers powerful accounting capabilities but accountants must learn the details of the R/3 system well to provide quality services to clients that either currently have or are considering obtaining an R/3 system.

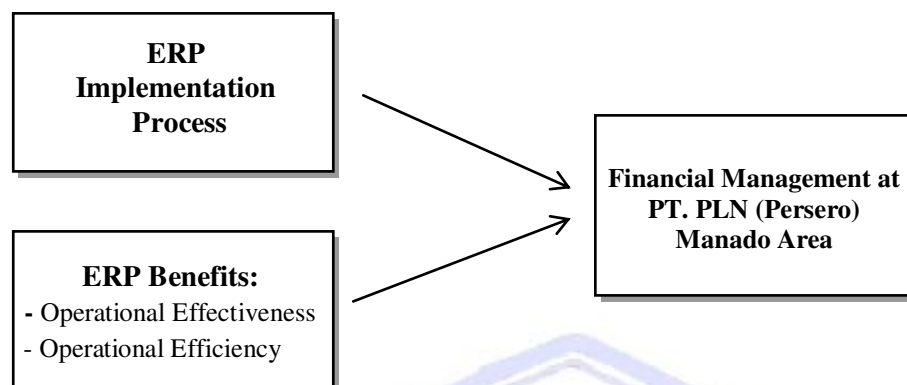


Figure 1. Conceptual Framework

RESEARCH METHOD

Type of Research

To get an overview and a deeper understanding about “The Implementation of ERP System in Financial Management at PT. PLN (Persero) Manado Area”, a field study has been made. The study consists of descriptive method with qualitative approach.

Place and Time Research

This study is conducted in Manado, in one of State-owned Company in Indonesia which is PT. PLN (Persero) Manado Area. It is done in between July -September 2013.

Population and Sample

Population refers to the group of people, events, or things of interest that the researcher wishes to investigate. It is the group of people, events, or things of interest for which the researcher wants to make inferences (Sekaran and Bougie, 2010:262). In this research the population is all the employees at PT PLN (Persero) Manado Area.

Sample is a subset of the population. It comprises some members selected from it. In other words, some, but not all, element of the population form the sample Sekaran and Bougie (2010:263). The sample method in this research is a purposive sampling method. The purposive sampling technique, is a nonrandom technique that does not need underlying theories or a set number of informants (Tongco, 2007). According to. In this research the sample of informants is only focused on the employees in one division of PT. PLN (Persero) Manado Area, which is financial management. Those employees are User Champion who have the role and responsibility in ERP system. This research takes five employees who work in financial management at PT. PLN (Persero) Manado Area.

Data Collection Method

The data for this research is gathered from the sources that are relevant and related with the research in order to complete the data. The data of this research comprises into two categories, which are primary data, and secondary data. There are two common ways of conducting primary research, they are: Interview, and Observation. According to Cohen D., and Crabtree B., (2008), there are five types of interviews: Structured Interviews, Semi-Structured Interviews, Unstructured Interviews, Informal Interviews and Focus Group. This research uses structure interviews which collects the data or information according to the question that has already prepared. The purpose is to get an adequate understanding of a topic to construct meaningful and relevant close-ended questions. While Chaleunvong K. (2009) divided the observation in two different ways, there are Participant observation and Non-participant observation. The observation in this research is done by

participant observation because the observer takes part in PT PLN (Persero) Manado Area as the internship student, and directly helps the employee to input data using ERP system.

Sutehall et al., (2010) explain that secondary data is the use of existing data to find answers to research questions that differ from the questions asked in the original research. This research also used secondary data which are obtained from available material that PT. PLN (Persero) Manado Area gives it consists of the information related to the implementation of ERP system to fulfill the needs of this research. All the data is ppt, pdf, and microsoft word format. The data also obtained from PT. PLN websites that provide the news about the implementation of ERP system in PT. PLN (Persero).

Operational Definitions and Measurement of Research Variables

This is the definitions of research variables:

ERP can be best understood by looking from both Information Technology (IT) and Information System (IS) because ERP software is designed to maximize the function of each division in organization by using internet media that help the business process to become more effective and efficient. It means it enables the entire division of the company to interact in real-time, access information faster, and easily manage the data.

Data Analysis Method

This research uses descriptive method with qualitative approach. According to Hencock et al., (2009) Qualitative research attempts to broaden and/or deepen our understanding of how things came to be the way they are in our social world. The qualitative researcher seeks to discover the meanings that participants attach to their behavior, how they interpret situations, and what their perspectives are on particular issues (Woods, 2006).

Data Analysis Process

The process of qualitative content analysis often begins during the early stages of data collection and during the research. The analysis formulates the problem before the field research is conducted, and it is continued until the process of writing the research results. To support valid and reliable inferences, qualitative content analysis involves a set of systematic and transparent procedures for processing data.

1. Analyzing data during the stages of data collection.

Analyzing data in Qualitative research has been conducted before researchers enter the field. Analysis is conducted by using previous studies related to the issue that the researcher wants to investigate.

2. Analysis during the research.

At the time of data collection through interviews, the researcher has already performed the analysis of the informants' opinion. If the interview opinion has not answer the research problem yet, the researcher will ask questions again until the informants give the information that is needed in the research.

RESULT AND DISCUSSION

Results

The Implementation Process of ERP System in PT. PLN (Persero) Manado Area

There are a complex set of activities in PT. PLN (Persero) in Manado area to create effective project management strategy in order to control the implementation process of ERP systems in the organization. They are Plan and Analyze, Configure and Build, Test, and Deploy. The explanations about the process of ERP system implementation methodology in PT. PLN (Persero) have been described below:

1. Plan and Analyze

In this stage there are three activities which are: the project planning, assesing current business unit capabilities, and analysis of business processes fit or gap. This is needed to guide the project through out the process of ERP Implementation in PT. PLN (Persero).

- a) **Project Planning**
In Project Planning PT. PLN (Persero) formulates the clear objectives of ERP implementation, providing a clear link between PT. PLN goals and information system strategy, and choosing the external expertise.
- b) **Assesing Current Business Unit Capabilities**
In this activity, it requires good cooperation between external expertise and project management team of PT. PLN (Persero). Project management team should commit to ensure that the company will achieve growth targets, and maintain industry leadership in order to unify the several entities within the company.
- c) **Performing Local Fit/ Gap Analysis**
Performing Local Fit is critical to ERP Implementation. This is done to avoid some problems such as misalignment in ERP Implementation. Gap analysis is the process through which both the project teams of PLN and Accenture create a design model. This is very helpful to complete model of where are they now, and which direction they want to head in the future, to anticipate and cover any functional gaps of the process of ERP system implementation.

2. Configure and Build

In this stage there are three activities, which are: making configuration and customized programs list, determining the role and security of SAP, and SAP installation and Setup.

- a. **Configuring and Testing Process Configuration**
This is the main functional area of the ERP implementation. In this stage, Accenture configures and tests the prototype, and attempts to solve any technological problems inherent in the business process engineering before the actual live implementation. The system is scoped at a more detailed level and the configuration decision was documented. While the decision that has been made will be focused on the specific design of the SAP application modules, which in furthermore will design the application that is appropriate with the business process diagram.
- b. **Establishing SAP Role and Security**
In this stage the application will be set to be used in business processes of PLN. SAP selects application which is specifically designed to cater the needs of business process in PT. PLN (Persero). About the Financial Management at PT. PLN (Persero) Manado area, FM module has been selected to be used in the business process.
- c. **SAP Installation Setup**
The technology requires policies prior to the SAP installation and setup. The following are the technical specifications of the hardware and software on the PC that is uses ERP system implementation project.

3. Test

In this stage there are some activities which carried out, they are: unit test, unit test assembly, integration/product test, and perform data extraction and upload.

- a) **Unit Test, Unit Assembly Test, and Integration/Product test**
In this unit test, Accenture will conduct testing the readiness of each PLN unit for ERP system implementation. This activity is also related with authorization, whereby certain ERP users candidates can execute the transactions that are applicable to the roles that will be assigned, and follow the testing process. In this phase, it must be ensured that the ERP users already understand their responsibility and authority to running the business process in PT. PLN (Persero) through the ERP system.
Furthermore the unit test assembly will be hold some meetings/workshops with the staff that will provide insight and a deeper understanding of the SAP ERP application and to discuss the function of PLN's each sub module includes a FM sub modules, core changes before and after ERP, ERP mapping roles to the right position in the organizational structure of PLN, as well as determine User / proper staff to run the new ways of working through the ERP system.
In product test SAP application modules have to be tested. Trials are conducted by the Accenture. The test cases must be designed specifically to find the weak links in the system and these bugs should be fixed before going live.

b) **Mock Conversion**

In this step PLN staff conducted the extraction data. There, will be change of the data from the old system to be adjusted to the new system. Mock meeting lasted for three times. Successive processes done step by step from implementation of Mock I, Mock II, and Mock III updated until the data is done manually.

4 Deploy

In these stages there are four activities that have been conducted which are launch training, convert the data, perform and monitor the execution of the cutover, and 'Go-Live' support and transition.

a. **Launch Training**

This is the step where the company trains its employees to implement and later run the system. Only the staffs who have user ID that will be able to attend the training. In this training, all the staffs that will carry out the role in ERP system are prepared to operate the ERP system based on their duties and responsibilities.

b. **Convert Data**

This stage is the development of mock conversion activities. The difference is in mock conversion the focus is only the process of input data activity. While convert data is about conducting the process of submitting data that has been previously inputted by PLN's staff to be uploaded in the SAP application in ERP system. Both code number and name of the material used are based on the data inputted by PLN staff Mock I, II, and III activities.

c. **Cut Over**

Cut over is a transition period which is related with the change from the old application to a new application (SAP). In this phase, the organization discussed to plan the transition period to help the ERP user know when to stop using the old application, when to submit and upload the data migration to the Accenture, and when to start using the new application.

d. **Go-Live Support and Transition**

The meaning of 'Go-Live' in the implementation of the ERP system is all management information that has been published through the internet. In other words, Go-Live Support and Transition is the process of transferring the backlog of data migration and data that is entered during the period of Post-Cut-Over to the legacy systems. If there are any changes of data that occur after the transferring process from data backlog, then the data will be updated through the new system.

In this stage the staffs in the Financial Management have begun using a new system that is SAP application R/3FMmodule. So, all financial transactions will be processed using the ERP system and conducted via online. The staffs also face a transition period when they begin to adapt in using the new system when performing their duties and their responsibilities, includes daily, monthly and yearly tasks.

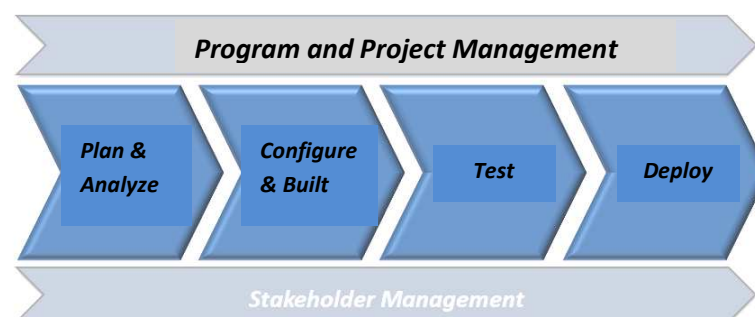


Figure 2 Project Methodology

Source: PLN, 2013

Discussion

There are so many benefits that Financial Management staff gained from the implementation of ERP system in PT. PLN (Persero) Manado Area. From all the benefits, the study is focused on the most important benefit according to the staff in financial management at PT. PLN (Persero) Area Manado. In this case, these researches try to investigate the benefits of ERP systems.

1. Operational Effectiveness

In the case of operational effectiveness, the key benefits are transparency, accountable, and easy to control. The explanation of each key benefits can be seen in Table 1.

Table 1. Operational Effectiveness

Key Benefits	Explanation
Transparency	Company information is accessible
Accountable	Data accuracy
Easy to Controlled	Provide master data

Source: Data Processed, 2013

ERP bring the transparency in business process. The use of ERP system increases the possibility of all ERP users of three departments in PLN to monitoring all the financial activities. ERP will ensure the accuracy data of information management within the company. The financial report that has been upgrade should really reflect the actual conditions. This can directly affect the output information from financial management to produce high quality information. In addition, ERP provide master data which are a single data that can keep all the financial activities in PLN. So, it can help the financial management employee to control and evaluate the financial report more easily.

2. Operational Efficiency

In the case of operational efficiency, the key benefits are a real-time report, enhance performance, and integration. The explanation of each key benefits can be seen in Table 2.

Table 2. Operational Efficiency

Key Benefits	Explanation
Real-time Report	All the information is up-to-date
Enhanced Performance	Easier to use
Integration	Go-Live/online

Source: Data Processed, 2013

ERP systems always store the company data of the most recent and most accurate. So, financial management employees can access the information in real time. By offering a range of facilitation, it can directly improve the performance of an employee to maximize their work, without spent the time for manual process. The integration of the accounting information system within the ERP systems would increase the relevance of accounting information and reduce the degree of uncertainty to the decision maker.

CONCLUSION AND RECOMMENDATION

Conclusion

Based on the analysis and discussion, two conclusions can be formulated:

1. Firstly the result proves that the implementation process in PLN is conducted in 4 phases: plan and analyze, configure and build, test, and deploy.
2. Secondly this research also found the key benefits that can be obtained from the staff of the financial management in the implementation of the ERP system. The key benefits can be evaluated from two perspectives which are operational effectiveness, and operational efficiency. In the case of operational effectiveness, the indicators are transparency, accountable, and easy to be controlled. In the case of operational efficiency the indicators are real-time report, enhance performance, and integration.

Recommendation

The recommendation created based on this research results are:

1. It is recommended to the organization especially Stated- Owned company in Indonesia to develop the IT in the scope of business and company's management. ERP system is one of the best strategies because it has a million benefits to the company. Implementation of ERP system can improve the capability of the company to contribute to the creation of value added, and achieve operational effectiveness and operational efficiency in order to maximize the performance of financial management employee.
2. For other researchers who want to conduct a research about Information Technology (IT), this research is expected to become a good reference in the research about the implementation of the Enterprise Resource Planning (ERP) system.

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