

PAYROLL ADMINISTRATION SYSTEM IMPLEMENTATION USING ODOO AT PT.PRIMARINDO ASIA INFRASTRUCTURE, TBK WITH RAPID APPLICATION METHOD

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ABSTRACT

PT. Primarindo Asia Infrastructure, Tbk is a manufacture company which have shoes (Tomkins) as their main product. At PT. Primarindo Asia Infrastructure, Tbk. have problem in calculation of every salary component, collect the absence's data which needed long time, and creation of pay slip needed long time. So payroll become twice a month. Solution for the payroll problem at PT. Primarindo Asia Infrastructure, Tbk. with implement Enterprise Resource Planning (ERP). ERP System that used in the research is Odoo. Odoo is an open source software, so in the development doesn't need the license. In this research using payroll module to manage payroll system at PT. Primarindo Asia Infrastructure, Tbk. For the implementation of payroll system using Odoo at PT. Primarindo Asia Infrastructure, Tbk. using the Rapid Application Development method because RAD development method can save for time and cost for development, and relative more suitable to the application which not have a big scope and developed by a small team. After the implementation ERP using Odoo can do the calculation of employee's salary in short time and accurate, have the information about the cost which needed for the payroll, and simplify the process in pay slip prints so there's no more lateness for the employee's salary.

1. INTRODUCTION

PT. Primarindo Asia Infrastructure, Tbk is a manufacture company with shoes as their main product. PT. Primarindo has 1.190 employee in 2015. Because the high employee's turnover in production department, they have problem in human resources management in recruitment, performance appraisal, absence, and payroll. Specially for the payroll problem in PT. Primarindo is caused by salary component computation for each employee because of the lateness of data which received by human resource department. Even though ideally in this globalization era for the company that have more than 1000 employee, should have the system which have modules to support every related business process [1].

Payroll activity in PT. Primarindo carried out twice a month.. For the first payment in beginning of the month, every employee receive same amount. And second payment in the middle of the month is how much the

rest of their salary that haven't paid yet. For the payroll computation has many component such as basic salary, overtime allowance, family allowance, absence quantity, lunch allowance, and special allowance. For the employee data and the allowance is received from personal administration and need the integration to keep the flow of data in real time.

The reason of twice payment in a month is caused by the salary computation for 1.190 employee which need time until 2 weeks. It caused by manual input for every salary component and only use the spreadsheet which take a long time for salary component input. Based on interview with the human resource manager in PT. Primarindo, the existing payroll process isn't effective enough, and they have a plan to change the payroll process become only once a month. However for the payment is need the data summary in a month and with existing system doesn't possible to do the payment process in the early of month. So they need

automated payroll system for the data input and the data summarize. The right payroll system can affect the employee performance, because salary is the thing which needed to fulfill the employee need, in the end with the salary that have given the employee'll more motivated in works. [2]

Another reason for the payment that took long time in its process is also caused by employee pay slip creation. For the creation of pay slip with the existing system took time until 2 days, and have to make the report for the all payment process that have been done in a month.

For the existing payroll system which using the spreadsheet sometimes there's mistake in the computation caused by human error in data input such as absence quantity, and the allowance.

Based on the received data, we can conclude the problem in salary computation that took for 2 weeks, and mistakes in data input for salary component, the payroll system need to prioritize compared another system because of its need. Because the problem tha have been told, so the human resource in PT.Primarindo agree on the research of implementation of system which can solve the problems

2. THEORETICAL BACKGROUND

2.1 ERP

ERP is a major software work of an enterprise which works to integrate any existing information on all areas of the business that has a goal to be able to plan and manage all the resources available to an enterprise so that all business areas within an enterprise can run well. The ERP system also consists of several modules that are integrated with each other, including a material management, sales and distribution, production planning, finance, human resources, etc.

Here are several criterions that must be owned by an enterprise's information system [3]

- a. Integrated, data is not redundant, using one major database and provide access to all modules using a single interface.
- b. Multiuser platform, can be accessed by more than one user.

2.2 Payroll

A payroll is a company's list of its employees, but the term is commonly used to refer to: [4]

- the total amount of money that a company pays to its employees
- a company's records of its employees' salaries and wages, bonuses, and withheld taxes
- the company's department that calculates and pays these.

From an accounting perspective, payroll is crucial because payroll and payroll taxes considerably affect the net income of most companies and because they are subject to laws and regulations

From a human resources viewpoint, the payroll department is critical because employees are sensitive to payroll errors and irregularities: Good employee morale requires payroll to be paid timely and accurately. The primary mission of the payroll department is to ensure that all employees are paid accurately and timely with the correct withholdings and deductions, and that the withholdings and deductions are remitted in a timely manner. This includes salary payments, tax withholdings, and deductions from paychecks.

2.3 Odoo

Odoo is a comprehensive suite of business applications including Sales, CRM, Project management, Warehouse management, Manufacturing, Financial management, and Human Resources just to name a few. Odoo offers a choice of over a thousand modules. Odoo is available in the cloud or on-site and is most suited for small to mid-sized companies. With more than a thousand downloads/installations per day, Odoo is one of the most used open source solution in the world. It has a dynamic community, is flexible, and can be adapted to your needs. It can be put in production rapidly thanks to its modularity and is easy to use.

2.4 PostgreSQL

PostgreSQL is a powerful, open source object-relational database system. It has more than 15 years of active development and a proven architecture that has earned it a strong reputation for reliability, data integrity, and correctness. It runs on all major operating systems, including Linux, UNIX (AIX, BSD, HP-UX, SGI IRIX, Mac OS X, Solaris, Tru64), and Windows. It is fully ACID compliant, has full support for foreign keys, joins, views, triggers, and stored procedures (in multiple languages). It includes most SQL:2008 data types, including INTEGER,

NUMERIC, BOOLEAN, CHAR, VARCHAR, DATE, INTERVAL, and TIMESTAMP. It also supports storage of binary large objects, including pictures, sounds, or video. It has native programming interfaces for C/C++, Java, .Net, Perl, Python, Ruby, ODBC, among others, and exceptional documentation.

An enterprise class database, PostgreSQL boasts sophisticated features such as Multi-Version Concurrency Control (MVCC), point in time recovery, table spaces, asynchronous replication, nested transactions (save points), online/hot backups, a sophisticated query planner/optimizer, and write ahead logging for fault tolerance. It supports international character sets, multi byte character encodings, Unicode, and it is locale-aware for sorting, case-sensitivity, and formatting. It is highly scalable both in the sheer quantity of data it can manage and in the number of concurrent users it can accommodate.

2.5 RAPID APPLICATION DEVELOPMENT

Rapid application development is an Object Orientated approach to software development that includes a method of development as well as software tools [5]. The primary purpose of a RAD is to speed up the systems development process. There are three broad phases to RAD that engage both users and analysis in assessment, design, and implementation:

- Requirements Planning Phase
- RAD Design Workshop
- Implementation Phase

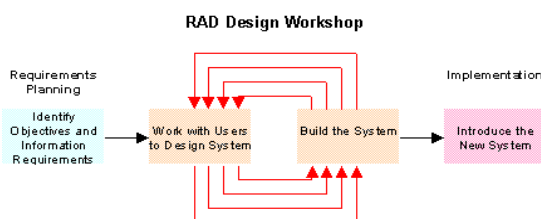


Figure 1 – RAD Design Workshop

3. RESEARCH METHOD

3.1 Conceptual Model

Conceptual model is a picture of model plan which used to conduct a research in a structured way that helps to structuring issues, identify relevant factors and shows the relationship so that it can show the problem and the need to solve the problem. There are three important parts that must be defined in the conceptual

model, which are input, process and output.

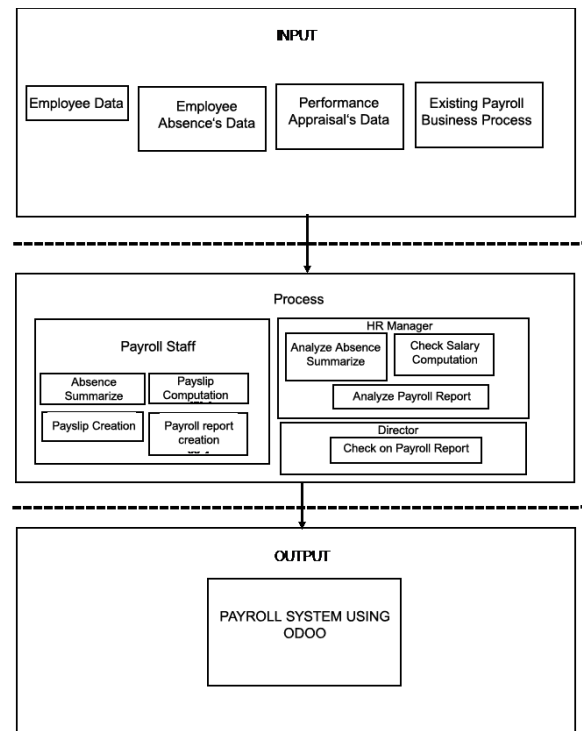


Figure 2 – Payroll Conceptual Model

3.2 Systematic Problem Solving

Systematic problem solving contains what thing will be done in this research study. Here is a chart of the step s work of this research:

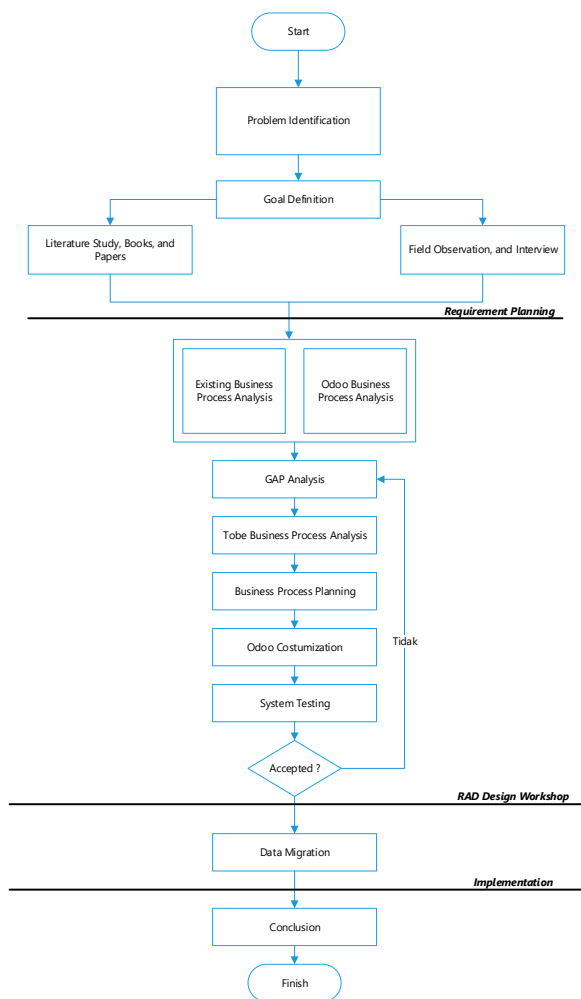


Figure 3 - Systematic Problem Solving

4. RESULT AND DISCUSSION

4.1 As Is Condition

In Figure 4 we can see the payroll existing process in PT. Primarindo. For the main component is the Basic salary is employee salary data based on personal administration. For uncertain allowance for the input has absence report and overtime report. For Marriage Allowance is need the allowance request that will approved by human resources departement. The last component is Holiday Allowance which based on employee data in personall administration.

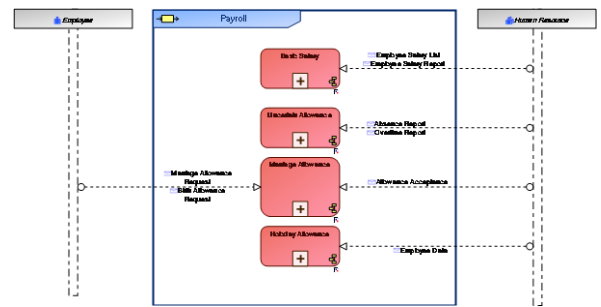


Figure 4 – Payroll Existing Business Process

4.2 Odoo Condition

In Figure 5 explains how odoo can handle the payroll process by its default. In Odoo contain attendance management, leaves, salary rule management, and reporting management

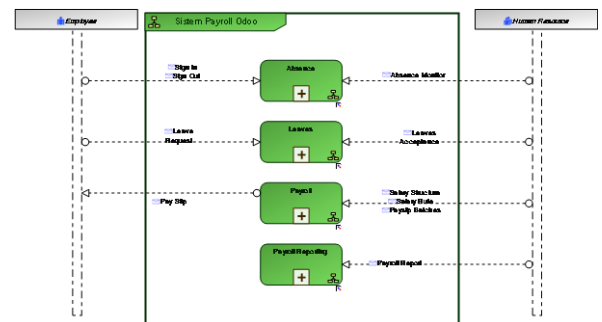


Figure 5 – Odoo Payroll Process

4.3 Gap and Fit Analysis

Here are the Gap and Fit analysis between Existing and Odoo which described in Table 1. Gap and Fit Information:

- N : No, means that the need don't fill requirement
- P : Partial, means that the need not fully fill the requirement
- F : Full, means that the need meet the requirement

Table 1 - Gap and Fit Analysis Table

No	Exisisting condition	Needs	Fulfillment			Solution
			N	P	F	
Attendance Business Process						
1	Summarize the absence form in a month	System can automatically summarize the employee absence data so help the human resource departement works.		V		Using the attendance feature in Odoo and summarize all of absence data in tree view
2	In absence time contain sign in time, sign out time, and absence's date	information from employee attendance	V			With attendances form in Odoo, the required fields has been provided by Odoo
3	Employee's absence using absence form paper	A system can handle the attendance for sign in and sign out		V		Improvement in business process, specially in absence form input is replaced by using absence's machine and the data summarize using attendance feature in Odoo
Payroll Business Process						
1	Employee salary computation using spreadsheet	Automation in salary computation also with all of its another component		V		Create new salary rule and salary structure in Odoo payroll module
2	Some of salary component doesn't conatined in payslip and creation of the payslip still manual	All of the detail on payslip contained in paysip and can create employee payslip automaticly		V		Create payslip with the detailed salary structure in Payroll Odoo
3	Creation of every payslip still manual	All of the employee payslip can automaticly created also total of salary amount of published payslip			V	Using payslip batches feature in Odoo Payroll, and added function with costumization for total amount of published payslip

4.4 To Be Condition

Based on the gap analysis in Table 1 that show the gap between existing process business and Odoo process business, in the picture below we can see improvement business process to run Odoo system in PT. Primarindo

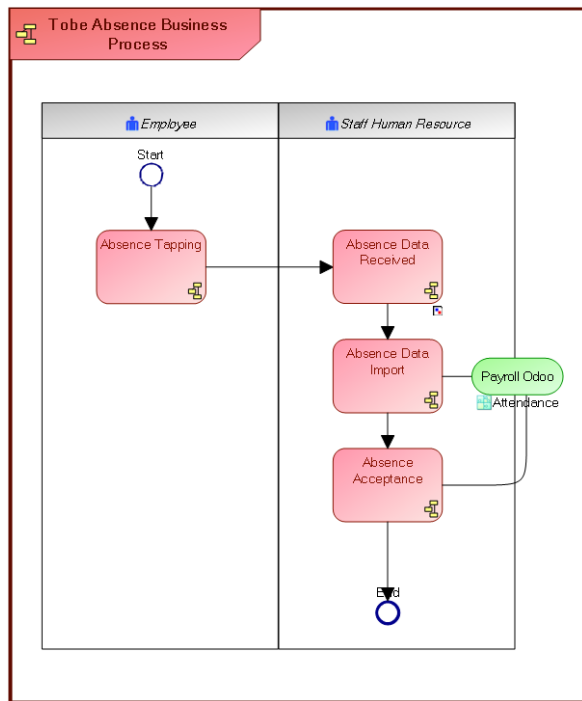


Figure 6 – Absence Process To be condition

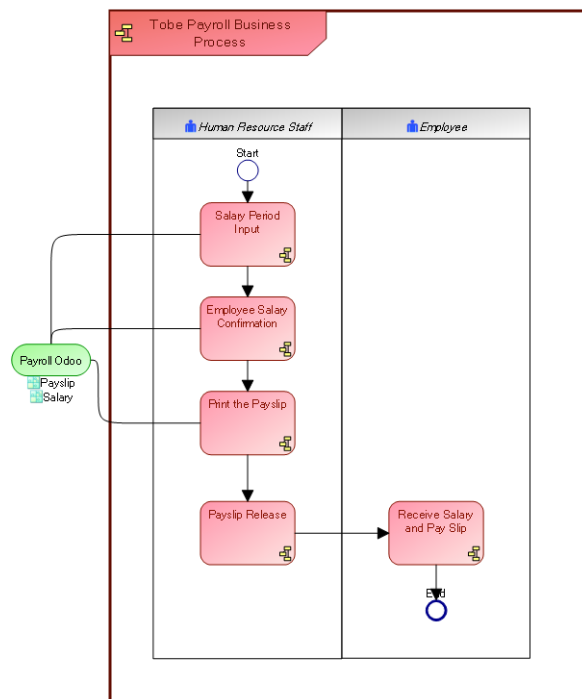


Figure 7 – Payroll Process To be condition

4.5 Odoo System Design

Development Design in Odoo will be described using UML (Unified Modeling Language). There are use case and activity diagram which designed to show Odoo payroll system that will be used in PT. Primarindo. Use case diagram will show payroll activity and user in payroll Odoo system. Activity diagram will show workflow that need to do to complete one case.

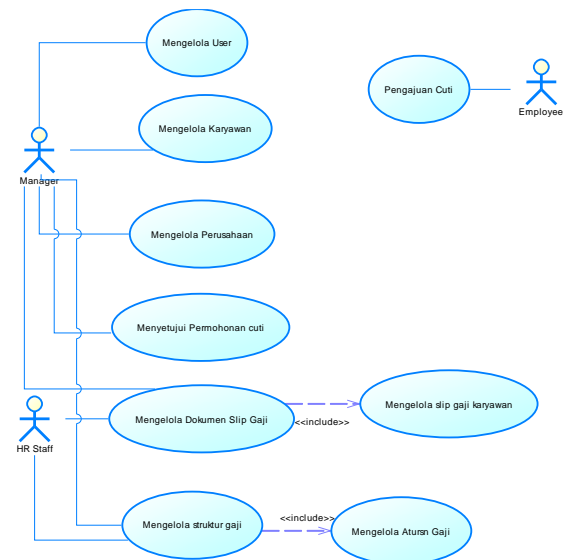


Figure 8 – Payroll System's Use case

5. CONCLUSION

According to the result of analysis and desgin in this research, we can conclude

There is improvement in absence business process that change employee absence record using absence machine and for absence data summarize will using attendance feature in Odoo

Improvement in payroll existing business process which in existing process still using spreadsheet in salary computation. In to be condition existing process change with using payslip features in Odoo.

For Odoo payroll implementation specially for absence feature have input such as employee attendance data that received from the absence machnine which will use in the future.

For Odoo payroll module, there is costumization in the payslip view and additional function to compute total amount of published payslips.

6. REFERENCES

- [1] D. Wawan, ERP (Enterprise Resource Planning : Menyelaraskan Teknologi Infromasi dengan Strategi Bisnis, Jakarta: Informatika, 2011.
 - [2] M. Hasibuan, Manajemen Sumber Daya Manusia, Jakarta: PT. Bumi Aksara, 2011.
 - [3] R. Kelemen, "ERP Systems in Public Sector," pp. 1537-1543, 2014.
 - [4] Soemarsono, Ekonomi Manajemen Sumberdaya Manusia, Jakarta: Salemba Empat, 2010.
 - [5] Kendall, J., & Kendall, K., Analisis dan perancangan sistem, Jakarta: Indeks, 2010.
- (a) Swaminathan, J.M., Smith, S., and Sadeh-Konieczpol, N. (1998) Modeling the dynamics of supply chains: A multi-agent approach, *Decision Sciences*, vol. 29, 607-632.

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