

DESIGN AND IMPLEMENTATION OF PAYROLL INFORMATION SYSTEM IN PT. KARYA TAMA RIMBA CEMERLANG

Agustinus Noertjahyana¹, Felix Montana², Arlinah Imam Rahardjo³
Informatics Department, Faculty of Industrial Technology, Petra Christian University, Surabaya
agust@petra.ac.id¹, 26405043@petra.ac.id², arlinah@petra.ac.id³

Abstract

PT. Karya Tama Rimba Cemerlang has a traditional accounting system, thus the payroll also done manually by HRD. The payroll system is calculated based on the attendance list which is obtained from the manual machine. Everyday the workers have to register their attendance and leave so that it can be traced by the company in order to determine the monthly salary. Then the data will be processed by using Microsoft Excel. However, this system has several disadvantages such as the high processing time and the possibility of incorrect input. Thus, in this research, a computerized system is very crucial for the development of the company.

In creating the new payroll system, first we do an observation in the company internal system. From the internal data, then the company will be able to design the new payroll system that can be customized based on the needs of the company through a more structured DFD, ERD, and tables. However, the new system is the integration of payroll and administration modul. Parts of the payroll system are basic salary, munch money, bonuses, taxation, Jamsostek, THR and cash bon. The administration process comprises the workers' personal datas, absenteeism, permission and leave, violation of rules and firing.

Based on the payroll application, the satisfaction level of PT. Karya Tama Rimba Cemerlang as the user is 76%, thus as a conclusion, the application process of the new payroll system has fulfill the target and has the suitable system. In fact, this system able to support the company with a faster payroll report yet accurate.

Keywords: Basic Salary, Payroll system, Taxation.

1 INTRODUCTION

One function of HRD (Human Resource Department) on a company is calculating salary for each employee to the company. There are various ways calculation process employee payroll, depending on the policies implemented by the company.

PT. Tama Rimba Karya Cemerlang is a company which is engaged in wood drying. Every division in the company has a payroll system that is not the same with each other. This is because of differences in company tenure, job type and the needs of the company (to save on expenses).

The process of calculating employees salaries are still done manually by Human Resources Manager. The Process is calculated by counting the number of the days of each company's employee presence for a certain period. The data has been obtained is then processed and entered manually into Microsoft Excel program one by one. Then the input data is processed in a table that had contained the variables in the form of salary deductions, allowances, basic salary, and others. The result is total salary of employees in a certain period.

Manual accounting system is certainly has some shortcomings that led to HRD experiencing difficulties, such as requiring a long time in getting data on the company's employees. Currently the number of employees at the company is approximately 55. For the time being to process the data takes about two hours. In addition, the possible risk of error (human error) that such a high frequency of errors in input data by HR

employees. HRD is often difficult to classify the data of employees of different divisions.

Therefore, with the advances in information technology that existed at the moment, is expected to be created an information processing system using a computer system to help overcome the weaknesses of the manual system faced by PT. Karya Tama Rimba Cemerlang.

This can be realized by designing an application that can perform calculation of employee salaries of PT. Tama Rimba Karya Cemerlang automatically so that counting can be produced more quickly and accurately.

2 PAYROLL SYSTEM

Payroll system is a set of business activities and implementation of data processing related continuously. Payroll information system is able to perform automatic payroll calculation process in which salary components such as basic salary, allowances, commissions, bonuses, overtime, leave, calculation of income tax, jamsostek and others are included to facilitate the calculation of wages [6].

2.1 PAYROLL SYSTEM ACTIVITIES

There are several important activities in the human resources department, began recruiting and hiring, training, assignments, compensation (payroll), employee performance and termination of the relationship between companies and employees. For compensation subsystem, there are seven events, namely: [7]

1. Update master payroll file
2. Update tax rate and deductions
3. Validate time and attendance data
4. Prepare payroll
5. Disburse payroll
6. Calculate employer-paid benefits and taxes
7. Disburse payroll taxes and other deductions

2.2 Pph 21

PPh 21 is the income tax imposed on income in the form of salary, honorarium, wages, allowances, pensions, and compensation activities with respect to employment, services or activities performed by an individual taxpayer in the country. Pph 21 is reported and paid correctly by the taxpayer on income received or accrued in connection with the employment of one employer (Peraturan Direktur Jenderal Pajak, 2010).

2.3 JAMSOSTEK

Jamsostek is a public program that provides protection for workers to overcome the risk of certain socioeconomic and operate using the mechanism of social insurance. As public programs, Social Security provides the rights and obligations for certain overload (compulsory) for employers and workers under the Act No.3 of 1992 which set the type of Program Jaminan Kecelakaan Kerja (JKK), Jaminan Hari Tua (JHT), Jaminan Kematian (JKM) and Jaminan Pemeliharaan Kesehatan (JPK), while the obligations of the participants is the orderly administration and pay dues (PT JAMSOSTEK, 2010, par. 1-2)

2.4 TUNJANGAN HARI RAYA (THR)

In addition to benefits of existing payroll taxes, businesses will be charged in return other substantial remuneration. THR is one type of benefit that is often used by some companies in Indonesia. According to Permen 04/1994, which meant THR is the income of workers must be paid by employers to workers or their families before the religious holiday in the form of money or other forms. THR is probably due to additional income, people call it "Gaji ke-13".

According to Permen 04/1994, any person who employs another person referred to employers and payers to pay THR. Legislation does not question whether an employer is an individual, a limited liability company, foundation, or association. In essence, every person who employs another person obliged to pay wages in return for THR. Employers must pay workers who had worked successively for 3 months or more. This regulation does not distinguish the status of workers, whether permanent employees, contract employees, or part-time employees. Originally a worker has worked for 3 consecutive months, he is entitled to THR.

2.5 SERIKAT PEKERJA SELURUH INDONESIA (SPSI)

One of tools to realize the industrial relations was the establishment of trade unions. The establishment of the union is expected to absorb the aspirations of workers and bridge the interests of

employers and workers so that the goal, ideally, the harmonious relationship between employers and workers can be achieved [5].

3 ANALYSIS AND DESIGN SYSTEM

In any information system application development is always going through the stages of analysis and design. [1].

3.1 Problem Analysis

The process of manually calculating salary causes some problems in the company of PT. Tama Rimba Karya Cemerlang. Problems faced by companies today are:

- A large number of company employees who constantly growing raises wage calculation process becomes longer and not effective.
- The possibility of human error in the calculation of salaries
- To search for data takes a long time because data is not stored properly.

3.2 Requirement Analysis

Based on the existing problems, companies need a computerized system, especially in calculating the employee's salary that can support the development of the company, such as:

- Computerized system for employee absences that can be integrated with existing systems (fingerprint attendance machine) with an employee salary calculation software.
- Computerized system to process employee payroll calculation, so that the counting process can be conducted faster, precise, and accurate.
- Computerized system for data storage in order to minimize the risk of data loss.
- Computerized system that can perform a search employee data quickly and easily.

3.3 DATA FLOW DIAGRAM

The design stage begins with the design Data Flow Diagrams (DFD). Data flow diagram of the system to be developed can be seen in Figure 1.

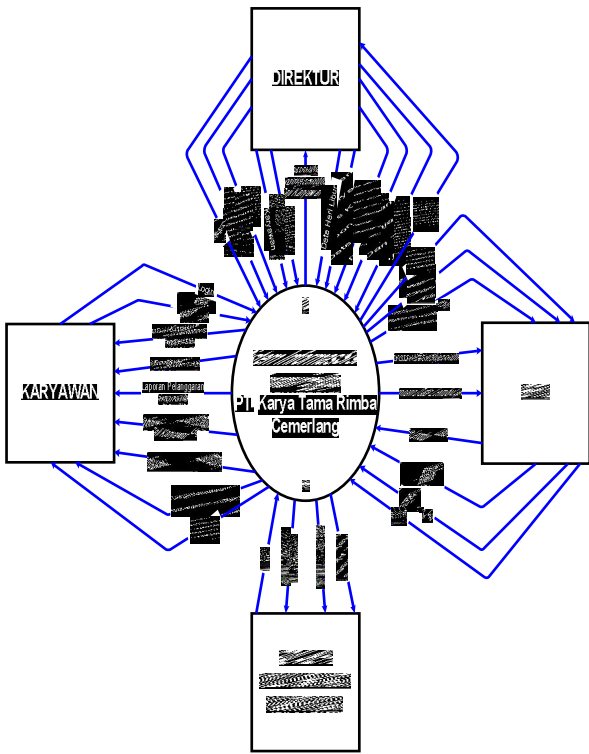


Figure 1. Data Flow Diagram

3.4 ENTITY RELATIONSHIP DIAGRAM

Entity relationship diagrams are used to describe the relationship of each table exists on the system. ERD consists of two pieces: the conceptual and physical.

4 RESULTS AND DISCUSSIONS

The results of the analysis and design that has been done before is as follows:

4.1 Form Login

Form login is used to differentiate access rights of each user. Form Login can be seen in Figure 2.

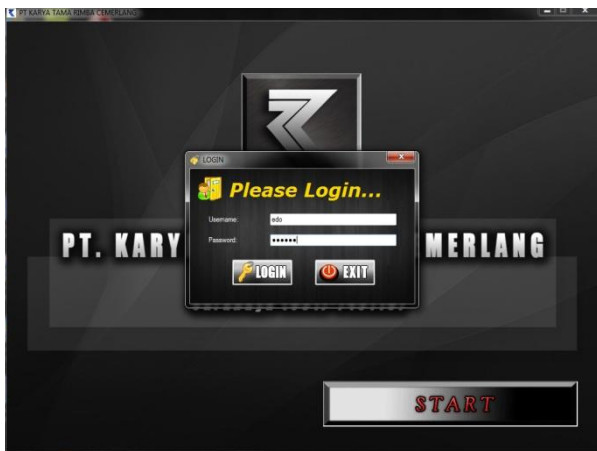


Figure 2. Form Login

4.2 Form Master

All menus and facilities that exist in the main menu page can be accessed by company directors. Before the input data of employees, directors are encouraged to check and input data as well as the

position the employee's basic salary in advance. Form base salary and position contained in the master menu. Display the program can be viewed as in Figure 3.



Figure 3. Form Master

4.3 Form Insert Data

Form Insert data is used to input data and their employee base salary and information about the position. Form insert data can be seen in figure 4.



Figure 4. Form Insert Data

4.4 Form Setting UMR

Form setting UMR is used to incorporate the large amount of current minimum wage. The benefits of this form is to note any changes that occur UMR. Form setting UMR can be seen in figure 5.



Figure 5. Form Setting UMR

4.5 Form Master Employee

Form Master Employee is used to enter information related to employee data that existed at the company. Form master employee can be seen in figure 6.

The screenshot shows the 'Data Karyawan' form with the following details:

- Master Data Karyawan:**
 - Nama Jabatan:
 - Tanggal Berlangsung: 10/03/2011
 - Nama Karyawan:
 - Jumlah SP:
 - Alamat Karyawan:
 - Tunjangan Hari Raya:
 - Tanggal Lahir: 05/04/1980
 - Tank: BCA
 - No. Telepon: 87452152
 - No. Rekening: 873402545305
 - Jenis Kelamin: Pria Wanita
 - Status Nikah: Menikah Belum Menikah Janda Duda
 - Uraian Password Karyawan:
 - Level Berlangsung:
- Table of Employees:**

ID Karyawan	Jabatan	Nama Karyawan	Alamat Karyawan	Tanggal Lahir	No. Telepon	Jenis Kelamin	Status Nikah	Tanggal Anjak
5023	Staff Keamanan	W. Subani	J. Wonorejo 41	30/11/1979	53434544	P	B	D
A006	Karyawan	Mardiana Komaras	J. Tambak Langen 32	05/04/1980	87452152	W	B	D
S017	Staff Meas Beker	Martono	J. Tambak Langen 29	04/07/1979	535432287	P	B	D
0007	Staff Meas Beker	Muhammad Iqbal	J. Hutanrejo 45	17/01/1981	8467776	P	B	D

Figure 6. Form Master Employee

4.6 Form Setting Tax

Form Setting tax used to enter data relating to taxation. Form Setting tax can be seen in figure 7.

This is an identical screenshot of the 'Data Karyawan' form as shown in Figure 6.

Figure 7. Form Setting tax

4.7 Form setting THR

Form setting THR, is used to determine the amount of THR for the current period. This helps companies to keep records of payments THR employees automatically. Form setting THR can be seen in figure 8.

The screenshot shows the 'THR (Tunjangan Hari Raya)' form with the following details:

- Tanggal Pembayaran THR: 2011-05-23
- Nama Karyawan:
- ID Karyawan:
- Jumlah THR:
- Table of THR Payments:**

Jumlah THR	Tanggal Pembayaran THR	ID Karyawan	Nama Karyawan
Rp1.475.000.00	23/05/2011	A006	Mardiana Komaras
Rp1.456.000.00	23/05/2011	S007	Subani
Rp1.951.500.00	23/05/2011	K019	Ujanto
Rp1.750.000.00	05/12/2011	H002	Wahyu Te

Figure 8. Form Setting THR

4.8 Form Jamsostek

Form Jamsostek is used to determine the amount of the percentage of jamsostek paid by the employee and the company. Form Jamsostek can be seen in figure 9.

The screenshot shows the 'Jamsostek' form with the following details:

- Tanggal Berlangsung Pajak: 01/01/2011
- Kewajiban Perusahaan:**
 - Jamsostek: 0.85%
 - Jamsostek Korp (PK): 3.70%
 - Jamsostek (PKM): 0.30%
 - Jamsostek Kesehatan Lajang (PKL): 0.00%
 - Jamsostek Kesehatan-Kawan (PK-K): 6.00%
- Tenaga Kerja:**
 - Jamsostek: 2.00%

Figure 9. Form Jamsostek

4.9 Form Bonuses

Form bonuses are used to determine the amount of bonus for each employee. Form bonuses can be seen in figure 10.

The screenshot shows the 'BONUS Karyawan' form with the following details:

- Nama Karyawan:
- ID Karyawan:
- Tanggal Berlangsung Bonus: 2011-05-05
- Jumlah Bonus:
- Table of Bonus Payments:**

Jumlah Bonus	Tanggal Berlangsung Bonus	Keterangan Bonus	ID Karyawan	Nama Karyawan
Rp40.000.00	04/05/2011	Bekas dengan t...	A006	Mardiana Komaras
Rp40.000.00	05/05/2011	Bekas dengan t...	P004	Ponak
Rp40.000.00	04/05/2011	Tidak pernah bol...	S030	Sain

Figure 10. Form Bonuses

4.10 Form Setting Hari libur

Form Setting Hari Libur is used to define holidays that apply to the company. The Benefit of the form is that it can help the calculation of employee absences automatically. Form Setting hari libur can be seen in figure 11.

This is an identical screenshot of the 'BONUS Karyawan' form as shown in Figure 10.

Figure 11. Form Setting hari libur

4.11 Form Cuti

Form Cuti is used to enter employee data that was taking off. Form Cuti can be seen in figure 12.

Tanggal Mulai [In/Cuti]	Tanggal Berakhir [In/Cuti]	Jumlah Hari [In/Cuti]	Lampiran	Keterangan [In/Cuti]	ID Karyawan	Nama Karyawan
02/04/2011	03/04/2011	1	Ada	Sakit	D001	Edo Adrian
11/05/2011	20/05/2011	10	Ada	Demam	D001	Edo Adrian
12/05/2011	13/05/2011	1	Ada	Sakit	A005	Mardiana Komarsari

Figure 12. Form Cuti

4.12 Form Salary Report

Form salary report, is used to see each employee's salary report. Form salary reports can be seen in figure 13.

Item	Value (Rp)
Gaji Pokok	1.115.000,00
Premi Rahn	40.000,00
Premi Variabel (Bonus)	30.000,00
Uang Makan	-
Uang Lembur	-
JAMSOSTEK	9.824,00
Jaminan Kesehatan Keluarga	41.250,00
Jaminan Hari Tua - Pensiunan	2.340,00
Jaminan Kesehatan	-
Jaminan Pemeliharaan Kesehatan - Lipang	-
Jaminan Pemeliharaan Kesehatan - Kawali	88.900,00
GAJIBAYU	1.356.424,00
Pengurangan	-
Potongang PPh	8.800,00
Jaminan Hari Tua - Ditanggung Karyawan	22.300,00
Sisa Potongan Cash Bon	0,00
Total Pengurangan	30.800,00
TOTAL GAIN NETTO	1.275.624,00

Figure 13. Form Salary Report

4.13 Form Jamsostek Report

Form Jamsostek Report is used to view detailed reports for each employee jamsostek. Figure 14 displays the Jamsostek Report Form.

ID Karyawan	Nama Karyawan	Jabatan	Usah	KEWAJIBAN PERUSAHAAN					TOTAL
				JKR	JHT	JKM	JP-Kawin	JHT	
D001	Edo Adrian	Divisi	Rp1.115.000,00	Rp1.930,00	Rp4.299,00	Rp3.345,00	Rp30.000,00	Rp20.000,00	Rp100.000,00
H002	Wahyu Tri	HRD	Rp1.115.000,00	Rp1.930,00	Rp4.299,00	Rp3.345,00	Rp30.000,00	Rp20.000,00	Rp130.000,00
A005	Mardiana Komarsari	Akuntan	Rp1.115.000,00	Rp1.930,00	Rp4.299,00	Rp3.345,00	Rp30.000,00	Rp20.000,00	Rp130.000,00
P002	Fala	Programmer	Rp1.115.000,00	Rp1.930,00	Rp4.299,00	Rp3.345,00	Rp30.000,00	Rp20.000,00	Rp100.000,00
D002	Nurwanto	Customer Teseat	Rp1.115.000,00	Rp1.930,00	Rp4.299,00	Rp3.345,00	Rp30.000,00	Rp20.000,00	Rp130.000,00
H001	Usanto	Kasual/Kasmanan	Rp1.101.000,00	Rp1.799,00	Rp4.077,00	Rp3.303,00	Rp30.000,00	Rp20.000,00	Rp135.000,00
TOTAL =			Rp5.416,00	Rp247.012,00	Rp550.028,00	Rp440.000,00	Rp3.000,00	Rp133.000,00	Rp750.000,00

Figure 14. Form Jamsostek Report

4.14 Form Taxation Report

Taxation Report Form is used to display the tax paid by employees. Form taxation Report can be seen in Figure 15.

ID Karyawan	Nama Karyawan	Status Nikah	Jumlah Anak	Gaji Pokok	PPh Pokok	PPh Kawin	PPh Keluarga	Total PPh	Retensi PPh 21
D001	Edo Adrian	Belum Menikah	0 anak	Rp. 1.115.000,00	Rp. 18.843.000,00	Rp. -	Rp. -	Rp. 18.843.000,00	0,00%
H002	Wahyu Tri	Menikah	2 anak	Rp. 1.115.000,00	Rp. 18.843.000,00	Rp. 3.200.000,00	Rp. 2.840.000,00	Rp. 18.843.000,00	0,00%
P001	Fala	Belum Menikah	0 anak	Rp. 1.115.000,00	Rp. 18.843.000,00	Rp. -	Rp. -	Rp. 18.843.000,00	0,00%
A005	Mardiana Komarsari	Menikah	1 anak	Rp. 1.115.000,00	Rp. 18.843.000,00	Rp. 3.200.000,00	Rp. 3.200.000,00	Rp. 18.443.000,00	0,00%

Figure 15. Form Taxation Report

4.15 Form Employee Data Report

Employee Data Report Form is used to display employee data reports is currently active. Figure 16 displays the Employee Data Report Form.

ID Karyawan	Jabatan	Nama Karyawan	Alamat Karyawan	Tanggal Lahir	No Telp	Status	Tanggal Kerja	Limit Cash Bon	Grade SP	SIKAS	No. Rekening
D001	Staff Outing (Intern)	Edo Adrian Komarsari	Jl. Tambak Langon 32	15/02/1979	34533304	Belum Menikah	14/05/2010	Rp. 1.000.000,00	0	BCA	34533304
D002	Staff Outing (Intern)	Edo Adrian Komarsari	Jl. Widyadarmas 342	27/10/1983	8888874	Belum Menikah	28/11/2010	Rp. 1.000.000,00	0	BCA	4371488
H001	Manajemen	Wahyu Tri	Jl. Tambak Langon 32	20/02/1978	8822222	Menikah	17/10/1980	Rp. 1.000.000,00	0	BCA	0703287
H002	Manajemen	Wahyu Tri	Jl. Tambak Langon 32	01/01/1978	34533304	Menikah	22/01/1981	Rp. 1.000.000,00	0	BCA/BCA	34533304

Figure 16. Form Employee Data Report

4.16 Evaluation System

Evaluation system is using a scale of one to five, in which the value of one is the lowest value as representative of the answer to the question A. The value of five is the highest value as a representative of the response of E. The results of the evaluation assessment system can be seen in Table 1.

Tabel 1. Evaluation System

Questions	A								B		C	
	I	II	III	IV	I	II	I	II				
Edo Adrian	4	5	4	3	4	3	5	4				
Wahyu Tri	4	3	3	4	3	3	4	3				
Mardiana Komarsari	5	4	4	4	4	3	5	4				
Sumanto	4	4	4	4	4	3	4	4				
Ponidi	4	4	3	4	4	3	4	4				
TOTAL	21	20	18	19	19	15	22	19				

Explanations of table1 are as follows:

- Question A consists of 4 questions related to the display and ease of application. Based on the questions according to table 1, for assessment in terms of look and ease of use application, the percentage obtained is 78%.
- Question B consists of two questions related to the assessment of accuracy and speed of application. Based on the questions according to Table 1, the assessment of accuracy and speed of the percentage obtained 68%.
- Question C consists of two questions related to the feasibility of the application. Based on the questions according to table 1, for assessment of eligibility was 82%.

5 CONCLUSIONS

- Absenteeism in a computerized system can improve the time efficiency of data process, because the data is directly stored in the database so that the process of calculating pay and leave of employees can be done more quickly.
- Applications are made to overcome the damage or loss of data caused by human error, because the application is made accompanied by backup facility. The entire data of employees who are in the database can be backed up into a single backup file.
- This application makes payroll reporting process becomes easier and faster.
- Application is user friendly enough.
- From the results of a questionnaire about the testing system, found that in terms of appearance and ease of use application by 78%, in terms of accuracy and speed of application by 68%, as well as in terms of eligibility by 82%. From these percentages can be concluded that the application meets and in accordance with the needs of

enterprise systems and can be understood by the user.

6 REFERENCES

- [1] Hoffer, J.A., George, J.F., & Valacich, J.S. (1999). "Modern systems analysis & design (2nd ed.)". United States of America: Addison Wesley Longman, Inc.
- [2] Indonesia. Direktorat Jenderal Pajak. (2010). Peraturan Direktur Jenderal Pajak Nomor: PER-64/PJ/2010. Retrieved January 01, 2011 from <http://pajak.go.id/dmdocuments/PER-60-2010.pdf>
- [3] Indonesia. Direktorat Jenderal Pajak. (2010). Tarif dan PTKP. Retrieved January 01, 2011 from http://www.pajak.go.id/index.php?Itemid=167&id=5006&option=com_content&view=article&showall=1
- [4] Indonesia. Presiden Republik Indonesia. (2003). Undang-undang Republik Indonesia nomor 13 tahun 2003 tentang ketenagakerjaan. Retrieved January 01, 2011 from <http://www.beacukai.go.id/library/data/UU13-2003.pdf>
- [5] Kosasih, E. (2010). Formula menghitung PPh 21. Retrieved January 01, 2011 from <http://www.e-kosasih.co.cc/2010/02/formula-menghitung-pph21.html>
- [6] Kroenke, D. & Hatch, R. (1994). Management information system 3rded. United States of America: Mcgraw-Hill, Inc.
- [7] Romney, M.B. & Steinbart, P.J. (2000). Accounting information systems. (8th ed.). USA: Pearson Education, Inc.