

DEVELOPMENT OF HUMAN RESOURCE MANAGEMENT INFORMATION SYSTEM IN KAMPUNG SAMPIREUN

Naufal Ghifary¹, Sri Nurhayati²

^{1,2} Teknik Informatika - Universitas Komputer Indonesia
Jl. Dipatiukur 112-114 Bandung
E-mail : nghifary96@gmail.com

ABSTRACT

Kampung Sampireun currently has problems with the recruitment of new employees and promotion, which at the time of admission of new employees sometimes the company must accept new employees who have a kinship with old employees, and ignores the qualifications of the position requested because in Sampireun Village has closeness with the community the surrounding villages, and many of the old employees are the village community itself. This sometimes causes problems for employees who are accepted not in accordance with the required qualifications. In addition, the results of employee performance appraisals have many of the same value results and cause HRD difficulties in determining when there will be a promotion and giving a limited amount of bonuses. Based on the above problems, we need an information system that can handle the existing problems. So it can help the HRD in selecting employees in accordance with qualifications, and assist in the selection of decisions for promotion and bonus giving. The management function used is POAC (Planning, Organizing, Actuating, Controlling). Employee recruitment uses the Weighted Product method and performance appraisal uses the AHP (Analytic Hierarchy Process) method. From the results of Black Box testing and beta testing, although there are a number of problems it can be concluded that this system has been able to assist in the selection of prospective employees in accordance with the criteria, but it still cannot help in the problem of promotion and bonus giving.

Keywords: Human Resources, Information Systems, POAC Management Functions, Weighted Products, AHP (Analytic Hierarchy Process).

1. PRELIMINARY

Kampung Sampireun Resort & Spa is a resort hotel located on Jl. Raya Samarang Kamojang Sukakarya Samarang, Garut. With 96 employees consisting of 87 permanent employees and 9 casual or contract employees. In Kampung Sampireun itself there are 7 divisions namely Accountants, Human Resources, Food & Beverage, Plant Engineering, Front Office, Housekeeping, and Sales. Information

about job openings in Kampung Sampireun is usually placed online on job information websites, information from workers in companies that have relatives and from outside the area using a cover letter. Based on interviews with the HR Manager there, Ms. Novi Purnamasari, human resource activities on the sampireun consist of recruitment of new employees and employee appraisal. Kampung Sampireun has 2 types of employees, permanent and contract. But there are still obstacles in the process of hiring and evaluating permanent employees. Recruitment of new employees based on the needs of each head of department in the event of a vacancy or if a new employee is needed, then the HRD from Kampung Sampireun will open vacancies online as needed. At the time of admission of this new employee sometimes the company must accept new employees who have a kinship with old employees, and ignore the qualifications of the position requested because in this Sampireun village has a closeness with the surrounding village community, and many of its old employees are the village community itself. This can cause problems for employees who are not received according to the required job qualifications starting from the educational status or work experience. This can be seen in the results of employee recruitment data, there are some employees who are accepted but do not meet the qualifications, thus affecting the performance of those employees who are considered less than the maximum based on the results of employee performance assessments conducted in Kampung Sampireun. For employee appraisal itself is done once a year at the end of the year by the head of the department, for the performance appraisal process that is by filling out an employee appraisal form. According to the results of an interview with Ms. Novi Purnamasari on the performance appraisal, there were also problems, namely the results of the appraisal, there were many of the same values, this can be seen also in the results of employee performance appraisal each period. Obviously this problem hinders the process of promotion and bonuses because with many results the same value makes it difficult to make promotional decisions and bonuses with a limited amount. Based on the problems that occur in Kampung Sampireun, a Human Resource Management Information System

(HR) is needed in Kampung Sampireun that can help in the recruitment and evaluation of employee performance which is also used for promotion and bonus giving.

2. RESEARCH CONTENTS

2.1 Management Information System

Management information system is a system that in its use uses the help of computer technology that provides information to the user with the same use [1].

So it can also be said that the management information system is a computer technology-based system that provides information for its users.

2.2 POAC Management

Management is as a predetermined goal by using the activities of others consisting of the actions of Planning (planning), Organizing (organizing), Actuating (implementation), and Controlling (controlling) [2]. The POAC management functions are as follows:

a. Planning (planning) Is an activity relating to alternative planning available, programs that aim as a form of effort to achieve the goals to be achieved.

b. Organizing (organizing) Is an action taken by combining all the capabilities that exist from all parts of a group or company to work together in order to achieve the desired goals

c. Implementation (actuating) Is the implementation or implementation of planning and organizing that has been done, where in one group of people or companies that work together to achieve the desired goals.

d. Control (controlling) Is an effort made so that the results of the implementation that has been carried out in accordance with the wishes.

2.3 Weighted Product Method

Weighted Product Method is a decision-making method that uses multiplication to link attribute ratings, which previously rating each attribute must be raised first with the corresponding attribute weights [3]. For the process itself is divided into several stages:

a. Determine the criteria in the existing table
 b. Previously carried out the process of repairing weights to $\sum w_j = 1$

$$W_j = \frac{w_j}{\sum w_j} \quad (1)$$

by:
 W_j is W index to j

a. Finding Vector S with this formula :

$$S_i = \prod_{j=1}^n X_{ij} w_j \quad (2)$$

Determine the V Vectors Value, which will be used for the final results and ranking symbolized

in Vi. Here is the

$$V_i = \frac{\prod_{j=1}^n X_{ij} w_j}{\prod_{j=1}^n (X_j^*) w_j}$$

formula:

(3)

Where Vi is V index to i

2.3AHP Method (Analytical Hierarchy Process)

AHP is one method for making an alternative order of decisions and choosing the best alternative when a decision maker with several goals or criteria for making certain decisions [4]. For the processes as follows:

a. Define the problem and determine the desired solution

b. Create a hierarchical structure that starts with the main goal being the topmost hierarchy and followed by the others.

c. Create a pairwise comparison matrix that defines the importance of the criteria or sub-criteria being compared

d. Makes defining the comparison described by number I

Table 1. Comparison Scale Table

Value	Meaning
1	Both elements are equally important
3	One element is slightly more important than the other elements
5	One element is more important than the other
7	One element is clearly more important than the other elements, One element that is strongly supported and dominant is seen in practice
9	One element is absolutely more important than the other elements
2,4,6,8	Values between two values are close together

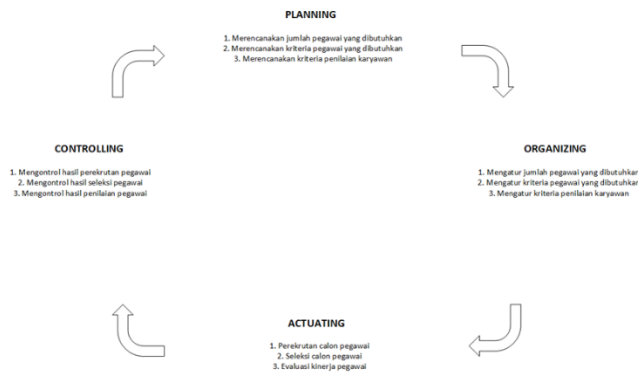
. Repeat steps C and D for all levels of the hierarchy.

b. Perform vector calculations for each paired comparison matrix. The method of calculation is to add up all the values in each column in the matrix, then divide the value of the column by the total column to get the normalized matrix, then add up the values of each row and divide by the number of elements to get an average value .

c. Calculate the consistency ratio by observing from the consistency index. Expected consistency is almost near perfect and expected Consistency Ratio or CR <0.1

2.4 POAC Model in Sampireun

The POAC model is used as an overview of the management processes that exist in the human resource management information system at Kampung Sampireun Resort & Spa. The following are the steps described in the image below:



Picture 1. POAC Model

2.5 Analysis of Planning Requirement Number and Criteria of Employees in the System

1. Planning

This stage is the stage of planning the needs of employees by determining the number and criteria of employees needed by the head of the department concerned and later there will be a process of recruitment and selection of employees conducted by the HRD.

2. Organizing

This stage is the stage of organizing whether the planning needs of the number and criteria are in accordance with needs.

3. Actuating

This stage is the implementation stage of the plan that has been made previously. After getting the results of monitoring, and can conclusions about the number and criteria needed to fill the vacancy, then the next stage is to submit the needs of new employees to the HRD who will later be carried out recruitment.

4. Controlling

This stage is the stage where the HRD section will control the results of the stages that have been carried out. The HRD section will compare the criteria that have been made with those of the applicant. HRD section will compare the criteria that have been made and compared with the criteria owned by applicants, if the applicant does not meet the criteria, it is considered not passing the administrative test.

2.6 Analysis of Acceptance and Selection Using the Weighted Product Method

1. Planning

This stage is the planning stage before the acceptance and selection of employees is done. Staff recruitment and selection is based on the results of monitoring the number of previous employees. At this stage, an interview had previously been held with Ms. Novi Purnamasari as HR Manager in Kampung Sampireun about determining the criteria for employee needs and their criteria for weighting.

Table 2. Information Result

Information	Value Weights
Excellent	5
Good	4
Enough	3
Bad	2
Very Bad	1

Table 3. Criteria Penerimaan dan Seleksi

No	Criteria	Inisial
1	Level Of Education	C1
2	Work Experience	C2
3	Interview Result	C3

Table 4 Value Weights Criteria Level Of Education

Level Of Education	Value Weights
SMA / SMK	1
D3	2
S1	3
S2	4

Table 5 Value Weights Criteria Work Experience

Work Experience	Value Weights
Never	1
1 Year	2
2 - 3 Years	3
>3 Years	4

2. Organizing

At the Organizing stage, organizing the criteria that have been made to be adjusted to the planning stage (planning). This stage is the process of inspection and organization of prospective employees who have met the conditions of office and who have not met the criteria for the position.

3. Actuating

This stage is the implementation of employee recruitment and selection in accordance with the previous plan. At this stage also prospective employees have passed the interview process. The HRD section has determined the requirements and criteria for acceptance and selection of employees and will continue to determine the weights of the criteria to be determined in accordance with needs. For example, suppose there are 5 prospective employees who apply for jobs as Asst Sales Managers. Examples of prospective employee data are as the table below:

Table 6 Data Name

Name	Level Of Education	Work Experience	Interview Result
Asep Sunarya	D3	1 Years	85
Sarah Nadya	D3	2 Years	80
Nelly Hartati	D3	3 Years	80
Abdurrahman	D3	2 Years	80
Adnan Ali	D3	1 Years	80

Value data contained in the above table, will then be given Value Weights as in the table below:

Table 7 Data Name yang sudah disesuaikan dengan bobot

1. Determine the initial weight of each predetermined criterion, and in this case the initial weight may change according to the conditions set by the agency for the acceptance and selection of a new Name. The HRD section determines the initial weights for the criteria of Level Of Education 3, Work Experience 4, interview test 4. Then the initial weights are written as below:

$$W = (3, 4, 4)$$

$$\sum W = 11$$

2. Make improvements to the existing weight with the provisions of formula (1) so that it gets $\sum W_j = 1$

Here's how it works:

$$W1 = \frac{3}{3 + \frac{4}{4} + 4} = \frac{3}{\frac{11}{4}} = 0,27272727272727$$

$$W2 = \frac{4}{3 + \frac{4}{4} + 4} = \frac{4}{\frac{11}{4}} = 0,36363636363636$$

$$W3 = \frac{4}{3 + 4 + 4} = \frac{4}{11} = 0,36363636363636$$

$$\sum W = 0,27272727272727 + 0,36363636363636 + 0,36363636363636 = 1$$

3. The next step is to determine the value of the vector S, where the data is multiplied, but before that the appointment is carried out with the initial weight and how to do it as follows:

$$S1 = (2^{0.27}) (2^{0.36})(85^{0.36})$$

$$= 1.21 \times 1.3 \times 4.95 = 7.78$$

$$S2 = (2^{0.27}) (3^{0.36})(80^{0.36})$$

$$= 1.21 \times 1.49 \times 4.84 = 8.72$$

$$S3 = (2^{0.27}) (3^{0.36})(78^{0.36})$$

$$= 1.21 \times 1.49 \times 4.8 = 8.65$$

$$S4 = (2^{0.27}) (3^{0.36})(85^{0.36})$$

$$= 1.21 \times 1.49 \times 4.95 = 8.92$$

$$S5 = (2^{0.27}) (2^{0.36})(80^{0.36})$$

$$= 1.21 \times 1.3 \times 4.84 = 7.61$$

From the calculation above, we get the following values for the S vector:

Table 8 Vector S

Name	Result Vektor S
Asep Sunarya	7.78
Sarah Nadya	8.72
Nelly Hartati	8.65
Abdurrahman	8.92
Adnan Ali	7.61

1. Determine the value of vector V that will be used to sort alternative positions

And the following is the calculation

$$V1 = \frac{7.78}{7.78 + 8.72 + 8.65 + 8.92 + 7.61} = \frac{7.78}{41.68} = 0.186$$

Name	Level Of Education	Work Experience	Interview Result
Asep Sunarya	2	2	85
Sarah Nadya	2	3	80
Nelly Hartati	2	3	78
Abdurrahman	2	3	85
Adnan Ali	2	2	80

$$V2 = \frac{8.72}{7.78 + 8.72 + \frac{8.65}{8.65} + 8.92 + 7.61} = \frac{8.72}{41.68} = 0.209$$

$$V3 = \frac{8.65}{7.78 + 8.72 + \frac{8.65}{8.92} + 8.92 + 7.61} = \frac{8.65}{41.68} = 0.207$$

$$V4 = \frac{8.92}{7.78 + 8.72 + \frac{8.65}{7.61} + 8.92 + 7.61} = \frac{8.92}{41.68} = 0.214$$

$$V5 = \frac{7.61}{7.78 + 8.72 + 8.65 + 8.92 + 7.61} = \frac{7.61}{41.68} = 0.182$$

4 Controlling

At the controlling stage, the results of the selection of names V1, V2, V3, V4, V5 are checked to be the best choice. The results obtained by each employee can be seen in the table below

Table 9 Selection rank

Alternatif	Name	Result	Ranking
V1	Asep Sunarya	0.186	4
V2	Sarah Nadya	0.209	2

V3	Nelly Hartati	0.207	3
V4	Abdurrahman	0.214	1
V5	Adnan Ali	0.182	5

Based on the table above, the highest Result is 0.214 obtained by V4, Abdurrahman. So if there will be recruitment, V4 Abdurrahman will be the first priority that will be accepted to fill the position. If there are the same results, then re-evaluated based on their educational background. In the background, it will be reviewed again on the results of the graduation GPA where those who will be selected are those with higher GPA results.

2.7 Analysis of Employee Performance Assessment Using AHP (Analytic Hierarchy Process) Methods

1. Planning

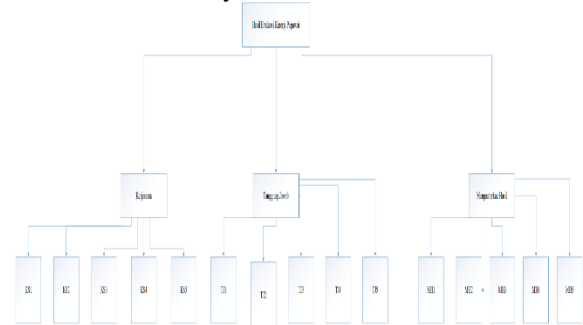
This stage is the planning stage prior to the performance consultant evaluation. Evaluation of the performance consultant is carried out periodically at the end of every year. For example, in this case there is a vacancy in the Asst Sales Manager position. At this stage, the determination of criteria and sub-criteria along with the weights of each criteria and sub-criteria is made. Before entering the hierarchy, firstly analyzing the criteria and sub-criteria in the employee performance consultant process in Kampung Sampireun according to Ms. Novi Purnamasari as HRD Manager of Kampung Sampireun

Table 10 Analisis Criteria dan subCriteria pada proses peResultan kineja pegawai

No	Criteria	SubCriteria	Code
1	Working With Others	Exceeding customer expectations	KS1
		Communicating with others	KS2
		Demonstrating teamwork	KS3
		Act with Integrity & Professional	KS4
		Menyelesaikan permasalahan yang dialami <i>costumer</i>	KS5
2	Responsibility	Responsible of their own job	TJ1
		Learning, Developing, and Adapting	TJ2
		Working independently	TJ3
		Time Management	TJ4
		Watching over the details	TJ5
3	Delivering Result	Demonstrating skills	MH1
		Commiting to	MH2

		quality	
		Following the procedure	MH3
		Following the instructions	MH4
		Multitasking	MH5

Based on the analysis of the above table, it can be described in anarchy like this:



Picture 2 Hierarchy

2. Organizing

This stage organizes the results of the determination of priority criteria and sub-criteria that have been done in the previous stage. The following are the results of determining priorities in the form of values in the table below:

Table 11 Daftar Result prioritas Criteria dan subCriteria

No	Criteria	Code	Result Prioritas
1	Working with others	KS1	5.324
		KS2	1.015
		KS3	3.638
		KS4	6.939
		KS5	2.158
2	Responsibility	TJ1	0.784
		TJ2	9.52
		TJ3	0.563
		TJ4	2.538
		TJ5	0.192
3	Delivering result	MH1	6.624
		MH2	0.671
		MH3	2.787
		MH4	1.464
		MH5	0.192

3. Actuating

This implementation phase is the stage of carrying out employee performance appraisal by managers from each department. Performance appraisal is carried out at the end of the year. The following is an employee performance appraisal table based on existing criteria and sub-criteria.

Table 12 Employees that are suggested for promotions

No	Nama Pegawai	Code SubCriteria	Result	Code Karawayan
1	Ipin Aripin	KS1	3	A
		KS2	3	
		KS3	2	
		KS4	3	
		KS5	2	
		TJ1	3	
		TJ2	2	
		TJ3	3	
		TJ4	3	
		TJ5	2	
		MH1	3	
		MH2	2	
		MH3	3	
		MH4	3	
		MH5	3	
2	Deden Zaenal	KS1	3	B
		KS2	2	
		KS3	3	
		KS4	2	
		KS5	3	
		TJ1	3	
		TJ2	3	
		TJ3	3	
		TJ4	2	
		TJ5	3	
		MH1	3	
		MH2	2	
		MH3	3	
		MH4	2	
		MH5	3	
3	Arifin	KS1	3	C
		KS2	2	
		KS3	2	
		KS4	3	
		KS5	3	
		TJ1	3	
		TJ2	3	
		TJ3	3	
		TJ4	2	
		TJ5	3	
		MH1	3	
		MH2	3	
		MH3	3	
		MH4	2	
		MH5	3	
4.	Angel	KS1	3	D
		KS2	2	

		KS3	2	
		KS4	3	
		KS5	3	
		TJ1	3	
		TJ2	3	
		TJ3	3	
		TJ4	2	
		TJ5	3	
		MH1	3	
		MH2	3	
		MH3	3	
		MH4	2	
		MH5	3	
		KS1	3	
		5	Mela	
KS2	2			
KS3	2			
KS4	3			
KS5	3			
TJ1	3			
TJ2	3			
TJ3	3			
TJ4	2			
TJ5	3			
MH1	3			
MH2	3			
MH3	3			
MH4	2			
MH5	3			

The next step is to calculate the final value of the employee performance appraisal.

Table 13 Calculation

Criteria	A	B	C	D	E
Bekerjasama dengan yang lain					
KS1	3*5. 324	3*5. 324	3*5. 324	3*5. 324	3*5. 324
KS2	3*1. 015	2*1. 015	2*1. 015	2*1. 015	2*1. 015
KS3	2*3. 638	3*3. 638	2*3. 638	2*3. 638	2*3. 638
KS4	3*6. 939	2*6. 939	3*6. 939	3*6. 939	3*6. 939
KS5	2*2. 158	3*2. 158	3*2. 158	3*2. 158	3*2. 158
Responsibility					
TJ1	3*0. 784	3*0. 784	3*0. 784	3*0. 784	3*0. 784
TJ2	2*9. 52	3*9. 52	3*9. 52	3*9. 52	3*9. 52
TJ3	3*0. 563	3*0. 563	3*0. 563	3*0. 563	3*0. 563
TJ4	3*2. 538	2*2. 538	2*2. 538	2*2. 538	2*2. 538
TJ5	2*0. 192	3*0. 192	3*0. 192	3*0. 192	3*0. 192

Delivering result					
MH1	3*6. 624	3*6. 624	3*6. 624	3*0. 784	3*0. 784
MH2	2*0. 671	2*0. 671	3*0. 671	3*9. 52	3*9. 52
MH3	3*2. 787	3*2. 787	3*2. 787	3*0. 563	3*0. 563
MH4	3*1. 464	2*1. 464	2*1. 464	2*2. 538	2*2. 538
MH5	3*0. 192	3*0. 192	3*0. 192	3*0. 192	3*0. 192

Then from the table above the final results obtained are in the table below

Table 14 Calculation result

Criteria	A	B	C	D	E
Working with others					
KS1	15.97 2	15.9 72	15.97 2	15.97 2	15.97 2
KS2	3.045	2.03	2.03	2.03	2.03
KS3	7.276	10.9 14	7.276	7.276	7.276
KS4	20.81 7	13.8 78	20.81 7	20.81 7	20.81 7
KS5	4.316	6.47 4	6.474	6.474	6.474
Responsibility					
TJ1	2.352	2.35 2	2.352	2.352	2.352
TJ2	19.04	28.5 6	28.56	28.56	28.56
TJ3	1.689	1.68 9	1.689	1.689	1.689
TJ4	7.614	5.07 6	5.076	5.076	5.076
TJ5	0.384	0.57 6	0.576	0.576	0.576
Delivering result					
MH1	19.87 2	19.8 72	19.87 2	19.87 2	19.87 2
MH2	1.342	1.34 2	2.013	2.013	2.013
MH3	8.361	8.36 1	8.361	8.361	8.361
MH4	4.392	2.92 8	2.928	2.928	2.928
MH5	0.576	0.57 6	0.576	0.576	0.576
Result Akhir	117.0 48	120. 6	124.5 72	124.5 72	124.5 72

4. Controlling

This stage is the stage of checking the results of employee performance evaluations that have been carried out. The examination is carried out by

examining the results of the evaluation of each employee's performance. The following is a table of employee performance appraisal results which can be seen in table

Table 15 Calculation Result

No	Employee's Name	Final Result	Rank
1	Ipin Aripin	117.048	III
2	Deden Zaenal M	120.6	II
3	Arifin	124.572	I
4	Angel	116.044	IV
5	Mela	115.240	V

Arifin got the highest score of 124,572 and ranked first. However, if there is a need for employee promotion later, Arifin will be the main priority to be promoted. When there is no promotion of the position of these employees will be given a bonus according to the rank obtained.

As for the conditions of promotion of one's own position, employees must have worked for a minimum of at least 2 years.

Table 16 Giving Priority

No	Employee's Name	Final Result	Served
1	Ipin Aripin	117.048	3 Years
2	Deden Zaenal	120.6	2 Years
3	Arifin	124.572	3 Years
4	Angel	116.044	4 Years
5	Mela	115.240	2 Years

2.8 Non Functional Requirement Analysis

Non-functional requirements analysis is the analysis needed to determine the system specification requirements to be made.

2.8.1 Hardware Analysis

The hardware used to run a website-based management information system.

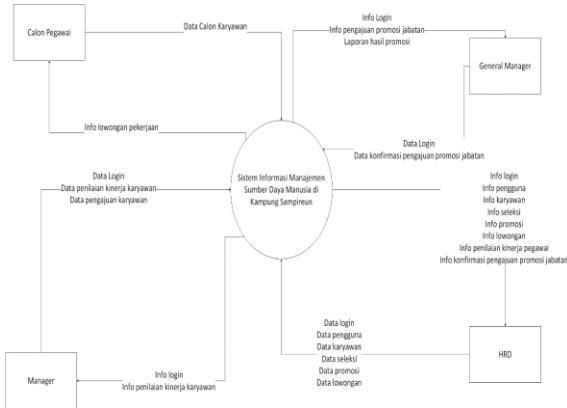
1. The hardware specifications in Kampung Sampireun are as follows:

- Processor with a speed of 2.6 GHz
- 4 GB RAM
- Hard drive capacity of 1 TB
- 2GB Video Card
- Network for internet access.

2. The minimum hardware requirements needed to run this system are:

- Processor with a speed of 1.8 GHz
- 512MB of RAM
- Hard disk capacity of 10 GB

- d. 512MB Video Card
 - e. Network for internet access.
3. Conclusion of the results of the hardware analysis after an analysis of the existing hardware in Kampung Sampireun, the existing computer has met the specifications of the need to use the system to be built.



2.8.2 Software Analysis

Analysis of software requirements is to support the running of the system to be built.

1. Software specifications contained in Kampung Sampireun are as follows:

- a. Windows 7 Operating System
- b. XAMPP Server
- c. Notepad ++
- d. Google Chrome web browser, Mozilla Firefox, Internet Explorer

2. The software needed to run this website-based management information system requires the following specifications:

- a. The minimal OS (Operating System) used by Windows XP
- b. WAMP Server / XAMPP
- c. Notepad
- d. Web browser

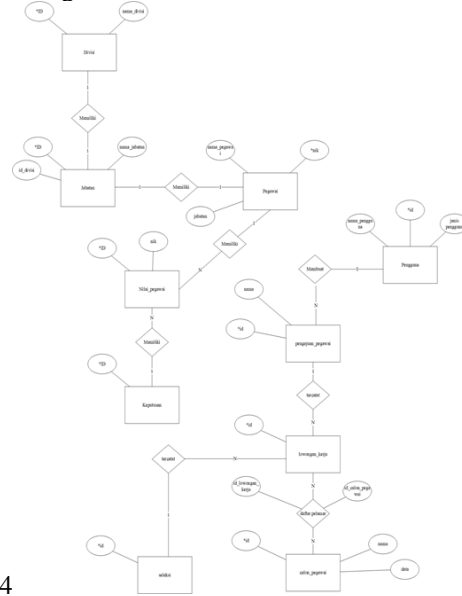
3. Conclusions of software analysis

Based on the above results it has been determined that Kampung Sampireun has met the minimum criteria to run the system to be created.

2.9 Data Analysis

Data analysis is to aim at analyzing the data that is in the system and describe what data is needed so that the system can run well as needed.

Following is overview of data analysis



III.4

Picture 3 ERD

2.10 Context Diagram

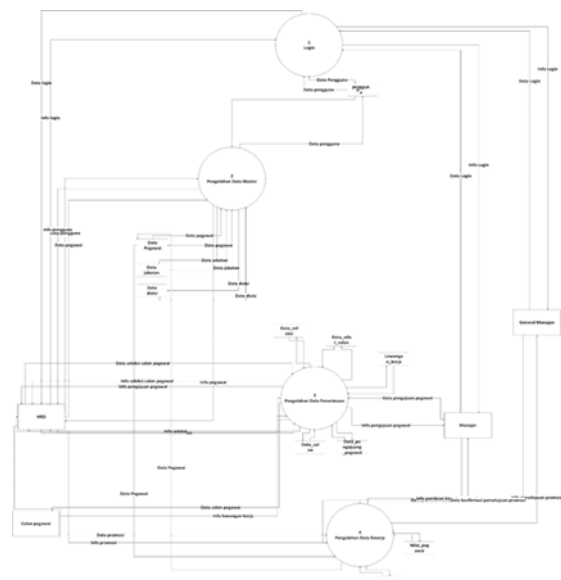
Context diagram is used to describe the system as a whole. Context diagram is the top level Data Flow Diagram or DFD.

The context diagram for the human resource management information system in Kampung Sampireun can be seen in the figure below.

Picture 4 Diagram Konteks

2.11 Data Flow Diagram Level 1

Data Flow Diagrams are graphical depictions of a flow of information and changes in information used as data flowing from input to output.



Picture 5 DFD Level 1

2.12 Implementation and Testing

System Implementation and Testing is where the system has been implemented and tested whether it has met its objectives or not

2.12.1 Black Box Testing

System testing using the black box method is carried out on system functions to determine whether the function has run as expected or not. The conclusion from the results of testing with Black Box testing provides the conclusion that the HR information system has been able to assist in the implementation of employee recruitment selection in accordance with existing needs, but for the problem of selecting employee promotions is still not appropriate.

2.12.2 Beta Testing

Beta testing is an objective test where testing is done directly to Kampung Sampireun to ask system users about the satisfaction of the results of the development of the HR information system. Based on the answers from the interviews with the General Manager, HRD Manager, and Senior Sales Manager of Kampung Sampireun, that the system built has the following conclusions:

1. The system can assist GMs in monitoring promotions, and new employees.
2. The system can assist HRD Managers in managing job openings, choosing decisions for hiring new employees, and promoting positions.
3. The system can help the Head Manager make it easier to submit new employees, and employee assessments.

5. FINALE

3.1 Conclusion

Based on the research and results of tests conducted on the HR Information System in Kampung Sampireun, the following conclusions can be drawn:

1. The system can help in the initial problem, namely in assisting the selection of new employees.
2. The system has been able to assist in the second problem, namely in helping problems where HRD Manager has difficulty in determining promotions due to the results of employee appraisal which are used as a reference for promotion there are still many of the same final value.

3.2 Suggestions

Based on the results of the system test, obtained suggestions that can be used as a reference or consideration for further development, namely:

1. Future research is expected to improve the interface on this system itself becomes even more interesting.

2. It is expected that in the future this system in terms of forms and processes that are still not running in line with expectations, hopefully in the future it can be developed and improved for the better.

3. And it is also hoped that in the future some functions that are still not in accordance with the provisions can be improved so that they are more in line with the existing provisions.

BIBLIOGRAPHY

- [1] McLeod, R., Jr. (1998). *Management Information System*. Upper Saddle River, New Jersey: Prentice-Hall, Inc.
- [2] G. R. Terry, *Principles of Management*, 1953. .
- [3] Hariyati, Tati, & Widiyanti U. D. (2017). Model Sistem Informasi Manajemen Kepegawaian Di PT.XYZ. *SEMNASTEKNOMEDIA ONLINE*, 5, 1-2-133.
- [4] Kusriani. 2006. *Konsep dan Aplikasi Sistem Pendukung Keputusan*. Yogyakarta: Andi.
- [5] Herdiyanti, Astri, & Widiyanti, U. D. (2015). Pembangunan Sistem Pendukung Keputusan Rekrutmen Pegawai Baru Di PT. ABC. *Jurnal Ilmiah Komputer dan Informatika (KOMPUTA)*, 2,49-56.
- [6] Tafri D. Muhyuzir. 2001, *Analisa Perancangan Sistem Pengolahan Data*. Jakarta: PT. Elex Media Komputindo
- [7] O'Brien, J. A. 2005, *Pengantar Sistem Informasi*. Jakarta: Salemba 4
- [8] H. Nawawi. 2001, *Manajemen Sumber Daya Manusia*, Jakarta: Bumi Aksara
- [9] Jogiyanto, Hartono. 2010, *Analisis dan Desain Sistem Informasi*, Edisi III. Yogyakarta: Andi Offset.
- [10] Indrajit.2001, *Analisis dan Perancangan Sistem Berorientasi Object*. Bandung, Informatika.