DEVELOPMENT OF MANAGEMENT INFORMATION SYSTEM OF HUMAN RESOURCE MANAGEMENT SMPIT ALQALAM IN THE FOUNDATION OF ALKHAIR MANNA

Fahmi Amrullah[1] , Rani Susanto[2]

[1,2] Teknik Informatika – Universitas Komputer Indonesia
Dipatiukur Street 112-114 Bandung
Email : fahmiamrullah747@gmail.com[1], rani.susanto@email.unikom.ac.id[2]

ABSTRAK

Yayasan al khair manna is a foundation that engages in education. Has 3 levels of school that is, TKIT QURROTA A'YUN, SDIT AL QALAM, SMPIT AL QALAM. From the experience of the head of human resources, there are still some problems that occur in the processing of human resources at SMPIT ALQALAM. In the process of recruitment of new candidates who register to SMPIT Al Qalam not in accordance with predetermined criteria. In the assessment process in accordance with the HR field, the assessment aspect of DP-3 is not sufficient to be used as a benchmark of performance appraisal results and must be complemented by other aspects, namely competency and professional aspects, it makes the head of the HR field difficult to determine the results of performance decisions. In the process of leave, the problem that occurs in this process is on the leave of study control, where the taking of study leave constrained in the implementation stage that is not in accordance with the criteria for taking leave, it is seen from employee leave data taking study leave in one year more than 3 people and has not fulfilled the specified period of service to take study leave.

Based on the results of interviews and testing, the system created enough to assist the head of human resources in processing human resources in SMPIT ALQALAM which includes the recruitment process, assessment process, the process of leave and pension process.

Keywords : Human Resources, Management Information System, PDCA Management Function, Analiytical Hierarcy Process (AHP).

1. PENDAHULUAN

Al Khair Manna Foundation located in Manna Regional of South Bengkulu at Jalan Pemangku Basri. Yayasan al khair manna is a foundation that engages in education. Has 3 levels of school that is, TKIT QURROTA A'YUN, SDIT AL QALAM, SMPIT AL QALAM. The field of human resources is a field that organizes and manages the human resources at the Alkhair Manna Foundation.

Al Khair Manna Foundation there are 2 types of employees namely, Educators and Non-Educators. Mr. Karzidin, M.Pd stated that the foundation is currently experiencing difficulties in the recruitment process, where the recruitment process of prospective new employees applying to SMPIT Al Qalam does not match the established criteria. At SMPIT Al Qalam there are 33 employee of educator in get employee data 20.51% of educator staff not according to criterion of department and 12.82 employee not according to education level criterion it is caused by recruitment process conducted based on cadre of school environment and routine recitation which often conducted. As a result, employees do not understand the syllabus of the subject being taught and cause the performance of educators in the learning process is not optimal so that the recruitment process of new employees must be in accordance with predetermined criteria.

According to the head of the HR field Another problem that occurs is in the process of annual employee performance appraisal. Employee appraisal based on DP-3, according to the head of HR field, aspect of appraisal on DP-3 is not enough to be used as reference of performance appraisal result and must be added with other aspect that is competency aspect and professional aspect, it makes the head of HR field difficult to determine decision result performance of employees because the aspects of employee appraisal is considered less.

Chairman of the HR field states Constraints are also found on the taking of employee leave. Alkhair Manna Foundation has 9 types of leave The problem that occurs in this process is on the leave of study control, where the study leave is constrained in the implementation stage that is not in accordance with the criteria for taking leave, it is seen from employee leave data taking a study leave in a year more of the 3 consequences of teaching and learning activities become disturbed. The objectives to be achieved in the builder of human resource management information system that is :

1. Assist the head of HR field in recruitment of employees in accordance with the criteria.
2. Assisting the head of HR field in employee appraisal as a condition in taking decision result and performance evaluation of employee.
3. Assisting the Chairman of the HR field in supervising the taking of employee leave.
4. Assist the head of HR field in supervising the pension process.

2. RESEARCH CONTENTS

2.1 Management information System

Management information system is a system that is usually applied in an organization to support decision-making and information generated required by all levels of management or in other words information management techniques within an organization [1].

2.2 Method AHP (*Analytic Hierarchy Processing*)

AHP (Analytical Hierarchy Process) is one form of decision making model about weighting that input can be either quantitative or qualitative (Brodjonegoro, 1992). Basically AHP is the motode of solving a complex and unstructured problem into its components, arranging those components in a hierarchy, entering numerical values instead of human perception in comparing relative comparisons, and ultimately producing a synthesis that sets the order and value the priority of the components. This method was developed in the 70s by TL. Saaty (Saaty, 1993) [6].

AHP has procedures in processing the data to get the decision in accordance with the hierarchy that has been determined. Procedures in AHP are as follows [10]:

1. Creating Hierarchy
   Create a hierarchical structure that begins with entering criteria.
2. Compare Elements
   - Setting pairwise comparison value Comparisons are based on the management of decision making by assessing the level of concern of another element. The steps are :

Table 1 Set the comparison value

	K1	K2	…	Kn
K1	The Value Scale is compared	K1/K2	…	…
K2	…	…	…	…
…	…	…	…	…
Kn	…	…	…	…
Amount	…	…	…	…

- Calculates element priority weights

After the matrix is completed then the synthesis of the matrix is considered. By performing a weighting and sum to produce a single number indicating the priority of each element. The steps are as follows:

Table 2 Calculating Priority Weights

	K1	K2	…	Kn	Amount	priority
K1	New column row value = (old column row value) / (number of rows)	…	…	…	$\sum$ K	$\sum$ K /n
K2	…	…	…	…		
…	…	…	…	…		
Kn	…	…	…	…		

3. Measuring Consistency

AHP measures the overall consistency of our various considerations through a consistency ratio. Consistency value should be 10% or less, if this is more than 10%, the consideration may be somewhat random and needs to be updated. Consistency calculation is based on consistency rat value (CR) obtained from comparison between consistency index (CI) and random index (RI). The RI values are based on the table below :

Order Matrices	1	2	3	4	5	6	7	8	9	10
RI	0	0	0.5	0..9	1.1	1.2	1.3	1.4	1.4	1.4
			8	0	2	4	2	1	5	9

Figure 1 Value *Consistency rattio*

Furthermore, calculating the consistency was calculated as follows :

Table 3 consistency ratio calculation

	Number of Lines	Number of Rows	Priority	Results
K1	….	Σ Rows	Priority Value	Σ Rorws + Priority
K2	….	….	….	….
….	….	….	….	….

Calculates the Consistency Index (CI) by the formula:

$\boldsymbol{CI}=(\boldsymbol{\lambda}\ \textbf{maks}-\textbf{n}\ )/\boldsymbol{n}$ …… (1)

Where n = number of elements

Calculate Consistency Ratio (CR) with formula :

$\boldsymbol{CR}=\boldsymbol{CI}/\boldsymbol{IR}$ ……(2)

Where CR = Consistency Ratio
CI = Consistency Index
IR = Index Random Concsitency

Determine the consistency of a decision. If the value is more than 10% then the judgment assessment (rating scale) must be improved, if a consistency ratio (CI / IR) of less than 10% is stated correctly.

2.3 PDCA Analysis Recruitment Process

Employee recruitment and selection is done by the tbsp area based on the result of human resource requirement planning which has been made and approved by the head of HR field. Employee recruitment is opened by the foundation in the event of a vacancy and requires additional labor.

1. ***Planning***
   Stages Planning is the stage of recruitment planning and employee selection, where recruitment and selection of employees is done because of vacancies in employees. At this stage the head of HR field will create job vacancies by looking at the needs of employees and also the chairman of the tbsp prepare the criteria and its value in accordance with the needs of employees who are sought.

2. ***Do***
   At this stage the process of recruitment and selection of employees. From the data of incoming applicants selected some applicants who match the criteria and conditions required to conduct interview tests.

3. ***Check***
   This stage will check the results of the previous stage. At this stage examined from the three applicants, the following is a ranking of the results of each stage of selection.

4. ***Act***
   When the recruitment phase has been implemented, and after being compared between the criteria or requirement to fill the vacancy of the educators with the criteria of applicants who are in the check stage the results according to the needs. However, if not appropriate or not fulfilled then the recruitment process will be re-done in accordance with the initial planning.

2.4 PDCA Analysis of Contract Appointment Process

PDCA analysis of the process of appointment of permanent employees is as follows.

1. ***Plan***
   Stages planning is the planning stage for the length of employment contract employees on the foundation of al khair manna.

2. ***Do***
   At this stage, the appointment of contract employees to permanent employees. Employees who have entered the contract period for two years will be directly appointed as long as not resign and have no problems and have good last assessment. The process of appraising the contract employee is the same as the employee of both teachers and non-educators.

3. ***Check***
   Inspection stage Appointment of contracted employees to permanent employees then the status of contract employees will be changed to permanent employees and employees whose contract period has not reached two years has not been appointed permanent employee.

4. ***Act***
   At this stage an action is taken for the contract employee who is appointed to be a permanent employee. The results of permanent appointment can be seen in the table below.

2.5 PDCA Analysis Performance Appraisal Process Using AHP Method

Employee performance appraisal is one way to become the reference of head of HR field in deciding what action should be given to the employee. The method used is AHP where the result of this method is the rank of employee. The performance appraisal stage of the calculation uses the PDCA cycle.

PDCA analysis of Employee Performance Evaluation process is as follows.

1. ***Plan***
   Performed on stage plan is Plan assessment criteria and their weight and the time to assess the performance of employees. Assessment for employees is conducted on a one-year period at the end of the school year. Employee performance appraisal results in the order of assessment results from the best to the results of the assessment less.
   Prior to conducting an assessment of the field will perform the determination of criteria and subcriteria and the weight of each. The HR field will perform hieraki preparation of predefined criteria. Before creating a hierarchy, first is to analyze the criteria and subcriteria that exist in the process of employee performance appraisal.

Table 4 Criteria and subcriteria

No	Criteria	Subcriteria	Code
1	DP-3	Loyalty	D1
		Work performance	D2
		Responsible	D3
		Obedience	D4
		Honesty	D5
		Cooperation	D6
		Initiative	D7
		Leadership	D8
2	Competence	Pedagogic	K1
		Utilization of time	K2
		Ability to work	K3
		Knowledge of work	K4
3	Professional	Develop professionality	P1
		Mastery of science	P2
		Acting Objectively	P3

Based on the results of the analysis contained in the table above then a hierarchy can be made as below :

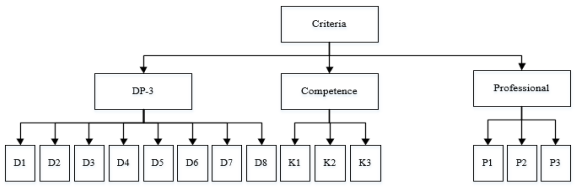


Figure 2 Criteria and subcriteria analysis

To determine and create a matrix in pairs it is necessary to use a pairwise score comparison scal. The pairwise assessment scale can be seen in the table below.

Table 5 Pairwise comparison scale

Level of Interest	Definition	Information
1	Equally Important	Both elements have the same effect.
3	Somewhat more important that one over the other	Experience and judgment are one-sided to one's partner.

Table 5 Pairwise comparison scale (Continued)

Level of Interest	Definition	Information
5	quite important	Experiences and decisions show a joy over one activity over another
7	Very important	Experiences and decisions show a strong passion for one activity over another
9	Absolutely more important	An absolute element is preferred over the counterpart, at the highest confidence level
2,4,6,8	The middle value is between two adjacent values	When a compromise is required

2. *Do*

This stage is the stage of implementation or carry out all that has been planned ditahap plan including running the process, produce and collect data which will then be used for the stage of check and act. The assessment process is done by using Analytical Hierarcy Process method. The following table is an alternative employee performance appraisal based on the criteria and sub criteria that have been described and analyzed during the Plan stage.

Table 6 Priority Value

No	Criteria	Subcriteria	Code	Priority Value
1	DP-3	Loyalty	D1	0.17
		Work performance	D2	0.13
		Responsible	D3	0.17
		Obedience	D4	0.15
		Honesty	D5	0.14
		Cooperation	D6	0.13
		Initiative	D7	0.06
		Leadership	D8	0.04
2	Competence	Pedagogic	K1	0.42
		Utilization of time	K2	0.30
		Ability to work	K3	0.22
		Knowledge of work	K4	0.06

3	Professional	Develop professionality	LK1	0.63
		Mastery of science	LK2	0.24
		Acting Objectively	LK3	0.13

From the table above do the assessment of employees.

Table 7 Employee performance appraisal (1).

No	Criteria	Subcriteria Code	Priority Value	value	name of employee
1	DP-3	D1	0.17	81	Alian Faruzi
		D2	0.13	75	
		D3	0.17	75	
		D4	0.15	75	
		D5	0.14	76	
		D6	0.13	80	
		D7	0.06	80	
		D8	0.04	80	
2	Competence	K1	0.42	80	
		K2	0.30	80	
		K3	0.22	80	
		K4	0.06	80	
3	Professional	LK1	0.63	80	
		LK2	0.24	80	
		LK3	0.13	80	

Table 8 Employee performance appraisal (2).

No	Criteria	Subcriteria Code	Priority Value	value	name of employee
1	DP-3	D1	0.17	82	Reno Renaldi
		D2	0.13	85	
		D3	0.17	80	
		D4	0.15	80	
		D5	0.14	77	
		D6	0.13	80	
		D7	0.06	76	
		D8	0.04	80	
2	Competence	K1	0.42	80	
		K2	0.30	70	
		K3	0.22	75	
		K4	0.06	85	
3	Professional	LK1	0.63	60	
		LK2	0.24	70	
		LK3	0.13	75	

Table 9 Employee performance appraisal (3).

No	Criteria	Subcriteria Code	Priority Value	Value	name of employee
1	DP-3	D1	0.17	82	Surya Avita
		D2	0.13	76	
		D3	0.17	75	
		D4	0.15	75	
		D5	0.14	76	
		D6	0.13	76	
		D7	0.06	76	
		D8	0.04	76	
2	Kompetensi	K1	0.42	80	
		K2	0.30	60	
		K3	0.22	80	
		K4	0.06	80	
3	Profesional	LK1	0.63	70	
		LK2	0.24	80	
		LK3	0.13	80	

Table 10 Employee performance appraisal (4).

No	Criteria	Subcriteria Code	Priority Value	Value	name of employee
1	DP-3	D1	0.17	81	Yubi Juliadi
		D2	0.13	76	
		D3	0.17	75	
		D4	0.15	80	
		D5	0.14	80	
		D6	0.13	75	
		D7	0.06	76	
		D8	0.04	80	
2	Kompetensi	K1	0.42	80	
		K2	0.30	80	
		K3	0.22	80	
		K4	0.06	85	
3	Profesional	LK1	0.63	80	
		LK2	0.24	80	
		LK3	0.13	70	

Here are the results of employee appraisal

Table 11 employee appraisal results

Employee / Criteria	A	B	C	D
DP-3				
Loyalty	13.47	13.64	13.64	13.47
Work performance	9.91	11.23	10.05	10.05
Responsible	12.63	13.47	12.63	12.63
Obedience	11.31	12.06	11.31	12.06
Honesty	10.97	11.12	10.97	11.55
Cooperation	10.55	10.55	10.03	9.89
Initiative	5.18	4.92	4.92	4.92

Employee / Criteria	A	B	C	D
Leadership	3.29	3.29	3.13	3.29
Competence				
Develop professionality	33.72	33.72	33.72	33.72
Mastery of science	23.72	20.75	17.79	23.72
Acting Objectively	17.66	16.56	17.66	17.66
Develop professionality	4.93	5.23	4.93	5.23
Profesional				
Develop professionality	50.33	37.74	44.03	50.33
Mastery of science	19.21	16.81	19.21	19.21
Acting Objectively	10.47	9.81	10.47	9.16
Amount	237.35	220.93	224.48	236.90

3. *Check*

At the check stage examination of the assessment results of each employee. Here is the result :

Table 12 rating result

No	Name	Final score	Weight	Ranking
1	Alian Faruzi	237.35	(300 * final score)/100 = 79.12	1
2	Yubi Juliadi	236.90	(300 * final score)/100 = 78.97	2
3	Surya Avita	224.48	(300 * final score)/100 = 74.83	3
4	Reno Renaldi	220.93	(300 * final score)/100 = 73.64	4

4. *Act*

Employees with poor appraisal results will be considered training recommendations while for contract employees for employee status decisions. The results of employee evaluation decisions can be seen in the table below.

Table 13 Result of evaluation decision

No	Employee Name	Ranking	Weight	Assessment Weight	Information
1	Alian Faruzi	I	79.12	Good	25% salary bonus + Recommended class promotion
2	Yubi Juliadi	II	78.97	Good	20% salary bonus + Recommended promotion class
3	Surya Avita	III	74.83	Good	10% salary bonus + Class promotion recommendation
4	Reno Renaldi	IV	73.64	Good	5% salary bonus + class promotion recommendation
..	..	..			..
..	..		< 71	deficient	Considered for training
..	..		< 66	Not good	Considered for supervision training

2.6 Analisis PDCA Proses Cuti Pegawai

The PDCA analysis of the Leave Leave process is as follows.

1. *Plan*

Plan is the stage to set targets or targets to be achieved in improving the process or problem to be solved. Determine the types of leave, leave time and leave requirements or leave rules.

Table 14 Type Of Leave

Name Leave	Code	Time	Information
leave married	CWM	6 Days	Leave is taken if will carry out the wedding. the submission of leave should be submitted at least 2 months before the leave
Custom Leave	CS	3 Days	Family members passed away (husband / wife, parent / in-laws, siblings or children) granted a 3 (three) day permit.
Maternity Leave	CB	60 Days	duration of maternity leave 30 days before and 30 days after childbirth Submission of application for maternity leave in writing by enclosing a certificate of doctor / midwife providing help. The length of maternity leave may change in case of complications.
Leave Siblings Marriage	CK	2 Days	The length of the leave is adjusted in case of complications.
Leave Hajj	IH	45 Days	a special leave of every employee who has worked for at least 2 years is continuously entitled to a special leave of 1.5 (one and a half) months to fulfill the religious obligation of

Name Leave	Code	Time	Information
			performing the pilgrimage and applies only once, to be submitted 6 months before the leave
Study leave	CSI	-	Persons who have worked for at least 10 (ten) years continuously, for important personal reasons, may apply for study leave. employees are granted study leave outside the Foundation's dependents for a maximum of 3 (three) years. The period may be extended for a maximum of 1 (one) year if there is a valid reason.
circumcision leave	CKS	2 Days	leave is taken if there are children khitanan employee.
Wedding Leave of employee's child	CPAP	3 Days	Leave is taken if the employee's child is getting married.
The employee's wife gave birth	IPM	2 Days	Leave is taken if the employee's wife is giving birth, or having a miscarriage

2. *Do*

At this stage the implementation stage is the employee can take leave based on the type of leave that has been set in the previous stage.

Table 15 The employee who applied for leave

Employee Name	Type of Leave	Length of Leave	Date of leave	date of filing
Alian Faruzi	CSI	365 Days	20/04/2017 – 22/04/2018	5/4/2017
Hinita	CSI	365 Days	20/04/2017 – 22/04/2018	11/4/2017
Swarjiah	IH	45 Days	25/04/2017 – 27/04/2018	9/4/2017

From the table above checked the leave requirements by looking at the history of leave of each employee.

Table 16 Riwayat Cuti Alian Fauzi

No	Tanggal Cuti	Jenis Cuti	Lama Cuti
1	9/2/2017	CS	3

Table 17 Riwayat Cuti Hinita

No	Date of leave	Type of Leave	Length of Leave
1	18/1/2017	CK	3
2	5/2/2017	CB	60

Table 18 history of leave Cuti Swarjiah

No	Date of leave	Type of Leave	Length of Leave
1	8/3/2017	CPAP	3 Days

Table 19 Data of employees who are taking leave

Name Employee	Type Of Leave	Length of Leave	Leave Date	date of filed
Hendra Purwanto	CSI	365 Days	16/04/2017 - 19/04/2018	10/4/2017
Zalna Fitri, S.P	IH	45 Days	19/08/2017 – 03/10/2017	09/02/2017

From the results of the examination history of leave the Chairman of the HR field will be able to determine the decision for approval of leave.

Table 20 Employee leave control

Nama Pegawai	Type of Leave	Length of Leave	Approval
Alian Faruzi	CSI	365 Days	Approved
Hinita	CSI	365 Days	Rejected
Swarjiah	IH	45 Days	Approved

3. *Check*

Results for leave decisions submitted by employees. Can be seen in the Table below.

Table 21 the results of the filed of leave

Employee Name	Type of Leave	Length of Leave	Approval	Information
Alian Faruzi	CSI	365 hari	Approved	Terms Complete
Hinita	CSI	365 hari	Rejected	Rejected
Swarjiah	IH	45 hari	Approved	Terms Complete

4. *Act*

If the application for leave is successful then the employee concerned part of the cuts has been reduced and for the next will be prioritized for employees who have never applied for leave. Below is a table of approved leave submission officers.

Table 22 Approved leave application

Employee Name	Type of Leave	Length of Leave
Alian Faruzi	CSI	365 Days
Swarjiah	IH	45 Days

2.7 PDCA Analysis Employee Retirement Process

PDCA analysis of Employee Retirement process is as follows.

1. *Plan*

Employee pension there are 2 types of normal retirement and early retirement. Normal retirement is an employee who has 55 years of berusisa. Employees who have aged 55 years will be retired and given severance pay in accordance with his employment. While early retirement is pension submission made by employees who have not entered the maximum age limit. For severance given to employees applying for early retirement from their working period if they have been working for at least 10 years will get severance in accordance with the provisions, if the employment has not been employed yet 10 years will not get severance pay. The following table computation of severance pay.

Table 23 Severance

Masa Kerja (MK)	Pesangon
10 years >= MK <=11 years	22 times
11 years >= MK <=12 years	23 times
12 years >= MK <=13 years	24 times
13 years >= MK <=14 years	25 times
14 years >= MK <=15 years	26 times
15 years >= MK <=16 years	27 times
16 years >= MK <=17 years	28 times
17 years >= MK <=18 years	29 times
18 years >= MK <=19 years	30 times
19 years >= MK <=20 years	31 times
MK > 20 thn	32 times

2. *Do*

At this stage the head of the tbsp field will monitor the employee data for the normal retirement and see if any employees are entering the maximum age limit.

Table 24 Employee Retirement Monitoring

No	Employee	Age	Years of service	Information
1	Dayat	55 Years	12 Years	Maximum age limit
2	Edi	55 Years	10 Years	Maximum age limit
3	Dedi Afriansyah	35 Years	5 Years	-
4	Nopa Adi Putra	43 tahun	10 tahun	apply for early retirement

From the above table, the head of the field will provide pension decisions for employees who have entered the maximum age limit and if there are employees who have entered the working period of more than 10 years then the employee will get severance pay.

Table 29 Retired employee

No	Employee	Age	Years of service	Information
1	Dayat	55 Years	12 Years	Maximum age limit
2	Edi	55 Years	10 Years	Maximum age limit
3	Nopa Adi Putra	43 Years	10 Years	Applying for Early Retirement

From the results of employee retirement data inspection then Chairman of Human Resources will be able to determine the decision of employee pension approval.

3. *Check*

The check stage is the examination and review stage as well as studying the results of the implementation at the stage do. Phase of examination of the implementation of pension by monitoring employees by checking the working period and wages received.

Table 30 check the retired employee

No	Employee	type Retirement	Age	Date Retirement	Years of service	Severance
1	Dayat	Normal retirement	55 Years	02-02-2018	12 Years	23 x monthly salary
2	Edi	Normal retirement	55 Years	03-01-2018	10 Years	22 x monthly salary

3	Nopa adiputra	Early retirement	43 Years	03-05-2018	10 Years	22 x monthly salary

4. *Act*

The act stage is the evaluation stage of the pension proposal, whether the severance paid in accordance with the employee's employment or not, and the head of the HR field will be responsible at this stage for the monitoring of the number of retired employees, both from the pension and the end.

Table 31 Employee retires in 2018

No	Employee	type Retirement	Date Retirement	Severance
1	Dayat	Normal retirement	02-02-2018	23 x monthly salary
2	Edi	Normal retirement	03-01-2018	22 x monthly salary
3	Nopa Adi Putra	Early retirement	03-05-2018	22 x monthly salary

2.8 Entitiy Relationship Diagram

The ERD model on the system to be built can be seen in the following ERD schema Figure

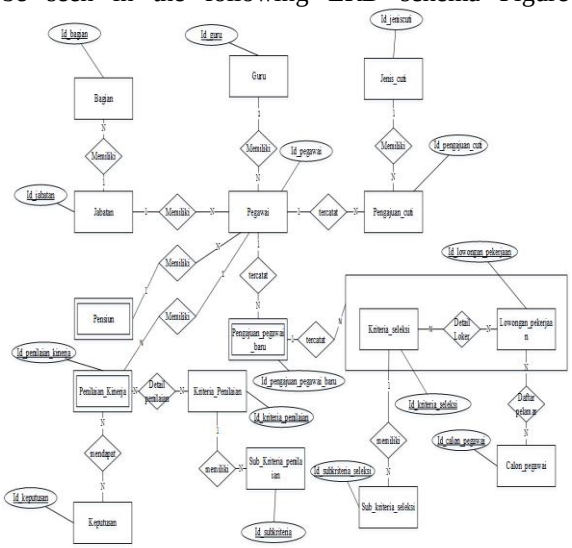


Figure 3 Entity Relationship Diagram

2.12 Context Diagram

Context Diagram is a diagram that describes the relationship between the external entity, input and output of a system.

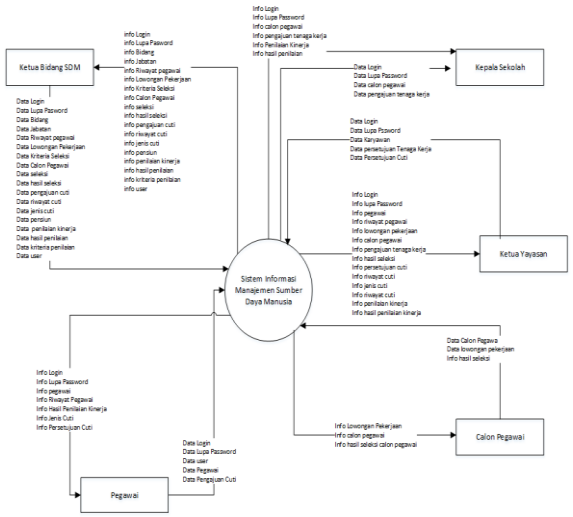


Figure 4 Context Diagram

2.13 Data Flow Diagram Level 1

DFD level 1 SMPIT Al Qalam Human Resource Management Information System at Yayasan Al Khair Manna can be seen in Figure DFD level 1.

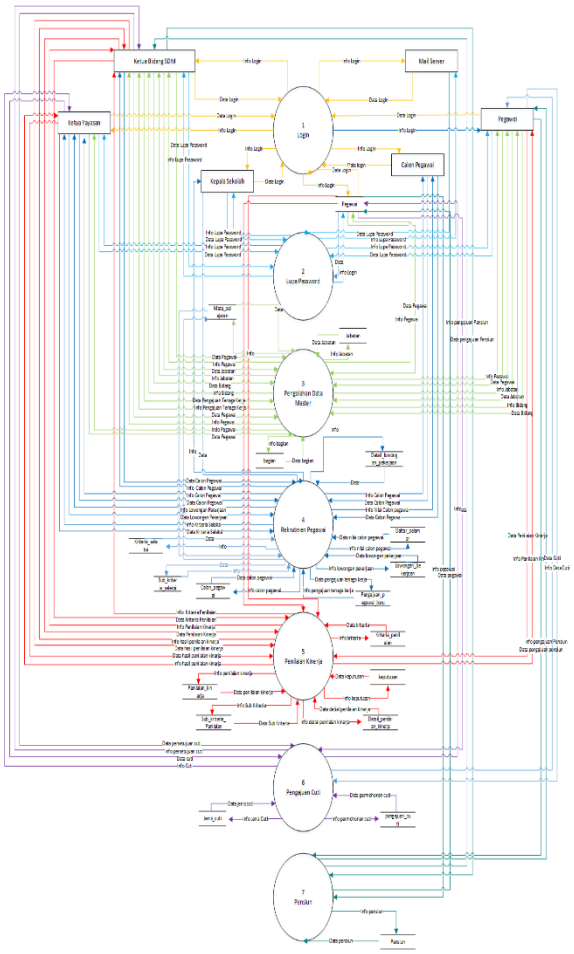


Figure 5 DFD Level 1

2.9 System Implementation and Testing

Testing the system of testing conducted aimed to find errors and deficiencies in the human resource information system smpit alqalam in the foundation alkhair manna.

2.15.1 Implementasi Sistem

Implementation is one stage to translate the design based on the results of the analysis. The purpose of the implementation is to check whether the program is built in accordance with the design desired by the user of the system so that users can provide insert on the system maker.

2.15.2 Beta Testing

Performed on one and possibly more customers by the end user in a system-wide environment, developers are usually not present in this test. Customers record and find all the problems encountered during the test and report to the developer within a certain time interval.

2.15.3 Blackbox Testing

Black box testing is a test that focuses on the functional requirements of the software. Thus, black box testing allows software engineers to get a full set of input conditions to use all the functional requirements of a program.

3. CLOSING

The concluding section describes the conclusions that contain the results obtained during the study.

3.1 Conclusion

Based on the description of the analysis and testing that has been done, it can be taken a conclusion on the Human Resource Management Information System SMPIT Al Qalam in Alkhair Manna Foundation as follows :

1. The Human Resources System of SMPIT AL Qalam in Yayasan Al Khair Manna is enough to assist the head of HR field in recruitment according to the criteria.
2. The Human Resources System of SMPIT AL Qalam in Yayasan Al Khair Manna has been enough to assist the head of HR field in employee appraisal as a requirement in taking decision result and performance evaluation of employee.
3. The Human Resources System of SMPIT AL Qalam in Yayasan Al Khair Manna is enough to assist the Chief of Human Resources in conducting supervision on the taking of employee leave.
4. The Human Resources System of SMPIT AL Qalam in Yayasan Al Khair Manna is enough to assist the head of HR field in supervising the pension process.

3.2 Suggestion

Based on the results of the above tests and conclusions, the suggestions of the authors to make the development of Human Resource Management Information System SMPIT ALQALAM Alkhair Foundation is: Human Resources Information System has not handled the management of training, promotion and demosiation process associated with the development of existing employees at SMPIT the foundation of Alkhair Manna.

BIBLIOGRAPHY

[1] Kristanto. 2008. Perancangan Sistem Informasi dan Aplikasinya. Yogyakarta: Gava Media.

[2] I Putu Agus Eka Pratama. 2014. Sistem Informasi dan Implementasinya. Bandung: Informatika.

[3] J. H. Mustakini. 2005. Analisis & Desain Sistem Informasi Pendekatan Terstruktur Teori dan Praktek Aplikasi Bisnis. Yogyakarta: Andi.

[4] Prof. Dr. Rivai Z and Veithzal. 2014. Manajemen Sumber Daya Manusia Untuk Perusahaan Dari Teori Ke Praktek. Jakarta: PT Rajagrafindo Persada.

[5] Eko Budiyanto, M.T. 2013. Sistem Informasi Manajemen Sumber Daya Manusia. Graha Ilmu Yogyakarta.

[6] Eko Nurmanto, Nurhadi Siswanto. 2006. Perancangan Penilaian Kinerja Karyawan Berdasarkan Kompetensi Spencer Dengan Metode Analytical Hierarchy Process. Journal Teknik Industri, Institut Teknologi Sepuluh November (ITS), Surabaya, vol. 8, No 1

[7] Roger S. Pressman, Ph.D Rekayasa Perangkat Lunak, Edisi 7, Yogyakarta : Andi, 2012. ISBN 0073655783.

[8] Abdul Kadir. 2008. Dasar Pemrograman Web Dinamis Menggunakan PHP. Yogyakarta: Andi.

[9] Al Bahra Bin Ladjamudin. 2006. Rekayasa Perangkat Lunak. Tangerang: Graha Ilmu.

[10] Marimin. 2004. Teknik dan Aplikasi Pengambilan Keputusan Kriteria Majemuk. Grasindo. Jakarta.

[11] Arthur Mandolang, Yaulie Deo Y. Rindengan, Steven R. Sentinuwo. 2017. Rancang Bangun Aplikasi Agenda Kegiatan Pimpinan (Studi Kasus : Rektorat Unsrat). E-Journal Teknik Informatika Vol 11, No.1 ISSN 2301 – 8304.

[12] Resmi Novianti. Game edukasi bahasa sunda untuk siswa smp berbasis desktop. Jurnal Ilmiah Komputer dan Informatika (KOMPUTA) Edisi. .. Volume. .., Bulan 20.. ISSN : 2089-9033.

[13] Marimin. 2004. Teknik dan Aplikasi Pengambilan Keputusan Kriteria Majemuk. Grasindo. Jakarta.